

In the Matter of

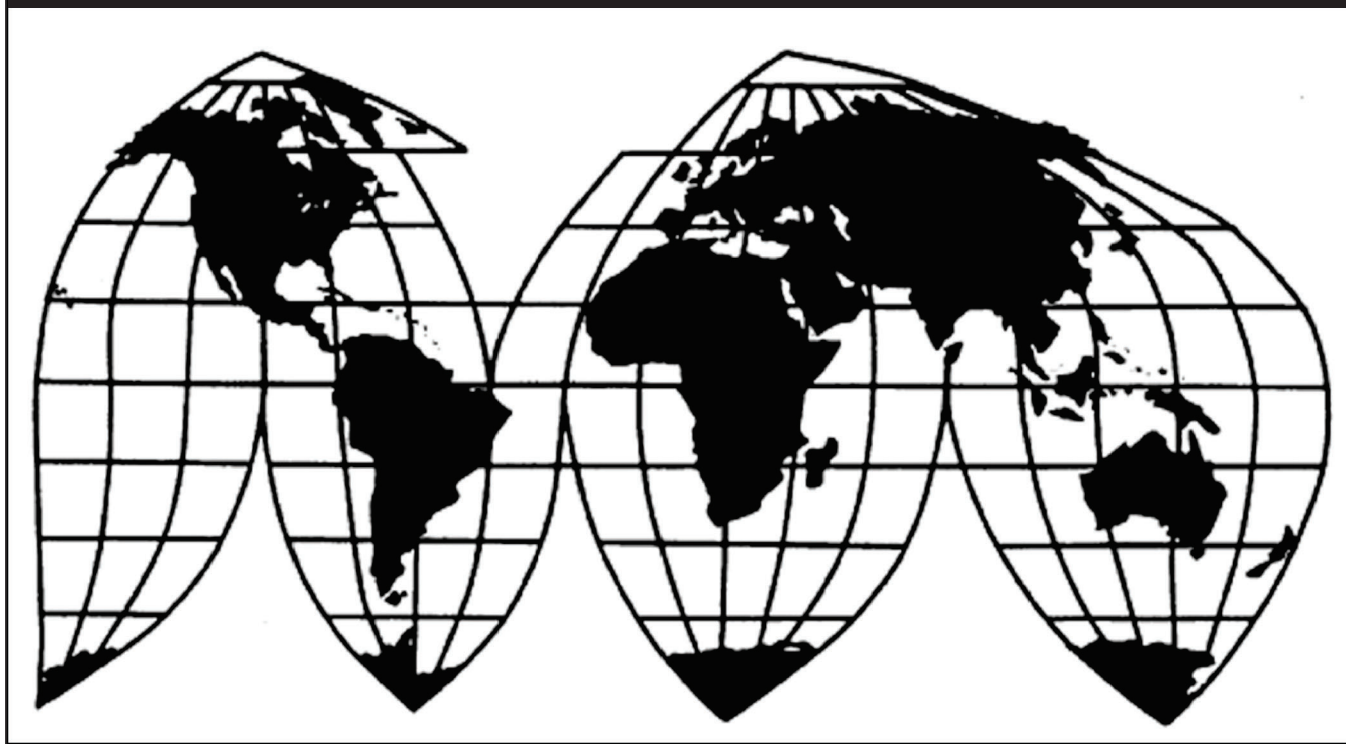
**CERTAIN MAGNETIC DATA STORAGE
TAPES AND CARTRIDGES CONTAINING
THE SAME**

Investigation No. 337-TA-1012

Publication 4956

September 2019

U.S. International Trade Commission



Washington, DC 20436

U.S. International Trade Commission

COMMISSIONERS FOR INITIAL PROCEEDING

**Rhonda Schmittlein, Chairman
David Johanson, Vice Chairman
Irving Williamson, Commissioner
Meredith Broadbent, Commissioner**

COMMISSIONERS FOR ENFORCEMENT PROCEEDING

**David Johanson, Chairman
Irving Williamson, Commissioner
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Rhonda Schmittlein, Commissioner
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Washington, DC 20436**

U.S. International Trade Commission

Washington, DC 20436
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In the Matter of

CERTAIN MAGNETIC DATA STORAGE TAPES AND CARTRIDGES CONTAINING THE SAME

Investigation No. 337-TA-1012



UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.

In the Matter of

**CERTAIN MAGNETIC DATA
STORAGE TAPES AND CARTRIDGES
CONTAINING THE SAME**

Investigation No. 337-TA-1012

**NOTICE OF COMMISSION DETERMINATION TO RESCIND REMEDIAL
ORDERS; TERMINATION OF ENFORCEMENT PROCEEDING**

AGENCY: U.S. International Trade Commission.

ACTION: Notice.

SUMMARY: Notice is hereby given that the U.S. International Trade Commission ("Commission") has determined to rescind the limited exclusion order and cease and desist orders issued in the above-captioned investigation and to terminate the enforcement proceeding.

FOR FURTHER INFORMATION CONTACT: Ron Traud, Office of the General Counsel, U.S. International Trade Commission, 500 E Street, S.W., Washington, D.C. 20436, telephone (202) 205-3427. Copies of non-confidential documents filed in connection with this investigation are or will be available for inspection during official business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary, U.S. International Trade Commission, 500 E Street, S.W., Washington, D.C. 20436, telephone (202) 205-2000. General information concerning the Commission may also be obtained by accessing its Internet server at <https://www.usitc.gov>. The public record for this investigation may be viewed on the Commission's electronic docket (EDIS) at <https://edis.usitc.gov>. Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission's TDD terminal on (202) 205-1810.

SUPPLEMENTARY INFORMATION: The Commission instituted the original investigation on July 1, 2016, based on a complaint filed by Fujifilm Corporation of Tokyo, Japan and Fujifilm Recording Media U.S.A., Inc. of Bedford, Massachusetts (collectively, "Fujifilm"). 81 FR 43243 (July 1, 2016). The complaint alleged violations of 19 U.S.C. 1337, as amended ("Section 337"), through the importation into the United States, sale for importation, or sale within the United States after importation of certain magnetic data storage tapes and tape cartridges containing same that allegedly infringe certain asserted claims of U.S. Patent Nos. 6,641,891 ("the '891 patent"), 6,767,612 ("the '612 patent"), 6,703,106 ("the '106 patent"), 8,236,434 ("the '434 patent"), and 7,355,805 ("the '805 patent"). *Id.* The Commission's notice of investigation named Sony Corporation of Tokyo, Japan; Sony Corporation of America of New York, New York; and Sony Electronics Inc. of San Diego, California (collectively, "Sony") as respondents. *Id.* The Office of Unfair Import Investigations ("OUII") was also named as a party to the investigation.

On March 14, 2018, the Commission determined that a violation of Section 337 occurred with respect to the '891 patent but not the '612, '106, '434, or '805 patents. 83 FR 11245 (March 14, 2018). The Commission issued a limited exclusion order and cease and desist orders against the Sony respondents, but exempted magnetic data storage tapes and tape cartridges that are imported or used for the purpose of fulfilling Sony's warranty, service, repair, or compliance verification obligations. *Id.*; *see also* Comm'n Opinion (March 8, 2018).

On June 13, 2018, the Commission instituted an enforcement proceeding and named the original three Sony entities as respondents, in addition to Sony Storage Media Solutions Corporation of Tokyo, Japan; Sony Storage Media Manufacturing Corporation of Miyagi, Japan; Sony DADC US Inc. of Terre Haute, Indiana; and Sony Latin America Inc. of Miami, Florida (collectively, "the Sony Respondents"). 83 FR 27626 (June 13, 2018). OUII was also named as a party. *Id.*

While the enforcement proceeding was ongoing, the Sony Respondents filed a request for an advisory opinion and petition for modification of the remedial orders to clarify that certain of its redesigned tape products are outside the scope of the remedial orders. *See* 83 FR 42690 (Aug. 23, 2018). The Commission instituted the modification proceeding on August 23, 2018, and consolidated it with the enforcement proceeding. *Id.* The Commission, however, subsequently terminated the modification proceeding that had been consolidated with the enforcement proceeding on a motion filed by the Sony Respondents. 83 FR 58594 (Nov. 20, 2018).

On July 3, 2019, the presiding administrative law judge ("ALJ") issued an initial determination in the enforcement proceeding ("EID"), finding that the Sony Respondents violated the cease and desist orders and recommending a civil penalty of \$210,134 as the appropriate enforcement measure. EID at 1, 60-61.

The Sony Respondents filed a petition to review the EID on July 15, 2019. On July 17, 2019, however, the parties filed a joint motion for an extension of time to file a response to the Sony Respondents' petition in order to accommodate the parties' settlement discussions.

On July 25, 2019, Fujifilm and the Sony Respondents filed a joint petition to rescind the remedial orders and a joint motion to terminate the enforcement proceeding due to their settlement agreement and patent cross-license. *See* 19 U.S.C. 1337(k); 19 CFR 210.21(b), 210.76(a). On August 1, 2019, OUII filed a response in support of the parties' joint petition to rescind the remedial orders and their joint motion to terminate the enforcement proceeding.

The Commission, having reviewed the parties' joint petition and other materials, has determined to grant the parties' petition and motion, rescind the limited exclusion order and cease and desist orders issued in the underlying investigation, and terminate the enforcement proceeding.

The authority for the Commission's determination is contained in Section 337 of the Tariff Act of 1930, as amended (19 U.S.C. 1337), and in Part 210 of the Commission's Rules of Practice and Procedure (19 CFR Part 210).

By order of the Commission.

A handwritten signature in black ink, appearing to read "Lisa R. Barton", followed by a vertical line.

Lisa R. Barton
Secretary to the Commission

Issued: August 13, 2019

**CERTAIN MAGNETIC DATA STORAGE TAPES AND
CARTRIDGES CONTAINING THE SAME**

**Inv. No. 337-TA-1012
(Enforcement Proceeding)**

CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **NOTICE** has been served by hand upon the Commission Investigative Attorney, R. Whitney Winston, Esq., and the following parties as indicated, on **August 13, 2019**.



Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

**On Behalf of Complainants FUJIFILM Corporation and
FUJIFILM Recording Media U.S.A., Inc.:**

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**On Behalf of Respondents Sony Corporation, Sony
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UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.

In the Matter of

**CERTAIN MAGNETIC DATA
STORAGE TAPES AND CARTRIDGES
CONTAINING THE SAME**

Investigation No. 337-TA-1012

ORDER OF RESCISSION

The Commission instituted this investigation under section 337 of the Tariff Act of 1930, as amended (19 U.S.C. § 1337), on July 1, 2016, based on a complaint filed by Fujifilm Corporation of Tokyo, Japan and Fujifilm Recording Media U.S.A., Inc. of Bedford, Massachusetts (collectively, “Fujifilm”). 81 Fed. Reg. 43243-44 (July 1, 2016). On March 14, 2018, the Commission found a violation of section 337 with respect to U.S. Patent No. 6,641,891 (“the ’891 patent”) and issued a limited exclusion order and cease and desist orders prohibiting Sony Corporation of Tokyo, Japan; Sony Corporation of America of New York, New York; and Sony Electronics Inc. of San Diego, California from importing into the United States, selling for importation, or selling or distributing in the United States after importation certain magnetic data storage tapes and cartridges containing same that infringe the ’891 patent. 83 Fed. Reg. 11245-47 (March 14, 2018); Comm’n Opinion (March 8, 2018).

On June 13, 2018, the Commission instituted an enforcement proceeding and named the original three Sony entities as respondents, in addition to Sony Storage Media Solutions Corporation of Tokyo, Japan; Sony Storage Media Manufacturing Corporation of Miyagi, Japan; Sony DADC US Inc. of Terre Haute, Indiana; and Sony Latin America Inc. of Miami, Florida (collectively, “the Sony Respondents”). 83 Fed. Reg. 27626-27 (June 13, 2018).

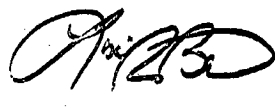
On July 23, 2019, Sony and Fujifilm entered into a Worldwide Resolution Agreement and Patent Cross-License (the “Agreement”). On July 25, 2019, Sony and Fujifilm jointly petitioned, pursuant to Commission Rule 210.76, 19 CFR 210.76, to rescind the limited exclusion order and the cease and desist orders issued in this investigation. On August 1, 2019, the Office of Unfair Import Investigations (“OUII”) filed a response in support of rescission of the remedial orders and termination of the enforcement proceeding.

Having reviewed the joint petition and OUII’s response, the Commission has determined that the Agreement fully resolves the dispute between Sony and Fujifilm concerning the subject matter of the investigation. The Commission finds that the joint petition complies with the requirements of Commission Rule 210.76, 19 CFR 210.76. Accordingly, the Commission has determined to rescind the limited exclusion order and the cease and desist orders issued in this investigation. The Commission has also determined to terminate the enforcement proceeding in this investigation, pursuant to Commission Rule 210.21(b), 19 C.F.R. § 210.21(b). 84 Fed. Reg. 42010-11 (Aug. 16, 2019).

Accordingly, it is hereby ORDERED THAT:

1. The limited exclusion order issued in this investigation is rescinded.
2. The cease and desist orders issued in this investigation are rescinded.
3. Notice of this Order shall be served on all parties of record and published in the Federal Register.

By order of the Commission.

A handwritten signature in black ink, appearing to read 'Lisa R. Barton', followed by a vertical line.

Lisa R. Barton
Secretary to the Commission

Issued: August 22, 2019

**CERTAIN MAGNETIC DATA STORAGE TAPES AND
CARTRIDGES CONTAINING THE SAME**

**Inv. No. 337-TA-1012
(Enforcement Proceeding)**

CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **NOTICE** has been served by hand upon the Commission Investigative Attorney, R. Whitney Winston, Esq., and the following parties as indicated, on **August 23, 2019**.



Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

**On Behalf of Complainants FUJIFILM Corporation and
FUJIFILM Recording Media U.S.A., Inc.:**

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**On Behalf of Respondents Sony Corporation, Sony
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PUBLIC VERSION

**UNITED STATES INTERNATIONAL TRADE COMMISSION
WASHINGTON, DC**

In the Matter of

**CERTAIN MAGNETIC DATA
STORAGE TAPES AND CARTRIDGES
CONTAINING THE SAME**

**Inv. No. 337-TA-1012
(Enforcement Proceeding)**

ENFORCEMENT INITIAL DETERMINATION

Administrative Law Judge David P. Shaw

Pursuant to the notice of institution of formal enforcement proceeding, 83 Fed. Reg. 27626 (June 13, 2018), this is the Enforcement Initial Determination in *Certain Magnetic Data Storage Tapes and Cartridges Containing the Same*, United States International Trade Commission Investigation No. 337-TA-1012 (Enforcement Proceeding).

It is held that a violation of the March 8, 2018 cease and desist orders has occurred, and enforcement measures are appropriate.

PUBLIC VERSION

TABLE OF CONTENTS

I.	Background	2
	A. Institution of the Investigation; Procedural History	2
	B. Scope of the Cease and Desist Orders	4
	C. The Covered Products	6
	D. Jurisdiction	6
II.	Infringement	6
III.	Violation of Cease and Desist Orders	7
	A. Sony's Sales of Covered Products After the End of the Presidential Review Period	7
	B. Quantum's Sales of Covered Products After the End of the Presidential Review Period	17
IV.	Penalty	48
	A. Background	48
	B. Analysis	52
V.	Enforcement Initial Determination and Order	60

PUBLIC VERSION

The following abbreviations may be used in this Initial Determination:

ALJ	-	Administrative Law Judge
CDX	-	Complainants' Demonstrative Exhibit
CPX	-	Complainants' Physical Exhibit
CX	-	Complainants' Exhibit
Dep.	-	Deposition
EDIS	-	Electronic Document Imaging System
Enf.	-	Enforcement Proceeding
JPX	-	Joint Physical Exhibit
JX	-	Joint Exhibit
P.H.	-	Prehearing
PRP	-	Presidential review period
RDX	-	Respondents' Demonstrative Exhibit
RPX	-	Respondents' Physical Exhibit
RWS	-	Rebuttal Witness Statement
RX	-	Respondents' Exhibit
Tr.	-	Transcript
WS	-	Witness Statement

PUBLIC VERSION

I. Background

A. Institution of the Enforcement Proceeding; Procedural History

On July 1, 2016, the Commission instituted the underlying investigation based on a complaint filed by Fujifilm Corporation of Tokyo, Japan, and Fujifilm Recording Media U.S.A., Inc. of Bedford, Massachusetts (collectively, “Fujifilm”). 81 Fed. Reg. 43243-44 (July 1, 2016). The complaint alleged violations of section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337 (“section 337”), in the sale for importation, importation, and sale within the United States after importation of certain magnetic data storage tapes and cartridges containing the same by reason of infringement of claims 1, 4-9, 11 and 14 of U.S. Patent No. 6,641,891 (“the ‘891 patent”). The notice of investigation named Sony Corporation, Sony Corporation of America, and Sony Electronics Inc. as respondents, and the Office of Unfair Import Investigations (“OUII” or “Staff”) as a party.

On March 8, 2018, the Commission found a section 337 violation as to the ‘891 patent, and issued a limited exclusion order (“LEO”) and cease and desist orders (“CDOs”) to each of the aforementioned Sony respondents. 83 Fed. Reg. 11245-47 (Mar. 14, 2018). The LEO was directed to certain magnetic data storage tapes and cartridges containing the same that infringe any of the asserted claims of the ‘891 patent. The Commission determined, pursuant to 19 U.S.C. § 1337(j), to set a bond at zero (0) percent of entered value during the Presidential review period. *Id.*

On May 9, 2018, Fujifilm filed a complaint requesting that the Commission institute a formal enforcement proceeding under Commission Rule 210.75 (19 C.F.R. § 210.75) to investigate alleged violations of the CDOs by Sony Corporation, Sony Corporation of America,

PUBLIC VERSION

Sony Electronics Inc., Sony Storage Media Solutions Corporation, Sony Storage Media Manufacturing Corporation, Sony DADC US Inc., and Sony Latin America Inc.

By publication of a notice in the *Federal Register* on June 13, 2018, pursuant to section 337, and the Commission's Rules of Practice and Procedure, the Commission instituted a formal enforcement proceeding. The Commission named Sony Corporation, Sony Corporation of America, Sony Electronics Inc., Sony Storage Media Solutions Corporation, Sony Storage Media Manufacturing Corporation, Sony DADC US Inc., and Sony Latin America Inc. (collectively, "Sony") as the respondents, and also OUII as a party. 83 Fed. Reg. 27626 (June 13, 2018). The Commission ordered, *inter alia*, that the administrative law judge would issue an enforcement initial determination ("EID"), and the "EID will rule on the question of whether the enforcement respondents have violated the March 8, 2018 CDOs issued in the above-captioned investigation[.]" and the "presiding administrative law judge shall also recommend to the Commission what enforcement measures are appropriate if any enforcement respondent is found to have violated the CDOs." Comm'n Order at 4 (June 7, 2018). The target date for the enforcement proceeding was set as May 8, 2019. *See* Order No. 33 (Setting Target Date).

On August 23, 2018, by publication of a notice in the *Federal Register*, the Commission instituted a modification proceeding, which was consolidated with the pending enforcement proceeding. 83 Fed. Reg. 42690 (Aug. 23, 2018). The Commission determined to institute the modification proceeding to determine whether the March 8, 2018 LEO and CDOs should be modified to exclude certain of Sony's redesigned tape products. *Id.*; Comm'n Order at 2 (Aug. 17, 2018). On September 10, 2018, the administrative law judge extended the target date for completion of this investigation to August 20, 2019. *See* Order No. 43; Notice of Commission Determination Not to Review an Initial Determination Extending the Target Date (Oct. 4, 2018).

PUBLIC VERSION

On October 19, 2018, the administrative law judge issued an unreviewed initial determination terminating the modification proceeding. Order No. 49 (initial determination); Notice of Commission Determination Not to Review an Initial Determination Terminating the Modification Portion of the Consolidated Proceeding (Nov. 14, 2018).

On February 1, 2019, the parties filed a joint motion to amend the procedural schedule in view of a partial government shutdown. Motion Docket No. 1012-58. On February 6, 2019, the administrative law judge issued Order No. 50, granting the motion in part. *See* Order No. 50. On February 6, 2019, the administrative law judge also issued an initial determination extending the target date for completion of this investigation to October 3, 2019, thereby making the enforcement initial determination due on July 3, 2019. *See* Order No. 51 (initial determination) at 1; Notice of Commission Decision Not to Review an Initial Determination Extending the Target Date (Mar. 8, 2019).

On April 8, 2019, a prehearing conference was held, with an evidentiary hearing held immediately thereafter. *See* P.H. Conf. Tr. 1-7; Tr. 1-108. Subsequently, Fujifilm, Sony and OUII filed posthearing briefs and reply briefs.¹

B. Scope of the Cease and Desist Orders

On March 8, 2018, the Commission issued cease and desist orders against each of the Sony respondents in the underlying investigation, *i.e.*, Sony Corporation, Sony Corporation of America, and Sony Electronics Inc. *See* 83 Fed. Reg. 11245-47 (Mar. 4, 2018); CX-0334 (CDO); CX-0335 (CDO); CX-0336 (CDO). As indicated above, the respondents in this proceeding include four additional respondents. Nevertheless, “Sony concedes that the

¹ Posthearing briefing indicates that an appeal of the Commission’s finding of violation in the underlying proceeding is pending. *See* Fujifilm Br. at 6-7; Sony Br. at 13.

PUBLIC VERSION

respondents named in this Enforcement Proceeding were either named in the CDOs or subject to the named respondents' control" Sony Br. at 11. Furthermore, "Sony acknowledges that the CDOs apply to the four additional Sony Respondents because each is subject to the control of the original three named Respondents." *Id.* at 26; *see* CX-0334, Section II ("Applicability"); CX-0335, Section II ("Applicability"); CX-0336, Section II ("Applicability").

The CDOs prohibit the Sony respondents, in general, from importing, selling, marketing, advertising, distributing, transferring (except for exportation), and soliciting United States agents or distributors for certain magnetic data storage tapes and cartridges containing the same that infringe claims 1, 4-9, 11, and 14 of the '891 patent in violation of section 337. *See* CX-0334 at 1; CX-0335 at 1; CX-0336 at 1. Each CDO specifically provides that a respondent shall not: (A) import or sell for importation into the United States covered products; (B) market, distribute, sell, or otherwise transfer (except for exportation) imported covered products; (C) advertise imported covered products; (D) solicit U.S. agents or distributors for imported covered products; or (E) aid or abet other entities in the importation, sale for importation, sale after importation, transfer, or distribution of covered products. *See* CX-0334, Section III ("Conduct Prohibited"); CX-0335, Section III ("Conduct Prohibited"); CX-0336, Section III ("Conduct Prohibited").

Among the other provisions of the CDOs, is the following: "The conduct prohibited by Section III of this Order may be continued during the sixty-day period in which the Order is under review by the United States Trade Representative, as delegated by the President (70 Fed. Reg. 43,251 (Jul. 21, 2005)) subject to the Respondent's posting of a bond in the amount of zero (0) percent of the entered value of the covered products (*i.e.*, no bond). This bond provision does not apply to conduct that is otherwise permitted by Section IV of this Order." *See* CX-0334,

PUBLIC VERSION

Section XI (“Bonding”); CX-0335, Section XI (“Bond”); CX-0336, Section XI (“Bonding”).

C. The Covered Products

The products at issue in this enforcement proceeding are Linear Tape Open or LTO magnetic tape storage products. *See* Fujifilm Br. at 3; Sony Br. at 12. In particular, the products at issue in this proceeding are Sony LTO-7, -8, and M8 tape cartridges (“Covered Products”). *See* Fujifilm Br. at ix, 1; Sony Br. at 1 (“Sony worked diligently to shut down all of its LTO-7, M8, and LTO-8 operations in the United States”); Staff Br. at 7. The parties have agreed that Sony’s LTO-7 tape cartridge, which was found in the underlying investigation to infringe claims of the ‘891 patent, and which in the aggregate may be called “Sony’s old LTO-7 products” by Sony, is representative of the Covered Products. *See* JX-0012 (Joint Stip., ¶ 4).

D. Jurisdiction

Sony states, “this Enforcement Proceeding presents no disputes regarding whether the named respondents or any products are covered by the CDOs.” Sony Br. 11. Furthermore, Sony states, “Sony also does not contest that the Commission has jurisdiction in this Enforcement Proceeding.” *Id.* at 11 n.9. Indeed, all parties participated in this proceeding in a substantive manner, including the evidentiary hearing.

In addition, no party has contested the fact that the Covered Products are imported. *See, e.g.,* Joint Outline (pursuant to Ground Rule 11.a) at 1; Sony Br. at 11; Fujifilm Br. at 20.

Accordingly, it is found that the Commission has jurisdiction over the products at issue and the subject matter of this proceeding, as well as personal jurisdiction over the parties.

II. Infringement

As indicated above, the Commission determination in the underlying proceeding is on appeal. Yet, for the purposes of this enforcement proceeding, there is no dispute that the

Covered Products practice claims 1, 4-9, 11, and 14 of the '891 patent. JX-0012 (Joint Stip., ¶¶ 5-7); Fujifilm Br. at 23; Sony Br. at 11, 27, 77 n.33; Staff Br. at 14.

III. Violation of Cease and Desist Orders

Fujifilm alleges that Sony² violated the Commission's CDOs by (i) selling [] Covered Products after the end of the sixty-day Presidential Review Period ("PRP"), and (ii) aiding and abetting Quantum Corporation ("Quantum") to make post-PRP sales of Covered Products. Fujifilm Br. at 1.

A. Sony's Sales of Covered Products After the End of the Presidential Review Period

The Commission has found a party in violation of a cease and desist order when it sold infringing products after the cease and desist order issued. *See, e.g., Certain Erasable Programmable Read Only Memories, Components Thereof, Products Containing Such Memories, and Processes for Making Such Memories*, Inv. No. 337-TA-276 (Enforcement), Comm'n Op. at 4 (EDIS Doc. ID 43536) (public version filed Aug. 1, 1991) ("*EPROMs*")

² The CDOs expressly apply to each violation respondent "and to any of its principals, stockholders, officers, directors, employees, agents, licensees, distributors, controlled (whether by stock ownership or otherwise) and majority-owned business entities, successors, and assigns." CX-0334 (CDO Sony Elec.), Section II ("Applicability"); CX-0335 (CDO Sony Corp. Am.), Section II ("Applicability"); CX-0336 (CDO Sony Corp. Tokyo), Section II ("Applicability"). As previously mentioned, it is undisputed that the CDOs apply to the four additional Sony respondents named in this enforcement proceeding because "each is subject to the control of the original three named Respondents." *See* Section I.B of this EID; Sony Br. at 26. In addition, while the parties make minimal references to, and the evidence includes references to, individual respondents named in this enforcement proceeding, the parties' briefing generally does not differentiate between them and instead largely refers to "Sony" with respect to alleged violations of the Commission's CDOs. *See generally* Fujifilm Br. at 1-89; Sony Br. at 1-100; Staff Br at 1-29. Therefore, the administrative law judge finds that each of the enforcement respondents is jointly and severally liable should a violation of the CDOs be found as to any of said respondents.

PUBLIC VERSION

(“[T]he Commission determined that Atmel Corporation had violated the Commission’s cease and desist order by selling infringing EPROMs between March 16, 1989, and August 3, 1989.”).

Sony Sales on May 8 and May 9, 2018. The parties agree that Sony sold [] Covered Products in the United States to [] after the end of the PRP in violation of the Commission’s CDOs. Of those [] Covered Products, the parties also agree that Sony sold [] Covered Products to [] on May 8, 2018 (the first day after the PRP ended), and that Sony sold at least [] Covered Products to Quantum and HPE on May 9, 2018 (the second day after the PRP ended). *See* Fujifilm Br. at 25-28; Sony Br. at 63-68; Staff Br. at 14-17; *see also* RX-0410C (Jarosz Tab 4). Whether the sale of the remaining [] Covered Products was completed on May 10, 2018, or earlier, is the subject of a dispute that is addressed later in this EID.

Sony argues that its sales on May 8 and May 9 were inadvertent. Sony argues that its violations arose from the nature of its contracts with [], under which title passes [] selects. For example, it is argued that although Sony shipped cartridges to [] no later than April 28, 2018 (*i.e.*, more than a week before the PRP expired) and understood that delivery would be complete by May 4, 2018, the shipment was delayed, and [] did not receive the cartridges until May 8, 2018. It is argued that this delayed shipment shipment accounts for almost [] the total number of Covered Products that Sony delivered after May 7, 2018. Similarly, Sony argues, HPE ordered [] cartridges that Sony anticipated would reach [] by May 7, 2018, of which [] cartridges actually arrived on the 8th. *See, e.g.*, Sony Br. at 9-11, 68 (citing RX-0006C (Buchicchio RWS) at Q/A 42-58).

PUBLIC VERSION

Despite Sony's arguments, questions remain as to why some of the Covered Products were sold in violation of the CDOs. At a minimum, a question remains as to whether, in view of the CDOs, Sony paid proper attention to the terms of its contracts with [REDACTED]. Fujifilm argues that Sony's sales after the PRP were voluminous and were not in fact inadvertent because Sony knew that at least [REDACTED] would be completed after the PRP inasmuch as [REDACTED]. Fujifilm Br. at 56-58 (citing JX-0001C [REDACTED] Dep.) at 120-121, 127, 147, 152; CX-0110C (SSMS [REDACTED] at "[REDACTED]" [REDACTED]; CX-0110C [REDACTED] at "[REDACTED]" Tab, Rows 2690-2694).

As Sony argues, the evidence shows that many of the Covered Products were shipped well before the end of the PRP. The evidence relied on by Fujifilm is unclear as to how many of the late deliveries could have been anticipated by Sony. Nevertheless, Sony's arguments concerning the allegedly inadvertent nature of the late sales do not explain how each of those sales came to be completed after the PRP. Some portions of the record, and of Sony's briefs, indicate that Sony intended or at least knew that some of its shipments would arrive after May 7, 2018, and did not prevent such shipments. Fujifilm argues that on May 7, 2018, which was the last day of the PRP, Sony sent Covered Products to [REDACTED], with no expectation that the package could be delivered that same day. The evidence of record cited by Fujifilm supports this allegation. *See* Fujifilm Br. at 57 (citing CX-0110C (SSMS [REDACTED] at "[REDACTED]" Tab, Rows 2690-2694; JX-0001C [REDACTED] Dep.) at 120-121, 127, 152).

Sony does not squarely contradict Fujifilm's argument that Sony shipped Covered Products as late as May 7, 2018. In fact, Sony admits that it shipped all of the Covered Products by or before May 7. *See, e.g.*, Sony Br. at 3 ("Sony's OEM customers such as [REDACTED] . . . and

PUBLIC VERSION

[] . . . accordingly used the PRP as a transition period, ensuring that all orders were placed with Sony by or before May 7, 2018, the last day of the PRP. Sony then made sure that it shipped all products by or before that same day.”); *but see id.* at 11 (“[A]s Fujifilm’s own experts emphasize, even in interrogatory responses, Sony admitted that certain deliveries were unintentionally completed after May 7, 2018.”).³

Whether through inadvertence, unanticipated delay, or other factors (such as inattention to the terms of the agreements with OEMs), Sony admittedly sold Covered Products on May 8 and May 9, 2018, in violation of the CDOs.

Sony Sales on May 10, 2018. At issue is whether Sony sold [] Covered Products to [] on May 10, 2018 (the third day after the PRP ended). Fujifilm Br. at 25-28; Sony Br. at 64-68; Staff Br. at 14-17. Fujifilm and the Staff contend that the sale of those [] Covered Products occurred on May 10, 2018, while Sony contends that it occurred on May 9, 2018.⁴ *Id.*

Fujifilm argues that Sony received a purchase order from Quantum for [] units of Covered Products on May 2, 2018, shipped them on May 3, 2018, but did not complete delivery of them to [] until May 10, 2018. Fujifilm Br. at 27-28. Fujifilm argues that pursuant to the terms of the DDP Incoterms, “Sony must ‘plac[e the goods] at the disposal of the buyer,’ *and* it must do so ‘at the named place of destination.’” *Id.* at 55 (citing JX-0014 (Incoterms) at 62) (emphasis in original). According to Fujifilm, the Covered Products were not delivered to

³ There is a discontinuity between testimony by Sony management concerning permitted conduct during the PRP, and the position taken by Sony in this enforcement proceeding. *See* JX-0004C (Clark Dep.) at 79-81; JX-2 (Engelmann Dep.) at 61-65, 253; Sony Br. at 11.

⁴ Sales of Covered Products on May 9 or on May 10, 2018 would in either case have occurred after the end of the PRP. Nevertheless, a determination of the number of days on which violations occurred could affect the calculation of the civil penalty, depending on the formula used by the Commission to determine the penalty.

PUBLIC VERSION

anyone on May 9, 2018 because [] unintentionally provided an incorrect address for the shipment, and due to that error FedEx was unable to transmit the package on May 9, 2018. *Id.* Fujifilm further argues that [] cleared up the error, and the products were eventually delivered to the correct and intended address on May 10, 2018. *Id.* (citing CX-0096C (Proof-of-Delivery) at 119; CX-0284C (FedEx Tracking) at 1, 4). Fujifilm therefore argues that Sony could not have completed performance under its sales agreement with [] on May 9, 2018 because the products did not arrive at their intended destination, and were not placed at [] disposal, until May 10, 2018. *Id.* at 55-56 (citing CX-0096C at 119; CX-0284C at 1, 4); Fujifilm Reply at 19-20.

Sony argues that FedEx “delivered the products on May 9 to the delivery address *provided by* [].” Sony Br. at 64-65 (citing RX-0006C (Buchicchio RWS) at Q/A 59-76; RX-0001C (Gibson RWS) at Q/A 98, 146-148, 150-161, 240) (emphasis in original). Sony argues:

Purchase orders placed by [] are controlled by the [].

RX-0005C (Rebuttal W.S. of [] at Q/A 278-282.
Consistent with said [] placed an order on May 2, 2018 for [] LTO-8 cartridges (Sales Order No. 10575290). RX-0006C (Rebuttal W.S. of [] at Q/A 59-76.

Section 3 of the [] specifies that all shipments from Sony to []. JX-0034C [] at 3-5 of 28; RX-0001C (Rebuttal W.S. of C. Gibson) at Q/A 98, 136-140; JX-0014 (Incoterms® 2010) at 61-67. Under DDP Incoterms, the seller is required to “deliver the goods by placing them at the disposal of the buyer... at the *named* place of destination on the agreed date or within the agreed period.” JX-0014 (Incoterms® 2010) at 62 (provision A4); *see* RX-0001C (Rebuttal W.S. of C. Gibson) at Q/A 98, 136-141. The seller—here, Sony—bears the risk of loss until the goods are delivered to “the *named* place of destination.” JX-0014 (Incoterms® 2010) at

PUBLIC VERSION

64 (provision A5); *id.*, 65 (provision B5); *see* RX-0001C (Rebuttal W.S. of C. Gibson) at Q/A 98, 136-141. Under DDP, the buyer also has several obligations. One such obligation requires the buyer—[]—to “give the seller sufficient notice” of the point of taking delivery within the *named* place of destination. JX-0014 (Incoterms® 2010) at 65 (provision B7). If the buyer fails to give sufficient notice, the buyer bears all risk of loss of or damage to the goods from the “agreed date.” *Id.* at 65 (provision B5); *see* RX-0001C (Rebuttal W.S. of C. Gibson) at Q/A 98, 136-141.

Once the goods are provided “at the *named* place of destination,” the seller’s—Sony’s—performance is complete. JX-0014 (Incoterms® 2010) at 62 (provision A4); *id.* at 64 (provision A5); *id.* at 65 (provision B5); *see* RX-0001C (Rebuttal W.S. of C. Gibson) at Q/A 98, 136-141. Pursuant to the California Commercial Code (Section 2401(2)), “title passes to the buyer at the time and place at which the seller completes his performance with reference to the physical delivery of the goods.”

Id. at 65-66 (emphasis in original).

Sony further contends:

On May 3, 2018, Sony tendered the [] LTO-8 cartridges to FedEx and provided FedEx with the address *provided by Quantum on the order*. RX-0006C (Rebuttal W.S. of M. Buchicchio) at Q/A 62; RX-0044C (Quantum Order No. 10575290); CX-0096C (FedEx Proof of Delivery). On May 9, 2018, FedEx tendered the [] LTO-8 cartridges at the “named place of destination”—[]—but was unable to transmit the package to the intended recipient [] at that time because the named place of destination provided by [] was not the actual location of []. CX-0284C (FedEx Tracking No. []; RX-0048 (FedEx Tracking No. []. Rather, [] is located at []. not []. CX-0096C (FedEx Proof of Delivery) at 119-20.

Sony’s obligations under the [] and the DDP Incoterms were to make the products available to [] at the *named place of destination* as provided by []. JX-0034C [] at 3-5 of 28; RX-0001C (Rebuttal W.S. of C. Gibson) at Q/A 98, 136-140; JX-0014 (Incoterms® 2010) at 61-67. [] provided a destination to Sony. RX-0044C [] Order No. 10575290). Sony provided the

PUBLIC VERSION

same destination to FedEx. CX-0284C (FedEx Tracking No. []; RX-0048 (FedEx Tracking No. []; CX-0096C (FedEx Proof of Delivery) at 119-20. FedEx then delivered the products to destination specified by [] on May 9, 2018. *Id.* Sony's obligations under the [] and the DDP Incoterms were complete on May 9, 2018. Pursuant to California law, the sale was complete on May 9, 2018. JX-0034C [] at 3-5 of 28; RX-0001C (Rebuttal W.S. of C. Gibson) at Q/A 98, 136-140; JX-0014 (Incoterms® 2010) at 61-67; CAL. COM. CODE § 2401 (2). Therefore, May 10 cannot be a violation day.

Id. at 67-68 (emphasis in original).

The Staff argues that the evidence shows that FedEx delivered the [] LTO-8 tape cartridges on May 10, 2018. Staff Br. at 16. The Staff asserts that “[a]ccording to Black’s Law Dictionary, ‘[t]ender of delivery requires that the seller put and hold conforming goods at the buyer’s disposition and give the buyer any notification reasonably necessary for him to take delivery.’” *Id.* According to the Staff, FedEx could not have tendered the products in question for delivery at [] because there is no such location. *Id.* at 16-17. The Staff therefore contends that this sale took place on May 10, 2018, in violation of the Commission’s CDOs. *Id.* at 17; *see also* Staff Reply at 5-8.

The evidence shows, and the parties do not dispute, that Sony sold [] Covered Products to [] on May 8, 2018 and [] Covered Products to [] on May 9, 2018. *See* Fujifilm Br. at 25-28; Sony Br. at 63-68; Staff Br. at 14-17; RX-0410C (Jarosz Tab 4). The evidence also shows that Sony received a purchase order from [] for [] Covered Products on May 2, 2018, and shipped them on May 3, 2018. *See* CX-0004C (Order Form); CX-0096C (FedEx Proof-of-Delivery) at 119; CX-0150 (FedEx Delivery Confirmation); RX-0001C (Gibson RWS) at Q/A 151, 154; RX-0002C (Jarosz RWS)

PUBLIC VERSION

at Q/A 60. FedEx attempted to deliver the [] Covered Products, to the address originally provided by [], on May 9, 2018 (which in any event, would have been after the PRP).

See CX-0150 (FedEx Delivery Confirmation); RX-0001C (Gibson RWS) at Q/A 155-156.

FedEx was unable to deliver those [] Covered Products to that address on May 9, 2018 because the address was incorrect – instead of the location for [], the shipping address may have been the location of a different business. See *id.*; RX-0050 [

]; RX-0051 []. It appears from the evidence that the incorrect address was due to a mistake [] made when it placed the order. See RX-0006C (Buchicchio RWS) at Q/A 73-76; RX-0044C [] Order Form). FedEx retained possession of the Covered Products on May 9, 2018. See CX-0150 (FedEx Delivery Confirmation). [] eventually corrected the address, and FedEx was able to deliver the Covered Products on May 10, 2019. See *id.*; RX-0001C (Gibson RWS) at Q/A 155-156. Sony stated in its interrogatory responses that the delivery date for the [] Covered Products to Quantum was May 10, 2018. See CX-0340C (Sony's Sixth Supplemental Response to Fujifilm's First Set of Interrogatories) at 115-120 ("Sony DADC inadvertently delivered a total of [] units of LTO-8 between May 8-10, 2018."). Similarly, Sony's witness, Mr. Jarosz, stated that the delivery date for the [] Covered Products to Quantum was May 10, 2018. RX-0002C (Jarosz RWS) at Q/A 60. Thus, the administrative law judge finds that the [] Covered Products were actually delivered to [] on May 10, 2018.

The sales agreement between Sony and [

]. See JX-0034C [] at 3; RX-0001C (Gibson RWS) at Q/A 98; Sony Br. at 65; Fujifilm Br. at 55. Per the Incoterms, which is "a set of three-letter

PUBLIC VERSION

trade terms reflecting business-to-business practice in contracts for the sale of goods,” the seller “must deliver the goods by placing them *at the disposal of the buyer* on the arriving means of transport ready for unloading at the agreed point, if any, *at the named place of destination* on the agreed date or within the agreed period.” JX-0014 (Incoterms) at 6, 62 (emphasis added). As Sony stated, the seller “bears the risk of loss until the goods are delivered to ‘the *named* place of destination.” Sony Br. at 65-66 (emphasis in original) (citing JX-0014 (Incoterms) at 62, 64, 65); RX-0001C (Gibson RWS) at Q/A 98 (“title passes when the delivery is deemed to be made and risk of loss passes under the DDP Incoterm”), 136-141). Although Sony witness, Mr. Gibson, contends that Sony’s obligations were satisfied “when FedEx attempted to transmit” the cartridges at the named place of destination that [] provided, that is not what was required by the Incoterms. See RX-0001C (Gibson RWS) at Q/A 157-158. Instead, the evidence shows that according to the terms of the sales agreement between Sony and [], as well as the accompanying Incoterms, Sony was obligated to deliver the Covered Products by placing them “at the disposal of [] . . . at the named place of destination.” See JX-0034C [] at 3; JX-0014 (Incoterms) at 62. While Sony, by way of FedEx, attempted to deliver the Covered Products to [] on May 9, 2018, at the incorrect address given by [], the evidence shows that the products were not delivered to any address that day. See CX-0150 (FedEx Delivery Confirmation). Thus, the products were not placed at [] disposal at the named place of destination on May 9, 2018. *Id.* In fact, FedEx retained possession of the products on May 9, 2018, and then delivered them to [] at the correct address on May 10, 2018. *Id.* Therefore, regardless of whether FedEx attempted to deliver the products to [] on May 9, 2018, the fact remains that FedEx actually delivered the

PUBLIC VERSION

products and placed them at the disposal of [] on May 10, 2018. *See id.*; RX-0002C (Jarosz RWS) at Q/A 60; RX-0410C (Jarosz Tab 4).

Consequently, the administrative law judge finds that title did not pass to [] until May 10, 2018, inasmuch as that is when FedEx actually delivered the Covered Products to [], and Sony “complete[d its] performance with reference to the physical delivery of the goods.” *See* Cal. Com. Code §2401(2). Furthermore, the administrative law judge finds that Sony sold the [] Covered Products to [] on May 10, 2018, and, therefore, Sony sold Covered Products after the end of the PRP in violation of the Commission’s CDOs on three separate days. The administrative law judge finds that Sony violated the Commission’s CDOs by selling Covered Products to [] after the end of the Presidential Review Period, as detailed in the chart below.

Date of Sale	Customer	PO Number	Quantity	Net Revenue
May 8, 2018	[]	2141039	[]	[]
May 8, 2018	[]	170783	[]	[]
May 8, 2018	[]	23423494	[]	[]
May 9, 2018	[]	5042018	[]	[]
May 9, 2018	[]	56591439	[]	[]
May 10, 2018	[]	N/A	[]	[]

See RX-0002C (Jarosz RWS) at Q/A 60; RX-0410C (Jarosz Tab 4); CX-0002C (Vander Veen WS) at Q/A 40-46; CX-0340C (Sony’s Sixth Supplemental Responses to Fujifilm’s First Set of Interrogatories) at 115-120. The domestic value of those Covered Products is expressed in the

PUBLIC VERSION

chart as net revenue, which takes into account the invoiced revenue as well as the [

J. See RX-0002C (Jarosz RWS) at Q/A 68.

B. [] Sales of Covered Products After the End of the Presidential Review Period

Fujifilm asserts that [] post-PRP sales of Covered Products were for, with, or otherwise on behalf of Sony and that [] is Sony's distributor.⁵ Fujifilm Br. at 37-47.

Fujifilm also asserts that "Sony also violated the CDOs by aiding and abetting [] to make sales of Covered Products for, with, or otherwise on Sony's behalf after the PRP."⁶ *Id.* at 28. Fujifilm contends that "Sony facilitated [] post-PRP sales of Covered Products and, therefore, violated the CDOs by paying [] to label and warehouse Covered Products after the PRP." *Id.* at 37.

As a preliminary matter, the administrative law judge finds that the evidence shows [] sold [] Covered Products after the end of the PRP from []
J. See CX-0070C [] Sales). Although Sony claims that this evidence is not sufficient because it is a conclusory document that is not kept in [] ordinary course of business, Sony provides no testimony or evidence that challenges this document's veracity. See Sony Reply at 22-23. Moreover, [] employee, []

⁵ Fujifilm does not allege that [] is Sony's agent or licensee. See Fujifilm Br. at 28-47.

⁶ Fujifilm claims it does not allege that Sony's activities *during* the PRP violated the CDOs. Fujifilm Br. at 28 ("To be clear, Fujifilm does *not* allege that Sony's actions during the PRP violated the CDOs. Fujifilm only points to Sony's actions during this time because they evidence Sony's orchestration of its scheme to assist [] in selling Covered Products *after* the PRP. It is Sony's post-PRP activities and assistance to [] that constitute further violations here." (emphasis in original)).

PUBLIC VERSION

]. See JX-0011C [

] at 118-120. The administrative law judge therefore finds no reason to conclude that the number of Covered Products sold by [] during that time period, as shown in CX-0070C, is inaccurate.

1. [] Is Not Sony's Distributor

Fujifilm asserts that "[t]he CDOs specifically prohibit the post-PRP sales of Covered Products by 'distributors . . . for, with, or otherwise on behalf' of Sony" and that [] is Sony's distributor. Fujifilm Br. at 37. According to Fujifilm, Sony and [] are partners such that Sony manufactures LTO products and [] distributes those LTO products. *Id.* at 38.

Fujifilm argues:

Indeed, Sony's sales agreement with [

]." See JX-0034C [] Agreement) at 1 (emphasis added); Hearing Tr. at 65:17-66:22; *see also* CX-0024C [] Emails) at 2 [

]. See generally CX-0024C [] Emails). In this same correspondence, [] also referred to [] as its "[]". *Id.* at 2.

Pursuant to its sales agreement with [

]. See JX-0002C

PUBLIC VERSION

[] at 129:12-15; JX-0004C [] at 39:3-17,
52:8-18, 58:16-20, 70:13-17; JX-0008C [] at 58:12-
21, 60:20-63:19; JX-0011C [] at 120:8-121:25; *see also*
RX-0003C [] at Q/A 17 []

1.

BLACK'S LAW DICTIONARY 577 (10th ed. 2014).

Id. at 38-39 (footnote omitted) (emphasis in original).

Fujifilm further argues that Sony's definition of "distributor" is unreasonably narrow and contends:

The Commission has routinely recognized that OEMs like [] are "distributors" when they resell products made by another manufacturer, including the resale of product under the reseller's own brand rather than the manufacturer's brand. *See, e.g., Certain Digital Multimeters, & Prod. with Multimeter Functionality*, Inv. No. 337-TA-588, ID at 12 (Jan. 14, 2008) (explaining that "manufacturers ... advertise that **private labeling** is important so that **distributors** can be known by their own brand") (emphasis added); *id.* at 29 (explaining that "foreign suppliers" may "act as original equipment manufacturers for United States **distributors**" and referring to "**private label** agreements between **distributors** and manufacturers") (emphasis added); *Diamond Sawblades & Parts Thereof From China & Korea*, Inv. Nos. 731-TA-1092 & 1093, USITC Pub. No. 3862, Comm'n Det. at II-1, n.1 (Jul. 2006) (identifying two different types of "distributors": (i) "**Branded distributors**" that "sell primarily finished diamond sawblades with **their own label**, affixed by the supplier or by the distributor," and (ii) "Other distributors" that "sell primarily finished diamond sawblades with the label of their suppliers") (emphasis added); *Certain Biaxial Integral Geogrid Products from China*, Inv. Nos. 701-TA-554 & 1309, USITC Pub. No. 4670, Comm'n Det. at 17, n.96 (Mar. 2017) (identifying "branded biaxial and triaxial geogrids [offered] via exclusive arrangements with distributors" and "**private label** biaxial geogrids [offered] to other (nonexclusive) **distributors**") (emphasis added). It is therefore irrelevant that "Sony's name and trademark appear nowhere on the OEM-branded goods that Sony sells to the OEM customers." RPreHB at 45-46.

PUBLIC VERSION

Put simply, [] is Sony's "distributor" because it is "distributing" Sony-manufactured products. Mr. Hiroyuki Ikemura—senior manager of the OEM Section of the Marketing Department at SSMS and one of the individuals that negotiated Sony's sales agreement with []—agrees that [] resale activities are consistent with "generally what is referred to as distributing the product." *See* Hearing Tr. at 65:17-66:2.

Id. at 40-41 (emphasis in original).

Sony asserts that [] is not Sony's distributor and argues:

Sony's commercial transaction expert, Mr. Gibson, confirmed that [] is not Sony's distributor. Mr. Gibson explained that, at a high-level, "a distributor is an independent principal who is appointed by an owner / manufacturer of branded goods to sell those branded goods." RX-0001C (Rebuttal W.S. of C. Gibson) at Q/A 221. He further explained that determining whether an entity is a distributor requires an in-depth examination of the commercial relationship, including any governing contracts. *Id.* at Q/A 219-236. Mr. Gibson then performed a detailed analysis comparing Sony's Sony-branded [], which establish a distribution relationship for **Sony-branded** goods, with Sony's OEM agreements.

Mr. Gibson's opinion is unequivocal: Sony's OEM customers **are not Sony's distributors**. *Id.* at Q/A 38-39, 58-145, 219-240. Sony's name and trademark do not appear anywhere on the OEM-branded goods that Sony sells to the OEM customers. *Id.* at Q/A 38-39, 222, 234-236; *see also* RX-0003C (Rebuttal W.S. of A. Yamaguchi) at Q/A 28; RX-0004C (Rebuttal W.S. of C. Clark) at Q/A 6. Once Sony has sold the OEM-branded product to [], "Sony's control and interest terminates in entirety." RX-0001C (Rebuttal W.S. of C. Gibson) at Q/A 235; *see also* JX-0002C (11/29/18 B. Engelmann Dep. Tr.) at 14 (53:19-20) ("it becomes [] to do with as they see fit"). At that point, Sony's "work is completed," and Sony has "no involvement and no impact" on [] conduct. Tr. 82:1-11 (testimony of H. Ikemura). In contrast to typical distribution agreements, [

J. RX-0001C (Rebuttal W.S. of C. Gibson) at Q/A 221-228; RDX-0001C.002.

Sony Br. at 34-35 (emphasis in original).

PUBLIC VERSION

Sony criticizes Fujifilm's reliance on the background recitals of the agreement between Sony and [], and argues that a recital is not considered contractual and cannot be permitted to control the express provisions of the contract. *Id.* at 35-36. According to Sony, the recitals only establish that after Sony sells LTO products to [] sells and distributes its own OEM-branded products to its customers. *Id.* at 36. Sony contends that its OEM customers are not its distributors, and that Sony does not work with distributors in the OEM business at all. *Id.* Sony further argues that [] and Sony have an OEM business relationship, and that "[] likewise does not view itself as Sony's distributor." *Id.* at 36-37.

The Staff contends that Fujifilm mischaracterizes the relationship between Sony and [] as that of a supplier and its distributor, that [] is an independent party, and "[t]he evidence does not show that they are engaged in prohibited conduct 'for, with, or otherwise on behalf of' Sony." Staff Br. at 18; Staff Reply at 9-10.

In reply, Fujifilm argues:

[] was Sony's *de facto* warehouse and distributor **after** the PRP. To be sure, Sony describes [] as its "warehouse" and "distributor." See RPostHB at 1 (referring to Sony DADC as one of Sony's "**distributor** companies") (emphasis added); *id.* at 20 (explaining that [

(emphasis added); RPreHB at 29, 31 (referring to [

(emphasis added). And each of the activities that [] agreed to perform for Sony after the PRP (*i.e.*, holding and labeling inventory) was previously performed by [

1. CX-0050C [] Emails) at 3 (explaining that [

]; JX-0011C [] at 62:24-63:8 (explaining that [

]. Thus, [

PUBLIC VERSION

1. See JX-0004C [] at 20:11-19 (“[W]e assisted []

1.

Fujifilm Reply at 9-10 (emphasis in original). Fujifilm further argues:

Sony incorrectly claims that the term “distributor” in the CDOs is inapplicable to [] because Sony does not have “control” over []. See RPostHB at 32. Sony reaches this incorrect conclusion by improperly applying the statutory canon *noscitur a sociis* to Section II of the CDOs in support of the self-serving definition of “distributor” that Sony elicited from its purported “commercial transactions expert,” Mr. Christopher Gibson. See *id.* at 34.

Sony’s interpretation of Section II of the CDOs (and of the term “distributor”) fails because: (i) the statutory canon of *noscitur a sociis* is inapplicable, (ii) the term “control” is used with respect to a separate class of entities from “distributors,” and (iii) the addition of a “control” requirement to the term “distributors” would violate the rule against surplusage. As Sony points out, the statutory canon of *noscitur a sociis* is “applied where a word **is capable of many meanings**.” RPostHB at 31-32 (quoting *Jarecki v. G.D. Searle & Co.*, 367 U.S. 303, 307 (1961)) (emphasis added). The word “distributor” is capable of only one reasonable meaning—“one that distributes.” And Sony admits that “[] sells and distributes” the LTO products that [] purchases from Sony, and that “the [] Agreement recognized that [] would ‘generally’ be distributing its products purchased from Sony.” RPostHB at 36. Thus, there is no need to apply the canon of *noscitur a sociis* in the first instance. See *Levorsen v. Octapharma Plasma, Inc.*, 828 F.3d 1227, 1232 (10th Cir. 2016) (refusing to apply *noscitur a sociis* when the ordinary meaning of the term yields neither ambiguity nor an irrational result).

Furthermore, applying *noscitur a sociis* to add an element of “control” to the list of entities explicitly recited in Section II of the CDOs would create absurd results. For example, the terms “licensees,” “successors,” and “assigns” would effectively be rendered meaningless due to the fact that Sony would rarely (if ever) maintain any type of control over such entities. Thus, requiring an element of “control” over the entities explicitly recited in Section II of the CDOs would improperly render these terms surplusage. See *O’Connor v. Oakhurst Dairy*, 841 F.3d 69, 73 (1st

PUBLIC VERSION

Cir. 2017) (“rule against surplusage . . . instructs that we must give independent meaning to each word in a statute and treat none as unnecessary.”).

It also is apparent from the plain language of Section II of the CDOs that, if the Commission wished to require “control” over the entities listed, it could have done so. Indeed, the CDOs use the term “controlled” to describe Sony’s “owned business entities.” 1012 CDOs at § II. There is no such recitation with respect to Sony’s “distributors.” *See id.*

Id. at 14-16 (emphasis in original).

In reply, Sony asserts:

Mr. Ikemura’s testimony makes clear, however, that [] “distributing” the products that it purchases from Sony (*i.e.*, reselling) is ***not the same*** as [] acting as Sony’s distributor. Tr., 81:20-82:20; *see also* RX-0005C [] at Q/A 11-14; RX-0003C [] at Q/A 17, 27. Rather, Sony simply manufactures, supplies, and delivers products to []. Tr., 81:20-82:20. Even [] JX-0011C (12/4/18 [] at 36 (140:12-13, 140:16-17) (“Q: Is []: [] Rather than attempt to address this evidence, Fujifilm ignores it.

Mr. Ikemura’s testimony also is entirely consistent with the expert opinions from Sony’s commercial transactions expert, who has nearly thirty years of experience dealing with distribution transactions. *See* RX-0001C (Rebuttal W.S. of C. Gibson) at Q/A 2-19. Mr. Gibson explained that “[d]etermining whether one entity is a distributor of another entity focuses on the nature of the commercial relationship.” *Id.* at Q/A 221. Mr. Gibson analyzed the relationship between Sony and [] and concluded that [] is not Sony’s distributor. *Id.* at Q/A 219-220. Mr. Gibson explained that the purchase contract between Sony and [] ***favours*** [] over Sony, which is not consistent with [] acting as Sony’s distributor. *Id.* at Q/A 224, 232; *see id.* at Q/A 38-39, 219-232. For instance, []

PUBLIC VERSION

at Q/A 228; JX-0034C [] *See id.*
] Agreement) at 3 of 28.

Fujifilm engages in *no such analysis* and instead relies entirely on a generic definition from Black's Law Dictionary without consideration for the context of the CDOs. Fujifilm IPHB at 39-40. Fujifilm's analysis is incomplete. Fujifilm fails to comprehend that the surrounding context of a court order (or statute or contract) may give further specificity to an otherwise generic word. *See ClearCorrect Operating, LLC v. Int'l Trade Comm'n*, 819 F.3d 1334, 1344 (Fed. Cir. 2016); Sony PHB at 40-42. Black's Law Dictionary is not "wrong," but it simply does not address what it means for one entity to be another entity's distributor. Sony IPHB at 31-32. Even if [] were *a* "distributor" in the abstract as defined by Black's Law Dictionary, that is not dispositive of the question: the relevant analysis must occur within the context of Section II of the CDOs which applies only to *Sony's* distributors. *Id.* at 31-32. Fujifilm's analysis is incomplete.

Sony Reply at 8-9 (emphasis in original).

No CDO at issue explicitly names [], and [] was not named as a respondent in the underlying violation investigation or this enforcement proceeding. Each of the CDOs, however, states:

The provisions of this Cease and Desist Order shall apply to Respondent and to any of its principals, stockholders, officers, directors, employees, agents, licensees, distributors, controlled (whether by stock ownership or otherwise) and majority-owned business entities, successors, and assigns, and to each of them, insofar as they are engaging in conduct prohibited by Section III, *infra*, for, with, or otherwise on behalf of, Respondent.

CX-0334 (CDO Sony Elec.), Section II ("Applicability"); CX-0335 (CDO Sony Corp. Am.), Section II ("Applicability"); CX-0336 (CDO Sony Corp. Tokyo), Section II ("Applicability").

Therefore, the administrative law judge must first determine whether [] is Sony's distributor thereby subjecting it to the provisions of the CDOs.

PUBLIC VERSION

The evidence shows that Sony has two categories of products – (i) Sony-branded LTO products, and (ii) OEM-branded LTO products. RX-0003C (Yamaguchi RWS) at Q/A 16-17. The Sony-branded LTO products are sold to end users and Sony's resellers and distributors, while the OEM-branded LTO products are sold to OEM customers. *Id.* For example, Sony sells Sony-branded LTO products to []⁷ RX-0005C [] RWS) at Q/A 9; RX-0001C (Gibson RWS) at Q/A 225. In contrast, Sony sells OEM-branded LTO products to [], which is an OEM customer. RX-0005C [] RWS) at Q/A 10-12. Moreover, the evidence shows that Sony's relationship with its resellers, like [], are governed by [], whereas Sony's relationship with its OEM customers, like [], are governed by []

[] See RX-0001C (Gibson RWS) at Q/A 51-52, 56-57, 87-111, 220-236; *compare* JX-0041C [] Reseller Agreement) and JX-0042C [] Reseller Agreement) with JX-0034C [] Sales Agreement) and JX-0015C [] Purchase Agreement).

Sony's witness, Mr. Gibson, contrasted Sony's [] to Sony's []

[], and enumerated several clauses illustrating that the two types of agreements are distinct. RX-0001C (Gibson RWS) at Q/A 225-236. Mr. Gibson explained that with distribution relationships, the manufacturer/seller retains more autonomy, while the distributor has more restrictions and obligations. *Id.* at Q/A 221-222. On the other hand, Mr. Gibson explained that with OEM relationships, the provisions are either neutral or sometimes favor the OEM

⁷ In the context of this enforcement proceeding, and in view of Sony's relationship with its customers, Sony's [] are analogous to distributors. See RX-0001C (Gibson RWS) at Q/A 225 []

PUBLIC VERSION

customers. *Id.* at Q/A 224. For example, the evidence shows that pursuant to the [] reseller agreement, [] was [] in a []. JX-0041C [] Reseller Agreement) at 1, 10; *see also* JX-0042C [] Reseller Agreement) at 1, 9. In contrast, there is no such provision in the Quantum sales agreement. *See* JX-0034C [] Sales Agreement); *see also* JX-0015C [] Purchase Agreement). As another example, the evidence shows that pursuant to the [] reseller agreement, []. *See* JX-0041C at 2 [] Reseller Agreement); *see also* JX-0042C [] Reseller Agreement) at 2. []. *See* JX-0034C [] Sales Agreement); *see also* JX-0015C [] Purchase Agreement). As summarized in [], reproduced below, the evidence shows at least the following []:

See JX-0041C [] Reseller Agreement); JX-0042C [] Reseller Agreement); JX-0034C [] Sales Agreement); JX-0015C [] Purchase Agreement); RDX-0001C.001-2 [].

Although Fujifilm points to a generic statement in the recitals of the [] sales agreement that states [],” that is not persuasive evidence that [] is acting as Sony’s distributor, particularly when Sony’s agreement with [] is not a [] agreement, and does not contain provisions typically found in Sony’s [] agreements. *See id.*; Ikemura Tr. 65-66; CX-0024C (Sony-Euler Hermes emails) at 2. Moreover, there is also testimony showing that Sony views [] as its OEM customer, not

PUBLIC VERSION

a distributor. *See* Ikemura Tr. 81-82; JX-0005C (Ikemura Dep.) at 98. Similarly, there is testimony that [] also views its relationship []

[]. *See* JX-0011C [] at 79 []

[], 149-150 [].

Additionally, the administrative law judge finds Fujifilm's reliance on the definition of "distributor" from Black's Law Dictionary unpersuasive. *See* Fujifilm Br. at 39. Such a generic definition does not provide sufficient evidence to outweigh the actual terms of the sales agreement between Sony and []. The administrative law judge also finds Fujifilm's attempt to liken [] to one of Sony's distributor companies, [], unconvincing. *See* Fujifilm Reply at 9-10. Sony acknowledges that [] is one of its "distributor companies" and "is subject to the control of the original three named Respondents." *See* Sony Br. at 26. In contrast, the evidence shows that [] is an independent third party, which is not under the control of Sony. *See* JX-0034C [] Sales Agreement) at 7 []

[]. Regardless of whether [] performed, or paid a third party to perform, some activities that were previously performed by [], the fact remains that [] was not acting as Sony's distributor and was not subject to Sony's control.

Furthermore, several of the cases Fujifilm cites to provide meaning to the word "distributor" are inapplicable to the facts at issue in this proceeding. *See* Fujifilm Br. at 40. First, Fujifilm cites to the Initial Determination in *Certain Digital Multimeters, and Products with Multimeter Functionality*. *Id.* The portion Fujifilm cites, however, is part of Complainant's

PUBLIC VERSION

Statement of Undisputed Material Facts, which the administrative law judge in that instance adopted at least in part because there were no objections from Staff and the remaining respondents were in default. *See Certain Digital Multimeters, and Products with Multimeter Functionality*, Inv. No. 337-TA-558, Initial Determination (Jan. 14, 2008) at 4, Appendix A. In contrast to the present enforcement proceeding, that case involved trademark infringement and the portions Fujifilm cites concern respondents' infringing activity and whether there were "look-alike products" with private labeling. *Id.* at Appendix A. Moreover, it appears that the portions of that case Fujifilm cites are relevant to whether or not a general exclusion order was an appropriate remedy. *See id.* at 19-22, Appendix A. Those circumstances are distinct from the issue in this enforcement proceeding as to whether [] is Sony's distributor for purposes of violating the CDOs. In addition, Fujifilm cites to two Commission determinations in import injury investigations, not section 337 investigations. *See* Fujifilm Br. at 40 (citing *Diamond Sawblades & Parts Thereof From China & Korea*, Inv. Nos. 731-TA-1092 & 1093, USITC Pub. No. 3862, Comm'n Det. at II-1 n.1 (Jul. 2006); *Certain Biaxial Integral Geogrid Products from China*, Inv. Nos. 701-TA-554 & 1309, USITC Pub. No. 4670, Comm'n Det. at 17, n.96 (Mar. 2017)). Fujifilm, however, does not provide any basis for the administrative law judge to use determinations in unrelated injury import investigations to define whether a party is subject to a CDO in a section 337 investigation, particularly when the issue is viewed in light of the actual terms of the sales agreement between Sony and [].

Based on the foregoing, the administrative law judge finds that [] is not a Sony distributor as enumerated in the Commission's CDOs. *See* CX-0334 (CDO Sony Elec.), Section II ("Applicability"); CX-0335 (CDO Sony Corp. Am.), Section II ("Applicability"); CX-0336

PUBLIC VERSION

(CDO Sony Corp. Tokyo), Section II (“Applicability”). Therefore, the administrative law judge finds that the Commission’s CDOs do not apply to [].

Inasmuch as [] is not Sony’s distributor, under the terms of the CDOs, one need not determine whether, as argued by Fujifilm, [] acted for, with, or otherwise on behalf of, Sony. *See id.* (“The provisions of this Cease and Desist Order shall apply to Respondent and to any of its principals, stockholders, officers, directors, employees, agents, licensees, distributors, controlled (whether by stock ownership or otherwise) and majority-owned business entities, successors, and assigns, *and to each of them*, insofar as they are engaging in conduct prohibited by Section III, *infra*, for, with, or otherwise on behalf of, Respondent.”) (emphasis added). To the extent that such an argument is included in Fujifilm’s allegations of aiding and abetting, those allegations are discussed below.

2. Sony Did Not Aid and Abet [] Sales of Covered Products After the End of the Presidential Review Period

Fujifilm argues that Sony aided and abetted [] to make post-PRP sales of [] Covered Products by (i) reimbursing [] for having a third party label [] Covered Products after the PRP, and (ii) paying [] additional discounts to cover the costs of warehousing [] Covered Products after the PRP. Fujifilm Br. at 28, 43. Fujifilm further argues:

The evidence shows that the arrangements Sony made to assist [] with its post-PRP sales of Covered Products were unique, one-off arrangements specifically designed to ensure that []—Sony’s largest customer of Covered Products—could and would continue to sell Covered Products in the United States after the PRP. Sony’s actions in this regard were calculated, deliberate, and specifically intended to evade the Commission’s orders. If these types of actions are permitted without recourse (*i.e.*, without a significant civil penalty), future respondents would be encouraged to likewise evade the Commission’s orders with

PUBLIC VERSION

cunning business arrangements like those constructed by Sony here—arrangements that quietly evade both the spirit and words of the Commission’s orders.

Id. at 29.

Fujifilm contends that Sony reimbursed [] for costs [] incurred from third party [] for labeling Covered Products, which was normally done by Sony. *Id.* Fujifilm argues that Sony itself could no longer perform the labeling activities after the Commission’s order became effective. *Id.* Fujifilm claims that such labeling is required before [] can sell Covered Products to certain customers, and “Sony therefore facilitated [] post-PRP sales of these products by paying [] labelling expenses.” *Id.* at 29-30. Fujifilm further argues:

Although Sony devised its plan to have a third party label products on [] behalf in December 2017, Sony’s plan was always to have this labelling performed *after* Sony itself was prohibited from doing so:

JX-0004C [] at 20:11-19, 21:10-16 (underline added). To be sure, Sony repeatedly pushed out its shipping dates for these products as the Commission extended the date to issue its Final Determination. *See* CX-0050C [] Emails) at 1

[] because the “[]
[]. Sony therefore does not (and cannot) dispute that its agreement to reimburse [] for labelling was intended to (and did) facilitate [] post-PRP sales of Covered Products.

Regardless of when Sony made this agreement with [], the result was that [] of Covered Products were labeled for [] *after* the PRP, [

[]. JX-0011C []
at 89:8-90:2; Hearing Tr. at 11-13. Sony also did not reimburse [] for this labeling until after the PRP. On October 10, 2018, Sony paid [] for the labelling performed on its behalf through August 31, 2018. *See* CX-0045C (Labelling

PUBLIC VERSION

Payment); CX-0046C (Labeling Invoice); CX-0047C (Sony-Quantum Email); JX-0002C (Engelmann Tr.) at 263:7-263:7, 263:14-25, 264:8-20; JX-0011C (Jarvis Tr.) at 88:11-16, 90:8-93:1. [

] JX-0011C [] at 96:2-8; Hearing Tr. at 76:1-21.

In sum, Sony paid [] to label Covered Products on its behalf because Sony was not be able to do so after the PRP. Sony's agreement to pay for this labelling not only facilitated [] subsequent sale of these otherwise [] 1036 Petition at 49-50), it also [

] (JX-0011C [] at 86:24-87:4). [

] These payments aided and abetted [] post-PRP sales of Covered Products and evidence the fact that [] infringing sales were made for, with, or otherwise on behalf of Sony.

Id. at 32-33 (footnote omitted) (emphasis in original).

Fujifilm also contends that [] agreed to place orders for [] Covered Products ahead of its forecasts, and that Sony paid Quantum an additional 1% discount to warehouse those products after expiration of the PRP. *Id.* at 33-34. Fujifilm argues that “there *is* something wrong with Sony paying [] costs for warehousing that inventory *after* the PRP, ultimately facilitating their subsequent sales.” *Id.* at 34-35 (emphasis in original).

According to Fujifilm, “Sony knew that the additional discount it agreed to pay [] was to ‘offset’ [] warehousing costs” and “Sony knew that these warehousing costs were to be incurred by [] *after* the PRP.” *Id.* at 35-36 (emphasis in original). Fujifilm further argues that the amount of inventory that [] agreed to warehouse after the PRP was extraordinary. *Id.* at 36. Fujifilm explains that [] typical inventory level were approximately 1,800 of Covered Products while [] had [] Covered Products in

PUBLIC VERSION

inventory at the end of March 2018. *Id.* Thus, Fujifilm argues that [] widely-expanded warehousing activities were a significant departure from Sony's and [] alleged 'ordinary course of business'" and were "specifically designed to navigate around the Commission's orders." *Id.* Fujifilm contends that Sony ultimately paid [] to warehouse [] Covered Products worth \$[] after the PRP and Sony's warehousing payment also occurred after the PRP. *Id.* at 37 (citing CX-0002C (Vander Veen WS) at Q/A 67-68; CDX-0001C.0013; RX-0005C [] RWS) at Q/A 356; CX-0097C (Rebate Payment); CX-0248C (Rebate Calculation)).

Fujifilm argues that "Sony intentionally encouraged and assisted [] to distribute and sell Covered Products after the PRP." *Id.* at 44. Fujifilm contends:

More specifically, Sony intended to provide [] with enough inventory of Covered Products to last until Sony completed its alleged design-around for the '891 Patent, which Sony did not expect to occur until after the PRP. *See* CX-0040C (Internal Sony Emails) at 1 []

CX-0042C (Internal [] at 1 []
CX-0328C [] Resp. to 2nd & 3rd ROGs) at 11 []

[]; JX-0004C [] at 118:21-119:5 []

[]; *id.* at 129:12-130:4

[]
[]. In other words, Sony intended that its post-PRP labeling and warehousing reimbursements to [] would encourage and allow [] to continue selling Covered Products after the PRP.

Id. at 44-45.

PUBLIC VERSION

Fujifilm further argues that Sony knew that (i) the Covered Products infringed the '891 patent, (ii) its alleged design-around would not be completed until after the PRP, (iii) its OEMs were purchasing as much of the original products as possible to prevent a supply disruption, and (iv) Covered Products shipped to [] would not be delivered until after the PRP. *Id.* at 45. Fujifilm therefore claims that “Sony knew that [] would be selling infringing Sony-manufactured LTO products in the United States after the expiration of the PRP.” *Id.* Fujifilm also argues that [] post-PRP sales⁸ violated the CDOs because they were made for, with, or otherwise on behalf of Sony, and they violated 35 U.S.C. 271(a) because the Covered Products infringe the '891 patent. *Id.*

Fujifilm argues:

Sony assisted and participated in [] post-PRP sales of Covered Products by paying [] post-PRP labeling and warehousing costs. *See supra* § V.B.1 & 2. Sony attempts to distract from the fact that it paid [] to label and warehouse Covered Products *after* the PRP by arguing that the underlying agreement was finalized *before* the end of the PRP. *See* RPreHB at 6 (arguing that “all of the key terms were finalized before the Commission’s March 8, 2018 final determination”). It does not matter when that agreement was finalized. What matters is when Sony was assisting [] to sell Covered Products. And here, Sony was assisting [] to sell Covered Products *after* the PRP.

[]
J. JX-0011C [] at 89:8-14. []

[] *See* CX-0053C []]. And Sony does not deny that it reimbursed [] for its warehousing expenses nearly five months after the PRP or that it reimbursed [] for its labeling expenses more than six months after the PRP. *See* CX-

⁸ According to Fujifilm, Sony does not dispute that [] sold more than [] Covered Products in the United States after the PRP. Fujifilm Br. at 45-46.

PUBLIC VERSION

0097C (Rebate Payment); CX-0045C (Labeling Payment). Thus, there is no dispute that both Sony's assistance and the infringing sales that occurred as a result of that assistance occurred after the PRP.

Ultimately, rather than taking "energetic steps" to do "everything in [its] power" to comply with the CDOs and "stay several healthy steps away" from "the line of infringement" (*Magnets*, Comm'n Op. at 24), Sony stepped over that line through its continued assistance to Quantum in its sales of Covered Products after the PRP (*see supra* §§ V.B.1 & 2). This continued assistance included all of the hallmark elements of an aiding and abetting an offense, and violated the CDOs. *See Marine Sonar*, ID at 71 (finding an aiding and abetting violation based on "support[ing] respondents' retailing network in selling out end-of-life products rather than returning them for a refund").

Id. at 46-47 (emphasis in original).

Sony argues that Fujifilm incorrectly relies on Sony's activities before the PRP expired and that "[a]s a matter of law, activities during the PRP **cannot** establish violations after the PRP." Sony Br. at 42-43 (emphasis in original). Sony contends that "Fujifilm cannot take conduct that was expressly permitted by the CDOs—sales by Sony to its customers during the PRP—and transform it into a violation merely because Sony's sales placed covered products into the chain of commerce." *Id.* at 44. In other words, Sony asserts that it cannot be found to aid or abet other entities based on conduct that Sony itself was permitted to engage in at the time. *Id.* at 44-45. Sony further argues that it owed the reimbursements⁹ to [] "regardless of whether [] ever resold the products in question" and thus, "Sony's payments in no way encouraged [] to transfer the products or otherwise assisted with the process." *Id.* at 45. According to Sony, it is legally irrelevant whether Sony made the actual payments to []

⁹ Sony claims that some of the payments Fujifilm points to were actually made during the PRP. Sony Br. at 56-57 ("For these [] units, **all of Sony's actions occurred before May 7, 2018.**") (emphasis in original).

PUBLIC VERSION

before or after the PRP expired. *Id.* at 46. Sony asserts that “Sony and [] entered into the agreements before the Commission even entered the CDOs (in most instances) or at minimum before the end of the PRP (for the rebates concerning [] cartridges associated with Fujifilm’s “warehousing” theory).” *Id.* at 47.

Sony disagrees that it paid [] to warehouse the products, and instead asserts that [] was “warehousing the products *on its own behalf* and would have borne the risk of loss had the warehouse burned down or the products otherwise been lost.” *Id.* at 48 (emphasis in original). Moreover, Sony argues that pursuant to the terms of its agreement with [], its “payment obligations are incurred upon *Sony’s sale to* [], which occurred during the PRP.” *Id.* at 49 (emphasis in original). In particular, Sony argues that “Sony incurred an obligation before May 7, 2018 upon the sale of the covered goods to [] during the PRP” and “the underlying conduct leading to these rebate obligations occurred before or during the PRP.” *Id.* at 49-51. Similarly, Sony claims that the labeling reimbursements concerned products that were sold to [] prior to the end of the PRP and “were in no way tied to whether or not [] ever resold the products.” *Id.* at 51.

Sony argues “mere monetary payments to another do not constitute ‘aiding and abetting’ that other” and that instead, “something more is required—a specific intent to facilitate the offense in question.” *Id.* at 53. However, Sony contends that in this case, Sony had no interest in whether [] resold the products because “Sony owed the money to [] pursuant to preexisting contractual obligations and regardless of what [] did with the products.” *Id.* at 54. Sony claims that Fujifilm fails to cite relevant authority for its position because the cases it does cite do not show that monetary payments are a basis for aiding and abetting. *Id.* at 54-55.

PUBLIC VERSION

The Staff argues that Fujifilm has not offered any basis for the Commission to find a violation of its CDOs based on sales that were not prohibited. Staff Br. at 17. Staff argues:

There are at least two problems with Fujifilm's logic. First, the Commission's CDOs did not prohibit Sony from selling Covered Products to any customer before a violation of Section 337 was found, nor did they prohibit Sony from selling Covered Products during the Presidential review period. *See* CX-0336 (Cease and Desist Order) at §§ III and XI. And second, the Commission's CDOs only apply to "Respondent and to any of its principals, stockholders, officers, directors, employees, agents, licensees, distributors, controlled (whether by stock ownership or otherwise) and majority-owned business entities, successors, and assigns, and to each of them, insofar as they are engaging in conduct prohibited by Section III, infra, for, with, or otherwise on behalf of, Respondent." CX-0336 (Cease and Desist Order) at § II. [] are independent parties. JX-0034C (Quantum Agreement) at § 5; *See* JX-0015C (HPE Agreement) at § 22.3. The evidence does not show that they are engaged in prohibited conduct "for, with, or otherwise on behalf of" Sony. *See id.*; RPHBr. at 39-47.

Id. at 18; Staff Reply at 10. The Staff further argues:

According to Fujifilm, a finding of a violation is appropriate because "Sony intentionally undercut the remedy provided by the LEO by stockpiling Covered Products during the pendency of the invention, and during the PRP." CPHBr. at 52. Fujifilm refers to this conduct as "channel stuffing." *See id.* While this may have indeed been Sony's objective, Fujifilm has not shown that there is anything inherently wrong with Sony's intentional efforts to reduce its inventories before the Commission's remedial orders prohibited it from doing so. *See* RPHBr. at 39-63. The Commission cannot prohibit the importation and sale of products before a violation is found. *See* 19 U.S.C. § 1337(e) and (f). However, the Commission can set bond in an amount sufficient to protect the Complainant during the Presidential review period. *See id.* But here, Fujifilm did not request a bond during the underlying investigation.

Staff Br. at 18-19. Therefore, the Staff argues that it was permissible for Sony (i) to sell Covered Products before the Commission found a violation and issued its CDOs, and (ii) to sell Covered

PUBLIC VERSION

Products during the PRP. *Id.* at 19 (citing CX-0336 at § XI); Staff Reply at 9. Lastly, the Staff contends that there does not appear to be “any basis for the Commission to assess a civil penalty on the grounds that Sony engaged in permissible sales in anticipation of a determination of violation.” Staff Br. at 19.

In reply, Fujifilm argues:

The labeling and warehousing of Covered Products that forms the basis of this violation both occurred *after* the PRP, as did [] sales of these Covered Products. It is irrelevant that some of the labeling and warehousing may have occurred before the PRP expired, that Sony’s agreement to reimburse [] for these expenses was entered into before the PRP expired, and that Sony may have completed its own sales of these products to [] before the PRP expired. Sony’s reimbursement of labeling and warehousing costs that were incurred *after* the PRP and the sales that [] was able to make *after* the PRP as a result of these reimbursements violate the CDOs, regardless of when Sony made those payments, agreed to make those payments, or made its sale to [] in the first instance.

Fujifilm Reply at 3-4 (emphasis in original).

Fujifilm asserts that the Sony-subsidized labeling and warehousing both occurred after the PRP. *Id.* at 5-9. Fujifilm contends that [] labeled Covered Products after the PRP, and indeed, continued to label products for at least three months after the PRP. *Id.* at 5. According to Fujifilm, “a customer would not have purchased Covered Products from [] *but for* the presence of labels on those products” and therefore, “Sony unlawfully facilitated [] post-PRP sale of those products by paying for the post-PRP labeling of those products.” *Id.* at 6-7 (emphasis in original). Fujifilm claims that Sony was shifting its risk to [] through the warehousing agreement and that arrangement “violated the CDOs because it resulted in [] taking on Sony DADC’s warehousing role after the PRP, which

PUBLIC VERSION

enabled [] to sell and distribute Covered Products long after expiration of the PRP.” *Id.* at 8-9.

Fujifilm reiterates that regardless of whether Sony sold the Covered Products to [] before the end of the PRP, the labeling and warehousing occurred after the PRP, which is why those activities are violations of the CDOs. *Id.* at 9. Fujifilm argues that “Sony effectively paid [] to take on Sony DADC’s role in Sony’s supply chain after the PRP.” *Id.* at 10. According to Fujifilm, [] warehoused, sold, and distributed Covered Products after the PRP and Sony’s labeling and warehousing reimbursements aided or abetted those activities. *Id.*

Fujifilm also argues that it is irrelevant when Sony agreed to reimburse [] for its labeling and warehousing costs, but rather the focus is “when the accused labelling and warehousing occurred.” *Id.* Moreover, Fujifilm asserts that [] was warehousing and selling Covered Products ‘for, with, or otherwise on behalf of Sony’ *after* the PRP, regardless of whether Sony paid [] to do so before the PRP ended.” *Id.* at 13 (emphasis in original). Fujifilm further argues that “with respect to Sony’s ‘aid[ing] or abet[ting]’ violation, Sony’s liability is based on when [] post-PRP sales of covered products occurred, not when Sony provided the financial incentive for [] to make those sales.” *Id.* According to Fujifilm, “[t]he fact that Sony orchestrated this offense before the end of the PRP does not absolve Sony from liability for the violative post-PRP sales that that it knew and intended would occur.” *Id.* at 14.

In reply Sony contends that its arrangements with [] were “garden-variety financial incentives (e.g., 1% rebates) that Sony offered to encourage [] to purchase products *before* the end of the PRP.” Sony Reply at 12 (emphasis in original). According to

PUBLIC VERSION

Sony, it is irrelevant that in certain instances Sony paid the rebates and reimbursements after the end of the PRP. *Id.* Sony argues that only two payments were made after the end of the PRP:

(i) a [], and (ii) a []. *Id.* (citing RX-0658C (Quantum Q2 Rebate Calculation); CX-0046C (Quantum Invoice)). With respect to those products at issue, Sony maintains that it did not have legal title or interest to those products, and that it gained no benefit from [] continued sales of the products. *Id.* at 13. Sony contends that it actually declined to engage in certain activities after the end of the PRP “that could assist [] ability to resell, such as refusing to supply empty, clear packaging that [] could use for packaging Covered Products.” *Id.* (citing RX-0004C (Clark RWS) at Q/A 57-85). Sony further argues that the rebates that it owed to [] had nothing to do with whether [] resold the products. *Id.*

Sony argues:

Sony has consistently explained that it provided the [] request (Tr., 78:9-12), [] (RX-0005C (Rebuttal W.S. of [] at Q/A 349-358), [] (JX-0005C (12/3/18 [] Dep. Tr.) at 33 (127:22-128:19)), [] (RX-0005C (Rebuttal W.S. of [] at Q/A 54). *See, e.g.*, RX-0005C (Rebuttal W.S. of [] at Q/A 335-358. [] RX-0005C (Rebuttal W.S. of [] at Q/A 357-358. []).

Id. at 14 (footnote omitted) (emphasis in original). Sony claims that the []

].” *Id.* at 15 (citing RX-

PUBLIC VERSION

0658C []; RX-0005C [] RWS) at Q/A 335, 337-338, 340-343, 349-351).

Sony further argues that it issued the [

]. *Id.* (citing CX-0098C

[]; RX-0377C []. Sony claims that for the [

]. *Id.* at 15-16 (citing CX-0097C []; CX-0248C

[].

Sony also asserts that [

] does not make Sony's [] a warehousing reimbursement payment. *Id.*

at 16. Sony argues:

Fujifilm identifies a handful of emails and deposition statements in which [

] Tr., 79:20-80:2; *see generally* RX-0005C (Rebuttal W.S. of [] at Q/A 77, 158, 199-271, 277, 332-368.

Id. (emphasis in original).

[

]. *Id.* at 16-17 (citing CX-0046C (Labeling Invoice)). [

]. *Id.*

PUBLIC VERSION

at 17 (citing RX-0006C [] RWS); JX-0004C [] Dep.) at 23). []” *Id.* at 17 (citing RX-0006C [] RWS) at Q/A 12-13, 15, 51-52) (emphasis in original).

Sony argues that it “[]” *Id.* at 18. Sony also argues that Fujifilm’s reliance on *Certain Marine Sonar Imaging Devices* is misplaced because the sales at issue in that case were the respondents’ own sales. *Id.* at 19 (citing *Certain Marine Sonar Imaging Devices, Including Downscan and Sidescan Devices, Products Containing the Same, and Components Thereof*, Inv. No. 337-TA-921 (Enforcement), Enforcement Initial Determination (May 25, 2017) (EDIS Doc. ID 613362) at 60, 71-72, 74). According to Sony, the conduct in the present investigation is distinct because “Sony’s sole post-PRP conduct was the mere issuance of a []” *Id.* at 20 (emphasis in original).

With respect to its alleged intent, Sony argues:

Fujifilm recognizes that Sony can be found to have aided or abetted [] in violation of the CDOs only if Sony had the specific intent to encourage or assist [] in “the commission of an offense.” Fujifilm IPHB at 44. Fujifilm misdirects the issue of Sony’s intent in several ways. First, Fujifilm avoids discussing the CDOs entirely and instead asserts that the “offense” that Sony intended [] to commit was selling products that were found to infringe Fujifilm’s ‘891 patent. The sole issue in this proceeding is whether the Sony violated the CDOs—not whether unrelated third-parties committed unsubstantiated acts of direct infringement based on how they elected to use or resell the products they acquired from the named respondents before the end of the PRP.

Fujifilm also refers to Sony’s alleged intent during the PRP that the Covered Products be sold after the end of the PRP. However, Fujifilm only identifies evidence regarding Sony’s *permitted*

PUBLIC VERSION

actions selling products to [] *during the PRP*. Fujifilm does not even attempt to establish any “specific intent” associated with the [] that form the sole basis for Fujifilm’s aiding and abetting violations. Moreover, Fujifilm’s discussion of Sony’s “intent” ignores the undisputed fact that Sony’s specific intent during the PRP was to finalize all sales and shut down its United States operations relating to LTO-7, M8, and LTO-8 by May 7, 2018 in compliance with the CDOs. *See* RX-0003C (Rebuttal W.S. of A. Yamaguchi) at Q/A 54, 69-75; RX-0004C (Rebuttal W.S. of C. Clark) at Q/A 30, 37-38, 45-47, 51.

Further, Sony submitted unrefuted evidence that Sony’s understanding at all relevant times was that [] is permitted to sell Covered Products after the end of the PRP. For instance, Mr. Atsushi Yamaguchi testified in his witness statement:

Q77: According to your understanding, did the CDOs prohibit OEM customers from selling LTO-7 and LTO-8 products in the United States after May 7, 2018?

A: My understanding was that the CDOs did not prohibit third parties like the OEM customers from selling LTO-7 and LTO-8 products in the United States after May 7, 2018.

RX-0003C (Rebuttal W.S. A. Yamaguchi) at Q/A 77; *see also* JX-0002C (11/29/18 B. Engelmann Dep. Tr.) at 72-73 (285:24-288:8); JX-0004C (11/30/18 C. Clark Dep. Tr.) at 35 (134:3-15), 40 (155:2-12). Fujifilm declined to cross-examine Mr. Yamaguchi on this (or any relevant) point. Moreover, Sony incurred the obligation to issue those payments long before the end of the PRP. Sony PHB at 62. At minimum, Sony’s understanding in view of when it incurred these [] confirms that any violation based on Fujifilm’s broad interpretation of the CDOs was entirely *unintentional*.

Id. at 20-22 (emphasis in original).

Lastly, Sony contends that Fujifilm’s accounting is inaccurate because its payments for [] alleged warehousing products was in April 2018, before the end of the PRP. *Id.* at 22. Sony further argues that “Fujifilm failed to sufficiently establish any actual Quantum sales of Covered Products in the United States after the PRP.” *Id.* Sony asserts that

PUBLIC VERSION

Fujifilm relies on a conclusory document that “[

]” *Id.* at 22-23 (citing CX-0070C [] Sales); JX-0011C [] Dep.) at 118; CX-0002C [] WS) at Q/A 63). Sony therefore argues that Fujifilm fails to identify a single date on which [] sold Covered Products to a [] customer after the end of the PRP. *Id.* at 23. In addition, Sony claims that instead of relying on [] sales, Fujifilm instead incorrectly relies on [] Covered Products that were sold by Sony to [] during the PRP. *Id.*

As an initial matter, although Fujifilm focuses on when the labeling and warehousing occurred, there is no dispute that the labeling and warehousing at issue was performed by (or by a third party on behalf of) []. *See* Fujifilm Br. at 29-37; Sony Br. at 42-57. Inasmuch as [] is not subject to the CDOs, [] activities were not prohibited by the CDOs. Indeed, Fujifilm acknowledges that “[i]t is Sony’s *post-PRP activities and assistance* to [] that constitute further violations here.” *See* Fujifilm Br. at 29 (emphasis added). Moreover, Sony’s actions prior to the end of the PRP cannot be violations of the CDOs. While Section III of the CDOs states that Sony shall not “aid or abet other entities in the importation, sale for importation, sale after importation, transfer, or distribution of covered products,” the CDOs also state that “[t]he conduct prohibited by Section III of this Order may be continued during the sixty-day period in which the Order is under review by the United States Trade Representative” *See* CX-0334 (CDO Sony Elec.) at Section XI (“Bonding”); CX-0335 (CDO Sony Corp. Am.) at Section XI (“Bonding”); CX-0336 (Sony Corp. Tokyo) at Section XI (“Bonding”). Therefore, regardless of Sony’s activities prior to and during the PRP, the relevant

PUBLIC VERSION

question is whether Sony's actions after the end of the PRP aided and abetted Quantum in violation of Section III(E) of the CDOs. *See id.*

With respect to Sony's actions after the end of the PRP, at issue are two types of payments from Sony to []: (i) []¹¹ It is undisputed that Sony agreed to pay Quantum the [] Covered Products prior to the end of the PRP. *See* Fujifilm Br. at 29-37; Sony Br. at 47; CX-0038C (Engelmann email); CX-0039C (Engelmann email); CX-0049C (Ikemura email). It is also undisputed that Sony agreed to pay [] the [] Covered Products prior to the end of the PRP. *See* Fujifilm Br. at 29-37; Sony Br. at 47; CX-0050C (Ikemura email); CX-0045C (Jarvis email). Therefore, the only actions at issue after the end of the PRP are Sony's actual payments to [] for the rebates and reimbursements. *Id.*; CX-0097C (JP Morgan Transaction Search); CX-0098C (JP Morgan Payment).

Generally, aiding and abetting requires “sufficient knowledge and participation to indicate that [the defendant] knowingly and willfully participated in the offense in a manner that indicated he intended to make it succeed.” *U.S. v. Lucas*, 67 F.3d 956, 959 (D.C. Cir. 1995) (quoting *U.S. v. Raper*, 676 F.2d 841, 849 (D.C. Cir. 1982)); *see United States v Inn Foods, Inc.*, 560 F.3d 1338, 1349 (Fed. Cir. 2009) (civil penalty for those who knowingly aid and abet violations of a particular trade law). The administrative law judge does not accept Fujifilm's

¹⁰ These [] Covered Products correspond to Fujifilm's “warehousing” argument. *See* Fujifilm Br. at 33-37.

¹¹ These [] Covered Products correspond to Fujifilm's “labeling” argument. *See id.* at 29-33.

PUBLIC VERSION

assertion that “Sony paid [] to warehouse” the Covered Products. *See* Fujifilm Br. at 33-34. The evidence shows that Sony and [] negotiated the rebates associated with the [] Covered Products prior to the end of the PRP. *See* CX-0038C (Engelmann email); CX-0039C (Engelmann email); CX-0049C (Ikemura email). The evidence also shows that Sony paid []¹² Covered Products in July 2018. *See* RX-0658 (Quantum Rebate); CX-0248C (Quantum Rebate Calculation); CX-0097C (JP Morgan Transaction Search Details); *see also* Sony Br. at 12 n.4. While [] may have argued for the discount based, in part, on the fact that it would have to warehouse the Covered Products itself, that does not mean that [] was warehousing the Covered Products for Sony or that Sony paid [] to warehouse the Covered Products. Indeed, [] intent in requesting the discount does not show that Sony wanted [] to warehouse the Covered Products for Sony. Moreover, the evidence shows that []

]. *See* JX-0005C []

Dep.) at 121, 127-128, 130; RX-0005C [] RWS) at Q/A 349-358. The administrative law judge also finds that Fujifilm has not shown that Sony intended to give [] the rebate

¹² Sony claims that some of the payments Fujifilm points to were actually made during the PRP. Sony Brief at 56-57 (“[

]” (emphasis in original)). In response, Fujifilm contends that “it also is irrelevant that Sony made one of its warehousing reimbursements to [] before the PRP expired.” Fujifilm Reply at 12. Contrary to Fujifilm’s assertion, however, this is highly relevant because as discussed above, at issue are Sony’s actions after the end of the PRP. Inasmuch as the evidence shows, and Fujifilm does not dispute, that Sony made the payments with respect to [] Covered Products in April 2018 before the end of the PRP, those payments cannot constitute a violation of the CDOs. *See* CX-0039C (Engelmann email); CX-0049C (Ikemura email); CX-0098C (JP Morgan Payment); CX-0002C (Vander Veen WS) at Q/A 67-68; CX-0118C (Ikemura email); CX-0037C (Jarvis email); CX-0221C [] Purchase Order).

PUBLIC VERSION

for the [] Covered Products in order to persuade [] to sell those Covered Products after the end of the PRP. Sony and [] agreed to the rebates to [] prior to the end of the PRP. *See* CX-0038C (Engelmann email); CX-0039C (Engelmann Email); CX-0049C (Ikemura email). The rebates were not predicated on whether [] actually sold the Covered Products to its customers after the end of the PRP. *See id.*; *see also* JX-0034C [] Sales Agreement).

Similarly, the administrative law judge does not adopt Fujifilm's argument that "Sony paid [] to label Covered Products on its behalf." *See* Fujifilm Br. at 33. The evidence shows that Sony and [] negotiated the reimbursements associated with [] Covered Products prior to the end of the PRP. CX-0050C (Ikemura email); CX-0045C (Jarvis email). The evidence also shows that Sony paid []¹³ Covered Products in July 2018. CX-0045C (Jarvis email); CX-0046C (Quantum Invoice). Similar to the rebates, while [] may have been requesting the reimbursements because of labeling costs it might incur, that does not mean that Sony paid [] to label the Covered Products. As in the case of the rebates, the reimbursements to [] were agreed to by Sony and [] prior to the end of the PRP, and they were not predicated on whether [] actually sold the Covered Products to its customers after the end of the PRP. *See id.*; *see also* JX-0034C [] Sales Agreement). Fujifilm has not shown that Sony intended to

¹³ The evidence shows that Sony and [] agreed that Sony would []
1. CX-0050C [] email). The evidence also
shows that []
CX-0046C [] Invoice). []
1. CX-0045C [] email);

1. *See* Fujifilm Br. at 29 n.7; *see also* Sony Br. at 51-52.

PUBLIC VERSION

provide the reimbursements to [] in order to convince [] to sell Covered Products after the end of the PRP. *See U.S. v. Lucas*, 67 F.3d at 959.

Accordingly, the administrative law judge finds that Sony did not aid and abet [] sales of Covered Products after the end of the PRP.

IV. Penalty

A. Background

“Civil penalties are mandatory for violations of the Commission’s cease and desist orders . . . issued under section 337.” *Certain Two-way Global Satellite Communication Devices, System and Components Thereof*, Inv. No. 337-TA-854 (Enforcement), Comm’n Op. at 26 (July 1, 2014) (“*Global Satellite*”) (EDIS Doc. ID No. 537131). For each day on which an importation of articles, or their sale, occurs in violation of a cease and desist order, the Commission shall impose a civil penalty “of not more than the greater of \$100,000 or twice the domestic value of the articles entered or sold on such day in violation of the order.” 19 U.S.C. § 1337(f)(2). “The Commission has the discretion to impose a civil penalty that is appropriate to the circumstances.” *Global Satellite*, Comm’n Op. at 27 (citing *EPROMs*, Comm’n Op. at 29).

Although a penalty is necessary when a Commission CDO has been violated, the “not more than” clause of 19 U.S.C. § 1337(f)(2) means that the Commission has discretion to determine the amount of the penalty. Indeed, the legislative history states, “the Commission will exercise the discretionary authority provided with respect to the appropriate size of any penalty under this section so as to insure the deterrent effect of its order while taking into account such factors as intentional versus unintentional violations and the public interest.” S. Rep. No. 96-249 at 262 (1979).

PUBLIC VERSION

The Commission considers a number of factors to calculate an appropriate civil penalty, including: “(1) the good or bad faith of the respondent; (2) any injury due to the violation; (3) the respondent’s ability to pay the assessed penalty; (4) the extent to which the respondent benefitted from its violations; (5) the need to vindicate the authority of the Commission; and (6) the public interest.” *Global Satellite*, Comm’n Op. at 27 (citing *EPROMs*, Comm’n Op. at 23-24, 26); see *Certain DC-DC Controllers and Products Containing the Same*, Inv. No. 337-TA-698 (Enforcement), Comm’n Op. at 38 (Dec. 12, 2012); *Certain Ink Cartridges and Components Thereof*, Inv. No. 337-TA-565 (Enforcement), Comm’n Op. at 17-18 (Sept. 24, 2009) (“*Ink Cartridges*”), *aff’d*, *Ninestar Tech. Co. v. Int’l Trade Comm’n*, 667 F.3d 1373 (Fed. Cir. 2012); *Certain Agricultural Tractors Under 50 Power Take-Off Horsepower*, Inv. No. 337-TA-380 (Enforcement), Comm’n Op. at 48-49, USITC Pub. 3227 (Aug. 1999) (“*Tractors*”); *Certain Neodymium-Iron-Boron Magnets, Magnet Alloys, and Articles Containing Same*, Inv. No. 337-TA-372 (Enforcement), Comm’n Op. at 22-33, USITC Pub. 3073 (Nov. 1997) (“*Magnets*”), *aff’d*, *San Huan New Material High Tech, Inc. v. U.S. Int’l Trade Comm’n*, 161 F.3d 1347, 1362 (Fed. Cir. 1998). This six-factor test takes into account the three overarching considerations enumerated by Congress in the legislative history of section 337(f)(2), which are the desire to deter violations, the intentional or unintentional nature of any violations, and the public interest. *San Huan New Material High Tech, Inc. v. U.S. Int’l Trade Comm’n*, 161 F.3d 1347, 1362 (Fed. Cir. 1998); *Ink Cartridges*, Comm’n Op. at 18 n.8. Each of these penalty factors is addressed in the parties’ posthearing briefs.

With respect to the penalty to be imposed in connection with this proceeding, Fujifilm argues, “the Commission should assess a penalty of twice the domestic value of the Covered Products (*i.e.*, the maximum penalty), which is []” Fujifilm Br. at 88. It is argued,

PUBLIC VERSION

“Sony sold [] Covered Products in violation of § III(B) of the CDOs . . . [] sold [] Covered Products for, with or on behalf of Sony in violation of § III(B) of the CDOs . . . Sony aided and abetted [] sales of [] Covered Products in violation of § III(E) of the CDOs, and . . . Sony should be penalized [] for its violations of the CDOs.”

Id. at 88-89. In its main brief, Fujifilm states, “[t]he only dispute as to the extent of Sony’s violations is whether the violations also include the sales of [] Covered Products that Sony aided and abetted [] to make for, with, or otherwise on behalf of Sony after the PRP.” *Id.* at 24.

In its reply brief, Fujifilm argues for the maximum penalty, and states:

Other than which post-PRP sales constitute violations of the CDOs, the parties’ only remaining disputes regarding the statutory maximum penalty (“SMP”) are (i) whether the domestic value of the Covered Products should be based on their invoiced value or the net revenue Sony received from its own sale of those products and (ii) whether a failed FedEx delivery reduces the number of violation days from three to two. See CPostHB at 48-49; RPostHB at 64-68, 71; SPostHB at 16-17. Fujifilm maintains that the domestic value of the Covered Products sold in violation of the CDOs should be based on the invoiced value, and that there are three identifiable violation days, not two.

Fujifilm Reply at 17, 39.

In its main brief, “Sony acknowledges that the sales of [] LTO-8 cartridges were completed after May 7, 2018 pursuant to the relevant contract terms and that those sales violated the CDOs.” Sony Br. at 64. Sony argues, “[n]evertheless, two disputes arise from these sales: (A) whether the sale of [] cartridges to [] was completed on May 9, 2018, when the shipment was tendered by FedEx to the delivery address provided by [], or on May 10, 2018, when FedEx physically placed the products at a corrected address; and (B) the appropriate penalty mitigation for the 9,680

PUBLIC VERSION

LTO-8 cartridge sales (on either two or three days) in view of Sony's extensive good faith efforts to comply with the CDOs." *Id.*

Sony argues:

A penalty of approximately \$20,000 is appropriate based on the Fixed Value approach (10% of the maximum \$100,000 per violation day), and further taking into account the millions of dollars that Sony has spent on design-around efforts and the fact that Sony's []. To the extent that the ALJ utilizes the Domestic Value approach, then at most, the ALJ should impose a penalty of \$210,134, which is based on Sony's net profits associated with the inadvertent violations that occurred on May 8-9, 2018, and is more than sufficient to ensure that Sony did not profit from these violations and reaffirms the Commission's authority while accounting for Sony's good intentions, cooperation, and the level of harm incurred.

Id. at 99 (footnote omitted); *see* Sony Reply at 40 ("To the extent that the ALJ utilizes the Domestic Value approach, Sony and Staff agree that a penalty of \$210,134 . . . would be reasonable and ensure that Sony did not profit from these violations and reaffirms the Commission's authority while accounting for Sony's good intentions, cooperation, and the level of harm incurred.").¹⁴

The Staff argues that violations occurred on three days, and based on Sony's sales, "the maximum penalty that can be assessed against Sony for its violations of the CDOs on May 8, May 9, and May 10, 2018, is []." Staff Br. at 20-21. It is argued, "the evidence shows that Sony received a net profit of \$210,134 from sales made in violation of the Commission's CDOs. *See* RX-0002C (Jarosz WS) at Q/A 139;

¹⁴ Sony's briefing provides little argument as to why the so-called "Fixed Value approach" would be preferable. Also, Sony's briefing ties the Fixed Value approach to its redesign efforts. *See* Sony Br. at 97-99. Yet, as discussed herein, the administrative law judge has not accorded those efforts weight with respect to the issue of Sony's good faith.

PUBLIC VERSION

RDX-0002C (Jarosz Demonstratives) at 21. In the Staff's view, the assessed civil penalty should be no less than Sony's net profit. And given Sony's relative good faith, the Staff submits that the assessed civil penalty should be between \$210,134 and \$420,268, which represents approximately 12% to 23% of the maximum penalty." *Id.* at 28 (citing *Certain Marine Sonar Imaging Devices, Including Downscan and Sidescan Devices, Products Containing the Same, and Components Thereof*, Inv. No. 337-TA-921 (Enforcement), Enforcement ID at 72-75 (May 25, 2017)). In particular, the Staff argues, "Sony violated the Commission's CDOs by distributing, selling, or otherwise transferring: (i) [] covered products on May 8, 2018; (ii) [] covered products on May 9, 2018; and (iii) [] covered products on May 10, 2018. Should a violation be found, the Staff recommends that a civil penalty between \$210,134 and \$420,268 be assessed." *Id.* at 28-29; Staff Reply at 17.

B. Analysis

As discussed above in section I of this EID, the CDOs at issue in this proceeding specifically provide that the conduct otherwise prohibited by an Order "may be continued during the sixty-day period in which the Order is under review by the United States Trade Representative, as delegated by the President (70 Fed. Reg. 43,251 (Jul. 21, 2005)) subject to the Respondent's posting of a bond in the amount of zero (0) percent of the entered value of the covered products (*i.e.*, no bond)." See CX-0334, Section XI ("Bonding"); CX-0335, Section XI ("Bond"); CX-0336, Section XI ("Bonding"). Furthermore, as discussed in above in section III of this EID, Sony's violations of the CDOs consist only of its own sales outside the PRP. The argument that Sony should be held liable for certain sales by [] after the PRP has not

PUBLIC VERSION

been adopted. Thus, sales by [] should not be included in the calculation of any penalty to be imposed on Sony.

The parties' arguments show that even when one considers only Sony's own sales after the PRP, a dispute exists as to whether Sony sold Covered Products on two or three days after the PRP (*i.e.*, only on May 8 and May 9, or also on May 10, 2018). As discussed above, the evidence shows that Sony violated the CDOs on May 10, 2018, *i.e.*, on a total of three days. In particular, the evidence shows that Sony mislabeled with an incorrect address a package of Covered Products intended for [], and thus instead of the delivery occurring on May 9, as expected, the delivery occurred on May 10. RX-0044C; RX-0050; RX-0051.

The error in the address was likely caused by a mistake made by [] when it placed its order. *See* RX-0006C (Buchicchio RWS) at Q/A 59-76; RX-0001C (Gibson RWS) at Q/A 98, 146-148, 150-161, 240. Nevertheless, according to the terms of the agreement between Sony and [

], Sony Br. at 65 (citing JX-0014 (Incoterms® 2010) at 62 (provision A4); RX-0001C (Gibson RWS) at Q/A 98, 136-141). The goods at issue could not have been at the disposal of [] when they were given to the FedEx delivery service, nor could the goods have been expected to be placed at the disposal of [] on May 9, 2018, because the package was incorrectly labeled. Indeed, the evidence shows that FedEx retained the package of Covered Products, and delivered it to the correct address on the next day, which was May 10, 2018. *See* CX-0096C (FedEx Delivery Confirmation) at SNY-ITC1012-ENF-0164628.

The maximum penalty that may be assessed is set by statute. For each day on which an importation of articles, or their sale, occurs in violation of a cease and desist order, the

PUBLIC VERSION

Commission shall impose a civil penalty “of not more than the greater of \$100,000 or twice the domestic value of the articles entered or sold on such day in violation of the order.” 19 U.S.C. § 1337(f)(2).

In this case, the value of goods sold after the end of the PRP exceeds \$100,000 per day on both May 8 and May 9, 2018. In particular, the domestic value of the articles sold by Sony in violation of the Commission’s CDOs on May 8 and May 9 is [], which is found by adding the net revenues for May 8 and May 9 as reflected in the testimony of Dr. Jarosz, and which takes into account rebates paid by Sony to its OEM customers.¹⁵ Thus, the maximum penalty that the Commission could assess is twice the domestic value of the articles sold on May 8 and 9 [] = [], plus \$100,000 for May 10 (on which the value of the goods was only []). See 19 C.F.R. § 337(f)(2); RX-0002C (Jarosz WS) at Q/A 60, 139-145; RDX-0002C (Jarosz Demonstratives) at 8, 21; Sony Br. at 69-71.

In exercising its discretion, the Commission looks to a number of factors when determining the appropriate penalty. The evidence in this proceeding shows that imposition of the maximum penalty would not be appropriate. The evidence is discussed below within the context of the six penalty factors that the Commission considers.

¹⁵ If one does not take into account the rebates to OEM customers, the domestic value of the articles sold by Sony on May 8 and May 9, 2018 is higher. Fujifilm argues that the total for those two days is [], and thus twice that amount is []. Fujifilm Br. at 48 (citing, *inter alia*, CX-0002C (Vander Veen WS) at Q/A 19). Fujifilm argues that backing the rebates out of the domestic value “invites respondents to engage in subversive business practices to evade the Commission’s orders, just as Sony did here.” *Id.* at 49. As discussed in this EID, Sony has not in fact sought to evade the CDOs such as through [] sales after the PRP.

PUBLIC VERSION

*The good or bad faith of Sony.*¹⁶ After the Commission issued the CDOs, Sony acted to end its LTO-7 and LTO-8 business in the United States. Sony notified its OEM customers that it would no longer be able to import or sell Covered Products after the end of the Presidential review period, and that all LTO-7 and LTO-8 transactions would have to be completed by the end of the Presidential review period. See RX-0004C (Clark WS) at Q/A 31-56; RX-0192C; RX-0003C (Yamaguchi RWS) at Q/A 70.

Sony took specific steps to ensure that it would not violate the CDOs. For example, [] wanted to order empty unmarked packaging that could be used for Sony LTO-4, LTO-5, and LTO-6 products that are not covered by the CDOs, but could also be used with the Covered Products. Mr. Clark (Sony's Director of OEM Sales) checked with others at Sony, including a Sony legal department,¹⁷ and determined that Sony should not sell even empty packaging to [] due to a concern that such a sale might possibly be considered a

¹⁶ The first penalty factor is an evaluation of the good or bad faith of the respondents. To make that determination, the Commission has examined questions such as whether the respondent "(1) had a reasonable basis to believe that the violating product was not within the scope of the Commission's order, (2) requested an advisory opinion or clarification from the Commission, (3) provided any opinion of counsel indicating that it obtained legal advice before engaging in the acts underlying the charge of violation, (4) decided which products were subject to the order based on the decisions of management and technical personnel, without legal advice, and (5) satisfied its reporting requirements under the relevant Commission order." *Ink Cartridges*, Comm'n Op. at 19; see *EPROMs*, Comm'n Op. at 28-29.

In this case, Sony has appealed the Commission determination in the underlying investigation on the question of violation. Yet, for the purposes of this enforcement proceeding, Sony has not argued that the products now at issue (and that were sold after the PRP) were outside the scope of the CDOs. Nor in this enforcement proceeding does Sony raise as a defense a belief at the time of the sales that the products at issue were outside the scope of the Commission's remedial orders, or that the products otherwise were non-infringing. Yet, to the extent that the record contains evidence responsive to the questions posed by *Ink Cartridges*, it is discussed herein.

¹⁷ Sony does not, however, rely on an opinion of counsel as evidence of good faith. See, e.g., Sony Reply at 30.

PUBLIC VERSION

violation of the CDOs. RX-0004C (Clark RWS) at Q/A 4, 9, 57-71; RX-0260C. When [] tried a different way to order the same packaging for LTO-5 products, Sony also refused to sell the packaging. *See id.*

Furthermore, evidence of good faith is found in Mr. Clark's testimony that Sony questioned [] order of LTO-8 products for delivery to Mexico. Sony informed [] that it would not be able to ship any LTO-8 media into the United States, and agreed to sell to [] after [] assured Sony that it would not import those products from Mexico back into the United States.¹⁸ RX-0004C (Clark RWS) at Q/A 86-99; RX-0764C.

In addition, as required by the CDOs, Sony appears to have filed in a timely fashion the first report required under Section V of the CDO. *See* RX-0790C (Sony Section V Report); *see also* Sony Br. at 79-80; Fujifilm Br. at 65 ("Before the evidentiary hearing, Fujifilm agreed to withdraw its own argument that Sony's § V Report fails to satisfy Sony's reporting requirements based on Sony's argument that such an argument is untimely. Sony cannot rely on the same report to argue the contrary. Accordingly, this prong should not be considered as a measure of Sony's good or bad faith."); Staff Br. at 25 ("In this regard, Sony has complied with its reporting obligations.").

Finally, although violations of the CDOs have been found, as discussed in this section, and in section III of this EID, there is no evidence that they were the result of an effort by Sony to evade the CDOs.

Sony argues that its efforts and expenditures to redesign LTO products so as not to infringe under the Commission's determination in the underlying investigation is additional

¹⁸ There is evidence that [] was also cautious not to engage in conduct that could be seen as prohibited by the CDOs. *See* CX-0243C (Sony-[] emails) at 6.

PUBLIC VERSION

evidence of Sony's good faith. *See, e.g., Sony Br.* at 77, 97-98. As discussed above in section I of this EID, the Commission instituted a modification proceeding to determine, among other things, whether the CDOs should be modified to exclude Sony redesigned products. At Sony's request, that modification proceeding was terminated. *See Order No. 49* (unreviewed initial determination) at 1. Without knowing the details and efficacy of Sony's efforts at redesign, the administrative law judge does not accord weight to the redesign efforts and expenditures.¹⁹

As to most issues raised in this enforcement proceeding concerning Sony's conduct, the evidence of record shows that Sony acted in good faith. It has not been established that Sony acted in bad faith. Although not all of the sales on May 8 through May 10, 2018 (which Sony admits were in violation of the CDOs) are attributable to factors outside Sony's control, the record clearly demonstrates that Sony took affirmative steps to comply with the prohibitions of the CDOs. The record relating to this factor weighs heavily in favor of a reduced penalty.

Any injury due to the violation. Fujifilm does not argue that it, or the domestic industry in general, has suffered specific harm due to Sony's violations of the CDOs, but that the public has been injured by Sony's actions. *See Fujifilm Br.* at iii, 73-75.

"The focus of this factor is injury to the domestic industry and protection of intellectual property rights" *Ink Cartridges*, Comm'n Op. at 27. A patent owner has the right to exclude all others. Significant importations and sales of infringing products by enforcement respondents can harm a complainant, and by extension can also harm the public. *See Tractors*, Comm'n Op. at 59-60.

¹⁹ On April 13, 2018, Sony filed a request that Customs and Border Protection ("CBP") rule that redesigned versions of its LTO-7, M8, and LTO-8 tapes do not infringe the '891 patent. CBP declined to make such a determination. *Sony Br.* at 14 (citing CX-0277C); *Fujifilm Br.* at 4.

PUBLIC VERSION

While some injury to the public may be assumed when the Commission's CDOs are violated, given the lack of a record showing injury to the domestic industry or the public, this factor does not weigh heavily in favor of a large penalty.

Sony's ability to pay the assessed penalty. Sony admits, "To the extent that Sony is found to have violated the CDOs, it is able to pay any proportional penalty imposed upon it." Sony Br. at 89. Indeed, there is no evidence that Sony would be unable to pay even the maximum penalty permitted by statute, or requested by Fujifilm. Consequently, this factor does not weigh in favor of a reduced penalty, even if the Commission were to determine that the maximum penalty were appropriate. Nevertheless, Sony's ability to pay does not weigh in favor of an increased penalty.

The extent to which Sony benefitted from its violations. As the Commission has explained, the benefit to a violating party can be measured in a number of ways, including revenues received from infringing sales, profits from those sales, or even revenues from sales of related products when those sales would not have occurred but for the sales of the infringing goods. *See Tractors*, Comm'n Op. at 65. The benefits to a respondent also may include intangible benefits, such as customer retention. *See Ink Cartridges*, Comm'n Op. at 33.

As discussed above, Sony wound down its domestic business in the Covered Products, but nonetheless made sales after the PRP. The record shows that Sony's net profit for those sales in violation of the CDOs was \$210,134.²⁰ *See RX-0002C* (Jarosz RWS) at Q/A 31-32, 60, 139-145. Consequently, this factor weighs in favor of a penalty of at least \$210,134. A penalty in

²⁰ Sony argues that in general the sale of LTO tapes []. Nevertheless, Sony argues that the net profits on the specific Covered Products sold by Sony after the PRP is \$210,134. *See Sony Br.* at 90.

PUBLIC VERSION

that amount would make Sony relinquish its profits on the sales of Covered Products after the PRP.

The need to vindicate the authority of the Commission. “[T]he Commission generally has an interest in vindicating its authority where one of its orders is violated” *Magnets*, Comm’n Op. at 33. Indeed, “[c]ivil penalties are mandatory for violations of the Commission’s cease and desist orders . . . issued under section 337.” *Global Satellite*, Comm’n Op. at 26. There is a need to vindicate the Commission’s authority, especially when a respondent has acted in bad faith, and has deliberately evaded the Commission’s orders. *See, e.g., Ink Cartridges*, Comm’n Op. at 35.

In this case, the Commission must vindicate its authority through the imposition of a civil penalty. Yet, in view of the fact that Sony acted in good faith, and its violations were not as extensive as has been argued by Fujifilm, this factor does not favor an increased penalty.

The public interest. The public interest at issue is the protection of intellectual property rights. The public interest is not served if intellectual property rights are not respected, and the imposition of a penalty fails to deter future violations. *See Ink Cartridges*, Comm’n Op. at 38. The record in this proceeding shows that based on the Commission’s determinations in the underlying investigation, Sony violated Fujifilm’s intellectual property rights, as well as the CDOs.

Sony argues that based on a Fixed Value approach, and a penalty of 10% of the statutory maximum of \$100,000 per violation day, an appropriate penalty in this case could be as low as \$20,000.²¹ *See Sony Br.* at 99. As indicated above, the administrative law judge finds that

²¹ Sony further argues, “if the ALJ finds that Sony violated the CDOs, the ALJ should assess a reasonable, mitigated penalty of \$20,000 (based on the Fixed Value approach), or at most

PUBLIC VERSION

violations occurred on three days (not two, as argued by Sony), and also finds that Sony's Fixed Value approach is based on its redesigned products that, at Sony's request, were removed from evaluation in this proceeding. Thus, the administrative law judge does not adopt the proposed amount of \$20,000 for those reasons, and for a lack of persuasive argument or evidence that such a low penalty could be viewed as having any deterrent effect with respect to the CDOs at issue in this proceeding. Rather, the penalty imposed in this investigation should be at least equal to the Sony's profits on the Covered Products sold after the PRP.

* * *

The record, as viewed within the framework of the penalty factors considered by the Commission when imposing a civil penalty for violation of its orders, shows that overall Sony acted in good faith, and sought to comply with the CDOs. Nevertheless, the Commission's authority must be vindicated, and the penalty must serve the public interest. Consequently, the administrative law judge determines that the appropriate penalty is \$210,134, which is equal to Sony's net profits for its sales of Covered Products after the Presidential review period.²²

V. Enforcement Initial Determination and Recommendation and Order

It is the administrative law judge's ENFORCEMENT INITIAL DETERMINATION (EID) that the enforcement respondents violated the CDOs at issue. It is also the administrative

\$210,134 (based on Sony's net profits associated with two days of violation)." Sony Reply at 40. Sony's argument that the Commission should use the Fixed Value approach, and its argument that Sony sales in violation of the CDOs occurred on two days, rather than three days, are rejected for the reasons discussed in this EID. Nevertheless, as admitted by Sony, even if the Sony sales occurred on two days, all of the \$210,134 of profit were obtained after the PRP. *See id*; Sony Br. at 63.

²² The amount of \$210,134 is more than two-thirds of the statutory daily penalty for violations that occurred on three days. *See EPROMs*, Comm'n Op. at 26-28.

PUBLIC VERSION

law judge's recommendation that enforcement measures are approp KE Mohawk ITC@kirkland.comriate, as indicated above. In particular, it is recommended that the Commission impose a civil penalty of \$210,134.

Further, this EID, together with the record of the hearing in this proceeding consisting of (1) the transcript of the hearing, with appropriate corrections as may hereafter be ordered, and (2) the exhibits received into evidence, is CERTIFIED to the Commission.

In accordance with 19 C.F.R. § 210.39(c), all material found to be confidential by the undersigned under 19 C.F.R. § 210.5 is to be given *in camera* treatment.

The Secretary shall serve a public version of this EID upon all parties of record and the confidential version upon counsel who are signatories to the Protective Order, as amended, issued in this investigation.


Pursuant to Commission Rule 210.75(a)(3), the EID shall become the Commission's final determination on violation 45 days after service of the EID, unless the Commission orders review of the EID or changes the deadline for determining whether to review the EID. *See* Comm'n Order at 4 (June 7, 2018).

To expedite service of the public version, no later than July 12, 2019, the parties shall file a joint copy of this EID with the Commission Secretary, with red brackets to show any portion considered by the parties (or their suppliers of information) to be confidential, accompanied by a list indicating each page on which such a bracket is to be found. At least one copy of such a filing shall be served upon the office of the undersigned, and the brackets shall be marked in red. If a party (and its suppliers of information) considers nothing in the initial determination to be

PUBLIC VERSION

confidential, and thus makes no request that any portion be redacted from the public version, then a statement to that effect shall be filed.²³

So ordered.

A handwritten signature in black ink, appearing to read 'D. Shaw', written over a horizontal line.

David P. Shaw
Administrative Law Judge

Issued: July 3, 2019

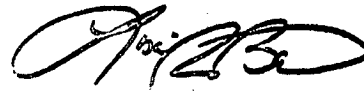
²³ Confidential business information (“CBI”) is defined in accordance with 19 C.F.R. § 201.6(a) and § 210.5(a). When redacting CBI or bracketing portions of documents to indicate CBI, a high level of care must be exercised in order to ensure that non-CBI portions are not redacted or indicated. Other than in extremely rare circumstances, block-redaction and block-bracketing are prohibited. In most cases, redaction or bracketing of only discrete CBI words and phrases will be permitted. *See* Ground Rules 5.1 and 5.m.

**CERTAIN MAGNETIC DATA STORAGE TAPES AND
CARTRIDGES CONTAINING THE SAME**

**Inv. No. 337-TA-1012
(Enforcement Proceeding)**

CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **INITIAL DETERMINATION** has been served by hand upon the Commission Investigative Attorney, R. Whitney Winston, Esq., and the following parties as indicated, on **August 2, 2019**.



Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

**On Behalf of Complainants FUJIFILM Corporation and
FUJIFILM Recording Media U.S.A., Inc.:**

Lisa M. Kattan, Esq.
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1299 Pennsylvania Avenue, N.W.
Washington, D.C. 20004

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☒ Via Express Delivery
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☐ Other: _____

**On Behalf of Respondents Sony Corporation, Sony
Corporation of America, and Sony Electronics Inc.:**

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**UNITED STATES INTERNATIONAL TRADE COMMISSION
WASHINGTON, D.C.**

In the Matter of

**CERTAIN MAGNETIC DATA
STORAGE TAPES AND CARTRIDGES
CONTAINING THE SAME**

**Inv. No. 337-TA-1012
(Consolidated Modification and
Enforcement Proceeding)**

Order No. 49: Initial Determination Terminating the Modification Proceeding

On October 10, 2018, the Sony respondents¹ filed a motion, and memorandum in support thereof, seeking “to terminate the Modification portion of this Proceeding, on the basis of Sony’s withdrawal of certain requests contained in its Combined Request For Advisory Opinion And Petition For Modification That Its Redesigned LTO-7 And LTO-8 Data Tapes Are Outside The Scope Of The Limited Exclusion Order And Cease And Desist Order.” Motion Docket No. 1012-055. Complainants Fujifilm Corporation and Fujifilm Recording Media U.S.A., Inc. (“Fujifilm”) did not oppose the motion, and the Commission Investigative Staff (“Staff”) filed a response supporting the motion.

On June 13, 2018, the Commission instituted a formal enforcement proceeding to determine whether Sony has violated the Commission’s Limited Exclusion Order and Cease and Desist Orders, which issued on March 8, 2018. *See* 83 Fed. Reg. 27626-27627 (June 13, 2018).

On August 23, 2018, at Sony’s request, the Commission instituted a modification proceeding, pursuant to 19 C.F.R. § 210.76(b), “to determine whether the LEO and CDOs

¹ The “Sony” respondents are Sony Corporation, Sony Corporation of America, Sony Electronics Inc., Sony Storage Media Solutions Corporation, Sony Storage Media Manufacturing Corporation, Sony DADC US Inc., and Sony Latin America Inc.

issued in the underlying investigation should be modified to exclude certain of Sony's redesigned tape products." 83 Fed. Reg. 42690 (Aug. 23, 2018). The Commission delegated the modification proceeding to the presiding administrative law judge, and consolidated the enforcement and modification proceedings. *Id.*; *see also* Institution and Consolidation Order (Aug. 17, 2018) (EDIS Doc. ID No. 653323); Notice of Institution of Modification Proceeding (Aug. 17, 2018) (EDIS Doc. ID No. 653322). The Institution and Consolidation Order directed the administrative law judge to issue a recommended determination. *See* Institution and Consolidation Order at 3.

Sony's motion argues that termination is appropriate pursuant to 19 C.F.R. § 210.21(a)(1). *See* Mot. at 1. The Staff's response argues that "[a]lthough Commission Rule 210.21 refers to the termination of investigations, it is equally applicable to modification proceedings." Staff Resp. at 2, n.1.

Commission Rule 210.21(a)(1) provides, in part, that:

Any party may move at any time prior to the issuance of an initial determination on violation of section 337 of the Tariff Act of 1930 to terminate an investigation in whole or in part as to any or all respondents, on the basis of withdrawal of the complaint or certain allegations contained therein, or for good cause other than the grounds listed in paragraph (a)(2) of this section. A motion for termination of an investigation based on withdrawal of the complaint, or for good cause, shall contain a statement that there are no agreements, written or oral, express or implied between the parties concerning the subject matter of the investigation, or if there are any agreements concerning the subject matter of the investigation, all such agreements shall be identified, and if written, a copy shall be filed with the Commission along with the motion. . . .

19 C.F.R. § 210.21(a)(1).² Commission Rule 210.21(a)(1) has been cited in an initial

² Commission Rule 210.76 pertains to the institution of modification proceedings; the rule does not provide explicit direction concerning the termination of modification proceedings.

determination terminating a modification proceeding. *See, e.g., Certain GPS Devices and Products Containing Same*, Inv. No. 337-TA-602 (Modification Proceeding), Order No. 7 (Oct. 28, 2010) (partially terminating a modification pursuant to Commission Rule 210.21(a)(1); Notice of Commission Determination Not to Review an Initial Determination Terminating the Modification Proceeding In Part As to Respondent E-Ten Corp. (Nov. 18, 2010)).³

Pursuant to Rule 210.21(a)(1), Sony states that “[t]here are no agreements, written or oral, express or implied, between the parties concerning the subject matter of the Modification Proceeding.” Mot. at 1. Sony argues that terminating the Modification Proceeding is in the public interest “because both public and private resources will be conserved.” Mem. at 2. Sony also argues that there are no extraordinary circumstances that might otherwise justify denying the motion. *Id.*

The Staff argues that terminating the modification proceeding “does not appear to be contrary to the public interest and would conserve both public and private resources.” Staff Resp. at 2.

The Staff supports Sony’s motion, Fujifilm does not oppose the motion, and there are no extraordinary circumstances that warrant denying the motion. Indeed, granting the motion will simplify the proceeding, streamline the hearing, and conserve resources by reducing the number of issues to be decided.

Accordingly, it is the initial determination of the undersigned that Motion No. 1012-055

³ Rule 210.21(b), which pertains to termination based on settlement, has been cited in an initial determination terminating modification proceedings. *See, e.g., Certain GPS Devices and Products Containing Same*, Inv. No. 337-TA-602 (Modification Proceeding), Order No. 13 (Jan. 28, 2011); *see also* 83 Fed. Reg. 47350-47351 (Sep. 19, 2018) (terminating a modification proceeding stemming from Inv. No. 337-TA-945 based on a settlement agreement).

is granted.⁴ This proceeding is terminated only as to the modification proceeding based on Sony's withdrawal of "its request that the Commission, as delegated to ALJ Shaw, determine that its Redesigned Products do not infringe U.S. Patent No. 6,641,891." Mot. at 1.

Pursuant to 19 C.F.R. § 210.42(h), this initial determination shall become the determination of the Commission unless a party files a petition for review of the initial determination pursuant to 19 C.F.R. § 210.43(a), or the Commission, pursuant to 19 C.F.R. § 210.44, orders on its own motion a review of the initial determination or certain issues contained herein.



David P. Shaw
Administrative Law Judge

Issued: October 19, 2018

⁴ As noted above, the Commission's Institution and Consolidation Order directed the administrative law judge to issue a recommended determination. Rule 210.21(a)(1), however, directs the administrative law judge to rule on a motion to terminate in an initial determination. Thus, the instant order is captioned as an initial determination. To the extent a recommended determination is required, the administrative law judge recommends that the Commission terminate the investigation pursuant to Rule 210.21(a)(1).

CERTAIN MAGNETIC DATA STORAGE TAPES AND CARTRIDGES CONTAINING
THE SAME

INV. NO. 337-TA-1012
(Consolidated Modification and Enforcement Proceeding)

PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached Order No. 49: Initial Determination Terminating the Modification Proceeding has been served by hand upon the Commission Investigative Attorney, Whitney Winston, Esq., and the following parties as indicated, on

OCT 19 2018



Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street SW, Room 112A
Washington, DC 20436

**FOR COMPLAINANTS FUJIFILM CORPORATION AND FUJIFILM RECORDING
MEDIA U.S.A., INC.:**

Lisa M. Kattan
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☐ Other: _____

**FOR RESPONDENTS SONY CORPORATION; SONY CORPORATION OF
AMERICA; SONY ELECTRONICS INC.; SONY STORAGE MEDIA SOLUTIONS
CORPORATION; SONY STORAGE MEDIA MANUFACTURING
CORPORATION; SONY DADC US INC.; AND SONY LATIN AMERICA INC.:**

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UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.

In the Matter of

**CERTAIN MAGNETIC DATA
STORAGE TAPES AND CARTRIDGES
CONTAINING THE SAME**

**Investigation No. 337-TA-1012
(Enforcement Proceeding)**

**NOTICE OF COMMISSION DETERMINATION NOT TO REVIEW AN INITIAL
DETERMINATION GRANTING COMPLAINANTS' UNOPPOSED MOTION TO
TERMINATE THE ENFORCEMENT PROCEEDING AS TO CERTAIN PRODUCTS**

AGENCY: U.S. International Trade Commission.

ACTION: Notice.

SUMMARY: Notice is hereby given that the U.S. International Trade Commission has determined not to review the presiding administrative law judge's ("ALJ") initial determination ("ID") (Order No. 39) granting an unopposed motion of complainants Fujifilm Corporation of Tokyo, Japan, and Fujifilm Recording Media U.S.A., Inc. of Bedford, Massachusetts (collectively, "Fujifilm") to terminate the above-referenced investigation as to certain products..

FOR FURTHER INFORMATION CONTACT: Megan M. Valentine, Office of the General Counsel, U.S. International Trade Commission, 500 E Street, S.W., Washington, D.C. 20436, telephone (202) 708-2301. Copies of non-confidential documents filed in connection with this investigation are or will be available for inspection during official business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary, U.S. International Trade Commission, 500 E Street, S.W., Washington, D.C. 20436, telephone (202) 205-2000. General information concerning the Commission may also be obtained by accessing its Internet server at <https://www.usitc.gov>. The public record for this investigation may be viewed on the Commission's electronic docket (EDIS) at <https://edis.usitc.gov>. Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission's TDD terminal on (202) 205-1810.

SUPPLEMENTARY INFORMATION: The Commission instituted the original investigation on July 1, 2016, based on a complaint filed by Fujifilm. 81 FR 43243-44 (July 1, 2016). Pertinent to this action, the complaint alleged violations of section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. 1337 ("section 337"), in the sale for importation, importation, and sale within the United States after importation of certain magnetic data storage tapes and cartridges containing the same by reason of infringement of, *inter alia*, claims 1, 4-9, 11 and 14 of U.S. Patent No. 6,641,891 ("the '891 patent"). The Commission's Notice of Investigation named as respondents Sony Corporation of Tokyo, Japan, Sony Corporation of America of New York, New York, and Sony Electronics Inc. of San Diego, California (collectively, "the Sony

respondents"). The Office of Unfair Import Investigations ("OUII") was also named as a party to the investigation.

On March 8, 2018, the Commission found a section 337 violation as to the '891 patent and issued a limited exclusion order ("LEO") and cease and desist orders ("CDOs") to each of the Sony respondents. 83 FR 11245-47 (March 14, 2018). The LEO generally prohibits the Sony respondents from importing certain magnetic data storage tapes and cartridges containing the same that infringe the '891 patent, with certain exceptions related to service and repair and verification testing. The CDOs prohibit the Sony respondents from importing, selling, marketing, advertising, distributing, transferring (except for exportation), and soliciting United States agents or distributors for.

On May 9, 2018, Fujifilm filed a complaint requesting that the Commission institute a formal enforcement proceeding under Commission Rule 210.75 to investigate alleged violation of the CDOs by the Sony Respondents, as well as Sony Storage Media Solutions Corporation, Sony Storage Media Manufacturing Corporation, Sony DADC US Inc., and Sony Latin America Inc. (collectively, "Sony"). On June 13, 2018, the Commission instituted the enforcement proceeding. 83 FR 27626-27 (June 13, 2018). OUII was also named as a party in the enforcement proceeding.

On July 24, 2018, Fujifilm filed a motion to terminate the enforcement proceeding as to Sony's LTO-4, LTO-5, and LTO-6 products. Sony did not oppose the motion. On July 26, 2018, OUII filed a response supporting the motion.

On July 26, 2018, the ALJ issued the subject ID, granting Fujifilm's motion to terminate the enforcement proceeding in part as to Sony's LTO-4, LTO-5, and LTO-6 products. The ID finds that the motion complies with the requirements of Commission Rule 210.21(a)(1) (19 CFR 210.21(a)), stating that "there are no agreements, written or oral, express or implied between the parties concerning the subject matter of the investigation." The ID also finds that there are no extraordinary circumstances that would warrant denying the motion. No petitions for review of the subject ID were filed.

The authority for the Commission's determination is contained in section 337 of the Tariff Act of 1930, as amended (19 U.S.C. 1337), and in Part 210 of the Commission's Rules of Practice and Procedure (19 CFR Part 210).

By order of the Commission.



Lisa R. Barton
Secretary to the Commission

Issued: August 15, 2018

**CERTAIN MAGNETIC DATA STORAGE TAPES AND
CARTRIDGES CONTAINING THE SAME**

**Inv. No. 337-TA-1012
(Enforcement Proceeding)**

PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **NOTICE** has been served by hand upon the Commission Investigative Attorney, R. Whitney Winston, Esq., and the following parties as indicated, on **August 15, 2018**.



Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

**On Behalf of Complainants FUJIFILM Corporation and
FUJIFILM Recording Media U.S.A., Inc.:**

Lisa M. Kattan, Esq.
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1299 Pennsylvania Avenue, N.W.
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☒ Via First Class Mail
☐ Other: _____

**On Behalf of Respondents Sony Corporation, Sony
Corporation of America, and Sony Electronics Inc.:**

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**UNITED STATES INTERNATIONAL TRADE COMMISSION
WASHINGTON, D.C.**

In the Matter of

**CERTAIN MAGNETIC DATA
STORAGE TAPES AND CARTRIDGES
CONTAINING THE SAME**

**Inv. No. 337-TA-1012
(Enforcement Proceeding)**

**Order No. 39: Initial Determination
Terminating the Investigation in Part as to Certain Products**

On July 24, 2018, pursuant to Commission Rule 210.21(a), complainants Fujifilm Corporation and Fujifilm Recording Media U.S.A. (collectively, “Fujifilm”) filed a motion, and memorandum in support thereof, seeking to terminate this investigation in part. Motion Docket No. 1012-046. Specifically, Fujifilm moved for partial termination of this Enforcement Proceeding based on the withdrawal of infringement allegations as to the Sony respondents’ LTO-4, LTO-5, and LTO-6 products.¹ Mot. at 1. Sony did not oppose the motion. *Id.* at 2. On July 26, 2018, the Commission Investigative Staff filed a response supporting the motion.

Commission Rule 210.21(a)(1) permits termination of an investigation based on withdraw of a complaint or certain allegations contained in the complaint. It provides in part:

Any party may move at any time prior to the issuance of an initial determination on violation of section 337 of the Tariff Act of 1930 to terminate an investigation in whole or in part as to any or all respondents, on the basis of withdrawal of the complaint or certain allegations contained therein[.]

19 C.F.R. § 210.21(a)(1).

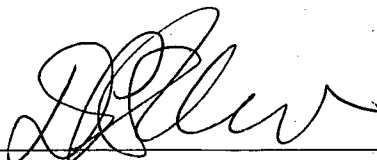
¹ The “Sony” respondents are Sony Corporation, Sony Corporation of America, Sony Electronics Inc., Sony Storage Media Solutions Corporation, Sony Storage Media Manufacturing Corporation, Sony DADC US Inc., and Sony Latin America Inc.

Fujifilm argues that granting the motion will “allow the parties to focus their attention on Sony’s LTO-7, -8, and M8 products, which will likely reduce the time and resources required from all of the parties and the Administrative Law Judge to proceed with this Enforcement Proceeding.” Mem. at 1-2. Fujifilm, pursuant to Commission Rule 210.21(a), also states that “there are no agreements, written or oral, express or implied between the parties concerning the subject matter of the Enforcement Proceeding.” *Id.* at 2-3.

Sony and Staff do not oppose the motion, and there are no extraordinary circumstances that warrant denying the motion. Indeed, granting the motion will simplify the investigation, streamline the hearing, and conserve resources by reducing the number of issues to be decided.

Accordingly, it is the initial determination of the undersigned that Motion No. 1012-046 is granted. This investigation is terminated as to Sony’s LTO-4, LTO-5, and LTO-6 products.

Pursuant to 19 C.F.R. § 210.42(h), this initial determination shall become the determination of the Commission unless a party files a petition for review of the initial determination pursuant to 19 C.F.R. § 210.43(a), or the Commission, pursuant to 19 C.F.R. § 210.44, orders on its own motion a review of the initial determination or certain issues contained herein.



David P. Shaw
Administrative Law Judge

Issued: July 26, 2018

**CERTAIN MAGNETIC DATA STORAGE TAPES AND CARTRIDGES CONTAINING
THE SAME**

**INV. NO. 337-TA-1012
(Enforcement Proceeding)**

PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **Order No. 39** has been served by hand upon the Commission Investigative Attorney, **Whitney Winston, Esq.**, and the following parties as indicated, on JUL 26 2018.



Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street SW, Room 112A
Washington, DC 20436

**FOR COMPLAINANTS FUJIFILM CORPORATION AND FUJIFILM RECORDING
MEDIA U.S.A., INC.:**

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() Via Hand Delivery
(☒) Express Delivery
() Via First Class Mail
() Other: _____

**FOR RESPONDENTS SONY CORPORATION; SONY CORPORATION OF
AMERICA; SONY ELECTRONICS INC.; SONY STORAGE MEDIA SOLUTIONS
CORPORATION; SONY STORAGE MEDIA MANUFACTURING
CORPORATION; SONY DADC US INC.; AND SONY LATIN AMERICA INC.:**

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UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.

In the Matter of

**CERTAIN MAGNETIC DATA
STORAGE TAPES AND CARTRIDGES
CONTAINING THE SAME**

Investigation No. 337-TA-1012

**NOTICE OF COMMISSION FINAL DETERMINATION OF VIOLATION
OF SECTION 337; TERMINATION OF INVESTIGATION;
ISSUANCE OF LIMITED EXCLUSION ORDER AND CEASE AND DESIST ORDERS**

AGENCY: U.S. International Trade Commission.

ACTION: Notice.

SUMMARY: Notice is hereby given that the U.S. International Trade Commission has found a violation in the above-captioned investigation. The Commission has determined to issue a limited exclusion order and cease and desist orders. The investigation is terminated.

FOR FURTHER INFORMATION CONTACT: Megan M. Valentine, Office of the General Counsel, U.S. International Trade Commission, 500 E Street, S.W., Washington, D.C. 20436, telephone (202) 708-2301. Copies of non-confidential documents filed in connection with this investigation are or will be available for inspection during official business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary, U.S. International Trade Commission, 500 E Street, S.W., Washington, D.C. 20436, telephone (202) 205-2000. General information concerning the Commission may also be obtained by accessing its Internet server at <https://www.usitc.gov>. The public record for this investigation may be viewed on the Commission's electronic docket (EDIS) at <https://edis.usitc.gov>. Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission's TDD terminal on (202) 205-1810.

SUPPLEMENTARY INFORMATION: The Commission instituted this investigation on July 1, 2016, based on a Complaint filed by Fujifilm Corporation of Tokyo, Japan, and Fujifilm Recording Media U.S.A., Inc. of Bedford, Massachusetts (collectively, "Fujifilm"). 81 FR 43243-44 (July 1, 2016). The Complaint alleges violations of section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. 1337 ("section 337"), in the sale for importation, importation, and sale within the United States after importation of certain magnetic data storage tapes and cartridges containing the same by reason of infringement of certain claims of U.S. patent Nos. 6,641,891 ("the '891 patent"); 6,703,106 ("the '106 patent"); 6,703,101 ("the '101 patent"); 6,767,612 ("the '612 patent"); 8,236,434 ("the '434 patent"); and 7,355,805 ("the '805 patent"). The Complaint further alleges the existence of a domestic industry. The Commission's Notice of Investigation named as respondents Sony Corporation of Tokyo, Japan, Sony Corporation of

America of New York, New York, and Sony Electronics Inc. of San Diego, California (collectively, "Sony"). The Office of Unfair Import Investigations ("OUII") was also named as a party to the investigation. The Commission later terminated the investigation as to the '101 patent. Order No. 24 (Jan. 18, 2017); Notice (Feb. 15, 2017).

On September 1, 2017, the ALJ issued his final ID finding a violation of section 337 with respect to claims 1, 4-9, 11, and 14 of the '891 patent and asserted claims 1, 2, 4, 5, 7, and 8 of the '612 patent. The ALJ found no violation of section 337 with respect to asserted claims 9-11 of the '612 patent; asserted claim 2, 5, and 6 of the '106 patent; asserted claim 1 of the '434 patent; and asserted claims 3 and 10 of the '805 patent.

In particular, the Final ID finds that Sony's accused products infringe claims 1, 4-9, 11, and 14 of the '891 patent and claims 1, 2, 4, 5, 7, and 8 of the '612 patent under 35 U.S.C. 271(a). The Final ID also finds that Sony's accused products do not infringe claims 2, 5, and 6 of the '106 patent, claim 1 of the '434 patent, and claims 3 and 10 of the '805 patent. The Final ID also finds that Sony has not shown that the asserted claims of the '891 patent, the '612 patent, the '434 patent, or the '805 patent are invalid under 35 U.S.C. 102, 103, or 112. The Final ID further finds, however that, while, Sony has not shown that the asserted claims of the '106 patent are invalid under 35 U.S.C. 102 or 103, Sony has shown that the asserted claims of the '106 patent are indefinite under 35 U.S.C. 112. The Final ID also finds that Fujifilm has satisfied the technical prong of the domestic industry requirement with respect to the '891 patent and the '612 patent, but has not satisfied the technical prong with respect to the '106 patent, the '434 patent, and the '805 patent. The Final ID further finds that Fujifilm has satisfied the economic prong of the domestic industry requirement with respect to the '891, '612, and '106 patent pursuant to 19 U.S.C. 1337(a)(3)(A) and (B) for the asserted LTO-6 DI products. The Final ID finds that Fujifilm has not satisfied the economic prong requirement for the asserted LTO-7 DI products.

The Final ID finds Sony has not shown that the '891, '106, and '805 patents are essential to the LTO-7 Standard. The Final ID also finds that Fujifilm has not breached any provisions of the Fujifilm AP-75 agreement, in particular sections 8.2 or 11.11. The Final ID further finds that Sony has not shown that the AP-75 agreement warrants barring Fujifilm's claims or terminating the investigation. The Final ID also finds that patent misuse does apply to bar Fujifilm's claims and that Fujifilm has not waived its rights to enforce the patents-in-suit. The Final ID also finds that Sony does not have an implied license to the patents-in-suit. The Final ID further finds that Sony has not shown that patent exhaustion applies.

On September 12, 2017, the ALJ issued his recommended determination on remedy and bonding. As instructed by the Commission, the ALJ also made findings concerning the public interest factors set forth in 19 U.S.C. 1337(d)(1) and (f)(1). See 81 FR 43243; 19 CFR 210.10(b). The ALJ recommended that the appropriate remedy is a limited exclusion order and a cease and desist order against Sony. The ALJ recommended that the Commission require no bond during the period of Presidential review. The ALJ further found that public interest factors do not bar or require tailoring the recommended exclusion order. The ALJ also found that even if the asserted claims are essential, the public interest does not favor tailoring or curbing and exclusion order because Fujifilm did not breach its obligations under the AP-75 Agreement.

On September 18, 2017, Sony and OUII each filed petitions for review of various aspects of the Final ID. Also on September 18, 2017, Fujifilm filed a contingent petition for review of various aspects of the Final ID. On September 26, 2017, Fujifilm, Sony, and OUII filed responses to the various petitions for review.

On October 6, 2017, Fujifilm filed a post-RD statement on the public interest pursuant to Commission Rule 210.50(a)(4). Sony filed its statement on October 13, 2017. No responses were filed by the public in response to the post-RD Commission Notice issued on September 13, 2017. *See* Notice of Request for Statements on the Public Interest (Sept. 13, 2017); 82 *Fed. Reg.* 43567-68 (Sept. 18, 2017).

On December 12, 2017, the Commission determined to review the Final ID in part. Notice (Dec. 12, 2017); 82 FR 60038-41 (Dec. 18, 2017).

Specifically, the Commission determined to review-in-part the Final ID's finding of violation with respect to the '891 patent. In particular, the Commission determined to review the Final ID's findings with respect to anticipation and obviousness. The Commission further determined to review the Final ID's findings concerning secondary considerations.

The Commission also determined to review-in-part the Final ID's finding of violation with respect to the '612 patent. Specifically, the Commission determined to review the Final ID's finding that the asserted claims of the '612 patent are not obvious. Accordingly, the Commission also determined to review the Final ID's finding that Fujifilm has satisfied the technical prong of the domestic industry requirement with respect to the '612 patent.

The Commission further determined to review-in-part the Final ID's findings with respect to the '106 patent. Specifically, the Commission determined not to review the Final ID's finding that the asserted claims of the '106 patent are invalid as indefinite. Accordingly, the Commission determined to review the Final ID's findings with respect to the remaining issues with respect to the '106 Patent.

The Commission also determined to review-in-part the Final ID's findings with respect to the '434 patent. Specifically the Commission determined to review the Final ID's finding that Sony's accused LTO-7 products do not infringe claim 1 of the '434 patent. The Commission also determined to review the Final ID's finding that Fujifilm's LTO-7 DI products do not practice claim 1. The Commission further determined to review the Final ID's finding that claim 1 is not obvious.

The Commission further determined to review-in-part the Final ID's findings with respect to the '805 patent. Specifically, the Commission determined to review the Final ID's finding that Sony's accused LTO-7 products do not infringe asserted claims 3 and 10 of the '805 patent. The Commission also determined to review the Final ID's finding that U.S. patent No. 6,710,967 ("Hennecken") does not anticipate claims 3 and 10.

The Commission also determined to review the Final ID's findings that the asserted claims of the '612, '106, and '805 patents are not essential to the LTO-7 Standard.

The Commission further determined to review the Final ID's findings concerning the economic prong of the domestic industry.

The Commission determined not to review the remaining issues decided in the Final ID.

In its notice of review, the Commission posed several briefing questions to the parties, and requested briefing on remedy, the public interest, and bonding. 82 FR at 60040. On January 3, 2018, the parties submitted their initial responses to the Commission's briefing questions. On January 12, 2018, the parties filed their reply submissions.

On December 26, 2017, Quantum Corporation filed a submission in response to the Commission's notice. On January 2, 2018, Hewlett Packard Enterprise Company filed a submission in response to the Commission's notice. On January 3, 2018, International Business Machines Corporation filed a submission in response to the Commission's notice.

Having examined the record of this investigation, including the Final ID, the petitions for review, the responses thereto, and the parties' submissions on review, the Commission has determined to find that a violation of section 337 has occurred with respect to the asserted claims of the '891 patent. The Commission has found no violation with respect to the '612, '106, '434, and '805 patents.

The Commission affirms with modification the Final ID's findings that the asserted claims of the '891 patent are not invalid as anticipated or obvious.

The Commission finds that Sony has shown by clear and convincing evidence that the asserted claims of the '612 patent are prima facie obvious over the asserted prior art and that there are no secondary considerations that overcome this finding. Accordingly, the Commission finds that Fujifilm has failed to satisfy the technical prong of the domestic industry requirement by failing to show that its domestic industry products practice a valid claim of the '612 patent. The Commission has further determined not to reach the Final ID's findings concerning the technical prong with respect to the '612 Patent.

The Commission determined not to review the Final ID's finding that the asserted claims of the '106 patent are invalid as indefinite. Accordingly, the Commission has determined not to reach the Final ID's findings on the remaining issues with respect to the '106 patent.

With respect to the '434 patent, the Commission has determined to construe the limitations "a power spectrum density at a pitch of 10 micrometers ranges from 800 to 10,000 nm³ on the magnetic layer surface" and "a power spectrum density at a pitch of 10 micrometers ranges from 20,000 to 80,000 nm³ on the backcoat layer surface" recited in claim 1 of the '434 patent to require that the entire surface of each layer must have power spectrum density measurements within the claimed range. The Commission has further determined to find that Fujifilm has failed to show by a preponderance of the evidence that the accused LTO-7 tapes infringe claim 1 of the '434 patent. The Commission has also determined to find that Fujifilm has failed to satisfy the technical prong of the domestic industry requirement with respect to the '434 patent. The Commission has determined to affirm with modification the Final ID's

finding that Sony has failed to show by clear and convincing evidence that the asserted prior art renders obvious asserted claim 1 of the '434 patent. Specifically, the Commission has determined not to reach the question of whether the asserted prior art discloses the limitation "the magnetic layer has a center surface average surface roughness Ra, as measured by an atomic force microscope, ranging from 0.5 to 2.5 nm."

The Commission has determined to affirm with modification the Final ID's finding that Fujifilm has failed to show by a preponderance of the evidence that the accused LTO-7 tapes infringe claims 3 and 10 of the '805 patent. The Commission has also determined to affirm with modification the Final ID's finding that the asserted prior art does not anticipate the asserted claims of the '805 patent. The Commission also corrects the misstatement in the Final ID's "Conclusions of Fact and Law" that Fujifilm failed to satisfy the technical prong with respect to the '805 patent. *See* Final ID at 385.

The Commission has determined to affirm with modification the Final ID's finding that the asserted claims of the '612, 106, and '805 patents are not essential to the LTO-7 Standard. In particular, with respect to the '106 patent, the Commission has determined not to reach the issue of whether the LTO-7 Standard requires a tape having a magnetic layer that contains an abrasive. The Commission has determined to otherwise adopt the Final ID's findings that the LTO-7 Standard does not require practice of the asserted claims of the '612, 106, and '805 Patents. The Commission has determined not to reach any other issues concerning Sony's essentiality defenses.

The Commission has determined to find that Fujifilm's plant and equipment and labor and capital investments in its LTO-6 domestic industry products are significant under section 337(a)(3)(A) and (B), thus satisfying the economic prong of the domestic industry requirement with respect to the '891 patent. The Commission has determined not to reach the issue of whether Fujifilm has satisfied the economic prong with respect to its domestic investments in its LTO-7 DI products.

Accordingly, the Commission has determined the appropriate remedy is a limited exclusion order against Sony's products that infringe claims 1, 4-9, 11, and 14 of the '891 patent, and a cease and desist order against each of the Sony respondents. The Commission has also determined that the public interest factors enumerated in subsections 337(d)(1) and (f)(1) (19 U.S.C. 1337(d)(1), (f)(1)) do not preclude issuance of the limited exclusion order and cease and desist order. The Commission has, however, determined to exempt Sony's magnetic data storage tapes and cartridges containing the same that are imported or used for the purpose of supporting Sony's warranty, service, repair, and compliance verification obligations. The Commission has further determined to set a bond at zero (0) percent of entered value during the Presidential review period (19 U.S.C. 1337(j)).

The Commission's orders and opinion were delivered to the President and to the United States Trade Representative on the day of their issuance.

The authority for the Commission's determination is contained in section 337 of the Tariff Act of 1930, as amended (19 U.S.C. 1337), and in Part 210 of the Commission's Rules of Practice and Procedure (19 CFR Part 210).

By order of the Commission.

A handwritten signature in black ink, appearing to read 'Lisa R. Barton', with a stylized flourish at the end.

Lisa R. Barton
Secretary to the Commission

Issued: March 8, 2018

**CERTAIN MAGNETIC DATA STORAGE TAPES AND
CARTRIDGES CONTAINING THE SAME**

Inv. No. 337-TA-1012

PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **NOTICE** has been served by hand upon the Commission Investigative Attorney, R. Whitney Winston, Esq., and the following parties as indicated, on March 8, 2018.



Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

**On Behalf of Complainants FUJIFILM Corporation and
FUJIFILM Recording Media U.S.A., Inc.:**

Robert C. Scheinfeld, Esq.
BAKER BOTTS LLP
30 Rockefeller Plaza
New York, NY 10112

- ☐ Via Hand Delivery
☒ Via Express Delivery
☐ Via First Class Mail
☐ Other: _____

**On Behalf of Respondents Sony Corporation, Sony
Corporation of America, and Sony Electronics Inc.:**

James B. Altman, Esq.
FOSTER, MURPHY, ALTMAN & NICKEL, PC
1150 18th Street, NW
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Washington, DC 20036

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**UNITED STATES INTERNATIONAL TRADE COMMISSION
WASHINGTON, D.C.**

In the Matter of

**CERTAIN MAGNETIC DATA STORAGE
TAPES AND CARTRIDGES CONTAINING
THE SAME**

Investigation No. 337-TA-1012

LIMITED EXCLUSION ORDER

The United States International Trade Commission ("Commission") has determined that there is a violation of section 337 of the Tariff Act of 1930, as amended (19 U.S.C. § 1337), in the unlawful importation, sale for importation, or sale within the United States after importation by Respondents Sony Corporation of Tokyo, Japan, Sony Corporation of America of New York, New York, and Sony Electronics Inc. of San Diego, California (collectively, "Sony") of certain magnetic data storage tapes and cartridges containing the same that infringe one or more of claims 1, 4-9, 11, and 14 of U.S. Patent No. 6,641,891 ("the '891 patent").

Having reviewed the record in this investigation, including the written submissions of the parties, the Commission has made its determination on the issues of remedy, public interest, and bonding. The Commission has determined that the appropriate form of relief is a limited exclusion order prohibiting the unlicensed entry of certain magnetic data storage tapes and cartridges containing the same manufactured by or on behalf of Sony or any of their affiliate companies, parents, subsidiaries, licensees, or other related business entities, or their successors or assigns.

The Commission has also determined that the public interest factors enumerated in

19 U.S.C. § 1337(d) do not preclude the issuance of the limited exclusion order, and that the bond during the period of Presidential review shall be in the amount of zero (0) percent of the entered value of the covered products.

Accordingly, the Commission hereby **ORDERS** that:

1. Magnetic data storage tapes and cartridges containing the same that infringe one or more of claims 1, 4-9, 11, and 14 of the '891 patent and that are manufactured abroad by, or on behalf of, or imported by or on behalf of Sony, or any of their affiliated companies, parents, subsidiaries, agents, or other related business entities, or their successors or assigns, are excluded from entry for consumption into the United States, entry for consumption from a foreign-trade zone, or withdrawal from a warehouse for consumption, for the remaining terms of the patents, except: 1) articles under license of the patent owner or as provided by law, 2) articles imported for use in repairing or replacing magnetic data storage tapes and cartridges containing the same under warranty or service contracts, for identical articles, that were sold in the United States as of the date of this Order; and 3) articles imported for use for the purposes of compliance verification testing.
2. Notwithstanding paragraph 1 of this Order, the aforesaid magnetic data storage tapes and cartridges containing the same are entitled to entry into the United States for consumption, entry for consumption from a foreign trade zone, or withdrawal from a warehouse for consumption, under bond in the amount of zero (0) percent of the entered value of the covered products (*i.e.*, no bond) pursuant to subsection (j) of Section 337 of the Tariff Act of 1930, as amended

(19 U.S.C. § 1337(j)), and the Presidential Memorandum for the United States Trade Representative of July 21, 2005 (70 *Fed. Reg.* 43,251); from the day after this Order is received by the United States Trade Representative, and until such time as the United States Trade Representative notifies the Commission that this action is approved or disapproved but, in any event, not later than sixty (60) days after the receipt of this Order.

3. At the discretion of U.S. Customs and Border Protection (“CBP”) and pursuant to the procedures it establishes, persons seeking to import magnetic data storage tapes and cartridges containing the same that are potentially subject to this Order may be required to certify that they are familiar with the terms of this Order, that they have made appropriate inquiry, and thereupon state that, to the best of their knowledge and belief, the products being imported are not excluded from entry under paragraph 1 of this Order. At its discretion, CBP may require persons who have provided the certification described in this paragraph to furnish such records or analyses as are necessary to substantiate this certification.
4. In accordance with 19 U.S.C. § 1337(l), the provisions of this Order shall not apply to magnetic data storage tapes and cartridges containing the same that are imported by or for the use of the United States, or imported for and to be used for, the United States with the authorization or consent of the Government.
5. The Commission may modify this Order in accordance with the procedures described in Rule 210.76 of the Commission’s Rules of Practice and Procedure (19 C.F.R. § 210.76).
6. The Secretary shall serve copies of this Order upon each party of record in this

Investigation and CBP.

7. Notice of this Order shall be published in the *Federal Register*.

By order of the Commission.

A handwritten signature in black ink, appearing to read 'Lisa R. Barton'.

Lisa R. Barton
Secretary to the Commission

Issued: March 8, 2018

**CERTAIN MAGNETIC DATA STORAGE TAPES AND
CARTRIDGES CONTAINING THE SAME**

Inv. No. 337-TA-1012

PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **ORDER** has been served by hand upon the Commission Investigative Attorney, R. Whitney Winston, Esq., and the following parties as indicated, on March 8, 2018.



Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

**On Behalf of Complainants FUJIFILM Corporation and
FUJIFILM Recording Media U.S.A., Inc.:**

Robert C. Scheinfeld, Esq.
BAKER BOTTS LLP
30 Rockefeller Plaza
New York, NY 10112

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**On Behalf of Respondents Sony Corporation, Sony
Corporation of America, and Sony Electronics Inc.:**

James B. Altman, Esq.
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Washington, DC 20036

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**UNITED STATES INTERNATIONAL TRADE COMMISSION
WASHINGTON, D.C.**

In the Matter of

**CERTAIN MAGNETIC DATA STORAGE
TAPES AND CARTRIDGES CONTAINING
THE SAME**

Investigation No. 337-TA-1012

CEASE AND DESIST ORDER

IT IS HEREBY ORDERED THAT RESPONDENT Sony Electronics Inc. of San Diego, California cease and desist from conducting any of the following activities in the United States: importing, selling, marketing, advertising, distributing, transferring (except for exportation), soliciting United States agents or distributors, and aiding or abetting other entities in the importation, sale for importation, sale after importation, transfer (except for exportation), or distribution of certain magnetic data storage tapes and cartridges containing the same that infringe one or more of claims 1, 4-9, 11, and 14 of U.S. Patent No. 6,641,891 ("the '891 patent") in violation of Section 337 of the Tariff Act of 1930, as amended (19 U.S.C. § 1337).

**I.
Definitions**

As used in this Order:

- (A) "Commission" shall mean the United States International Trade Commission.
- (B) "Complainant" shall mean Fujifilm Corporation of Tokyo, Japan, and Fujifilm Recording Media U.S.A., Inc. of Bedford, Massachusetts.
- (C) "Respondent" shall mean Sony Electronics Inc. of San Diego, California 92127.
- (D) "Person" shall mean an individual, or any non-governmental partnership, firm,

association, corporation, or other legal or business entity other than Respondent or its majority-owned or controlled subsidiaries, successors, or assigns.

- (E) “United States” shall mean the fifty States, the District of Columbia, and Puerto Rico.
- (F) The terms “import” and “importation” refer to importation for entry for consumption under the Customs laws of the United States.
- (G) The term “covered products” shall mean magnetic data storage tapes and cartridges containing the same that infringe one or more of claims 1, 4-9, 11, and 14 of the '891 patent.

II. Applicability

The provisions of this Cease and Desist Order shall apply to Respondent and to any of its principals, stockholders, officers, directors, employees, agents, licensees, distributors, controlled (whether by stock ownership or otherwise) and majority-owned business entities, successors, and assigns, and to each of them, insofar as they are engaging in conduct prohibited by Section III, *infra*, for, with, or otherwise on behalf of, Respondent.

III. Conduct Prohibited

The following conduct of Respondent in the United States is prohibited by this Order.

For the remaining terms of the Asserted Patents, the Respondent shall not:

- (A) import or sell for importation into the United States covered products;
- (B) market, distribute, sell, or otherwise transfer (except for exportation) imported covered products;
- (C) advertise imported covered products;

- (D) solicit U.S. agents or distributors for imported covered products; or
- (E) aid or abet other entities in the importation, sale for importation, sale after importation, transfer, or distribution of covered products.

IV. Conduct Permitted

Notwithstanding any other provision of this Order, specific conduct otherwise prohibited by the terms of this Order shall be permitted if:

- (A) in a written instrument, the owner of the '891 patent authorizes or licenses such specific conduct;
- (B) such specific conduct is related to the importation or sale of covered products by or for the United States;
- (C) the conduct is related to articles imported for use in servicing or replacing magnetic data storage tapes and cartridges containing the same under warranty or service contracts, for identical articles, that were sold in the United States as of the date of this Order; or
- (D) the conduct is related to articles imported for use for the purposes of compliance verification testing.

V. Reporting

For purposes of this requirement, the reporting periods shall commence on January 1 of each year and shall end on the subsequent December 31. The first report required under this section shall cover the period from the date of issuance of this Order through December 31, 2018. This reporting requirement shall continue in force until such time as Respondent has truthfully reported, in two consecutive timely filed reports, that it has no inventory of covered

products in the United States.

Within thirty (30) days of the last day of the reporting period, Respondent shall report to the Commission: (a) the quantity in units and the value in dollars of covered products that it has (i) imported and/or (ii) sold in the United States after importation during the reporting period, and (b) the quantity in units and value in dollars of reported covered products that remain in inventory in the United States at the end of the reporting period. The report shall state the purpose of the importation or withdrawal out of inventory of any covered product.

When filing written submissions, Respondent must file the original document electronically on or before the deadlines stated above and submit eight (8) true paper copies to the Office of the Secretary by noon the next day pursuant to Section 210.4(f) of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.4(f)). Submissions should refer to the investigation number ("Inv. No. 337-TA-1012") in a prominent place on the cover pages and/or the first page. *See Handbook for Electronic Filing Procedures*, https://www.usitc.gov/secretary/documents/handbook_on_filing_procedures.pdf). Persons with questions regarding filing should contact the Secretary (202-205-2000). If Respondent desires to submit a document to the Commission in confidence, it must file the original and a public version of the original with the Office of the Secretary and must serve a copy of the confidential version on Complainant's counsel.¹

Any failure to make the required report or the filing of any false or inaccurate report shall constitute a violation of this Order, and the submission of a false or inaccurate report may be referred to the U.S. Department of Justice as a possible criminal violation of 18 U.S.C. § 1001.

¹ Complainant must file a letter with the Secretary identifying the attorney to receive reports and bond information associated with this Order. The designated attorney must be on the protective order entered in the investigation.

VI.
Record-Keeping and Inspection

- (A) For the purpose of securing compliance with this Order, Respondent shall retain any and all records relating to the sale, offer for sale, marketing, or distribution in the United States of covered products, made and received in the usual and ordinary course of business, whether in detail or in summary form, for a period of three (3) years from the close of the fiscal year to which they pertain.
- (B) For the purposes of determining or securing compliance with this Order and for no other purpose, subject to any privilege recognized by the federal courts of the United States, and upon reasonable written notice by the Commission or its staff, duly authorized representatives of the Commission shall be permitted access and the right to inspect and copy, in Respondent's principal offices during office hours, and in the presence of counsel or other representatives if Respondent so chooses, all books, ledgers, accounts, correspondence, memoranda, and other records and documents, in detail and in summary form, that must be retained under subparagraph VI(A) of this Order.

VII.
Service of Cease and Desist Order

Respondent is ordered and directed to:

- (A) Serve, within fifteen (15) days after the effective date of this Order, a copy of this Order upon each of its respective officers, directors, managing agents, agents, and employees who have any responsibility for the importation, marketing, distribution, or sale of imported covered products in the United States;
- (B) Serve, within fifteen (15) days after the succession of any persons referred to in

subparagraph VII(A) of this Order, a copy of the Order upon each successor; and

(C) Maintain such records as will show the name, title, and address of each person upon whom the Order has been served, as described in subparagraphs VII(A) and VII(B) of this Order, together with the date on which service was made.

The obligations set forth in subparagraphs VII(B) and VII(C) shall remain in effect until the expiration date of the '891 patent.

VIII. Confidentiality

Any request for confidential treatment of information obtained by the Commission pursuant to Sections V and VI of this Order should be made in accordance with Section 201.6 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 201.6). For all reports for which confidential treatment is sought, Respondent must provide a public version of such report with confidential information redacted.

IX. Enforcement

Violation of this Order may result in any of the actions specified in Section 210.75 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.75), including an action for civil penalties under Section 337(f) of the Tariff Act of 1930, as amended (19 U.S.C. § 1337(f)), as well as any other action that the Commission deems appropriate. In determining whether Respondent is in violation of this Order, the Commission may infer facts adverse to Respondent if it fails to provide adequate or timely information.

X. Modification

The Commission may amend this Order on its own motion or in accordance with the

procedure described in Section 210.76 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.76).

XI. Bonding

The conduct prohibited by Section III of this Order may be continued during the sixty-day period in which the Order is under review by the United States Trade Representative, as delegated by the President (70 Fed. Reg. 43,251 (Jul. 21, 2005)) subject to the Respondent's posting of a bond in the amount of zero (0) percent of the entered value of the covered products (*i.e.*, no bond). This bond provision does not apply to conduct that is otherwise permitted by Section IV of this Order. Covered products imported on or after the date of issuance of this Order are subject to the entry bond set forth in the exclusion Order issued by the Commission, and are not subject to this bond provision.

The bond is to be posted in accordance with the procedures established by the Commission for the posting of bonds by complainants in connection with the issuance of temporary exclusion orders. *See* 19 C.F.R. § 210.68. The bond and any accompanying documentation are to be provided to and approved by the Commission prior to the commencement of conduct that is otherwise prohibited by section III of this Order. Upon the Secretary's acceptance of the bond, (a) the Secretary will serve an acceptance letter on all parties, and (b) Respondent must serve a copy of the bond and accompanying documentation on Complainant's counsel.²

The bond is to be forfeited in the event that the United States Trade Representative approves this Order (or does not disapprove it within the review period), unless (i) the U.S. Court of Appeals for the Federal Circuit, in a final judgment, reverses any Commission final

² *See* Footnote 1.

determination and order as to Respondent on appeal, or (ii) Respondent exports or destroys the products subject to this bond and provides certification to that effect that is satisfactory to the Commission.

This bond is to be released in the event the United States Trade Representative disapproves this Order and no subsequent order is issued by the Commission and approved (or not disapproved) by the United States Trade Representative, upon service on Respondent of an order issued by the Commission based upon application therefore made by Respondent to the Commission.

By order of the Commission.

A handwritten signature in black ink, appearing to read "L. Barton", with a stylized flourish at the end.

Lisa R. Barton
Secretary to the Commission

Issued: March 8, 2018

**CERTAIN MAGNETIC DATA STORAGE TAPES AND
CARTRIDGES CONTAINING THE SAME**

Inv. No. 337-TA-1012

PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **ORDER** has been served by hand upon the Commission Investigative Attorney, R. Whitney Winston, Esq., and the following parties as indicated, on March 8, 2018.



Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

**On Behalf of Complainants FUJIFILM Corporation and
FUJIFILM Recording Media U.S.A., Inc.:**

Robert C. Scheinfeld, Esq.
BAKER BOTTS LLP
30 Rockefeller Plaza
New York, NY 10112

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**On Behalf of Respondents Sony Corporation, Sony
Corporation of America, and Sony Electronics Inc.:**

James B. Altman, Esq.
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**UNITED STATES INTERNATIONAL TRADE COMMISSION
WASHINGTON, D.C.**

In the Matter of

**CERTAIN MAGNETIC DATA STORAGE
TAPES AND CARTRIDGES CONTAINING
THE SAME**

Investigation No. 337-TA-1012

CEASE AND DESIST ORDER

IT IS HEREBY ORDERED THAT RESPONDENT Sony Electronics Inc. of San Diego, California cease and desist from conducting any of the following activities in the United States: importing, selling, marketing, advertising, distributing, transferring (except for exportation), soliciting United States agents or distributors, and aiding or abetting other entities in the importation, sale for importation, sale after importation, transfer (except for exportation), or distribution of certain magnetic data storage tapes and cartridges containing the same that infringe one or more of claims 1, 4-9, 11, and 14 of U.S. Patent No. 6,641,891 ("the '891 patent") in violation of Section 337 of the Tariff Act of 1930, as amended (19 U.S.C. § 1337).

**I.
Definitions**

As used in this Order:

- (A) "Commission" shall mean the United States International Trade Commission.
- (B) "Complainant" shall mean Fujifilm Corporation of Tokyo, Japan, and Fujifilm Recording Media U.S.A., Inc. of Bedford, Massachusetts.
- (C) "Respondent" shall mean Sony Electronics Inc. of San Diego, California 92127.
- (D) "Person" shall mean an individual, or any non-governmental partnership, firm,

association, corporation, or other legal or business entity other than Respondent or its majority-owned or controlled subsidiaries, successors, or assigns.

- (E) "United States" shall mean the fifty States, the District of Columbia, and Puerto Rico.
- (F) The terms "import" and "importation" refer to importation for entry for consumption under the Customs laws of the United States.
- (G) The term "covered products" shall mean magnetic data storage tapes and cartridges containing the same that infringe one or more of claims 1, 4-9, 11, and 14 of the '891 patent.

II. Applicability

The provisions of this Cease and Desist Order shall apply to Respondent and to any of its principals, stockholders, officers, directors, employees, agents, licensees, distributors, controlled (whether by stock ownership or otherwise) and majority-owned business entities, successors, and assigns, and to each of them, insofar as they are engaging in conduct prohibited by Section III, *infra*, for, with, or otherwise on behalf of, Respondent.

III. Conduct Prohibited

The following conduct of Respondent in the United States is prohibited by this Order.

For the remaining terms of the Asserted Patents, the Respondent shall not:

- (A) import or sell for importation into the United States covered products;
- (B) market, distribute, sell, or otherwise transfer (except for exportation) imported covered products;
- (C) advertise imported covered products;

- (D) solicit U.S. agents or distributors for imported covered products; or
- (E) aid or abet other entities in the importation, sale for importation, sale after importation, transfer, or distribution of covered products.

IV. Conduct Permitted

Notwithstanding any other provision of this Order, specific conduct otherwise prohibited by the terms of this Order shall be permitted if:

- (A) in a written instrument, the owner of the '891 patent authorizes or licenses such specific conduct;
- (B) such specific conduct is related to the importation or sale of covered products by or for the United States;
- (C) the conduct is related to articles imported for use in servicing or replacing magnetic data storage tapes and cartridges containing the same under warranty or service contracts, for identical articles, that were sold in the United States as of the date of this Order; or
- (D) the conduct is related to articles imported for use for the purposes of compliance verification testing.

V. Reporting

For purposes of this requirement, the reporting periods shall commence on January 1 of each year and shall end on the subsequent December 31. The first report required under this section shall cover the period from the date of issuance of this Order through December 31, 2018. This reporting requirement shall continue in force until such time as Respondent has truthfully reported, in two consecutive timely filed reports, that it has no inventory of covered

products in the United States.

Within thirty (30) days of the last day of the reporting period, Respondent shall report to the Commission: (a) the quantity in units and the value in dollars of covered products that it has (i) imported and/or (ii) sold in the United States after importation during the reporting period, and (b) the quantity in units and value in dollars of reported covered products that remain in inventory in the United States at the end of the reporting period. The report shall state the purpose of the importation or withdrawal out of inventory of any covered product.

When filing written submissions, Respondent must file the original document electronically on or before the deadlines stated above and submit eight (8) true paper copies to the Office of the Secretary by noon the next day pursuant to Section 210.4(f) of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.4(f)). Submissions should refer to the investigation number ("Inv. No. 337-TA-1012") in a prominent place on the cover pages and/or the first page. *See Handbook for Electronic Filing Procedures*, https://www.usitc.gov/secretary/documents/handbook_on_filing_procedures.pdf. Persons with questions regarding filing should contact the Secretary (202-205-2000). If Respondent desires to submit a document to the Commission in confidence, it must file the original and a public version of the original with the Office of the Secretary and must serve a copy of the confidential version on Complainant's counsel.¹

Any failure to make the required report or the filing of any false or inaccurate report shall constitute a violation of this Order, and the submission of a false or inaccurate report may be referred to the U.S. Department of Justice as a possible criminal violation of 18 U.S.C. § 1001.

¹ Complainant must file a letter with the Secretary identifying the attorney to receive reports and bond information associated with this Order. The designated attorney must be on the protective order entered in the investigation.

VI.
Record-Keeping and Inspection

- (A) For the purpose of securing compliance with this Order, Respondent shall retain any and all records relating to the sale, offer for sale, marketing, or distribution in the United States of covered products, made and received in the usual and ordinary course of business, whether in detail or in summary form, for a period of three (3) years from the close of the fiscal year to which they pertain.
- (B) For the purposes of determining or securing compliance with this Order and for no other purpose, subject to any privilege recognized by the federal courts of the United States, and upon reasonable written notice by the Commission or its staff, duly authorized representatives of the Commission shall be permitted access and the right to inspect and copy, in Respondent's principal offices during office hours, and in the presence of counsel or other representatives if Respondent so chooses, all books, ledgers, accounts, correspondence, memoranda, and other records and documents, in detail and in summary form, that must be retained under subparagraph VI(A) of this Order.

VII.
Service of Cease and Desist Order

Respondent is ordered and directed to:

- (A) Serve, within fifteen (15) days after the effective date of this Order, a copy of this Order upon each of its respective officers, directors, managing agents, agents, and employees who have any responsibility for the importation, marketing, distribution, or sale of imported covered products in the United States;
- (B) Serve, within fifteen (15) days after the succession of any persons referred to in

subparagraph VII(A) of this Order, a copy of the Order upon each successor; and

(C) Maintain such records as will show the name, title, and address of each person upon whom the Order has been served, as described in subparagraphs VII(A) and VII(B) of this Order, together with the date on which service was made.

The obligations set forth in subparagraphs VII(B) and VII(C) shall remain in effect until the expiration date of the '891 patent.

VIII. Confidentiality

Any request for confidential treatment of information obtained by the Commission pursuant to Sections V and VI of this Order should be made in accordance with Section 201.6 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 201.6). For all reports for which confidential treatment is sought, Respondent must provide a public version of such report with confidential information redacted.

IX. Enforcement

Violation of this Order may result in any of the actions specified in Section 210.75 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.75), including an action for civil penalties under Section 337(f) of the Tariff Act of 1930, as amended (19 U.S.C. § 1337(f)), as well as any other action that the Commission deems appropriate. In determining whether Respondent is in violation of this Order, the Commission may infer facts adverse to Respondent if it fails to provide adequate or timely information.

X. Modification

The Commission may amend this Order on its own motion or in accordance with the

procedure described in Section 210.76 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.76).

XI. Bonding

The conduct prohibited by Section III of this Order may be continued during the sixty-day period in which the Order is under review by the United States Trade Representative, as delegated by the President (70 Fed. Reg. 43,251 (Jul. 21, 2005)) subject to the Respondent's posting of a bond in the amount of zero (0) percent of the entered value of the covered products (*i.e.*, no bond). This bond provision does not apply to conduct that is otherwise permitted by Section IV of this Order. Covered products imported on or after the date of issuance of this Order are subject to the entry bond set forth in the exclusion Order issued by the Commission, and are not subject to this bond provision.

The bond is to be posted in accordance with the procedures established by the Commission for the posting of bonds by complainants in connection with the issuance of temporary exclusion orders. *See* 19 C.F.R. § 210.68. The bond and any accompanying documentation are to be provided to and approved by the Commission prior to the commencement of conduct that is otherwise prohibited by section III of this Order. Upon the Secretary's acceptance of the bond, (a) the Secretary will serve an acceptance letter on all parties, and (b) Respondent must serve a copy of the bond and accompanying documentation on Complainant's counsel.²

The bond is to be forfeited in the event that the United States Trade Representative approves this Order (or does not disapprove it within the review period), unless (i) the U.S. Court of Appeals for the Federal Circuit, in a final judgment, reverses any Commission final

² *See* Footnote 1.

determination and order as to Respondent on appeal, or (ii) Respondent exports or destroys the products subject to this bond and provides certification to that effect that is satisfactory to the Commission.

This bond is to be released in the event the United States Trade Representative disapproves this Order and no subsequent order is issued by the Commission and approved (or not disapproved) by the United States Trade Representative, upon service on Respondent of an order issued by the Commission based upon application therefore made by Respondent to the Commission.

By order of the Commission.

A handwritten signature in black ink, appearing to read 'L. Barton' with a stylized flourish at the end.

Lisa R. Barton
Secretary to the Commission

Issued: March 8, 2018

**CERTAIN MAGNETIC DATA STORAGE TAPES AND
CARTRIDGES CONTAINING THE SAME**

Inv. No. 337-TA-1012

PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **ORDER** has been served by hand upon the Commission Investigative Attorney, R. Whitney Winston, Esq., and the following parties as indicated, on March 8, 2018.



Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

**On Behalf of Complainants FUJIFILM Corporation and
FUJIFILM Recording Media U.S.A., Inc.:**

Robert C. Scheinfeld, Esq.
BAKER BOTTS LLP
30 Rockefeller Plaza
New York, NY 10112

- ☐ Via Hand Delivery
☒ Via Express Delivery
☐ Via First Class Mail
☐ Other: _____

**On Behalf of Respondents Sony Corporation, Sony
Corporation of America, and Sony Electronics Inc.:**

James B. Altman, Esq.
FOSTER, MURPHY, ALTMAN & NICKEL, PC
1150 18th Street, NW
Suite 775
Washington, DC 20036

- ☐ Via Hand Delivery
☒ Via Express Delivery
☐ Via First Class Mail
☐ Other: _____

**UNITED STATES INTERNATIONAL TRADE COMMISSION
WASHINGTON, D.C.**

In the Matter of

**CERTAIN MAGNETIC DATA STORAGE
TAPES AND CARTRIDGES CONTAINING
THE SAME**

Investigation No. 337-TA-1012

CEASE AND DESIST ORDER

IT IS HEREBY ORDERED THAT RESPONDENT Sony Corporation of America of New York, New York cease and desist from conducting any of the following activities in the United States: importing, selling, marketing, advertising, distributing, transferring (except for exportation), soliciting United States agents or distributors, and aiding or abetting other entities in the importation, sale for importation, sale after importation, transfer (except for exportation), or distribution of certain magnetic data storage tapes and cartridges containing the same that infringe one or more of claims 1, 4-9, 11, and 14 of U.S. Patent No. 6,641,891 ("the '891 patent") in violation of Section 337 of the Tariff Act of 1930, as amended (19 U.S.C. § 1337).

**I.
Definitions**

As used in this Order:

(A) "Commission" shall mean the United States International Trade Commission.

(B) "Complainant" shall mean Fujifilm Corporation of Tokyo, Japan, and Fujifilm

Recording Media U.S.A., Inc. of Bedford, Massachusetts.

(C) "Respondent" shall mean Sony Corporation of America of New York, New York 10022.

(D) "Person" shall mean an individual, or any non-governmental partnership, firm, association, corporation, or other legal or business entity other than Respondent or

its majority-owned or controlled subsidiaries, successors, or assigns.

(E) "United States" shall mean the fifty States, the District of Columbia, and Puerto Rico.

(F) The terms "import" and "importation" refer to importation for entry for consumption under the Customs laws of the United States.

(G) The term "covered products" shall mean magnetic data storage tapes and cartridges containing the same that infringe one or more of claims 1, 4-9, 11, and 14 of the '891 patent.

II. Applicability

The provisions of this Cease and Desist Order shall apply to Respondent and to any of its principals, stockholders, officers, directors, employees, agents, licensees, distributors, controlled (whether by stock ownership or otherwise) and majority-owned business entities, successors, and assigns, and to each of them, insofar as they are engaging in conduct prohibited by Section III, *infra*, for, with, or otherwise on behalf of, Respondent.

III. Conduct Prohibited

The following conduct of Respondent in the United States is prohibited by this Order. For the remaining terms of the Asserted Patents, the Respondent shall not:

- (A) import or sell for importation into the United States covered products;
- (B) market, distribute, sell, or otherwise transfer (except for exportation) imported covered products;
- (C) advertise imported covered products;
- (D) solicit U.S. agents or distributors for imported covered products; or
- (E) aid or abet other entities in the importation, sale for importation, sale after

importation, transfer, or distribution of covered products.

IV. Conduct Permitted

Notwithstanding any other provision of this Order, specific conduct otherwise prohibited by the terms of this Order shall be permitted if:

- (A) in a written instrument, the owner of the '891 patent authorizes or licenses such specific conduct;
- (B) such specific conduct is related to the importation or sale of covered products by or for the United States;
- (C) the conduct is related to articles imported for use in servicing or replacing magnetic data storage tapes and cartridges containing the same under warranty or service contracts, for identical articles, that were sold in the United States as of the date of this Order; or
- (D) the conduct is related to articles imported for use for the purposes of compliance verification testing.

V. Reporting

For purposes of this requirement, the reporting periods shall commence on January 1 of each year and shall end on the subsequent December 31. The first report required under this section shall cover the period from the date of issuance of this Order through December 31, 2018. This reporting requirement shall continue in force until such time as Respondent has truthfully reported, in two consecutive timely filed reports, that it has no inventory of covered products in the United States.

Within thirty (30) days of the last day of the reporting period, Respondent shall report to the Commission: (a) the quantity in units and the value in dollars of covered products that it has

(i) imported and/or (ii) sold in the United States after importation during the reporting period, and
(b) the quantity in units and value in dollars of reported covered products that remain in inventory in the United States at the end of the reporting period. The report shall state the purpose of the importation or withdrawal out of inventory of any covered product.

When filing written submissions, Respondent must file the original document electronically on or before the deadlines stated above and submit eight (8) true paper copies to the Office of the Secretary by noon the next day pursuant to Section 210.4(f) of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.4(f)). Submissions should refer to the investigation number ("Inv. No. 337-TA-1012") in a prominent place on the cover pages and/or the first page. *See Handbook for Electronic Filing Procedures*, https://www.usitc.gov/secretary/documents/handbook_on_filing_procedures.pdf. Persons with questions regarding filing should contact the Secretary (202-205-2000). If Respondent desires to submit a document to the Commission in confidence, it must file the original and a public version of the original with the Office of the Secretary and must serve a copy of the confidential version on Complainant's counsel.¹

Any failure to make the required report or the filing of any false or inaccurate report shall constitute a violation of this Order, and the submission of a false or inaccurate report may be referred to the U.S. Department of Justice as a possible criminal violation of 18 U.S.C. § 1001.

VI. Record-Keeping and Inspection

(A) For the purpose of securing compliance with this Order, Respondent shall retain any and all records relating to the sale, offer for sale, marketing, or distribution in the United States of covered products, made and received in the usual and ordinary

¹ Complainant must file a letter with the Secretary identifying the attorney to receive reports and bond information associated with this Order. The designated attorney must be on the protective order entered in the investigation.

course of business, whether in detail or in summary form, for a period of three (3) years from the close of the fiscal year to which they pertain.

- (B) For the purposes of determining or securing compliance with this Order and for no other purpose, subject to any privilege recognized by the federal courts of the United States, and upon reasonable written notice by the Commission or its staff, duly authorized representatives of the Commission shall be permitted access and the right to inspect and copy, in Respondent's principal offices during office hours, and in the presence of counsel or other representatives if Respondent so chooses, all books, ledgers, accounts, correspondence, memoranda, and other records and documents, in detail and in summary form, that must be retained under subparagraph VI(A) of this Order.

VII.

Service of Cease and Desist Order

Respondent is ordered and directed to:

- (A) Serve, within fifteen (15) days after the effective date of this Order, a copy of this Order upon each of its respective officers, directors, managing agents, agents, and employees who have any responsibility for the importation, marketing, distribution, or sale of imported covered products in the United States;
- (B) Serve, within fifteen (15) days after the succession of any persons referred to in subparagraph VII(A) of this Order, a copy of the Order upon each successor; and
- (C) Maintain such records as will show the name, title, and address of each person upon whom the Order has been served, as described in subparagraphs VII(A) and VII(B) of this Order, together with the date on which service was made.

The obligations set forth in subparagraphs VII(B) and VII(C) shall remain in effect until the expiration date of the '891 patent.

VIII.
Confidentiality

Any request for confidential treatment of information obtained by the Commission pursuant to Sections V and VI of this Order should be made in accordance with Section 201.6 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 201.6). For all reports for which confidential treatment is sought, Respondent must provide a public version of such report with confidential information redacted.

IX.
Enforcement

Violation of this Order may result in any of the actions specified in Section 210.75 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.75), including an action for civil penalties under Section 337(f) of the Tariff Act of 1930, as amended (19 U.S.C. § 1337(f)), as well as any other action that the Commission deems appropriate. In determining whether Respondent is in violation of this Order, the Commission may infer facts adverse to Respondent if it fails to provide adequate or timely information.

X.
Modification

The Commission may amend this Order on its own motion or in accordance with the procedure described in Section 210.76 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.76).

XI. Bonding

The conduct prohibited by Section III of this Order may be continued during the sixty- day period in which the Order is under review by the United States Trade Representative, as delegated by the President (70 Fed. Reg. 43,251 (Jul. 21, 2005)) subject to the Respondent's posting of a bond in the amount of zero (0) percent of the entered value of the covered products (*i.e.*, no bond). This bond provision does not apply to conduct that is otherwise permitted by Section IV of this Order. Covered products imported on or after the date of issuance of this Order are subject to the entry bond set forth in the exclusion Order issued by the Commission, and are not subject to this bond provision.

The bond is to be posted in accordance with the procedures established by the Commission for the posting of bonds by complainants in connection with the issuance of temporary exclusion orders. *See* 19 C.F.R. § 210.68. The bond and any accompanying documentation are to be provided to and approved by the Commission prior to the commencement of conduct that is otherwise prohibited by section III of this Order. Upon the Secretary's acceptance of the bond, (a) the Secretary will serve an acceptance letter on all parties, and (b) Respondent must serve a copy of the bond and accompanying documentation on Complainant's counsel.²

The bond is to be forfeited in the event that the United States Trade Representative approves this Order (or does not disapprove it within the review period), unless (i) the U.S. Court of Appeals for the Federal Circuit, in a final judgment, reverses any Commission final determination and order as to Respondent on appeal, or (ii) Respondent exports or destroys the products subject to this bond and provides certification to that effect that is satisfactory to the Commission.

² See Footnote 1.

This bond is to be released in the event the United States Trade Representative disapproves this Order and no subsequent order is issued by the Commission and approved (or not disapproved) by the United States Trade Representative, upon service on Respondent of an order issued by the Commission based upon application therefore made by Respondent to the Commission.

By order of the Commission.

A handwritten signature in black ink, appearing to read "Lisa R. Barton", with a stylized flourish at the end.

Lisa R. Barton
Secretary to the Commission

Issued: March 8, 2018

**CERTAIN MAGNETIC DATA STORAGE TAPES AND
CARTRIDGES CONTAINING THE SAME**

Inv. No. 337-TA-1012

PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **ORDER** has been served by hand upon the Commission Investigative Attorney, R. Whitney Winston, Esq., and the following parties as indicated, on March 8, 2018.



Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

**On Behalf of Complainants FUJIFILM Corporation and
FUJIFILM Recording Media U.S.A., Inc.:**

Robert C. Scheinfeld, Esq.
BAKER BOTTS LLP
30 Rockefeller Plaza
New York, NY 10112

- ☐ Via Hand Delivery
☒ Via Express Delivery
☐ Via First Class Mail
☐ Other: _____

**On Behalf of Respondents Sony Corporation, Sony
Corporation of America, and Sony Electronics Inc.:**

James B. Altman, Esq.
FOSTER, MURPHY, ALTMAN & NICKEL, PC
1150 18th Street, NW
Suite 775
Washington, DC 20036

- ☐ Via Hand Delivery
☒ Via Express Delivery
☐ Via First Class Mail
☐ Other: _____

PUBLIC VERSION

**UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.**

In the Matter of

**CERTAIN MAGNETIC DATA STORAGE
TAPES AND CARTRIDGES
CONTAINING THE SAME**

Investigation No. 337-TA-1012

COMMISSION OPINION

I. BACKGROUND

A. Procedural History¹

The Commission instituted this investigation on July 1, 2016, based on a Complaint filed by Fujifilm Corporation of Tokyo, Japan, and Fujifilm Recording Media U.S.A., Inc. of Bedford, Massachusetts (collectively, “Fujifilm”). 81 *Fed. Reg.* 43243-44 (July 1, 2016). The Complaint alleges violations of section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337 (“section 337”), in the sale for importation, importation, and sale within the United States after importation of certain magnetic data storage tapes and cartridges containing the same by reason of infringement of claims 1, 4-9, 11, and 14 of U.S. Patent No. 6,641,891 (“the ’891 Patent”); claims 2, 5, and 6 of U.S. Patent No. 6,703,106 (“the ’106 Patent”); claim 1 of U.S. Patent No. 6,703,101 (“the ’101 Patent”); claims 1, 2, 4, 5, and 7-11 of U.S. Patent No. 6,767,612 (“the ’612 Patent”); claim 1 of U.S. Patent No. 8,236,434 (“the ’434 Patent”); and claims 3 and 10 of U.S. Patent No. 7,355,805 (“the ’805 Patent”). The Complaint further alleges the existence of a

¹ The procedural history of the investigation prior to the issuance of the final initial determination is fully set forth in that document. *See* Final ID at 2-3.

PUBLIC VERSION

domestic industry. The Commission's Notice of Investigation named as respondents Sony Corporation of Tokyo, Japan, Sony Corporation of America of New York, New York, and Sony Electronics Inc. of San Diego, California (collectively, "Sony"). The Office of Unfair Import Investigations ("OUII") was also named as a party to the investigation.

On January 13, 2017, Fujifilm moved to terminate the investigation in part as to the asserted claim of the '101 Patent. On January 18, 2017, the presiding administrative law judge ("ALJ") issued an ID granting the motion. Order No. 24 (Jan. 18, 2017). On February 15, 2017, the Commission determined not to review Order No. 24. Notice (Feb. 15, 2017).

The ALJ held an evidentiary hearing on February 7-10, 2017. The ALJ thereafter received post-hearing briefing from the parties.

On September 1, 2017, the ALJ issued his final initial determination ("Final ID"), finding a violation of section 337 with respect to asserted claims 1, 4-9, 11, and 14 of the '891 Patent and asserted claims 1, 2, 4, 5, 7, and 8 of the '612 Patent. The Final ID finds no violation of section 337 with respect to asserted claims 9-11 of the '612 Patent; asserted claim 2, 5, and 6 of the '106 Patent; asserted claim 1 of the '434 Patent; and asserted claims 3 and 10 of the '805 Patent.

In particular, the Final ID finds that Sony's accused products infringe claims 1, 4-9, 11, and 14 of the '891 Patent under 35 U.S.C. § 271(a). The Final ID also finds that Fujifilm's domestic industry ("DI") products practice the asserted claims of the '891 Patent and, thus, Fujifilm has satisfied the technical prong of the domestic industry requirement with respect to the '891 Patent regarding its LTO-6 and LTO-7 DI products. The Final ID finds that Sony has not shown that the asserted claims of the '891 Patent are invalid under 35 U.S.C. §§ 102, 103, or 112.

PUBLIC VERSION

The Final ID finds that Sony's accused products infringe asserted claims 1, 2, 4, 5, 7, and 8 of the '612 Patent under 35 U.S.C. § 271(a). The Final ID finds, however, that Fujifilm failed to show that Sony has induced infringement of claims 9-11 of the '612 Patent under 35 U.S.C. § 271(b). The Final ID further finds that Fujifilm's DI products practice claims 1, 2, 4, 5, and 7-11 of the '612 Patent and, thus, Fujifilm has satisfied the technical prong of the domestic industry requirement with respect to the '612 Patent regarding its LTO-6 and LTO-7 DI products. The Final ID finds that Sony has not shown that the asserted claims of the '612 Patent are invalid under 35 U.S.C. §§ 102, 103, or 112.

The Final ID finds that the accused products do not infringe asserted claims 2, 5, and 6 of the '106 Patent under 35 U.S.C. § 271(a). The Final ID further finds that neither Fujifilm's LTO-6 nor LTO-7 DI products practice any claim of the '106 Patent and, thus, Fujifilm has failed to satisfy the technical prong of the domestic industry requirement with respect to the '106 Patent. The Final ID also finds that Sony has not shown that the asserted claims of the '106 Patent are invalid under 35 U.S.C. §§ 102 or 103, but has shown that the asserted claims of the '106 Patent are indefinite under 35 U.S.C. § 112.

The Final ID finds that the accused products do not infringe asserted claim 1 of the '434 Patent under 35 U.S.C. § 271(a). The Final ID further finds that Fujifilm's LTO-7 DI products do not practice any claim of the '434 Patent and, thus, Fujifilm has failed to satisfy the technical prong of the domestic industry requirement with respect to the '434 Patent. The Final ID finds that Sony has not shown that the asserted claims of the '434 Patent are invalid under 35 U.S.C. §§ 102, 103, or 112.

The Final ID finds the accused products do not infringe asserted claims 3 and 10 of

PUBLIC VERSION

the '805 Patent under 35 U.S.C. § 271(a). The Final ID further finds that Fujifilm's LTO-7 DI products practice claims 1, 2, 3, and 10 of the '805 Patent and, thus, Fujifilm has satisfied the technical prong of the domestic industry requirement with respect to the '805 Patent.² The Final ID finds that Sony has not shown that the asserted claims of the '805 Patent are invalid under 35 U.S.C. §§ 102, 103, or 112.

The Final ID finds that Fujifilm has satisfied the economic prong of the domestic industry requirement with respect to the '891, '612, and '106 Patents pursuant to 19 U.S.C. § 337(a)(3)(A) and (B) for the asserted LTO-6 DI products. The Final ID finds that Fujifilm has not satisfied the economic prong requirement for the '434 and '805 patents, for which Fujifilm asserted investments made in the LTO-7 DI products only.

The Final ID finds Sony has not shown that the '612, '106, and '805 Patents are essential to the LTO-7 Standard, which is a document created by Hewlett Packard Company, IBM Corporation, and Quantum Corporation, to specify [REDACTED]
[REDACTED]
[REDACTED] JX-52C at 2, 20. The Final ID also finds that Fujifilm has not breached any provisions of the Fujifilm AP-75 agreement, which is "the operative license agreement for the LTO-7 Format entered into by" Technology Provider Companies (*i.e.*, Hewlett-Packard, IBM, and Quantum) and Format Specification Participants such as Fujifilm and Sony, (Final ID at 363-364), in particular §§ 8.2

² The Final ID misstates its finding concerning the technical prong in the Conclusions of Fact and Law with respect to the '805 Patent. *See* Final ID at 385. The Commission hereby corrects this misstatement.

PUBLIC VERSION

or 11.11. The Final ID further finds that Sony has not shown that the AP-75 agreement warrants barring Fujifilm's claims or terminating the investigation. The Final ID also finds that patent misuse does apply to bar Fujifilm's claims. The Final ID further finds that Fujifilm has not waived its rights to enforce the patents-in-suit. The Final ID also finds that Sony does not have an implied license to the patents-in-suit. The Final ID further finds that Sony has not shown that patent exhaustion applies.

On September 12, 2017, the ALJ issued his recommended determination ("RD") on remedy and bonding. As instructed by the Commission, the ALJ also made findings concerning the public interest factors set forth in 19 U.S.C. § 1337(d)(1) and (f)(1). *See* 81 *Fed. Reg.* 43243; 19 C.F.R. § 210.10(b). The ALJ recommended that the appropriate remedy is a limited exclusion order barring entry of Sony's infringing products and cease and desist orders against each Sony respondent. The ALJ recommended that the Commission require no bond during the period of Presidential review. Concerning the public interest factors, the ALJ found that the requested remedial orders would have no adverse impact on public health and welfare, and that the remaining public interest factors—competitive conditions in the United States economy, production of likely or directly competitive articles in the United States, and United States consumers—do not bar or require tailoring the recommended exclusion order. The ALJ also found that even if the asserted claims were essential, the public interest does not favor tailoring or curbing an exclusion order because Fujifilm did not breach its AP-75 obligations.

On September 18, 2017, Sony and OUII each filed petitions for review of various aspects

PUBLIC VERSION

of the Final ID.³ Some parts of Sony's petition for review are styled as contingent. Also on September 18, 2017, Fujifilm filed a contingent petition for review of various aspects of the Final ID.⁴

Sony petitioned for review of the following issues:

- '891 Patent: the Final ID's finding that the asserted claims of the '891 Patent are not invalid as indefinite, anticipated, or obvious;
- '612 Patent: the Final ID's findings that Sony's accused products infringe the asserted claims 1, 2, 4, 5, 7, and 8 of the '612 Patent and the Final ID's finding that the asserted claims of the '612 Patent are not invalid as obvious or indefinite;
- '106 Patent (contingent petition): the Final ID's finding that the asserted claims are not invalid as obvious;
- '434 Patent (contingent petition): the Final ID's findings that the asserted claim of the '434 Patent is not invalid as indefinite or obvious;
- '805 Patent (contingent petition): the Final ID's findings that claims 3 and 10 are not invalid as anticipated;
- the Final ID's findings regarding the AP-75 Agreement; and
- the Final ID's finding that Fujifilm has satisfied the economic prong of the domestic industry requirement with respect to its LTO-6 DI products.

³ Respondent Petition for Review of Administrative Law Judge's Initial Determination (Sept. 18, 2017) ("Sony Pet."); Petition of the Office of Unfair Import Investigations for Review-In-Part of the Final Initial Determination (Sept. 18, 2017) ("OUII Pet.").

⁴ Complainants Fujifilm Corporation and Fujifilm Recording Media U.S.A., Inc's Contingent Petition for Review of Final Initial Determination (Sept. 18, 2017) ("Fujifilm Pet.").

PUBLIC VERSION

OUII petitioned for review of the following issues:

- the Final ID's findings that Fujifilm's LTO-7 DI products do not satisfy the technical prong of the domestic industry requirement with respect to claim 1 of the '434 Patent and Sony's accused products do not infringe claim 1 of the '434 Patent.

Fujifilm contingently petitioned for review of the following issues:

- '434 Patent: the Final ID's findings that Sony's accused LTO-7 products do not infringe claim 1 of the '434 Patent and Fujifilm's LTO-7 DI products do not satisfy the technical prong with respect to claim 1 of the '434 Patent;
- '805 Patent: the Final ID's finding that Sony's accused products do not infringe the asserted claims of the '805 Patent;
- '106 Patent: the Final ID's findings that Sony's accused LTO-7 products do not infringe the asserted claims of the '106 Patent, that Fujifilm's LTO products do not satisfy the technical prong with respect to the asserted claims of the '106 Patent, and that the asserted claims of the '106 Patent are invalid as indefinite;
- the Final ID's findings with respect to secondary considerations of non-obviousness with respect to the patents-in-suit; and
- the Final ID's finding that Fujifilm has failed to satisfy the economic prong with respect to its LTO-7 DI products.

On September 26, 2017, Fujifilm, Sony, and OUII filed responses to the various petitions

PUBLIC VERSION

for review.⁵

On October 6, 2017, Fujifilm filed a post-RD statement on the public interest pursuant to Commission Rule 210.50(a)(4). Sony filed its statement on October 13, 2017. No responses were filed by the public in response to the post-RD Commission Notice issued on September 13, 2017. *See* Notice of Request for Statements on the Public Interest (Sept. 13, 2017); 82 *Fed. Reg.* 43567-68 (Sept. 18, 2017).

On December 12, 2017, the Commission determined to review the Final ID in part. Notice (Dec. 12, 2017); 82 *Fed. Reg.* 60038-41 (Dec. 18, 2017).

The Commission determined to review-in-part the Final ID's finding of violation with respect to the '891 Patent. In particular, the Commission determined to review the Final ID's findings with respect to anticipation and obviousness. The Commission further determined to review the Final ID's findings concerning secondary considerations.

The Commission also determined to review-in-part the Final ID's finding of violation with respect to the '612 Patent. Specifically, the Commission determined to review the Final ID's finding that the asserted claims of the '612 Patent are not obvious. Accordingly, the Commission also determined to review the Final ID's finding that Fujifilm has satisfied the technical prong of the domestic industry requirement with respect to the '612 Patent.

⁵ Complainants Fujifilm Corporation and Fujifilm Recording Media U.S.A., Inc.'s response to Respondents' Petition for Review of Final Initial Determination (Sept. 26, 2017) ("Fujifilm Resp."); Respondents' Response to Complainants' Contingent Petition for Review of Final Initial Determination, and to the Office of Unfair Import Investigations' Petition for Review-In-Part of Final Initial Determination (Sept. 26, 2017) ("Sony Resp."); Combined Response of the Office of Unfair Import Investigations to the Private Parties' Petitions for Review of the Final Initial Determination on Violation (Sept. 26, 2017) ("OUII Resp.").

PUBLIC VERSION

The Commission further determined to review-in-part the Final ID's findings with respect to the '106 Patent. Specifically, the Commission determined not to review the Final ID's finding that the asserted claims of the '106 Patent are invalid as indefinite, but did review the Final ID's findings with respect to obviousness, infringement, and the technical prong of the domestic industry requirement in order to take no position on those findings.

The Commission also determined to review-in-part the Final ID's findings with respect to the '434 Patent. Specifically the Commission determined to review the Final ID's findings that Sony's accused LTO-7 products do not infringe claim 1 of the '434 Patent and that Fujifilm's LTO-7 DI products do not practice claim 1. The Commission further determined to review the Final ID's finding that claim 1 is not obvious.

The Commission further determined to review-in-part the Final ID's findings with respect to the '805 Patent. Specifically, the Commission determined to review the Final ID's findings that Sony's accused LTO-7 products do not infringe asserted claims 3 and 10 of the '805 Patent and that U.S. Patent No. 6,710,967 ("Hennecken") does not anticipate claims 3 and 10.

The Commission also determined to review the Final ID's findings that the asserted claims of the '612, '106, and '805 Patents are not essential to the LTO-7 Standard.

The Commission further determined to review in their entirety the Final ID's findings concerning the economic prong of the domestic industry.

The Commission determined not to review the remaining issues decided in the Final ID.

In its notice of review, the Commission posed several briefing questions to the parties, and requested briefing from the parties and the public on remedy, the public interest, and

PUBLIC VERSION

bonding. 82 *Fed. Reg.* at 60040. On January 3, 2018, the parties submitted their initial responses to the Commission's briefing questions.⁶ On January 12, 2018, the parties filed their reply submissions.⁷

On December 26, 2017, Quantum Corporation ("Quantum") filed a submission in response to the Commission's notice. Quantum Lt. (Dec. 26, 2017). On January 2, 2018, Hewlett Packard Enterprise Company ("HPE") filed a submission in response to the Commission's notice. HPE Lt. (Jan. 2, 2018). On January 3, 2018, International Business Machines Corporation ("IBM") filed a submission in response to the Commission's notice. IBM Lt. (Jan. 3, 2018).

B. Technology Overview

The technology at issue in this investigation relates to magnetic tape storage devices and methods for using such devices. Digital information can be stored on the magnetic tape media, which can be used for back-up purposes or for long-term storage or archival of data. OUII Pre-Hearing Brief at 4 (Jan. 26, 2017). A full discussion of the technology will be provided in the

⁶ Complainants Fujifilm Corporation and Fujifilm Recording Media U.S.A., Inc.'s Opening Brief Regarding Commission Review (Jan. 3, 2018) ("Fujifilm Br."); Respondents' Initial Written Submission in Response to the Commission's Determination to Review-In-Part the Final Initial Determination (Jan. 3, 2018) ("Sony Br."); Brief of the Office of Unfair Import Investigations on the Issues Under Review and on Remedy, the Public Interest, and Bonding (Jan. 3, 2018) ("OUII Br.").

⁷ Complainants Fujifilm Corporation and Fujifilm Recording Media U.S.A., Inc.'s Responsive Brief Regarding Commission Review (Jan. 12, 2018) ("Fujifilm Reply Br."); Respondents' Reply to Complainant's Written Submission in Response to the Commission's Determination to Review-In-Part the Final Initial Determination (Jan. 12, 2018) ("Sony Reply Br."); Reply Brief of the Office of Unfair Import Investigations on the Issues Under Review and on Remedy, the Public Interest, and Bonding (Jan. 12, 2018) ("OUII Reply Br.").

PUBLIC VERSION

sections of this opinion corresponding to each specific patent.

C. Accused Products

Fujifilm accuses Sony's LTO-7 data cartridges as follows:

The Accused Products include Sony's LTO Ultrium 7 Data Cartridge, Sony's LTO-7 Library Pack, Sony's Model Nos.: LTX6000G, 20LTX6000GL, 7307412, 7307415, C7977A, C7977A/4, C7977 AB, C7977 AB/4, C7977W, MR-L7MQN-01, 7307412LHB, 7307412LVB, 7307415VB, C7977AC, and any like LTO 7th generation product ("LTO-7") manufactured by Respondents and imported or sold by Respondents in the United States. *See* CX-0392. The Accused Products include magnetic storage tapes used for archival storage of digital information. JX-0054C (Sony LTO-7 Spec. Sheet). The Accused Products—like all other LTO cartridges—are compatible with LTO tape drives from other vendors. *Id.* Moreover, LTO tape drives are backwards compatible with earlier generations of LTO cartridges. *Id.* at 2. For example, a current generation (LTO-7) tape drive is able to read tapes from two generations prior (LTO-5 & LTO-6) and read and write to tapes from one generation prior (LTO-6). *Id.*

Final ID at 4. The Final ID finds that Sony's Ultrium 7 Data Cartridge Model No. LTX6000G is representative of the accused products. *Id.* at 4, 384.

D. Domestic Industry Products

Fujifilm identifies its DI products as follows:

Fujifilm's products that practice the Asserted Patents include, but are not limited to Fujifilm's LTO Ultrium 6 Data Cartridge (Model No. 16310732) and LTO Ultrium 6 WORM Data Cartridge (Model No. 16310756) (collectively, "Fujifilm's LTO-6 data cartridges"), and Fujifilm's LTO Ultrium 7 Data Cartridge (Model No. 16456574) and LTO Ultrium 7 WORM Data Cartridge (Model No. 16495661) (collectively, "Fujifilm's LTO-7 data cartridges").

Id. at 5. Specifically, Fujifilm asserts that its LTO-6 DI products practice the asserted claims of '891, '612, and '106 Patents and its LTO-7 DI products practice the asserted claims of each of the patents in suit. *Id.* at 5-6.

PUBLIC VERSION

II. STANDARD OF REVIEW

Once the Commission determines to review an initial determination, its review is conducted *de novo*. *Certain Polyethylene Terephthalate Yarn and Prods. Containing Same*, Inv. No. 337-TA-457, Comm’n Op. at 9 (June 18, 2002). Upon review, the “Commission has ‘all the powers which it would have in making the initial determination,’ except where the issues are limited on notice or by rule.” *Certain Flash Memory Circuits and Prods. Containing Same*, Inv. No. 337-TA-382, USITC Pub. 3046, Comm’n Op. at 9-10 (July 1997) (quoting *Certain Acid-Washed Denim Garments and Accessories*, Inv. No. 337-TA-324, Comm’n Op. at 5 (Nov. 1992)). Commission practice in this regard is consistent with the Administrative Procedure Act. *Certain EPROM, EEPROM, Flash Memory, and Flash Microcontroller Semiconductor Devices and Prods. Containing Same*, Inv. No. 337-TA-395, Comm’n Op. at 6 (Dec. 11, 2000) (“EPROM”); *see also* 5 U.S.C. § 557(b).

Upon review, “the Commission may affirm, reverse, modify, set aside or remand for further proceedings, in whole or in part, the initial determination of the administrative law judge. The Commission may also make any findings or conclusions that in its judgment are proper based on the record in the proceeding.” 19 C.F.R. § 210.45. This rule reflects the fact that the Commission is not an appellate court, but is the body responsible for making the final agency decision. On appeal, only the Commission’s final decision is at issue. *See Spansion, Inc. v. Int’l Trade Comm’n*, 629 F.3d 1331, 1349 (Fed. Cir. 2010); *EPROM* at 6 (citing *Fischer & Porter Co. v. U.S. Int’l Trade Comm’n*, 831 F.2d 1574, 1576-77 (Fed. Cir. 1987)).

PUBLIC VERSION

III. RELEVANT LAW

A. Claim Construction

Claim construction “begin[s] with and remain[s] centered on the language of the claims themselves.” *Storage Tech. Corp. v. Cisco Sys., Inc.*, 329 F.3d 823, 830 (Fed. Cir. 2003); *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (*en banc*). The language used in a claim bears a “heavy presumption” that it has the ordinary and customary meaning that would be attributed to the words used by persons skilled in the relevant art. *Id.* at 1312-13. To help inform the court of the ordinary meaning of the words, a court may consult the intrinsic evidence, including the claims themselves, the specification, and the prosecution history, as well as extrinsic evidence, such as dictionaries and treatises and inventor and expert testimony. *Id.* at 1314. In particular “the specification is always highly relevant to the claims construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.” *Id.* at 1315 (internal quotations and citations omitted).

A court must “take care not to import limitations into the claims from the specification.” *Abbott Labs. v. Sandoz, Inc.*, 566 F.3d 1282, 1288 (Fed. Cir. 2009). “When the specification describes a single embodiment to enable the invention, this court will not limit broader claim language to that single application unless the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction.” *Id.* (internal quotations and citations omitted). “By the same token, the claims cannot enlarge what is patented beyond what the inventor has described as the invention. Thus this court may reach a narrower construction, limited to the embodiment(s) disclosed in the specification, when the claims themselves, the specification, or the prosecution history clearly indicate that the invention

PUBLIC VERSION

encompasses no more than that confined structure or method.” *Id.* (citations omitted).

“[T]he distinction between using the specification to interpret the meaning of a claim and importing limitations from the specification into the claim can be a difficult one to apply in practice . . . [h]owever, the line between construing terms and importing limitations can be discerned with reasonable certainty and predictability if the court’s focus remains on understanding how a person of ordinary skill in the art [(“POSITA”)] would understand the claim terms.” *Phillips*, 415 F.3d at 1323 (citations omitted). In attempting to discern whether a “patentee is setting out specific examples of the invention . . . or whether the patentee instead intends for the claims and the embodiments in the specification to be strictly coextensive . . . [t]he manner in which the patentee uses a term within the specification and claims usually will make the distinction apparent.” *Id.*

B. Infringement

The unfair acts covered under Section 337 include “all forms of infringement, including direct, contributory, and induced infringement.” *Suprema Inc. v. Int’l Trade Comm’n*, 796 F.3d 1338, 1352-53 (Fed. Cir. 2015) (upholding the Commission’s authority to cover “goods that were used by an importer to directly infringe post-importation as a result of the seller’s inducement.”). To establish infringement, there must be a preponderance of evidence. *See Kao Corp. v. Unilever United States, Inc.*, 441 F.3d 963 (Fed. Cir. 2006).

A determination of patent infringement encompasses a two-step analysis. *Advanced Cardiovascular Sys., Inc. v. Scimed Life Sys., Inc.*, 261 F.3d 1329, 1449 (Fed. Cir. 2001) (“*Scimed*”). First, the court determines the scope and meaning of the patent claims asserted, and then the properly construed claims are compared to the allegedly infringing device. *Id.* “Literal

PUBLIC VERSION

infringement of a claim exists when each of the claim limitations reads on, or in other words is found in, the accused device.” *Allen Eng. Corp. v. Bartell Indus.*, 299 F.3d 1449, 1345 (Fed. Cir. 2002).

Direct infringement includes the making, using, selling, offering for sale and importing into the United States an infringing product, without authority. 35 U.S.C. § 271(a). To prove direct infringement, the plaintiff must establish by a preponderance of the evidence that one or more claims of the patent read on the accused device either literally or under the doctrine of equivalents. *Scimed*, 261 F.3d at 1449.⁸

C. Validity

One cannot be held liable for practicing an invalid patent claim. *See Pandrol USA, LP v. AirBoss Railway Prods., Inc.*, 320 F.3d 1354, 1365 (Fed. Cir. 2003). However, patent claims are presumed valid. 35 U.S.C. § 282. A respondent that has raised patent invalidity as an affirmative defense must overcome the presumption by “clear and convincing” evidence of invalidity. *Checkpoint Systems, Inc. v. United States Int’l Trade Comm’n*, 54 F.3d 756, 761 (Fed. Cir. 1995).

1. Anticipation

A determination that a patent is invalid as being anticipated under 35 U.S.C. § 102 requires a finding, based upon clear and convincing evidence, that each and every limitation is found either expressly or inherently in a single prior art reference. *See Celeritas Techs. Inc. v. Rockwell Int’l Corp.*, 150 F.3d 1354, 1361 (Fed. Cir. 1998). Anticipation is a question of fact,

⁸ Fujifilm does not allege infringement under the doctrine of equivalents for any of the asserted claims.

PUBLIC VERSION

including whether a limitation, or element, is inherent in the prior art. *In re Gleave*, 560 F.3d 1331, 1334-35 (Fed. Cir. 2009). The limitations must be arranged or combined the same way as in the claimed invention, although an identity of terminology is not required. *Id.* at 1334 (“the reference need not satisfy an *ipsissimis verbis* test”); MPEP § 2131. “Inherent anticipation requires that the missing descriptive material is ‘necessarily present,’ not merely probably or possible present, in the prior art.” *Tintec Indus., Inc. v. Top-U.S.A. Corp.*, 295 F.3d 1292, 1295 (Fed. Cir. 2002).

In addition, the prior art reference’s disclosure must enable one of ordinary skill in the art to practice the claimed invention “without undue experimentation.” *Gleave*, 560 F.3d at 1334-35. A prior art reference that allegedly anticipates the claims of a patent is presumed enabled; however, a patentee may present evidence of nonenablement to overcome this presumption. *Impax Labs., Inc. v. Aventis Pharmaceuticals Inc.*, 468 F.3d 1366, 1382 (Fed. Cir. 2006). “[W]hether a prior art reference is enabling is a question of law based upon underlying factual findings.” *Gleave*, 560 F.3d at 1335.

2. Obviousness

Under section 103 of the Patent Act, a patent claim is invalid “if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” 35 U.S.C. § 103. While the ultimate determination of whether an invention would have been obvious is a legal conclusion, it is based on “underlying factual inquiries including: (1) the scope and content of the prior art; (2) the level of ordinary skill in the art; (3) the differences between the claimed invention and the prior

PUBLIC VERSION

art; and (4) objective evidence of nonobviousness.” *Eli Lilly and Co. v. Teva Pharmaceuticals USA, Inc.*, 619 F.3d 1329 (Fed. Cir. 2010).

“One of the ways in which a patent’s subject matter can be proved obvious is by noting that there existed at the time of invention a known problem for which there was an obvious solution encompassed by the patent’s claims.” *KSR*, 550 U.S. at 419-20. “[A]ny need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.” *Id.* “If all elements of the claims are found in a combination of prior art references, as is the case here, the factfinder should further consider whether a [POSITA] would be motivated to combine those references, and whether in making that combination, a [POSITA] would have a reasonable expectation of success.” *Merck & Cie v. Gnosis S.P.A.*, 808 F.3d 829, 833 (Fed. Cir. 2015).

Specific teachings, suggestions, or motivations to combine prior art may provide helpful insights into the state of the art at the time of the alleged invention. *KSR*, 550 U.S. at 420. Nevertheless, “an obviousness analysis cannot be confined by a formalistic conception of the words teaching, suggestion, and motivation, or by overemphasis on the importance of published articles and the explicit content of issued patents. The diversity of inventive pursuits and of modern technology counsels against limiting the analysis in this way.” *Id.* “Under the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.” *Id.* A “[POSITA] is also a person of ordinary creativity.” *Id.* at 421.

Nevertheless, “the burden falls on the patent challenger to show by clear and convincing evidence that a [POSITA] would have had reason to attempt to make the composition or device,

PUBLIC VERSION

or carry out the claimed process, and would have had a reasonable expectation of success in doing so.” *PharmaStem Therapeutics, Inc. v. ViaCell, Inc.*, 491 F.3d 1342, 1360 (Fed. Cir. 2007); *see KSR*, 550 U.S. at 416 (a combination of elements must do more than yield a predictable result; combining elements that work together in an “unexpected and fruitful manner” would not have been obvious). Further, “when the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be nonobvious.” *KSR*, 550 U.S. at 416 (citing *United States v. Adams*, 383 U.S. 39, 52 (1966)).

The objective evidence, also known as “secondary considerations,” includes commercial success, long felt need, and failure of others. *Graham v. John Deere Co.*, 383 U.S. 1, 13-17 (1966); *Dystar Textilfarben GmbH v. C.H. Patrick Co.*, 464 F.3d 1356, 1361 (Fed. Cir. 2006). “[E]vidence arising out of the so-called ‘secondary considerations’ must always when present be considered en route to a determination of obviousness.” *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1538 (Fed. Cir. 1983). Secondary considerations, such as commercial success, will not always dislodge a determination of obviousness based on analysis of the prior art. *See KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 426 (2007) (commercial success did not alter conclusion of obviousness).

3. Indefiniteness

A patent specification must “conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as [the] invention.” 35

PUBLIC VERSION

U.S.C. § 112, ¶ 2;⁹ *Metabolite Labs., Inc. v. Lab. Corp. of Am. Holdings*, 370 F.3d 1354, 1366 (Fed. Cir. 2004). If a claim's legal scope is not clear enough so that a [POSITA] could determine whether or not a particular product infringes, the claim is indefinite, and is, therefore, invalid. *Geneva Pharm., Inc. v. GlaxoSmithKline PLC*, 349 F.3d 1373, 1384 (Fed. Cir. 2003).

Thus, it has been found that:

When a proposed construction requires that an artisan make a separate infringement determination for every set of circumstances in which the composition may be used, and when such determinations are likely to result in differing outcomes (sometimes infringing and sometimes not), that construction is likely to be indefinite.

Halliburton Energy Servs. v. M-I LLC, 514 F.3d 1244, 1255 (Fed. Cir. 2008).

Previously, the Federal Circuit held that a patent claim is not indefinite “so long as the claim is amenable to construction, and the claim, as construed, is not insolubly ambiguous.”

Nautilus, Inc. v. Biosig Instruments, Inc., 134 S. Ct. 2120, 2124 (2014). More recently, the U.S. Supreme Court determined that this standard lacks precision. *Id.* at 2130. Instead, the Supreme Court held:

we read § 112, ¶ 2 to require that a patent's claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty. The definiteness requirement, so understood, mandates clarity, while recognizing that absolute precision is unattainable. The standard we adopt accords with opinions of this Court

⁹ Paragraph 2 of 35 U.S.C. § 112 was replaced with newly designated § 112(b) of the America Invents Act (“AIA”), and is effective for “any patent application that is filed on or after” September 16, 2012. Pub. L. No.112–29, § 4, 125 Stat. at 296. Because the application resulting in the patents at issue in this case was filed before that date, we refer to the pre-AIA version of § 112.

PUBLIC VERSION

stating that “the certainty which the law requires in patents is not greater than is reasonable, having regard to their subject-matter.”

Id. at 2129 (citations omitted). A party seeking to invalidate a patent claim must do so by clear and convincing evidence. *See, e.g., Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1327 (Fed. Cir. 2008) (citing *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1375 (Fed. Cir. 1986)).

D. Domestic Industry

Section 337 declares unlawful the importation, the sale for importation or the sale in the United States after importation of articles that infringe a valid and enforceable U.S. patent “only if an industry in the United States, relating to articles protected by the patent . . . concerned, exists or is in the process of being established.” 19 U.S.C. § 1337(a)(2); *Certain Ammonium Octamolybdate Isomers*, Inv. No. 337-TA-477, Comm’n Op. at 55 (Jan. 2004).

Under Commission precedent, this “domestic industry requirement” of section 337 consists of an economic prong (*i.e.*, the activities of, or investment in, a domestic industry) and a technical prong (*i.e.*, whether complainant practices its own patents). *Certain Stringed Musical Instruments and Components Thereof*, Inv. No. 337-TA-586, Comm’n Op. at 12-14, 2009 WL 5134139 (Dec. 2009). The complainant bears the burden of establishing that the domestic industry requirement is satisfied. *See Certain Set-Top Boxes and Components Thereof*, Inv. No. 337-TA-454, Final Initial Determination at 294, 2002 WL 31556392 (June 21, 2002) (unreviewed by Commission in relevant part).

The technical prong of the domestic industry requirement is satisfied when the complainant in a patent-based section 337 investigation establishes that it is practicing or

PUBLIC VERSION

exploiting the patents at issue. *See* 19 U.S.C. §1337 (a)(2). “In order to satisfy the technical prong of the domestic industry requirement, it is sufficient to show that the domestic industry practices any claim of that patent, not necessarily an asserted claim of that patent.” *Certain Ammonium Octamolybdate Isomers*, Inv. No. 337-TA-477, Comm’n Op. at 55 (Jan. 2004) (citing *Certain Microsphere Adhesives, Process for Making Same and Prods. Containing Same, Including Self-Stick Repositionable Notes*, Inv. No. 337-TA-366, Comm’n Op. at 7-16 (Jan. 16, 1996)).

The test for claim coverage for the purposes of the technical prong of the domestic industry requirement is the same as that for infringement. *Certain Doxorubicin and Preparations Containing Same*, Inv. No. 337-TA-300, Initial Determination at 109, 1990 WL 710463 (May 21, 1990), *aff’d*, Views of the Commission at 22 (October 31, 1990); *Alloc, Inc. v. Int’l Trade Comm’n*, 342 F.3d 1361, 1375 (Fed. Cir. 2003). To prevail, the patentee must establish by a preponderance of the evidence that the domestic product practices one or more claims of the patent. The technical prong of the domestic industry can be satisfied either literally or under the doctrine of equivalents. *See Certain Refrigerators and Components Thereof*, Inv. No. 337-TA-632, Comm’n Op. on Remand at 66-67 (Mar. 11, 2010) (public ver.) (affirming Final ID’s finding that technical prong was satisfied under the doctrine of equivalents).

With respect to the economic prong, the Commission has held that “whether a complainant has established that its investment and/or employment activities are significant with respect to the articles protected by the intellectual property right concerned is not evaluated according to any rigid mathematical formula.” *Certain Printing and Imaging Devices and Components Thereof*, Inv. No. 337-TA-690, Comm’n Op. at 27 (Feb. 17, 2011) (“*Printing and*

PUBLIC VERSION

Imaging Devices”) (citing *Certain Male Prophylactic Devices*, Inv. No. 337 TA-546, Comm’n Op. at 39 (Aug. 1, 2007)). Rather, the Commission examines “the facts in each investigation, the article of commerce, and the realities of the marketplace.” *Id.* “The determination takes into account the nature of the investment and/or employment activities, ‘the industry in question, and the complainant’s relative size.’” *Id.* (citing *Stringed Musical Instruments* at 26).

IV. ANALYSIS CONCERNING ISSUES ON REVIEW

A. '891 Patent

1. Overview of the Technology – '891 Patent

U.S. Patent No. 6,641,891 is entitled “Magnetic Recording Medium.” '891 Patent (JX-0001). Claims 1, 4-9, 11, and 14 of the '891 Patent are asserted in this investigation.

The '891 Patent generally relates to a magnetic recording medium for high-density recording that provides improved performance in applications involving thinner magnetic layers and recording at shorter wavelengths. '891 Patent (Abstract). The '891 Patent discloses techniques to improve signal-to-noise and carrier-to-noise ratios by controlling the magnetic clusters that appear due to insufficient particle dispersion in ultrathin magnetic layers. *Id.* Specifically, the '891 Patent discloses that higher signal-to-noise ratios and carrier-to-noise ratios can be achieved using a magnetic layer that: (i) has a thickness between 0.01 μm and 0.15 μm and a coercivity¹⁰ of at least 159 kA/m; (ii) is formed using ferromagnetic particles that are

¹⁰ Sony’s expert, Dr. Ross, explained that, when an external magnetic field is applied to permanent magnetic materials (*e.g.*, ferromagnetic and ferrimagnetic materials), “the magnetic domains within the material align with the external field such that the material becomes magnetized according to the direction of the external field. When the external field is removed . . . the material retains some magnetization and an external magnetic field must be applied in the opposite direction to reduce the magnetization back to zero. The strength of this demagnetizing

PUBLIC VERSION

smaller than 0.15 μm ; and (iii) has an average size of magnetic clusters at DC erase that is at least $0.5 \times 10^4 \text{ nm}^2$ and no more than $5.5 \times 10^4 \text{ nm}^2$. *Id.* at 31:26-32, 31:39-52 (claim 1).

2. Asserted Claims

The asserted claims of the '891 Patent recite the following:

1. A magnetic recording medium, comprising:

an essentially nonmagnetic lower layer; and a magnetic layer comprising a ferromagnetic powder and a binder, the magnetic layer located over the lower layer,

wherein said magnetic layer has a thickness ranging from 0.01 to 0.15 μm and a coercivity equal to or higher than 159 kA/m, and the ferromagnetic particles contained in the ferromagnetic powder have a size less than 0.15 μm , and an average size of magnetic cluster at DC erase is equal to or higher than $0.5 \times 10^4 \text{ nm}^2$ and less than $5.5 \times 10^4 \text{ nm}^2$, and wherein the essentially non-magnetic lower layer has either no magnetic properties or magnetic properties to a degree not affected by recording information to the magnetic layer.
4. The magnetic recording medium of claim 1, wherein said ferromagnetic powder is a hexagonal ferrite powder.
5. The magnetic recording medium of claim 4, wherein said hexagonal ferrite powder has a mean plate diameter equal to or less than 42 nm.
6. The magnetic recording medium of claim 1, wherein said coercivity ranges from 159 to 318 kA/m.
7. The magnetic recording medium of claim 1, wherein said coercivity ranges from 159 to 279 kA/m.
8. The magnetic recording medium of claim 1, wherein said magnetic layer has a thickness ranging from 0.01 to 0.10 μm .
9. The magnetic recording medium of claim 1, wherein said magnetic layer has a thickness ranging from 0.02 to 0.08 μm .

field is the coercivity of the material.” RX-0004C (Ross WS) at Q/A 76.

PUBLIC VERSION

11. The magnetic recording medium of claim 1, wherein said magnetic recording medium is a tape.

14. The magnetic recording medium of claim 1, wherein the ferromagnetic particles in the ferromagnetic powder have a size less than about 0.1 μm .

'891 Patent at 31:39-32:18.

3. Anticipation

a. Final ID

The Final ID rejects Sony's argument that Yamazaki '605¹¹ anticipates claims 1, 4-9, 11, and 14 of the '891 Patent. Final ID at 58. Specifically, the Final ID finds that Sony failed to show that Yamazaki '605 "inherently discloses magnetic particles having an average size of magnetic cluster at DC erase between 0.5 and $5.5 \times 10^4 \text{ nm}^2$." *Id.* at 64. In particular, the Final ID finds, "it is not clear that Yamazaki '605 necessarily includes the unstated limitation, *i.e.*, average particle size." *Id.* The Final ID notes that, despite the "similarities between the materials and procedures reported in Yamazaki '605 and the '891 Patent, the average size of the magnetic cluster can change in response to variations in composition, magnetic layer thickness, magnetic particle size, coercivity, and other processing conditions." *Id.* at 65 (citing CX-0357C (Wang WS) Q/A 365-73). The Final ID finds that "[g]iven these multiple variables, Sony has not carried its burden of showing that the claimed particles 'necessarily and inevitably form[]' from the method disclosed in Yamazaki '605." *Id.* (citing *Schering Corp. v. Geneva Pharmaceuticals*, 339 F.3d 1373, 1378 (Fed. Cir. 2003); *see also Cont'l Can Co. USA v.*

¹¹ U.S. Patent No. 6,017,605 ("Yamazaki '605") (RX-0071). Mr. Nobuo Yamazaki is also a named inventor on the '891 patent. *See* '891 patent (cover).

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Monsanto Co., 948 F.2d 1264, 1269 (Fed. Cir. 1991) (“[i]nherency, however, may not be established by probabilities or possibilities.”). The Final ID further finds that “Sony does not rely on any extrinsic evidence or ‘other indicia of reliability’ to support its inherency argument.” *Id.* (citing *REG Synthetic Fuels, LLC v. Nest Oil Oyj*, 841 F.3d 954, 961 (Fed. Cir. 2016)).

Regarding the asserted dependent claims, the Final ID finds that Yamazaki ’605 discloses all of the additional limitations recited in those claims, except for the additional limitations recited in claims 8 and 9. *Id.* at 68-70. Specifically, the Final ID finds that Yamazaki ’605 fails to disclose the limitation “[t]he magnetic recording medium of claim 1, wherein said magnetic layer has a thickness ranging from 0.01 to 0.10 μm ” recited in claim 8, or the limitation “[t]he magnetic recording medium of claim 1, wherein said magnetic layer has a thickness ranging from 0.02 to 0.08 μm ” recited in claim 9. *Id.*

b. Analysis

A patent may not be obtained for a newly discovered benefit of a previously disclosed product or method. *Abbott Labs. v. Baxter Pharm. Prod., Inc.*, 471 F.3d 1363, 1368 (Fed. Cir. 2006) (reversing district court and holding that claims were anticipated: “The general principle that a newly-discovered property of the prior art cannot support a patent on that same art is not avoided if the patentee explicitly claims that property.”). The question, therefore, is whether the claimed “average cluster size” recited in claim 1 of the ’891 Patent is merely a benefit of a previously disclosed method of manufacture or whether the claimed invention is distinct from the disclosure of Yamazaki ’605.

1) Yamazaki ’605 and the ’891 Patent Do Not Disclose the Same Ingredients

Sony asserts that “Yamazaki ’605 and the ’891 Patent contain substantially identical

PUBLIC VERSION

descriptions” as to various materials of the disclosed magnetic storage medium, including “the composition and desired properties of the magnetic powders to be incorporated” Sony Pet. at 16 (*compare* ’891 Patent at 7:1-8:38 *with* RX-0071 at 10:12:11-52), 17 (citing RDX-0027); *see also* RX-0004C (Ross WS) at Q/A 204).

Fujifilm argues that Yamazaki ’605 and the ’891 Patent disclose different ferromagnetic powders and that “[t]he overall composition of barium ferrite and dopants affects the magnetic characteristics of the magnetic medium, such as magnetization and coercivity, which properties in turn directly affect the magnetic cluster size.” Fujifilm Resp. at 16 (citing CX-0357C at Q/A 365, 368).¹²

Table 1 of Yamazaki ’605 and Table 1 of the ’891 Patent are reproduced below:

¹² Fujifilm contends that Sony’s expert, Dr. Ross, agreed “that saturation and particle size of the particles will affect the aggregation, and thus cluster size, of the magnetic particles.” *Id.* at 19 (citing RX-0369C (Ross RWS) at Q/A 48-52). However, the testimony to which Fujifilm cites does not appear to support its argument.

PUBLIC VERSION

TABLE 1

Ferro- magnetic Powder	Kind ^{*1}	Particle Volume (10 ⁻⁷ ml)	He (Oe)	os (emu/g)	Analytical Value of ^{*2} Composition
A	BaF	0.7	2,460	54	Zn 0.8, Co 0.1, Nb 0.4
B	BaF	0.2	2,480	51	Zn 0.6, Co 0.1, Nb 0.3
C	BaF	0.5	2,450	53	Zn 0.7, Co 0.1, Nb 0.3
D	BaF	1.6	2,510	57	Zn 0.9, Co 0.1, Nb 0.5
E	BaF	3.5	2,750	62	Zn 1.1, Co 0.2, Nb 0.6
F	BaF	0.7	3,060	56	Zn 1.0, Ni 0.5, Ti 0.4
G	BaF	0.7	3,520	58	Zn 0.4, Co 0.1, Nb 0.3
H	BaF	0.7	1,750	54	Zn 1.2, Co 0.3, Nb 0.4
I	MP	0.8	2,350	145	Co 28, Al 7, Y 4
J	MP	8	2,310	137	Co 21, Al 7, Y 5
K	MP	0.8	1,860	142	Co 25, Al 10, Y 2

*1: BaF: A barium ferrite powder, MP: A ferromagnetic metal powder

*2: The composition of BaF is shown by mol number per mol of Ba. MP is by atomic % based on Fe.

Yamazaki '605 (Table 1) at col. 25;

PUBLIC VERSION

TABLE 1

Ferromagnetic Powder	Type	Hc (kA/m)	Plate diameter or major axis length (nm)
A	BaF	199	33
B	BaF	197	21
C	BaF	200	42
D	BaF	219	55
E	MP	187	70
F	MP	163	60
G	MP	184	100
H	MP	181	220
I	MP	148	90
J	MP	171	45

BaF: Barium ferrite, MP: Ferromagnetic metal powder

'891 Patent at col 22 (Table 1).

It is not clear from a comparison of the tables in Yamazaki '605 and the '891 Patent, which merely state the different properties of the disclosed ferro-magnetic powders, whether the powders have different compositions. Specifically, complainant's expert, Dr. Wang, testified that "Yamazaki '605 and the '891 patent disclose different processes and materials and these key differences do not, as a necessary consequence, result in a magnetic medium having the same characteristic as those described in the Asserted Claims. In particular, Yamazaki '605 discloses different ferromagnetic powders and manufacturing processes used in its disclosed examples and comparative examples." CX-0357C (Wang RWS) at Q/A 365; *see also id.* at /A 365–369 (discussing the differences between the tables disclosed in Yamazaki '605 and the '891 Patent).

One parameter that is disclosed in both patents is the coercivity (H_c). Yamazaki '605 discloses these values in units of "oersted" (Oe), while the '891 Patent discloses the values in

PUBLIC VERSION

units of kilo-Ampere/meter (kA/m). Performing a unit conversion on the oersted values yields different kilo-Ampere/meter values for the respective powders than those disclosed in the '891 Patent, lending credibility to Dr. Wang's analysis. As such, we find that the Yamazaki '605 patent fails to disclose the exact same ferro-magnetic powders as are disclosed in the '891 Patent, contrary to Dr. Ross's assertion that both references disclose powders having the same coercivity. *See* RX-0004 at Q/A 208.

2) The Process Disclosed in Yamazaki '605 Would Not Necessarily Result in the Same Magnetic Cluster Sizes Claimed in the '891 Patent

Sony asserts that both references "disclose the same 'kneading,' 'dispersing,' and 'blending' steps for preparing the magnetic and nonmagnetic solutions . . . that the '891 Patent touts as important for achieving the claimed numerical range for 'average size of magnetic cluster at DC erase'" Sony Pet. at 18 (citing '891 Patent at 4:53-56). Sony further asserts that both references "also include comparable descriptions of the dispersion beads for milling the magnetic and non-magnetic layers." *Id.* (compare '891 Patent at 20:29-33 with RX-0071 at 22:37-42). Sony notes that "both the '891 Patent and Yamazaki '605 teach the importance of using magnetic particles having diameters between 10-40 nm (or, equivalently, 0.10-0.40 μ m)." *Id.* (citing '891 Patent at 7:24-34; Yamazaki '605 at 10:35-39). Sony also notes that both references "teach comparable dispersion times."¹³ Thus, Sony contends, "it is immaterial that Yamazaki '605 does not expressly refer to average magnetic cluster size." *Id.* at 19 (citing *Perricone v. Medicis Pharm. Corp.*, 432 F.3d 1368, 1378 (Fed. Cir. 2005) ("If [the prior art]

¹³ Sony also discusses the similar disclosures in the two references concerning binder proportions and the use of a polyurethane resin. *Id.* at 19. Because Fujifilm does not address these assertions, we consider them undisputed.

PUBLIC VERSION

discloses the very same methods, then the particular benefits *must naturally flow* from those methods even if not recognized as benefits at the time”).

In contending that the manufacturing methods of the '891 Patent and Yamazaki '605 are the same, Sony's expert, Dr. Ross, focuses primarily on Manufacturing Methods 6 and 7 of the '891 Patent (at 26:39-27:16) and Preparation Methods 5 and 6 of Yamazaki '605 (at 27:59-28:35). RX-0004C (Ross WS) at Q/A 215. A comparison of the two references shows only the following differences in the disclosed manufacturing methods:

1. Dispersion time of 4 hours in Yamazaki '605 Preparation Method 5 and 6 hours in Preparation Method 6;
2. Dispersion time of 5 hours in '891 Patent Manufacturing Method 6 and 2.5 hours in Manufacturing Method 7; and
3. Explicit use of glass dispersion beads in '891 Manufacturing Method 6.

Explaining that Yamazaki '605 and the '891 Patent disclose the same dispersion materials, Dr. Ross testified that “[i]n describing the manufacturing methods, Yamazaki '605 explains that when dispersing a magnetic layer solution and a nonmagnetic layer solution glass beads can be used.” RX-0004C at Q/A 218 (citing RX0071 at 22:37-40 (“When dispersing a magnetic layer solution and a nonmagnetic layer solution, glass beads can be used but dispersing media having a high specific gravity is preferably used and zirconia beads, titania beads and steel beads are suitable for this purpose.”)). Regarding dispersion times, Dr. Ross further explained that “Table 3 of the '891 Patent . . . shows that the average size of magnetic clusters is reduced from $5.7 \times 10^4 \text{ nm}^2$ (Comparative Example 8) to $3.2 \times 10^4 \text{ nm}^2$ (Embodiment 8) by increasing the

PUBLIC VERSION

dispersion time from 2.5 hours to 5 hours.”¹⁴ *Id.* Dr. Ross concluded that

It is well known that aggregation, and therefore, magnetic cluster size decreases with dispersion time. Indeed one of the inventors of the '891 Patent, Mr. Doushita, admitted that there is a correlation between dispersion time and cluster size (JX-0145C (Doushita Dep.) 87:4-8), and that lengthening the dispersion time results in reduced magnetic cluster sizes (JX-0145C (Doushita Dep.) at 86:3-7.) As another example McCann¹⁵ demonstrates that it was well known that aggregation of magnetic particles including barium ferrite particles depends on the dispersion (milling) time. (JX-0166 (McCann) at 366, 368-369.) A [POSITA] would have understood that the 4 hour dispersion time Preparation Method 5 of Yamazaki '605 would result in increased break up of aggregates and thus smaller magnetic clusters compared to the 2.5 hour dispersion time of Comparative Example 8 of the '891 Patent, which resulted in a magnetic cluster size of $5.7 \times 10^4 \text{ nm}^2$ – only 3.6% higher than the upper limit of the claimed range of $5.5 \times 10^4 \text{ nm}^2$. Moreover comparative Example 13 of the '891 Patent is the sole example of a magnetic tape that exhibits an average size of magnetic clusters below $0.5 \times 10^4 \text{ nm}^2$. Table 1 of the '891 Patent shows that this comparative example has an average size of magnetic clusters of $0.43 \times 10^4 \text{ nm}^2$. Notably, this smaller magnetic cluster size is only achieved by increasing the dispersion time to 1500 minutes (25 hours) and employing steel dispersion beads. (JX-0001 (U.S. Pat. No. 6,641,891) at 27:20-24.) *Therefore, it is my opinion that a dispersion time of 4 hours, as taught in Yamazaki '605, would necessarily result in an average size of magnetic clusters that is below $5.5 \times 10^4 \text{ nm}^2$.*

Id. at Q/A 219 (emphasis added).

After reviewing the evidence, we conclude that the Final ID correctly finds that Sony failed to show that Yamazaki '605 would necessarily result in the same magnetic cluster sizes

¹⁴ $5.7 \times 10^4 \text{ nm}^2$ is outside the range recited in claim 1 while $3.2 \times 10^4 \text{ nm}^2$ is within the claimed range.

¹⁵ The McCann reference, in conjunction with Yamazaki, is asserted as rendering the '891 patent obvious, as discussed below.

PUBLIC VERSION

claimed in the '891 Patent. Final ID at 65 (explaining that “the average size of the magnetic cluster can change in response to . . . other processing conditions”). In particular, regarding dispersion time, Fujifilm’s expert, Dr. Wang, explained that

Dr. Ross states in her testimony, exhibit RX-0004C, Q219, that “it is well known that aggregation, and therefore, magnetic cluster size, decreases with dispersion time.” She then compares the 4 hour dispersion time of Yamazaki '605's Preparation Method 5 with the 2.5 hour dispersion time of '891 Patent's Manufacturing Method 7 which created Comparative Example 8, and concludes that it would necessarily result in an average magnetic cluster size of less than the upper limit range of $5.5 \times 10^4 \text{ nm}^2$. *However, Dr. Ross ignores the fact that the '891 Patent's Manufacturing Method 6 with a dispersion time of 5 hours, also created Comparative Examples 9-12 which had magnetic cluster sizes of $5.5 \times 10^4 \text{ nm}^2$ or greater.* Moreover, Comparative Example 8 uses Ferromagnetic Powder A, and as I explained above, it is unclear if any of the materials disclosed in Table 1 of Yamazaki '605 had the same plate diameter.

In sum, since Yamazaki '605's Preparation Methods and the '891 Patent's Manufacturing Methods differ in key ways, such as dispersion time, dispersion material, ferromagnetic powders used, and quantity of magnetic coating layer used, and since Yamazaki '605 does not disclose any kind of relationship between its Preparation Methods and a magnetic cluster size, Yamazaki '605 does not inherently disclose the magnetic cluster sizes claimed in the '891 Patent as asserted by Dr. Ross.

CX-0357C at Q/A 372 (emphasis added).

Based on the above discussion, the Commission affirms, with the additional discussion set forth above, the Final ID's finding that Sony has failed to show by clear and convincing evidence that Yamazaki '605 anticipates claim 1 of the '891 Patent. Accordingly, Yamazaki '605 also cannot anticipate claims 8 and 9, each of which depend from claim 1.¹⁶

¹⁶The parties also discuss the effect of a decision of the Patent Trial and Appeal Board

PUBLIC VERSION

4. Obviousness - Yamazaki '605

a. Final ID

Sony argued that Yamazaki '605 (RX-0071) discloses all of the limitations of the asserted claims except for the following limitations: (1) “the range of average size of magnetic cluster at DC Erase required by all asserted claims” and (2) “the ranges of magnetic layer thickness recited in claims 8 and 9.” Final ID at 72.

The Final ID finds that Sony failed to show “that Yamazaki '605 discloses the claimed magnetic particles . . . or that one of ordinary skill in the art would at once envisage a manufacturing process that would yield a tape having the claimed particles, after reading Yamazaki '605.” *Id.* at 73. In particular, the Final ID notes that “Yamazaki '605 does not discuss the average size of magnetic clusters in the magnetic layer.” *Id.* (citing CX-0357C (Wang RWS) at Q/A 378 (“Yamazaki '605 does not ever discuss average size of magnetic clusters, or suggest how one of ordinary skill would evaluate magnetic cluster size”); *see generally* RX-0071 (particle size is not discussed)). The Final ID also finds that Sony failed to show that Yamazaki '605 discloses the limitations concerning the thickness of the magnetic layer recited in claims 8 and 9. *Id.* at 75-76.

(“PTAB”) of the U.S. Patent and Trademark Office, denying a request to institute an *inter partes* review of the asserted claims of the '891 patent. Sony Pet. at 28; Fujifilm Resp. at 30. The Final ID does not mention the PTAB proceeding. Moreover, the Commission has explained that PTAB proceedings and Commission proceedings concerning invalidity are distinct. *Certain Network Devices, Related Software and Components Thereof (II)*, Inv. No. 337-TA-945, Comm’n Op. at 12 (Aug. 16, 2017) (public version); *see also Novartis AG v. Noven Pharm., Inc.*, 853 F.3d 1289, 1294 (Fed. Cir. 2017) (“[E]ven if the record were the same” before a trial court and the PTAB, “the PTAB properly may reach a different conclusion based on the same evidence.”)

PUBLIC VERSION

b. Analysis

The evidence shows that Yamazaki '605 does not provide a suggestion or motivation to one of ordinary skill to achieve the combined limitations of claim 1, because Yamazaki '605 does not disclose or suggest the relationship between magnetic cluster size and various parameters including S/N ratio, C/N ratio, dispersion time, particle size, and other manufacturing characteristics. *See Crown Operations Int'l, Ltd. v. Solutia Inc.*, 289 F.3d 1367, 1372 (Fed. Cir. 2002) (finding the patent valid because prior art did not disclose particular relationships between the claim limitation at issue and the results achieved by the limitation)). As the '891 Patent disclosure teaches, numerous factors affect whether a particular manufacturing method results in magnetic clusters within claimed range. Specifically, the '891 Patent explains that

In the magnetic recording medium of the present invention, the average size of magnetic clusters during DC erasure is equal to or higher than $0.5 \times 10^4 \text{ nm}^2$ and less than $5.5 \times 10^4 \text{ nm}^2$. *When the magnetic clusters increase in size, medium noise also increases, which is not suitable for achieving high density.* Accordingly, a small magnetic cluster size is preferred. *However, when the magnetic particles are dispersed to where magnetic clusters are eliminated, electromagnetic characteristics deteriorate due to excessive dispersion. Accordingly, in the present invention, the average size of magnetic clusters during DC erasure falls within the above-stated range.*

To keep the mean size of the magnetic clusters within the range of the present invention, it is important to reduce the particle size of the magnetic material and improve dispersion properties to reduce aggregation of magnetic material. For example, *methods of improving dispersion include lengthening the dispersion period, increasing the amount of binder relative to magnetic material, and improving dispersibility by using a binder in the form of a polyurethane resin or the like having a large inertial radius.* By suitably combining these methods, it is possible to achieve a desired magnetic recording medium.

'891 Patent at 4:53-63 (emphasis added); *see also id.* at 29:62-17 (describing how, for a single

PUBLIC VERSION

basic manufacturing method, varying the dispersion time and the magnetic material used affects whether the size of the resulting magnetic clusters is within the range recited in claim 1).

Yamazaki '605 fails to disclose any relationship between reducing noise and the specific range of average magnetic cluster size recited in claim 1 of the '891 Patent. Yamazaki '605 also fails to disclose any of the variations beyond dispersion time that would result in magnetic clusters within claimed range. CX-0357C at Q/A 365, 379. Moreover, as Dr. Wang opined, while Yamazaki '605 discloses the use of glass beads as a dispersion material, it discourages using glass beads because "dispersing media having a high specific gravity is preferably used and zirconia beads, titania beads and steel beads are suitable for this purpose." *Id.* at Q/A 379; Yamazaki '605 at 22:38-42. Sony fails to explain why a POSITA would be motivated to modify the various parameters discussed in the '891 Patent specification beyond dispersion time.

Based on the preceding discussion, the Commission affirms, with the additional reasoning set forth above, the Final ID's finding Yamazaki '605 does not render obvious claim 1 of the '891 Patent. Because claim 1 is not obvious, dependent claims 8 and 9 also are not obvious. Accordingly, a discussion of secondary considerations is not necessary. *See Otsuka Pharmaceutical Co., Ltd. v. Sandoz, Inc.*, 678 F.3d 1280, 1296 (Fed. Cir. 2012) (finding no need to address a district court's findings on objective evidence because the district court's finding that an accused infringer failed to prove *prima facie* obviousness was correct).

5. Obviousness – Yamazaki '605 in View of McCann

a. Final ID

Sony argued that all of the asserted claims of the '891 Patent are obvious over

PUBLIC VERSION

Yamazaki '605 (RX-0071) in view of McCann¹⁷ (JX-0166). In particular, Sony argued that the asserted prior art discloses the limitation “an average size of magnetic cluster at DC erase is equal to or higher than $0.5 \times 10^4 \text{ nm}^2$ and less than $5.5 \times 10^4 \text{ nm}^2$ ” recited in claim 1.

The Final ID finds that the asserted claims of the '891 Patent are not obvious over Yamazaki '605 in view of McCann. *Id.* at 79. Specifically, the Final ID finds that Sony failed to show “that Yamazaki '605 or McCann explicitly disclose the claimed magnetic clusters” *Id.* (citing RX-0004C (Ross WS) at Q/A 257). The Final ID further finds that the evidence does not show that a POSITA “would modify two particular aspects (dispersion beads and milling time) of Yamazaki '605’s preparation processes to arrive at a process that would necessarily exhibit an average size of magnetic clusters within the claimed range of the '891 Patent.” *Id.* (citing CX-0357C (Wang RWS) at Q/A 379). The Final ID also finds that Sony failed to show by clear and convincing evidence that a POSITA “would attempt to ‘optimize’ the four-hour and six-hour mixing times from Yamazaki '605 and that the hypothetical optimization would produce [the] five-hour mixing time of the '891 Patent, especially where Yamazaki '605 does not address cluster size.” *Id.* The Final ID, however, did not credit Dr. Wang’s testimony that McCann teaches away from a combination of Yamazaki '605 and McCann. *Id.* at n.24.¹⁸

b. Analysis

Sony asserts that “McCann investigated the relationship between milling time and the

¹⁷ McCann, S.M. *et al.*, *Noise characterization of barium ferrite dispersions*, JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS 193 (1999) 366–369.

¹⁸ The Final ID also finds no obviousness regarding the other combinations of prior art asserted by Sony. *Id.* at 79-90. No party petitioned for review with respect to those asserted combinations.

PUBLIC VERSION

performance of BaFe dispersions for magnetic recording media . . . observ[ing] ‘a general noise decrease[] with milling time.’” Sony Pet. at 37 (citing JX-0166 at 1, 4; RX-0004C (Ross WS) at Q/A 167). Specifically, Sony’s expert, Dr. Ross, explained that

In light of McCann a [POSITA] would have understood that the term “average size of magnetic clusters” used in the asserted claims of the ’891 Patent is merely a measure of the dispersion state of the magnetic particles in a magnetic recording medium, and that the milling time (*i.e.*, dispersion time) is a variable that is effective for controlling the dispersion state in order to optimize the performance of the medium in terms of the noise. Similarly, McCann would have motivated a [POSITA] to modify at least one embodiment of Yamazaki ’605 by optimizing the milling time to achieve an optimal dispersion time. Such a modification would involve the break up aggregates of magnetic particles in the magnetic layer coating solution (*e.g.*, barium ferrite particles and would thereby reduce the “average size of magnetic clusters,” resulting in an average cluster size within the claimed range.

RX-0004C at Q/A 259.

Fujifilm’s expert, Dr. Wang, however, testified that

McCann’s disclosure of the break-up of particle aggregates do not resolve the issues presented by magnetic clusters, e.g., particles that behave as a single member. Reduced particle aggregates can still behave like a single magnetic member if they are in proximity with one another. So, I disagree with Dr. Ross that a modification that involves “the break up [of] aggregates of magnetic particles . . . would thereby reduce the ‘average size of magnetic clusters.’” In other words, McCann’s disclosure of increasing milling time to reduce particle aggregates cannot be applied towards increasing a dispersion time to reduce an average size of magnetic clusters as described in the ’891 Patent. Further, Dr. Ross acknowledges that McCann discloses that when milled for too long, the barium ferrite particles used in the experiment began to stack and behave like a single large particle, much like a magnetic cluster. This would then suggest to one of ordinary skill that increasing dispersion time could in fact lead to larger magnetic clusters.

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PUBLIC VERSION

McCann only suggests to one of ordinary skill that milling time can in fact cause stacking of barium ferrite particles, which is when barium ferrite particles can align and “behave like large acicular particles” as described in column 1 of McCann. Further, McCann only describes milling time and how it affects noise power. *McCann does not at all disclose how milling time could affect signal to noise ratio, which is a ratio of signal power to noise power. One of ordinary skill would not know, based on the disclosure of McCann, how milling time could affect signal power.* Even if Table 2 of McCann discloses a lower noise power when increasing milling time from 30 minutes to 4 hours (stage 2 to stage 5), it’s possible that the signal power could also decrease at a larger portion, which would lead to a flat or smaller signal to noise ratio as milling time increases.

...

One of ordinary skill would recognize that milling time and dispersion time affects many other parameters in a magnetic medium including coercivity, layer composition and thickness, magnetic particle size, and other processing conditions that, in combination, affect signal to noise ratios. Further, as Dr. Ross also recognizes in her testimony at Q257, McCann does not explicitly disclose the average size of magnetic cluster at DC as a surface area of magnetic clusters or surface area of the magnetic force distribution of magnetic clusters equal to or higher than 0.5×10^4 nm² and less than 5.5×10^4 nm².

CX-0357 at Q/A 387-389 (emphasis added).

The Commission finds that Sony has not shown by clear and convincing evidence that Yamazaki ’605 in view of McCann renders obvious the asserted claims of the ’891 Patent. In particular, regarding the “average size of magnetic cluster” limitation, McCann does not cure the deficiencies discussed *supra* at Section VI.5.b. regarding Yamazaki ’605’s failure to disclose how milling time could affect signal-to-noise ratio or, more specifically, any relationship between reducing noise and the specific range of average magnetic cluster size recited in claim 1 of the ’891 Patent.

PUBLIC VERSION

Based on the preceding discussion, the Commission affirms, with the additional reasoning set forth above, the Final ID's finding Yamazaki '605 does not render obvious claim 1 of the '891 Patent. Because claim 1 is not obvious, dependent claims 8 and 9 also are not obvious. Accordingly, a discussion of secondary considerations is not necessary. *See Otsuka Pharmaceutical*, 678 F.3d at 1296 (finding no need to address a district court's findings on objective evidence because the district court's finding that an accused infringer failed to prove *prima facie* obviousness was correct).

B. '612 Patent

1. Overview of the Technology – '612 Patent

U.S. Patent No. 6,767,612 is entitled "Magnetic Recording Medium." '612 Patent (JX-0004). Claims 1, 2, 4, 5, and 7-11 of the '612 Patent are asserted in this investigation.

The '612 Patent discloses a recording medium (*e.g.*, a tape or disk) with a magnetic layer that has specific physical and chemical attributes. '612 Patent at Abstract. The '612 Patent generally relates to a particulate magnetic recording medium exhibiting reduced medium noise in systems using magnetoresistive ("MR") heads.¹⁹ *Id.* MR heads employ thin magnetic layers that enable high storage density on the tape. CX-0004C (Wang WS) Q/A 552. According to the patent disclosure, the inventors discovered that the spacing, due to pits of a certain depth on the magnetic layer surface, between heads and magnetic tapes in magnetic recording and reproduction systems adopting MR heads have a marked effect on noise. '612 Patent at 2:19-25. The specification explains that medium noise can be improved by reducing the number of pits

¹⁹ Magnetoresistance is the tendency of a material to change the value of its electrical resistance in an externally-applied magnetic field.

PUBLIC VERSION

having a depth of $\frac{1}{3}$ or more of the minimum recording bit length present on the magnetic surface to less than $100/10,000 \mu\text{m}^2$. *Id.* at 3:41-55. According to the patent, the minimum recording bit length is “ $\frac{1}{2}$ of the length of the shortest wavelength of the signal recorded by the system.” *Id.* at 3:56-59. The specification further explains that medium noise can be improved by controlling the center surface average roughness (SRa) of the magnetic layer. *Id.* at 4:8-14. The patent explains that the described techniques can be used to provide a magnetic recording medium exhibiting a high signal-to-noise ratio for use in recording and reproduction systems employing MR heads. *Id.* at 25:55-58.

2. Asserted Claims

The asserted claims of the '612 Patent recite the following:

1. A magnetic recording medium comprising a nonmagnetic layer comprising a nonmagnetic powder and a binder and a magnetic layer comprising a hexagonal ferrite powder and a binder in this order on a nonmagnetic support, wherein

the number of pits having a depth of $\frac{1}{3}$ or more of the minimum recording bit length present on a surface of said magnetic layer is equal to or less than $100/10,000 \mu\text{m}^2$, the minimum recording bit length is about 50 to 500 nm, and the center surface average roughness of said magnetic layer surface SRa is equal to or less than 6.0 nm.

2. The magnetic recording medium according to claim 1, wherein said magnetic layer has on a surface, the number of pits having a depth as measured by Atomic Force Microscope of 50 nm or more being equal to or less than $100/10,000 \mu\text{m}^2$.

3. The magnetic recording medium according to claim 1, wherein said nonmagnetic layer comprises at least carbon black and a binder composed of a radiation-setting resin and a thermosetting resin.

4. The magnetic recording medium according to claim 1, wherein said number of pits is equal to or less than 80 pits/ $10,000 \mu\text{m}^2$.

PUBLIC VERSION

5. The magnetic recording medium according to claim 1, wherein said number of pits is equal to or less than 50 pits/10,000 μm^2 .

6. The magnetic recording medium according to claim 1, wherein said minimum recording bit length is $\frac{1}{2}$ of the length of the shortest wavelength of a signal recorded by a system on which the magnetic recording medium is applied.

7. The magnetic recording medium according to claim 1, wherein said center surface average roughness S_{Ra} ranges from 1.0 to 5.0 nm.

8. The magnetic recording medium according to claim 1, wherein said center surface average roughness S_{Ra} ranges from 1.5 to 4.5 nm.

9. A method for use of the magnetic recording medium according to claim 1, wherein a MR head is employed during recording and reproduction.

10. A magnetic recording and reproducing method comprising the steps of:

providing a magnetic recording medium comprising a nonmagnetic layer comprising a nonmagnetic powder and a binder and a magnetic layer comprising a hexagonal ferrite powder and a binder in this order on a nonmagnetic support, and, optionally, a backcoat layer comprising a selected type and quantity of coarse particles, wherein the center surface average roughness of said magnetic layer surface S_{Ra} is equal to or less than 6.0 nm,

writing a signal of a selected recording wavelength or range of recording wavelengths and of a selected track width on the magnetic recording medium using a head, and

reproducing the recorded signal using an MR head having a selected track width,

so as to achieve a number of pits having a depth of $\frac{1}{3}$ or more of the minimum recording bit length present on the surface of said magnetic layer of 100/10,000 μm^2 or less.

11. The magnetic recording and reproducing method of claim 10 wherein the minimum recording bit length is from about 50 to 500 nm.

PUBLIC VERSION

'612 Patent at 25:65-26:64.

3. Obviousness

a. Final ID

Sony argued that the asserted claims of the '612 Patent are invalid as obvious over Matsuno²⁰ and Endo²¹ in view of Wallace.²² Final ID at 144, 145. Matsuno and Endo both disclose a magnetic recording medium. *Id.* at 145. Wallace describes the relationship between performance of a magnetic recording medium in terms of spacing loss. *See* JX-174. The Final ID finds that Sony failed to show that any of the asserted claims of the '612 Patent are invalid as obvious over these references. *Id.* at 384. Specifically, while the Final ID finds that the combination of Matsuno, Endo, and Wallace discloses each limitation of asserted independent claim 1, it also finds that it was not obvious to combine the references. Specifically, the Final ID finds that "Matsuno discloses a recording wavelength [of no more than 1 μm (1,000 nm)] that a [POSITA] could convert to a minimum recording bit length between 0 and 500 nm, which overlaps the claimed range." *Id.* at 146 (citing RX-0001C at Q/A 216-22). The Final ID also finds that "Matsuno discloses a magnetic recording media with pits, where the number of pits having a depth of $\frac{1}{2}$ or more of the minimum recording bit length present on a surface of said magnetic layer is equal to or less than 100/10,000 μm^2 ," and that "Endo . . . discloses a magnetic layer surface with a surface roughness of less than 7.5 nm" which is sufficient to show that the

²⁰ "Matsuno": JP Publication No. 2001-84549 (RX-0333).

²¹ "Endo": JP Publication No. 2000-402218 (RX-0334).

²² "Wallace": *The Reproduction of Magnetically Recorded Signals* THE BELL SYSTEM TECHNICAL JOURNAL (Oct. 1951), pp. 1-29 (JX-0174).

PUBLIC VERSION

claimed range of “equal to or less than 6.0 nm “is *prima facie* obvious.” *Id.* 149-150, 151.

The Final ID further finds that

The evidence shows that a [POSITA] would not combine Matsuno and Endo due to the differing problems the references address—Matsuno addresses ameliorating errors in a system that uses the RLL (2,7) modulation through limiting indentations of a specific depth, in tapes that use inductive heads, while Endo pertains to media having excellent electromagnetic conversion characteristics and low dropout, as achieved through minimizing the cross sectional area (observed at 20 nm) of various depressions. CX-0357C (Wang RWS) at Q/A 487. Further, Matsuno and Endo use different definitions of indentations and depressions, which also suggests that a [POSITA] would not ascertain a rationale or motivation for combining the references in the manner that Sony and Dr. Bhushan suggest. *Id.*

Id. at 152.

The Final ID finds that none of the asserted claims depending from claim 1, *i.e.*, claims 2, 4, 5, 7, 8, and 9, recite independently patentable subject matter. *Id.* at 152-156. The Final ID finds that “[w]hile claim 10 is a method claim, the steps it recites are merely generic instructions for using a magnetic tape and do not contain any non-obvious aspects.” *Id.* at 157. Similarly, regarding asserted claim 11, which depends from claim 10, the Final ID finds that “Matsuno discloses a recording wavelength that a [POSITA] could convert to a minimum recording bit length between 0 and 500 nm, which overlaps the claimed range” *Id.* at 158.

b. Analysis

The stated goal of the ’612 Patent is to “provide a particulate magnetic recording medium affording great improvement in medium noise in a recording and reproduction system adopting MR heads,” although the claims are not limited to the use of MR heads. ’612 Patent at 2:14-18. In particular, the specification states that the inventors “discover[ed] that pits of a certain depth on

PUBLIC VERSION

the magnetic layer surface have a marked effect on noise” and that “the present invention was devised on that basis.” *Id.* at 2:09-25; *see also id.* at 2:59-61 (“By controlling the surface roughness of the magnetic layer within the above-mentioned range, medium noises can be reduced during reproducing by an MR head”).

Matsuno and Endo in view of Wallace are “directed to the same field of endeavor and address common problems, albeit in slightly different contexts.” Sony Pet. at 40. Sony’s expert, Dr. Bhushan, testified that both Matsuno and Endo “discuss a similar drive towards reducing such spacing to improve performance in the specific case of pits on the surface of the magnetic layer, and in both cases this is articulated alongside a recognition that decreased recording wavelength (or high-density recording) must be accounted for.” RX-0001C (Bhushan WS) at Q/A 242; *see also id.* at Q/A 133 (discussing the similar problems address in the ’612 Patent and Matsuno), 139 (discussing the similar problems address in the ’612 Patent, Matsuno, and Endo).

Specifically, Matsuno states that

The present invention relates to a coated magnetic recording medium with a high recording density...the present inventor, as the result of earnest research, arrived at the present invention through *discovering that there is a remarkable effect, through indentations of specific depth in the magnetic layer, for the spacing between the head and the magnetic tape, which is the cause of frequent errors.*

RX-0333 (Matsuno), ¶¶ 1, 10 (emphasis added). Endo states that

The present inventors found that when performing high-density digital recording – that is, when the playback bit area is small – not only do all depressions present on the surface of the uppermost magnetic layer cause dropout, but *depressions of which the cross-sectional area at a certain depth exceeds a certain value relative to the playback bit area also cause dropout.* Additionally, the present inventors found that under high power and low dropout conditions *where the presence of such depressions is proactively minimized*

PUBLIC VERSION

particles having a certain particle size are used as nonmagnetic particles contained in the uppermost layer magnetic layer and by setting surface roughness of the uppermost magnetic layer to below a certain value, *durability and drivability of the magnetic recording medium improve.*”

RX-0334 (Endo), ¶ 5 (emphasis added). Both references therefore were directed to solving the same fundamental problem addressed by the '612 Patent. As the Federal Circuit explained “[e]vidence that a [POSITA] recognized the same problem to be solved as the inventor and suggested a solution is, at the least, probative of a [POSITA’s] willingness to search the prior art in the same field for a suggestion on how to solve that problem.” *Cross Med. Prods., Inc. v. Medtronic Sofamor Danek, Inc.*, 424 F.3d 1293, 1322 (Fed. Cir. 2005). This is true even where the problems addressed by the prior art references to be combined may “differ slightly.” *Id.* at 1323.

In addition, the Wallace reference, which describes the Wallace’s Law equations, explains that performance of a magnetic recording medium (as measured by the metric, “spacing loss”) “can be very simply related to spacing and the recorded wavelength.” JX-0174 (Wallace) at 2. Sony asserts that, similar to the variables address in Wallace’s Law, “both Matsuno and Endo discussed and optimized the (1) performance of magnetic recording media in relation to (2) the density of the recorded wavelengths of the media, (3) in view of the spacing between the magnetic layer and the read head device (as impacted by pits or roughness on the magnetic surface itself.” *Id.* (citing RX-0001C at Q/A 133 (discussing Matsuno), 139 (discussing Endo); RX-0333 (Matsuno), ¶¶ [0001], [0010]; RX-0334 (Endo), ¶¶ [0005], [0008])).

In response, Fujifilm’s expert, Dr. Wang, asserts that

PUBLIC VERSION

While Wallace's law was known before the priority date of the '612 Patent, the link between pit depth and minimum recording wavelength was not a "simple application of Wallace's law." Indeed, it was not until the '612 Patent (a half-century after Wallace, according to Dr. Bhushan) that the relationship between pit depth, $1/3$ minimum recording bit length, and a limitation on pits that are greater than or equal to that depth was identified. This lapse in time alone indicates that the discovery of the relationship identified in this claim element was far more than the mere optimization of a known result-effective variable.

CX-0357C (Wang RWS) at Q/A 476. However, the question is not whether a POSITA would have arrived at the claimed invention of the '612 Patent directly from the teachings of Wallace, but whether a POSITA, when considering Matsuno and Endo against the background of Wallace, would have been motivated to combine the teachings of those references. *See Randall Mfg. v. Rea*, 733 F.3d 1355, 1362 (Fed. Cir. 2013) ("In recognizing the role of common knowledge and common sense, we have emphasized the importance of a factual foundation to support a party's claim about what one of ordinary skill in the relevant art would have known."). Dr. Wang's testimony does not address this particular issue.

The Final ID also finds that Matsuno and Endo "use different definitions of indentations and depressions, which also suggests that a [POSITA] would not ascertain a rationale or motivation for combining the references in the manner that Sony and Dr. Bhushan suggest." Final ID at 152 (citing CX-0357C (Wang RWS) at Q/A 487). Specifically, Dr. Wang testified that

Matsuno measures indentations from the "mean surface," which Matsuno defines in paragraph [0015] as "the surface for which the volumes of the indentations and the protruding portions on the measured surface are equal." In contrast, paragraph [0009] of

PUBLIC VERSION

Endo explains that depressions are measured from the “mean square surface.”²³

One of skill in the art would find the definitions in Matsuno and Endo to be incompatible and therefore would have no motivation to combine. There would also be no motivation to combine, because although Matsuno chose to limit the surface roughness of the backcoat layer (to 20 nm or preferably 15 nm), it chose a different, indentation-based limitation for the magnetic layer, which was seemingly sufficient for Matsuno’s purposes of avoiding fatal errors.

CX-0357C at Q/A 487.

We disagree that this distinction is meaningful. The Final ID relies strictly on Matsuno as disclosing the “number of pits” limitation recited in claim 1 of the ’612 Patent. Final ID at 149-150. As such, reference to Endo is not necessary for this limitation. Rather, the relevant question is whether there is a fundamental incompatibility between Matsuno and Endo regarding the “center surface average roughness” limitation for which the Final ID relies on Endo. *Id.* at 151-152.

To this point, Dr. Wang testified that

Dr. Bhushan points to several paragraphs, including paragraph [0083] of Matsuno, and notes that “paragraph [0083] in particular indicates that Matsuno is using pit density as a proxy for surface roughness.” In this paragraph, however, Matsuno is not using pit density as a proxy for surface roughness, he is using pit density and surface roughness interchangeably. In paragraph [0083], Matsuno states: “In Table 4, with the various magnetic tape samples of Embodiments 1 through 4 wherein the magnetic layer surface roughness was within the range of the present invention.” According to claim 1 of Matsuno, this is a magnetic layer wherein “indentations with a depth of greater than 50 nm are no more than 10 instances in 46237.5 μm^2 , and a maximum depth R_v is no

²³ Endo does not explicitly define the term “mean square surface.”

PUBLIC VERSION

greater than 100 nm.” That is, as far as Matsuno is concerned, surface roughness of the magnetic layer is based only on these measurements, effectively teaching away from measuring or trying to constrain the center surface average roughness S_{Ra} of the magnetic layer.

CX-0357C at Q/A 481; *see* RX-0001C (Bhushan WS) at Q/A 234.

While Matsuno discloses only indentations with respect to the magnetic layer, we disagree that Matsuno teaches way from constraining the surface average roughness of the magnetic layer. As the Federal Circuit has explained, a reference cannot be said to teach away “absent clear discouragement of that combination.” *Tyco Healthcare Grp. LP v. Ethicon Endo-Surgery*, 774 F.3d 968, 977 (Fed. Cir. 2014). The most that can be concluded is that Matsuno focused primarily on the issue of minimizing the density of pits over a certain depth. The fact that Matsuno does not address the issue of surface roughness with respect to the magnetic layer²⁴ does not provide the “clear discouragement” required to conclude Matsuno teaches away from controlling both pit depth and surface roughness as is claimed in the ’612 Patent. Notably, Endo discloses both parameters, although not in the precise ranges for pit density claimed in the ’612 Patent. *See* RX-03334 at [0006].

Based on the preceding discussion, the Commission finds that Sony has shown by clear and convincing evidence that the asserted claims of the ’612 Patent are *prima facie* obvious over Matsuno and Endo in view of Wallace. Specifically, the Final ID finds that the combination of Matsuno, Endo, and Wallace disclose each limitation of the asserted claims of the ’612 Patent.

²⁴ Matsuno does address the need to control surface roughness with respect to the nonmagnetic layer. RX-0333 at [0050].

PUBLIC VERSION

Final ID at 146-158.²⁵ We further find that a POSITA would have the motivation to combine the asserted references to arrive at the invention recited in the asserted claims of the '612 Patent.²⁶

4. Secondary Considerations

a. Final ID

The Final ID finds that “Fujifilm’s weak showing of commercial success is generally negligible because there is a weak nexus between commercial success and the ’612 Patent. The remaining secondary considerations do not support a non-obviousness finding.” Final ID at 175. The Final ID also rejected Fujifilm’s argument that the “tape media patents exhibit joint criticality” and Fujifilm’s attempt to include “joint criticality” as a secondary consideration. *Id.* at 169 n.53. Regarding industry praise, the Final ID finds that “[t]he evidence . . . Fujifilm cites relates to magnetic tapes having barium ferrite, in general . . . [and] does not pertain to the attributes of the asserted claims (e.g., pit depth and bit length, pits per area, and surface roughness).” *Id.* at 170.

Regarding long-felt need, the Final ID notes that “[t]he ’612 Patent was concerned with

²⁵ As noted above, the Final ID finds that the validity of all of the asserted claims rise and fall with the validity of asserted claim 1. Sony did not make separate invalidity arguments concerning the remaining asserted claims.

²⁶ Sony notes that the PTAB has instituted an IPR concerning the patentability of the ’612 Patent in light of Matsuno and Endo in view of Wallace. *Id.* at 42 (citing *Sony Corp. v. Fujifilm Corp.*, Case IPR2017-00800, Paper No. 14, at 21 (PTAB Aug. 18, 2017) (“Petitioner’s information and accompanying explanation also supports, on this record, the assertion that a [POSITA] would have had reason to combine Matsuno, Endo, and Wallace, and would have done so with a reasonable expectation of success. [citing Sony’s Petition] at 53 (indicating that all three references address similar subject matter, including the desire to reduce spacing loss).”). As discussed *supra* at 31 n.16, non-final IPR proceedings have no bearing on Commission investigations.

PUBLIC VERSION

tape noise in MR heads.” *Id.* at 172 (citing ’612 Patent at 2:16-19). The Final ID finds that the “need that Fujifilm identifies, high-capacity storage, is not reasonably related to noise. It has not been shown that the alleged benefits offered by the ’612 Patent increased storage capacity of tapes.” *Id.* (citing RX-0001C (Bhushan WS) at Q/A 376).

Regarding commercial success, the Final ID finds that “[t]he evidence does not support a strong nexus between the ’612 Patent and Fujifilm’s success . . . In particular, the prior art discloses many aspects of the claims asserted from the ’612 Patent, including the barium ferrite particles that Fujifilm heavily relies on.” *Id.* at 174 (citing *Tokai Corp.*, 632 F.3d at 1369; *J.T. Eaton*, 106 F.3d at 1571). The Final ID further finds that “given that Fujifilm’s products also practice other [unasserted] claims, it is impossible to attribute Fujifilm’s success to any one claim from the ’612 Patent versus other claims, weakening the nexus between the ‘Asserted Claims’ . . . and Fujifilm’s LTO products.” *Id.* (citing *Apple Inc. v. Samsung Elecs. Co.*, 839 F.3d 1034, 1055 (Fed. Cir. 2016)).

b. Analysis

Because the record supports a finding that Sony has shown by clear and convincing evidence that the asserted claims of the ’612 Patent are *prima facie* obvious over Matsuno and Endo in view of Wallace, an analysis of secondary considerations is required. *Stratoflex*, 713 F.2d at 1538; *see Apple Inc. v. Int’l Trade Comm’n*, 725 F.3d 1356, 1365 (Fed. Cir. 2013) (holding that, where the Commission has reviewed the Final ID’s legal conclusion concerning obviousness, the Commission may not merely affirm the ALJ’s finding on secondary considerations but must conduct its own analysis and reach an independent legal conclusion).

Fujifilm argues in its petition for review that the following secondary considerations

PUBLIC VERSION

overcome any finding of *prima facie* obviousness: unexpected results; industry praise; commercial success; and long-felt need. Fujifilm Pet. at 44-61. We discuss each factor in turn.

1) Joint Criticality/Unexpected Results

Fujifilm asserts that “that the combination of the claim limitations [of the ’612 Patent] exhibit a joint criticality or synergy which resulted in, among other things, an unexpected improvement in SNR.” Fujifilm Pet. at 45. In particular, Fujifilm contends that its expert, Dr. Wang,

explained that “limiting the number of pits with a depth greater than or equal to $\frac{1}{3}$ of the minimum recording bit length as recited in claim 1 yielded unexpected improved SNR.” CPostHBr at 162; CX-0357C (Wang RWS) at Q/A 458. Dr. Wang demonstrated this unexpected improvement using an annotated version of Table 2 of the ’612 Patent, reproduced below, which was organized to show the combinations of number of pits and surface roughness which fall within the ranges of claim 1 (shaded in green) and those that fall without the ranges of claim 1 (shaded in red). *Id.*

Example	Number of pits (nm)	SNR	SNR (dB)	Is the SNR improved?
Comp. Example 4	29	6.5	23.9	No
Comp. Example 5	107	7.1	21.6	No
Comp. Example 6	113	5.7	21.7	No
Comp. Example 7	90	6.5	20.9	No
Comp. Example 8	178	7.1	18.6	No
Comp. Example 9	214	5.9	10.7	No
Comp. Example 10	189	5.5	11.3	No
Embodiment 5	6	4.5	28.0	Yes
Embodiment 6	47	5.9	25.2	Yes
Embodiment 7	0	3.8	30.0	Yes
Embodiment 8	31	5.5	28.1	Yes
Embodiment 9	71	5.7	25.0	Yes
Embodiment 10	47	4.5	26.5	Yes
Embodiment 11	95	5.9	22.4	Yes
Embodiment 12	5	3.8	27.9	Yes
Embodiment 13	68	5.5	25.1	Yes
Embodiment 14	87	4.5	12.9	Yes
Embodiment 15	36	3.8	14.3	Yes

PUBLIC VERSION

As shown by Dr. Wang, when the number of pits and the SRA are within the ranges recited in claim 1, a good SNR is achieved. *Id.* This relationship recited in the claims between number of pits and pit depth yielded an unexpected improvement in SNR. *Id.*

Id. at 45.

The case law is clear that any discussion of unexpected results must be made by comparing the claimed invention to the closest prior art. *See Wm. Wrigley Jr. Co. v. Cadbury Adams USA*, 683 F.3d 1356, 1362-63 (Fed. Cir. 2012) (affirming summary judgment of obviousness because data did not compare results to closest prior art). Fujifilm has made no effort to do so. With respect to the one limitation Fujifilm purports to compare to the prior art – the limitation requiring the number of pits having a depth of $\frac{1}{3}$ or more of minimum recording bit length to be equal to or less than $100/10,000 \mu\text{m}^2$ (CX-0357C (Wang RWS) at Q/A 459) – Fujifilm does not provide any comparative data regarding how that limitation improved performance of magnetic recording media over the prior art, nor does Fujifilm acknowledge that the Final ID finds that Matsuno discloses this limitation, a finding Fujifilm does not challenge. Moreover, Fujifilm asserts that adjusting certain of the claimed parameters yields allegedly better results than other values only within the context of the disclosure of the '612 Patent. Fujifilm Pet. at 45 (citing '612 Patent at Table 2; CX-0357C (Wang RWS) at Q/A 458). Fujifilm fails to show that the claimed ranges bore a “new and unexpected result which is *different in kind* and not merely in degree *from the results of the prior art.*” *Iron Grip Barbell Co.*, 392 F.3d at 1322 (emphasis added); *see also Tyco Healthcare v. Grp. LP v. Mut. Pharm. Co.*, 642 F.3d 1370, 1377 (Fed. Cir. 2011) (affirming summary judgment of obviousness and rejecting as irrelevant uncorroborated assertions in specification that results were “unexpected” and similar expert

PUBLIC VERSION

declaration).

Based on the preceding reasoning, the Commission finds that there are no "unexpected results" that would overcome a finding of *prima facie* obviousness.

2) Industry Praise

Fujifilm argues that it relies on praise for the claimed subject matter of the tape media patents, including the '612 Patent, and not merely "generalized praise for barium ferrite" as the Final ID finds. Fujifilm Pet. at 53 (citing Final ID at 93). For example, Fujifilm asserts

IBM noted that the inventive concept of using Ba.Fe particles in magnetic tape media, as claimed in the inventions of the Asserted Claims, [REDACTED]

[REDACTED] JX-0179C (IBM White Paper at 2; see also CPostHBr at 83. As Dr. Wang explained, these very advantages are captured in the claims of the tape media patents. See *id.*; CX-0357C (Wang RWS) at QIA 40-42. For example . . . the enhanced smoothness of the magnetic layer, which reduces spacing loss, is claimed in claims 1, 2, 8, and 10 of the '612 Patent and in claim 1 of the '434 Patent."

Id. at 53-54 (emphasis added).

Fujifilm has failed to tie any novel or inventive aspect of the asserted claims of the '612 Patent to the purported industry praise. See *In re Kao*, 639 F.3d 1057, 1068 (Fed. Cir. 2011) ("Where the offered secondary consideration actually results from something other than what is both claimed and novel in the claim, there is no nexus to the merits of the claimed invention."). In particular, we note that the Final ID finds that the Endo reference discloses the "center surface average roughness" limitation recited in the asserted claims. Final ID at 151-152 (citing RX-0334 (Endo) at [0008]); see also RX-0001C (Bhushan WS) at Q/A 240-241). As such, this is not

PUBLIC VERSION

a novel aspect of the invention and cannot provide the required nexus. Moreover, the evidence on which Fujifilm relies states the advantages of using BaFe in general, not any specific aspect of the invention recited in the asserted claims. *See* JX-0179C.

Based on the preceding discussion, the Commission finds that there is no evidence of “industry praise” that would overcome a finding of *prima facie* obviousness.

3) Commercial Success

Fujifilm argues that its “commercial success in the tape storage media industry is attributable to the inventions of the Asserted Claims. . . [including] increased storage density, higher signal-to-noise ratio, higher capacity, robustness against magnetization degradation, and better archivability.” Fujifilm Pet. at 56-57 (citing CX-0357C (Wang RWS) at Q/A 93-97). Fujifilm notes the Final ID’s finding that “the prior art discloses many aspects of the . . . ’891 . . . Patent[]—including barium ferrite particles—and, as a result, questions whether Fujifilm’s commercial success is tied to those aspects that are present in the prior art.” *Id.* at 58 (citing Final ID at 174). Fujifilm notes, however, that the Final ID “correctly found that the prior art neither discloses nor renders obvious the asserted claims of” the ’612 Patent. *Id.* at 58.

It is undisputed that Fujifilm has successfully commercialized barium ferrite LTO-6 and LTO-7 tapes. CX-0357C at Q/A 93-97; CX-0368 (Faulhaber RWS) at Q/A 8, 9, 11, 13.

However, we agree with the Final ID that “the nexus between [Fujifilm’s] commercial success and the ’612 Patent is weak.” Final ID at 174-175. Fujifilm’s expert, Dr. Wang, explained that “Fujifilm’s development of barium ferrite tape media technology as claimed by the Asserted Claims contributed to the commercial success of Fujifilm’s LTO-7 and LTO-6 products” but failed to identify the particular inventive feature of the ’612 Patent responsible for the purported

PUBLIC VERSION

commercial success. *See* CX-0357C at Q/A 94. The use of BaFe, however, was known in the prior art. Moreover, Dr. Wang lumps the various magnetic tape media patents together in his discussion, and thus fails to specify which novel aspect of the '612 Patent is responsible for the purported commercial success. *Id.* at Q/A 95. *Sjolund v. Musland*, 847 F.2d 1573, 1582 (Fed. Cir. 1988) (“Commercial success is relevant only if it flows from the merits of the claimed invention.”).

Based on the preceding discussion, the Commission finds that there is no evidence of “commercial success” that would overcome a finding of *prima facie* obviousness.

4) Long-Felt Need

Fujifilm disputes the Final ID’s finding that the evidence Fujifilm presented regarding a long-felt need “was insufficiently tied to the novel subject matter claimed by [the] tape media patents” Fujifilm Pet. at 59 (citing Final ID at 172 (finding high capacity storage not reasonably related to improvement in media noise)).

Fujifilm’s expert, Dr. Wang, testified that

Sony’s documents such as CX-0313 (Sony white paper) reveal that Sony had been working towards reducing the overall thickness of the magnetic tape by reducing the thickness of the base film layer. The inventions of the Asserted Claims helped accomplish the same goal—years before—by reducing the thickness and the roughness of the magnetic layer without compromising the strength of the base-film layer, for example, in the ‘106 Patent, claim 5; the ‘891 Patent, claims 1, 8, 9; and the ‘612 Patent, claims 1, 2, 4, 5, 7-11.

CX-0357C (Wang RWS) at Q/A 83. Dr. Wang, however, failed to identify a novel aspect of the invention recited in the asserted claims of the '612 Patent that was the basis for the statement in Sony’s document. As such, Fujifilm has failed to present any evidence that the invention of

PUBLIC VERSION

the '612 Patent fulfilled any long-felt need. *Sjolund*, 847 F.2d at 1582 (“[W]e are constrained . . . to consider whether the claimed invention satisfied a long felt need, or solved problems where others had failed.”)

Based on the preceding discussion, the Commission finds that there is no evidence of “long-felt need” that would overcome a finding of *prima facie* obviousness.

Weighing all of the secondary consideration factors discussed above, the Commission concludes that there are no secondary considerations that outweigh the finding that the asserted claims of the '612 Patent are *prima facie* obvious. Accordingly, the Commission find that the asserted claims of the '612 patent are invalid as obvious over Matsuno and Endo in view of Wallace.

5. Technical Prong

The Final ID finds that Fujifilm’s LTO-6 and LTO-7 DI products practice the asserted claims of the '612 Patent. Final ID at 128-144. However, the Commission has held that, in order to satisfy the technical prong of the domestic industry requirement, the asserted domestic product(s) must practice a valid claim.²⁷ *Certain Vision-Based Driver Assistance System Cameras, Components Thereof, and Products Containing the Same*, Inv. No. 337-TA-907, Comm’n Op. at 36 (Dec. 1, 2015) (public version) .

As discussed above, the Commission finds that Sony has shown through clear and convincing evidence that the asserted claims of the '612 Patent are invalid as obvious. As such, Fujifilm has failed to show that its DI products practice a valid claim of the '612 Patent.

²⁷ Fujifilm did not assert that its domestic industry products practice any unasserted claim of the '612 Patent.

PUBLIC VERSION

Accordingly, the Commission finds that Fujifilm has failed to satisfy the technical prong of the domestic industry requirement with respect to the '612 Patent. For that reason, the Commission does not reach the Final ID's findings concerning the technical prong with respect to the '612 Patent. *See Beloit Corp. v. Valmet Oy*, 742 F.2d 1421, 1423 (Fed. Cir. 1984).

C. '106 Patent

1. Overview of the Technology

U.S. Patent No. 6,703,106 is entitled "Magnetic Recording and Reproducing Method and Magnetic Recording Medium for Use in the Method." '106 Patent (JX-0002). Claims 2, 5, and 6 of the '106 Patent are asserted in this investigation.

The '106 Patent relates to a high density recording medium that reduces noise caused by abrasive particles and their clusters on the surface of the medium when read with magnetoresistive or "MR" tape heads. Fujifilm Post-Hearing Br. at 179; *see also* Sony Post-Hearing Br. at 194 ("The '106 Patent discusses and claims abrasive particles contained in the magnetic layer of a magnetic recording medium."). MR read heads differ from conventional tape heads because MR read heads do not rely on the phenomenon of induction. *Id.* Reproductive output is increased with MR heads as opposed to induction type magnetic discs. '106 Patent at 1:45-47. The reduction of impedance noise with the use of MR tape heads allows a greater SNR by lowering the noise coming from the magnetic recording media. *Id.* at 47-52. MR heads, however, are more sensitive than conventional heads and are used in high density recording media, and therefore abrasive particles—and clusters of abrasive particles on the tape surface—cause deterioration of the signal-to-noise ratio. Fujifilm Post-Hearing Br. at 179; *see* '106 Patent at 2:14-16 ("In particular, the influence of the abrasive becomes large when

PUBLIC VERSION

an MR head is used, which causes the degradation of S/N ratio.”). The invention of the ’106 Patent discloses a magnetic recording medium having a particular track width and specific physical and chemical attributes, including a particular size of abrasive particles on the magnetic layer surface relative to the track width, intended to remedy the above-mentioned issues. Final ID at 181; ’106 Patent at 2:30-62.

2. Asserted Claims

The asserted claims of the ’106 Patent recite the following:²⁸

1. A magnetic recording and reproducing method comprising recording and reproducing a signal with a magnetic head in a *track width* (A) of less than 5 μm on a magnetic recording medium comprising a support having provided thereon a magnetic layer containing at least a ferromagnetic powder, an abrasive and a binder, wherein the average longer size (B) of the abrasive particle(s) which are present on the magnetic layer surface is $\frac{1}{3}$ or less of the *track width* (A).
2. A magnetic recording medium which is used in the magnetic recording and reproducing method as claimed in claim 1, wherein the magnetic recording medium is a magnetic recording medium comprising a support having provided thereon a magnetic layer containing at least a ferromagnetic powder, an abrasive and a binder, and the average longer size (B) of the abrasive particle(s) which are present on the magnetic layer surface is $\frac{1}{3}$ or less of the *track width* (A).
5. The magnetic recording medium as in claim 2, wherein the magnetic recording medium comprises a support, a substantially nonmagnetic lower layer provided on the support and a magnetic layer containing a ferromagnetic metal powder or a hexagonal ferrite powder dispersed in a binder provided on the nonmagnetic lower layer, and the magnetic layer has a layer thickness of from 0.01 to 0.15 μm .

²⁸ Asserted claim 2 depends from unasserted independent claim 1, and asserted claims 5 and 6 depend from claim 2.

PUBLIC VERSION

6. The magnetic recording medium as in claim 2, wherein the magnetic recording medium is for MR head reproduction.

'106 Patent at 26:5-23, 34-43.

3. Discussion

The Final ID finds that the term “track width” recited in asserted claim 2 (and independent claim 1) of the '106 Patent is indefinite as a matter of claim construction. Final ID at 187-190. The Commission determined not to review the Final ID's finding that the asserted claims of the '106 Patent are invalid as indefinite. 82 *Fed. Reg.* 30039. The Commission determined to review the Final ID's findings on the remaining issues with respect to the '106 Patent and, on review, has determined not to reach those issues. *See Beloit*, 742 F.2d at 1423.

D. '434 Patent

1. Overview of the Technology – ' 434 Patent

U.S. Patent No. 8,236,434 is entitled “Magnetic recording medium, magnetic signal reproduction system and magnetic signal reproduction method.” '434 Patent (JX-0005). Claim 1 of the '434 Patent remains asserted in this investigation.

The '434 Patent relates to the surface characteristics of the magnetic layer and the backcoat layer of a magnetic recording medium for providing enhanced electromagnetic characteristics for high-density recording. *Id.* at Abstract, 2:31-34. It is desirable for magnetic tape data cartridges to have large storage capacity and fast read and write speeds. Large storage capacity requires an increased storage density—or put differently, the physical space on the tape required to store each bit of information must decrease, allowing the overall tape to store more information. *Id.* at 1:25-40. The '434 Patent discloses a magnetic recording medium with certain magnetic layer surface characteristics, backcoat layer characteristics, and particular

PUBLIC VERSION

magnetic particle characteristics of hexagonal ferrite particles, which result in a high-capacity magnetic recording medium capable of maintaining good electromagnetic characteristics and performance even after long-term storage and high-temperature storage. *Id.* at 32:18-22 (claim 1).

2. Asserted Claim

The asserted claim of the '434 Patent recites the following:

1. A magnetic recording medium comprising a magnetic layer comprising a hexagonal ferrite powder and a binder on one surface of a nonmagnetic support and a backcoat layer on the other surface of the nonmagnetic support, wherein

a power spectrum density²⁹ at a pitch of 10 micrometers ranges from 800 to 10,000 nm³ on the magnetic layer surface,

a power spectrum density at a pitch of 10 micrometers ranges from 20,000 to 80,000 nm³ on the backcoat layer surface,

the magnetic layer has a center surface average surface roughness Ra, as measured by an atomic force microscope, ranging from 0.5 to 2.5 nm, and

the hexagonal ferrite powder has an average plate diameter ranging from 10 to 40 nm.

'434 Patent at 32:18-32.

3. Claim Construction

The Final ID does not construe any limitations recited in claim 1 of the '434 Patent.

However, whether the Final ID properly finds non-infringement and whether Fujifilm has

²⁹ Power spectrum density ("PSD") is a parameter reflecting the roughness of a surface obtained by measuring the power of the surface height as a function of frequency. In other words, the PSD depends on the waviness of the surface. Hearing Tr. at 39:1-6.

PUBLIC VERSION

satisfied the technical prong of the domestic industry requirement with respect to the asserted claims of the '434 Patent depends on whether the claims require the entirety of the recited “magnetic layer surface” and “backcoat layer surface” to have a “power spectrum density” within the claimed range, or whether it is sufficient if at least a portion of the recited surfaces has a “power spectrum density” within the claimed range. Accordingly, the Commission asked the parties for briefing regarding the proper scope of the limitations “a power spectrum density at a pitch of 10 micrometers ranges from 800 to 10,000 nm³ on the magnetic layer surface” and “a power spectrum density at a pitch of 10 micrometers ranges from 20,000 to 80,000 nm³ on the backcoat layer surface.” See 82 FR at 60040 (Questions 1 and 2).

Fujifilm and OUII assert that the claim language does not require that the entirety of the “magnetic layer surface” or “backcoat layer surface” have power spectral density measurement values within the claimed range. Specifically, Fujifilm contends that “[i]t is undisputed that a [POSITA] would have understood that the term ‘power spectrum density’ means ‘power spectral density,’ a well-known parameter that characterizes the surface roughness of a magnetic tape sample.” Fujifilm Br. at 2 (citing CX-0004C (Wang DWS) at Q/A 758-60; RX-0005C (Talke DWS) at Q/A 81); *see also* OUII Br. at 2 (“By its plain language, this limitation is satisfied by an archival backup tape having a magnetic surface characterized by a power spectral density (‘PSD’) between 800 to 10,000 nm³ at a pitch of 10 micrometers.”) (emphasis in original). Fujifilm further argues that the indefinite article “a” in the limitation means “one or more” such that “a power spectra density within the claimed range infringes this limitation.” *Id.* at 2-3 (emphasis in original) (citing *01 Communique Lab., Inc. v. LogMeIn, Inc.*, 687 F.3d 1292, 1297 (Fed. Cir. 2012) (“As a general rule, the words ‘a’ or ‘an’ in a patent claim carry the meaning of ‘one or

PUBLIC VERSION

more.’ The exceptions to this rule are extremely limited: a patentee must evince a clear intent to limit ‘a’ or ‘an’ to ‘one.’”) (internal quotation marks and citation omitted)).

Sony counters that “based on a plain reading of the claim itself, a [POSITA] would know that tapes with magnetic or backcoat layer PSD falling outside the respective claimed ranges do not practice claim 1—even if one or more results fall within the claimed range.” Sony Br. at 9. Specifically, Sony contends that “allowing claim 1 to cover, for example, a tape that is longer than ten football fields, where just one inch of that tape happened to have properties falling within the claimed range, would essentially render that limitation meaningless, as the limitation would functionally be read out of the claim.” *Id.* (citing RX-370C (Talke RWS) at Q&A 140-141, 154-155).

Sony also argues that the parties’ experts agreed on the scope of the magnetic and backcoat surface limitations. *Id.* at 4-9. In particular, Sony asserts that Fujifilm’s expert, Dr. Wang, “acknowledged that it is insufficient for Fujifilm to show that the accused products infringe claim 1, or that its [DI] products practice claim 1, where testing reveals measurement results ***both within and outside*** the claimed ranges.” *Id.* at 4 (emphasis in original) (citing Wang Tr. at 308:18-23, 309:15-17). Sony further notes that its expert, Dr. Talke, “agreed that a given tape only practices claim 1 if ***all*** testing results fall within the claimed range.” *Id.* (citing RX-0370C at Q&A 140-142, 154-158; Talke Tr. at 632: 10-13 (“And it seems to me that it would be most reasonable to say to practice the claim, all data points have to fall within the claimed range.”)).

Claim 1 recites “[a] magnetic recording medium comprising a magnetic layer . . . and a backcoat layer . . . wherein a power spectrum density at a pitch of 10 micrometers ranges from

PUBLIC VERSION

800 to 10,000 nm³ on the magnetic layer surface, a power spectrum density at a pitch of 10 micrometers ranges from 20,000 to 80,000 nm³ on the backcoat layer surface. . . .” ’434 Patent at 32:22-27. The PSD is a measurement of the waviness of a surface or, in other words, is reflective of a physical characteristic of a surface. *See* Fujifilm Br. at 3-4 (“a power spectrum density. . . ’ corresponds to a **physical characteristic** (*i.e.*, an indicator of waviness) of at least a portion of a magnetic tape medium.”) (emphasis added); OUII Br. at 2 (“this limitation is satisfied by an archival backup tape having a magnetic surface **characterized** by a power spectra density [in the claimed range].”) (emphasis added). We agree with Sony that “the article ‘a’ in ‘a power spectrum density’ refers to a tape characteristic—**not a** single particular measurement.” Sony Reply Br. at 3 (emphasis in original). The plain language of the claim therefore reflects a property of the backcoat layer itself, not merely a portion of the backcoat layer.

Fujifilm argues that “an accused device that ‘sometimes, but not always, embodies a claim[] nonetheless infringes.’” Fujifilm Br. at 5 (citing *Bell Commc’ns Research, Inc. v. Vitalink Commc’ns Corp.*, 55 F.3d 615, 622-23 (Fed. Cir. 1995); *SunTiger, Inc. v. Sci. Research Funding Grp.*, 189 F.3d 1327, 1336 (Fed. Cir. 1999) (“If a claim reads merely on a part of an accused device, that is enough for infringement.”)). Fujifilm, however, incorrectly conflates the issue of claim construction with that of infringement. Moreover, the case law does not support Fujifilm’s position.

In *SunTiger, Inc.*, the Federal Circuit noted that merely adding a component to a device that otherwise satisfies a claim does not remove the device from infringement. 189 F.3d at 1336. Notably, the Court found that the claim limitation at issue covered the transmission properties of a lens and that merely adding an additional coating that changed the transmission properties of

PUBLIC VERSION

the lens did not render the accused device noninfringing where the uncoated lens otherwise satisfied the claim. *Id.* However, there is no assertion that any extra component is being added to the claimed magnetic or backcoat layers. Rather, the question is whether the claimed layers must exhibit certain properties.

Similar to *Cat Tec*, we find that adopting Fujifilm’s construction would essentially render the limitation meaningless, as the limitation would functionally be read out of the claim. *See Cat Tech LLC v. TubeMaster, Inc.*, 528 F.3d 871, 885 (Fed. Cir. 2008) (omitting the claimed feature would render the claim language “functionally meaningless”). Specifically, in *Cat Tech*, the Court rejected the patentee’s argument that the limitation “a spacing” was satisfied if any single point on the plates met the limitation, finding that the limitation would otherwise functionally be read out of the claim, and where the patentee relied on the spacing limitation to distinguish over the prior art.

The specification of the ’434 Patent emphasizes the importance of controlling the PSD of the magnetic and backcoat layers. ’434 Patent at 2:35-62, 4:17-54, 31:30-46, Table 1; RX-0370C (Talke RWS) at Q&A 142, 156-157. In particular, the specification discloses that “the waviness component of the magnetic layer surface are controlled to enhance electromagnetic characteristics in the present invention[,]” noting the problems with magnetic layer surface PSD that falls below as well as above the claimed range. *Id.* at 9 (citing ’434 patent at 4:17-29). Regarding the backcoat layer, the specification teaches controlling the “waviness components of the backcoat layer . . . to prevent deterioration of electromagnetic characteristics due to reverse transfer to the magnetic layer[,]” noting the problems with backcoat layer surface PSD that falls below as well as above the claimed range. *Id.* at 10 (citing ’434 Patent at 4:33-41, 4:43-54); *see*

PUBLIC VERSION

also LizardTech v. Earth Resource Mapping, 424 F.3d 1336, 1343-44 (Fed. Cir. 2005) (“It would be peculiar for the claims to cover prior art that suffers from precisely the same problems that the specification focuses on solving.”)).

Fujifilm contends that the disclosure in the specification of the '434 Patent describing the PSD as “a value measured by the following method, that can be employed as an indicator of waviness at a pitch of 10 micrometer” . . . is consistent with a [POSITA's] understanding of the term as a parameter of the physical characteristics of a portion of a magnetic tape recording medium.” Fujifilm Br. at 3. Fujifilm argues that “nothing in the specification requires that *every* portion of a tape have this claimed feature in order to practice the disclosed invention.” *Id.* However, we do not see how the fact that PSD refers to a value that can be measured bears on whether claim 1 covers PSD characteristics of the tape's magnetic and backcoat layer surfaces.

The prosecution history also supports a finding that the entirety of the magnetic and backcoat layer surfaces must exhibit PSD within the claimed ranges. Specifically, the patent applicant distinguished the claimed invention of the '434 Patent over a prior art reference, Sasaki, by asserting that “conventional backcoat layers, such as those taught by Mori and Sasaki, do not have a PSD within the claimed range” JX-11 at 370. Moreover, the applicant asserted that “unexpectedly superior results (*i.e.*, reduced noise and a suppressed drop in the K-SNR) were obtained by controlling the PSD on the backcoat layer surface” to within the claimed range, and concluded that “not only does the combination of Mori and Sasaki fail to disclose or reasonably suggest each element of the present claims, but the unexpectedly superior results obtained by the present claims would rebut any *prima facie* case of obviousness.” *Id.* The applicant similarly distinguished the claimed PSD range of the backcoat layer over another prior art reference,

PUBLIC VERSION

Doushita et al. (U.S. Publication No. 2004/0043257). *Id.* at 399-401.

Fujifilm argues that “nowhere did the inventors argue that all portions of a prior art tape must have a backcoat layer PSD within the claimed range.” Fujifilm Reply Br. at 3. However, the prosecution history suggests that the patent applicant, as well as the examiner, considered the claimed range a point of novelty. *See* JX-420 (“Reasons for Allowance: The following is an examiner’s statement of reasons for allowance: the closest prior art Mori et al. (US 2003/0113585) fails to teach, suggest, or otherwise render obvious the claimed articles and method requiring a power spectrum density at a pitch of 10 micrometers ranges from 20,000 to 80,000 nm³ on the backcoat layer surface.”). As such, we find that the prosecution history supports requiring the entirety of the recited backcoat layer to have a PSD within the claimed range. *See LizardTech*, 424 F.3d at 1344 (finding a claim to cover a certain type of image compression where the patent application argued the feature as a point of novelty and the examiner stated the feature as a reason for allowance).

Sony also argues that Fujifilm’s expert, Dr. Wang, acknowledged that Fujifilm could not show infringement or that the technical prong of the domestic industry is satisfied “where testing reveals measurement results ***both within and outside*** the claimed ranges.” Sony Br. at 4 (emphasis in original) (citing Wang Tr. at 308:18-23 (“If the measurement is done with reasonable certainty and your number is in and out of the range, I cannot prove domestic industry or infringement.”), 309:15-17) (“Q. to practice claim 1, you believe all your testing results should be within the claim range; correct? A: Correct.”)). Sony contends that Dr. Wang “insist[ed] that Fujifilm drop its earlier asserted LTO-6 products from its contentions given that the expert’s own testing of the Fujifilm LTO-6 backcoat layer showed that two of three results

PUBLIC VERSION

were higher than 80,000 nm³, and, thus, outside the claim range.” *Id.* at 6-7 (citing Wang Tr. at 308:24–309:9; CX-0448 (EAG OP Report, Nov. 10, 2016) at 3)). Thus, Sony asserts, there is no dispute between the parties regarding the proper scope of the asserted claims of the ’434 Patent. *Id.* at 5 (“Fujifilm does not dispute that claim 1 excludes products that measure PSD outside the claimed ranges.”).

Sony improperly conflates claim construction with the issues of infringement and whether Fujifilm has satisfied the technical prong of the domestic industry requirement. Moreover, we agree with Fujifilm that Sony places too much emphasis on Fujifilm’s decision to withdraw its LTO-6 DI products as support for the domestic industry requirement. We have no reason to doubt Fujifilm’s explanation that its expert was merely being cautious rather than making any sort of admission. Fujifilm Reply Br. at 4 (Dr. Wang’s cautious determination that certain data did not meet his rigorous standards does not mean that other data and testing could not.”); *see also* Fujifilm Pre-Hearing Br. at 242-243 (“Dr. Wang’s decision to not rely on Fujifilm LTO-6 as a [DI] product for the ’434 Patent is not merely because some measurement data are outside of the claimed range. Dr. Wang states ‘after verifying that I performed the testing correctly and considering the statistical significance of the two out-of-scope data points, I concluded that it would be inappropriate for me to rely on the Fujifilm LTO-6 product as [DI] products practicing claim 1 of the ’434 Patent.’ CX-0357C (Wang RWS) at Q/A 337. Accordingly, it is the determination of the product characteristics that drove Dr. Wang’s infringement analysis.”).

Nor is there any support for Sony’s assertion that Fujifilm has never disputed the scope of the magnetic and backcoat layer limitation. Rather, as OUII notes, “Fujifilm has consistently

PUBLIC VERSION

argued that it is sufficient for a claim to read on a part of an accused product” OUII Reply Br. at 3 (citing Fujifilm Pre-Hearing Br. at 242; Fujifilm Post-Hearing Br. at 251; Fujifilm Reply Post-Hearing Br. at 94-95; Fujifilm Pet. at 11; Fujifilm Br. at 2-7).

Based on the preceding discussion, the Commission construes the magnetic and backcoat layer limitations of the asserted claims of the ’434 Patent to require that the entire surface of each layer must have PSD measurements within the claimed range.

4. Direct Infringement

a. Final ID

The Final ID finds that Sony’s accused LTO-7 products do not infringe claim 1 of the ’434 Patent because they do not practice the limitation “ wherein . . . a power spectrum density at a pitch of 10 micrometers ranges from 20,000 to 80,000 nm³ on the backcoat layer surface” Final ID at 267.³⁰ Specifically, the Final ID finds that “Fujifilm’s testing indicates that Sony’s LTO-7 products have a backcoat layer with a power spectrum density at a pitch of 10 micrometers of [REDACTED].” *Id.* at 266. The Final ID, however, faults Fujifilm for “barely cit[ing] Dr. Wang’s direct testimony on infringement[.]” noting that, “with regard to both the backcoat and magnetic layer limitations,” Fujifilm cited only “CX-0004C (Wang WS) at Q/A 807 for the proposition that Dr. Wang ‘mounted the sample himself.’” *Id.*³¹ The Final ID further finds that “Sony presents a weakness in Fujifilm’s testing insofar as the testing is of such

³⁰ The Final ID finds that the accused LTO-7 products satisfy the remaining limitations of claim 1. *See id.* at 260-266, 267-270. Those findings were not reviewed.

³¹ The Final ID notes that the testing report Fujifilm relies on was prepared by Dr. Sara Ostrowski of EAG Laboratories, not Dr. Wang. *Id.* at 264. n. 81. The Final ID further noted that “[t]he relationship between Dr. Wang and EAG is not clear.” *Id.*

PUBLIC VERSION

a small sample in comparison to a tape that it is insufficient to justify finding a violation of Section 337.” *Id.*³² The Final ID notes, however, that Sony “did not present rebuttal data for larger sections of the tape.” *Id.* at n.266.³³

The Final ID notes that “Sony’s testing indicates that Sony’s LTO-7 products have a backcoat layer with a power spectrum density at a pitch of 10 micrometers below 20,000 nm³.” *Id.* at 266 (citing RX-0370C (Talke RWS) at Q&A 151-152; RDX-0289C (presenting data from RX-0336C and RX-0309)). The Final ID notes Fujifilm’s criticism of Sony’s testing data, but finds that “portions of the testimony that Fujifilm cites are directed to Sony’s DDS-3 tapes and the ‘106 Patent.” *Id.* at 267 (citing CX-0357C (Wang RWS) at Q/A 196, 202 (discussing the DDS-3 tapes)).

b. Analysis

There is no dispute that Fujifilm presented evidence of several measurements of the backcoat layer PSD of the accused LTO-7 tapes that fall within the range recited in claim 1 of the ’434 Patent. Final ID at 264; CX-0448C (EAG OP analysis Rep.).³⁴ Therefore, we must consider whether Fujifilm showed by a preponderance of the evidence that the entire backcoat

³² By contrast, the Final ID finds that the limitation “wherein a power spectrum density at a pitch of 10 micrometers ranges from 800 to 10,000 nm³ on the magnetic layer surface” is satisfied based on the same limited testing area. Final ID at 267-268; CX-0448 at 3.

³³ The Final ID does not specify what testing of “larger sections of the tape” is being referenced.

³⁴ The Final ID’s criticism of Fujifilm for “barely cit[ing]” Dr. Wang’s testimony is misplaced since the relevant evidence was properly before the ALJ, although we note that the Final ID did not base its finding of non-infringement solely, or even primarily, on Fujifilm’s lack of citation to Dr. Wang’s testimony. *See* Final ID at 266-267 (discussing “the weakness in Fujifilm’s testing” and Sony’s rebuttal evidence).

PUBLIC VERSION

layer of the accused product satisfies the limitation. The debate regarding whether Fujifilm satisfied its burden of proof, is on two fronts: whether Fujifilm's limited testing was sufficient and whether Sony's testing showing backcoat PSD values outside the claimed range was reliable.

Regarding whether Fujifilm's testing was sufficient, Sony criticizes Fujifilm for testing "just several billionth of the total surface area." Final ID at 265; Sony Resp. at 12. However, Sony does not explain why this testing is legally insufficient, provided that there are no PSD values found outside of the claimed range.

Concerning this latter point, Sony relies on "[t]hree separate sets of test results" as showing that its accused LTO-7 products "measure backcoat layer PSD *outside* of the range recited in claim 1." Sony Br. at 14-15 (emphasis in original). Specifically, Sony relies on testing from an independent lab, testing performed by a Sony engineer, and testing performed by Fujifilm's expert. *Id.* at 15. Sony notes that "[t]he ALJ agreed that at least two separate sets of test results – the testing by an independent lab and a Sony engineer – show that the accused products measure backcoat layer PSD outside the claimed range." *Id.* (citing Final ID at 265-267). Sony contends that the Final ID incorrectly rejected the testing by Fujifilm's expert because it reflected Y-direction measurements. *Id.*

The Final ID finds that Y-direction PSD measurements are "not probative because one of ordinary skill in the art would not measure the tapes in this manner" Final ID at 268. We agree. The patent specification expressly states that PSD measurements are to be taken "in the longitudinal direction," that is, the X-direction. '434 Patent at 3:45-61. Sony's expert, Dr. Talke, conceded that Y-direction measurements are not suggested anywhere in the '434 Patent. Talke Tr. at 617:1-9, 618:8-1). Neither, as Fujifilm notes, do Dr. Talke's assertions "with respect to

PUBLIC VERSION

‘spacing loss,’ and the resulting signal to noise ratio . . . appear anywhere in the ’434 Patent.”

Fujifilm Resp. at 53.

Regarding the testing performed by an independent lab, MVA Scientific Consultants (“MVA”), Sony asserts that this testing was performed at the direction of Sony’s expert, Dr. Talke by “technicians who specialize in this type of testing . . .” Sony Br. at 15-16. Sony relies on the following X-direction (longitudinal) results from MVA, which show “three separate test results outside (below) the claimed range”:³⁵

[

]

Id. at 16 (citing RX-0309 (MVA roughness Report, Sony) at 4).


Fujifilm argues that while MVA conducted testing of the asserted prior art Sony DDS-3 tapes “under three different magnifications [] . . . the *only* LTO-7 data Sony disclosed in the MVA report is PSD measurement of the backcoat layer at the lowest magnification [] in the X direction.” Fujifilm Br. at 13 (citing RX-0309; RDX-0289C). Fujifilm contends that “Sony selected only the MVA data it found favorable, while omitting data taken in other ways that would show the Accused Products to be within range.” *Id.* (citing *E.E.O.C. v. Freeman*, 778 F.3d 463, 469–70 (4th Cir. 2015) (“[C]ourts have consistently

³⁵ The lower claimed range for the backcoat PSD is 20,000 nm³. ’434 Patent at 32:25-27.

PUBLIC VERSION

excluded expert testimony that ‘cherry-picks’ relevant data.”)). Fujifilm contends that the specification of the ’434 Patent discloses “a measurement area of 240 x 180 micrometers” and asserts that a POSITA “would generally choose a similar magnification and analysis size to ensure comparable results.” *Id.* (citing ’434 Patent at 3:45-61; CX-0357C (Wang RWS) at Q/A 327)).

We acknowledge that claim 1 of the ’434 Patent does not specify the magnification to be used when measuring the PSD of the backcoat layer, as well as Dr. Wang’s admission that different magnifications may be used. Wang Tr. at 311:17–312:6 (acknowledging that any magnification may be used “[a]s long as you don’t hit diffraction limit” of the optical profilometer); *see* CX-0357C (Wang RWS) at Q/A 230 (further testifying that “for an unknown sample, it is common knowledge that one should test at different magnifications to understand the surface topographical features of interest and not to pick a magnification blindly”)). Dr. Wang also admitted that claim 1 does not require a particular magnification setting. Wang Tr. at 311:17-22.

However, Sony fails to explain why it chose to deviate from the measurement area indicated in the patent specification, which is the parameter Fujifilm used in showing that the values of the backcoat PSD are within the claimed range. *See* Final ID at 264; CX-0448C (EAG OP Analysis Rep.). Nor does Sony explain why the Commission should accept its apple to oranges comparison. Specifically, Fujifilm performed its measurements of the accused LTO-7 backcoat layer at an area of  which is consistent with the 240 x 180 μm measurement area disclosed in the patent specification. ’434 Patent at 3:53-54; CX-0448C. As can be seen from Sony’s measurement data regarding the prior art DDS3 tape, the backcoat layer

PUBLIC VERSION

PSD measurements of the same tape are significantly different when performed at 10.1X magnitude as opposed to 27.5X or 50.4X magnitude, with the latter two giving measurements more consistent with each other.

Sample ID	Bates Number	Description	Measured side	Magnification		100/mm spatial freq. PSD (nm ³)
					Location /Orientation	
AB 1644	SNY-ITC_S0000001-2	Sony DDS3 tape	Backcoat	10.1X	1X	62663
					2X	63677
					3X	67632

Sample ID	Bates Number	Description	Measured side	Magnification		100/mm spatial freq. PSD (nm ³)
					Location /Orientation	
AB 1644	SNY-ITC_S0000001-2	Sony DDS3 tape	Backcoat	27.5X	1X	261473
					2X	256211
					3X	262652

Sample ID	Bates Number	Description	Measured side	Magnification		100/mm spatial freq. PSD (nm ³)
					Location /Orientation	
AB 1644	SNY-ITC_S0000001-2	Sony DDS3 tape	Backcoat	50.4X	1X	251473
					2X	256211
					3X	262652

RX-0340 at 4.

Given the lack of comparable evidence that the backcoat layer PSD measurements of the accused LTO-7 tapes do not fall within the claimed range, the Commission finds that the MVA testing does not refute Fujifilm’s evidence of infringement.

Regarding the testing performed by a Sony engineer, [REDACTED] Sony asserts that “this X-direction (longitudinal-direction) testing shows three separate test results outside (below)

PUBLIC VERSION

the claimed range”:³⁶

[

]

RX-0336C (Sony PSD Measurements) at 3.

Fujifilm again accuses Sony of presenting only “certain selected data reported by” []. []. Fujifilm Br. at 12. Specifically, Fujifilm asserts that while [] “reported PSD of both the front and backside surfaces of the alleged prior art products, he only reported backside PSD data of the Accused Products and Fujifilm’s LTO-7 products.” *Id.* at 12 n.3. Fujifilm, however, fails to provide citations to relevant evidence or to explain the significance of the noted discrepancy.

Fujifilm also contends that, although Sony’s expert, Dr. Talke, purportedly “directed” [] [] testing activities, Dr. Talke in fact never contacted [] until “nearly two weeks after [] conducted the testing.” *Id.* (citing RX-0005C Q/A 132, 196; Talke Tr. at 599:17-600:15). Fujifilm further asserts that “[] even mounted the sample in a different way from the procedure devised by Dr. Talke, which Dr. Talke did not endorse[,]” and therefore, “Dr. Talke’s reliance on that testing was not reasonable or justifiable.” *Id.* In addition, Fujifilm asserts that “[] data set was plagued with issues” as identified by Dr. Wang. *Id.* at 13 (citing CX-0357C (Wang RWS) at Q/A 184-190, 202).

Regarding whether Dr. Talke appropriately directed [] testing, Sony

³⁶ The lower claimed range for the backcoat PSD is 20,000 nm³. ’434 Patent at 32:25-27.

PUBLIC VERSION

contends that Dr. Talke “provided all of the necessary testing instructions to Sony’s engineer *prior to his testing*.” Sony Br. at 18 (citing Talke Tr. at 598:8-20 (“Q. [E]ven though you weren’t there in person, you still directed the testing, is your view? A Yeah, that’s correct”); RX-0005C at Q/A 131-135 (explaining the instructions given to [] prior to testing)); *see also* RX-0336C at 2 (“Conditions directed by Dr. Talke Measurements performed by [] [] Sony”).

Based on the evidence, there is no indication that [] acted unsupervised or contrary to Dr. Talke’s instructions. In particular, regarding the manner in which [] mounted the testing sample, Dr. Talke explained that [] “used the more conventional mounting” (RX-0005C at Q/A 136) and that, while he has personally used an “alternative method,” he did not characterize the method that [] used as incorrect (Talke Tr. at 604:15–605:5). Moreover, even though Fujifilm’s expert, Dr. Wang, explained that he preferred to oversee testing in person, he acknowledged that Dr. Talke “inspect[ed] the equipment and the testing environment by video” and that “[h]e also had an opportunity to observe, by video, measurement instrument operation and data processing.” CX-0357C at Q/A 184.

As for Dr. Wang’s criticisms of Dr. Talke’s testing method – or the instructions Dr. Talke provided to [] – while Dr. Wang provides examples of what he would have done differently, he does not identify any actual errors in [] testing with respect to the accused LTO-7 tapes. *Id.* at Q/A 184-190. Rather, the only purported error Dr. Wang discusses is regarding Sony’s testing of the prior art DDS-3 tapes. CX-0357C at Q/A 202; *see* Final ID (rejecting Dr. Wang’s discussion of the prior art tapes). Fujifilm argued in its petition for review that it cited “the flawed testing of the DDS-3 to establish Sony’s pattern of carelessness and

PUBLIC VERSION

unreliability in its testing of PSD, and to demonstrate how disconnected Dr. Talke was from conducting the testing that he cited in his testimony.” Fujifilm Pet. at 12. However, the testing Dr. Wang criticizes relates to different claim limitations in the withdrawn ’101 Patent. *See* RX-0003C at Q/A 274; *compare* RX-0336C (Sony PSD measurements at a pitch of 10 μm for the magnetic and backcoat layers) *with* RX-0293 and RX-340 (MVA and Sony measurements, respectively, of “a power spectrum of density at a spatial frequency of 100/mm” and “the power spectrum of density at a spatial frequency of 500/mm is 50 to 500 nm^3 ”). As such, it is not clear how Dr. Wang’s criticisms relate to the testing regarding the backcoat PSD range claimed in the ’434 Patent.

Based on the preceding discussion, we find that Sony has reasonably presented evidence of backcoat PSD measurements of the accused LTO-7 tapes that fall outside of the range recited in claim 1 of the ’434 Patent. Because we construe the asserted claims of the ’434 Patent to require that the entire backcoat PSD be within the claimed range, the Commission finds that Fujifilm has failed to show by a preponderance of the evidence that the accused LTO-7 tapes satisfy the limitation “wherein . . . a power spectrum density at a pitch of 10 micrometers ranges from 20,000 to 80,000 nm^3 on the backcoat layer surface” recited in claim 1 of the ’434 Patent.

5. Technical Prong

a. Final ID

Fujifilm asserted that its LTO-7 DI products practice claim 1 of the ’434 Patent. Final ID at 270.³⁷ The Final ID, however, finds that the LTO-7 DI products do not practice claim 1 of

³⁷ Fujifilm does not rely on its LTO-6 DI products with respect to the ’434 Patent. *Id.* Fujifilm did not assert that its LTO-7 DI Products practice any other claim of the ’434 Patent.

PUBLIC VERSION

the '434 Patent, in particular the full limitation “wherein a power spectrum density at a pitch of 10 micrometers ranges from 800 to 10,000 nm³ on the magnetic layer surface, a power spectrum density at a pitch of 10 micrometers ranges from 20,000 to 80,000 nm³ on the backcoat layer surface” *Id.* at 273-276.

Regarding the “backcoat layer surface” limitation, the Final ID again notes that Fujifilm failed to cite any of Dr. Wang’s direct testimony regarding domestic industry. *Id.* at 273. The Final ID also notes Sony’s criticism of Fujifilm’s limited testing area.³⁸ *Id.* The Final ID also finds that Sony presented evidence of backcoat PSD measurements outside of the claimed range. *Id.* at 274 (citing RX-0370C (Talk RWS) at 232-41; RX-0336C (Sony PSD Measurements) at 3; RDX-0292C). The Final ID notes, however, that if Fujifilm’s evidence (CX-0448) is sufficient to show that the asserted LTO-7 DI products include the claimed backcoat layer, then the ALJ “would find that Fujifilm’s LTO-7 products [] satisfy this limitation, because the testing conducted at a third-party facility [] appears slightly more reliable than testing conducted by Sony (RX-0336), who is an interested party” *Id.*

Regarding the “magnetic layer surface” limitation, the Final ID notes that “Fujifilm’s testing suggests that Fujifilm’s LTO-7 products satisfy this limitation.” *Id.* at 275 (citing CX-0448 at 3). The Final ID further notes, however, that Fujifilm failed to cite any testimony from Dr. Wang’s witness statement in support of its argument. *Id.* Moreover, the Final ID notes that “Sony presents a weakness in Fujifilm’s testing insofar as the testing is of such a small sample in

³⁸ The Final ID rejected Sony’s argument that Fujifilm’s measurements were taken along the wrong directional axis. *Id.* at 274, *see also id.* at 267-268.

PUBLIC VERSION

comparison to a tape that it is insufficient to justify finding a violation of Section 337,” although it notes that “Sony did not present rebuttal data for larger sections of the tape.” *Id.*; *see also id.* at n.87.³⁹ Lastly, the Final ID notes that Sony presented testing showing that Fujifilm’s LTO-7 products measure magnetic layer PSD outside the claimed range. *Id.* (citing RX-0370C (Talke RWS) at Q/A 226-227, 235-236; RX-0283; RDX-0292C). The Final ID explains that, even if the evidence Fujifilm presents (CX-0448) alone is sufficient, it “would find that Fujifilm’s LTO-7 products still do not satisfy this limitation, because the testing conducted at a third-party’s facilities suggests it is as likely as not that Fujifilm’s LTO-7 products [do not] include the claimed magnetic layer.” *Id.* at 276.⁴⁰

b. Analysis

Fujifilm presented evidence of several measurements of the magnetic and backcoat layer PSD of Fujifilm’s LTO-7 tapes that fall within the range recited in claim 1 of the ’434 Patent. Final ID at 273,275; CX-0448C at 3.⁴¹ Sony criticizes Fujifilm for testing only a small sample of the asserted tape. Final ID at 273. However, Sony does not explain why this testing is legally insufficient, provided that there are no PSD values found outside of the claimed range.

Concerning this latter point, Sony relies on two sets of test results which purportedly “independently show that Fujifilm’s LTO-7 product measure backcoat layer PSD *outside* the

³⁹ Again, it is not clear what the Final ID means by “larger sections of the tape.”

⁴⁰ The actual quote is “it is as likely as not that Fujifilm’s LTO-7 products include the claimed magnetic layer,” but we believe the Final ID intended to state that the DI products “do not” include the claimed magnetic layer.

⁴¹ The Final ID appears to ignore the fact that OUII cited to testimony from Dr. Wang supporting Fujifilm’s DI contentions.

PUBLIC VERSION

claimed range.” Sony Br. at 21 (emphasis in original). Specifically, Sony relies on testing performed by a Sony engineer at the direction of Sony’s expert, Dr. Talke, and on testing performed by Fujifilm’s own expert, Dr. Wang. Sony asserts that the Final ID finds that Sony’s testing “shows that Fujifilm’s LTO-7 product measure backcoat layer PSD outside the claimed range.” *Id.* (citing Final ID at 274; RX-0336C (Sony PSD Measurements) at 3; RX-0370C (Talke RWS) at Q/A 232, 235-237; RDX-0292C). The Final ID’s finding, however, is not explicit. While the Final ID notes that exhibit RX-0336C shows backcoat layer PSD measurements outside of the claimed range, the Final ID does not address Sony’s testing other than to note that “testing conducted at a third-party facility (CX-0448) appears slightly more reliable than testing conducted by Sony (RX-0336), who is an interested party” Final ID at 274.⁴²

Regarding the testing performed by Sony engineer, [REDACTED], the results of the “X-direction (longitudinal-direction) testing . . . shows three separate test results outside (below) the claimed range”:

[

]

RX-336C. Fujifilm relies on the same arguments it made in the context of infringement as to why the Commission should disregard [REDACTED] test results. As discussed *supra* at

⁴² Exhibit CX-0448 is the evidence Fujifilm presented to show that the backcoat layer PSD of its DI Products satisfy claim 1 of the ’434 Patent.

PUBLIC VERSION

Section VI.D.4.b., while Dr. Wang explained that he would have performed the testing differently, he failed to identify any actual errors in [] testing. CX-0357C at Q/A 184-190. Moreover, Dr. Wang's criticism relates, not only to the prior art DDS-3 tapes, but also to different claim limitations in the withdrawn '101 Patent. *See* RX-0003C at Q/A 274; *compare* RX-0336C (Sony PSD measurements at a pitch of 10 μm for the magnetic and backcoat layers) *with* RX-0293 and RX-340 (MVA and Sony measurements, respectively, of "a power spectrum of density at a spatial frequency of 100/mm" and "the power spectrum of density at a spatial frequency of 500/mm is 50 to 500 nm^3 "). As such, it is not clear how Dr. Wang's criticisms relate to the testing regarding the backcoat PSD range claimed in the '434 Patent.

Sony also relies on the Y-direction (non-longitudinal) measurements performed by Fujifilm's expert, Dr. Wang. Sony Br. at 22 (citing RX-0222C-0227C (Wang Y-direction PSD data for Fujifilm LTO-7 tape); RX-0370C at Q&A 232-234; RDX-0185C). However, as discussed *supra* at Section VI.D.4.b., the Final ID correctly finds that that Y-direction PSD measurements are "not probative because one of ordinary skill in the art would not measure the tapes in this manner" Final ID at 268.

Based on the preceding discussion, the Commission finds that Sony has reasonably shown backcoat PSD measurements of the accused LTO-7 DI tapes that fall outside of the range recited in the claim 1 of the '434 Patent. Accordingly, the Commission finds that Fujifilm has failed to show by a preponderance of the evidence that the accused LTO-7 tapes satisfy the limitation "wherein . . . a power spectrum density at a pitch of 10 micrometers ranges from 20,000 to 80,000 nm^3 on the backcoat layer surface" recited in claim 1 of the '434 Patent.

Although the finding that Fujifilm's LTO-7 DI Products do not satisfy the "backcoat

PUBLIC VERSION

layer surface” limitation is dispositive, we also address whether Fujifilm’s LTO-7 tapes satisfy the limitation “a magnetic recording medium comprising a magnetic layer . . . wherein a power spectrum density at a pitch of 10 micrometers ranges from 800 to 10,000 nm³ on the magnetic layer surface.” Sony relies on testing performed by MVA, an independent lab, at the direction of Sony’s expert, Dr. Talke, as well as on testing by Fujifilm’s expert, Dr. Wang. However, both tests involved only Y-direction (non-longitudinal) measurements, and are therefore not probative. *See* Final ID at 268; Sony Br. at 24 n.11 (noting that the ALJ mistook Sony’s rebuttal testing as X-direction measurements instead of Y-direction measurements). As such, Sony has failed to rebut Fujifilm’s evidence that its LTO-7 DI products practice the patent inasmuch as Sony’s evidence does not show that the magnetic layer of Fujifilm’s DI LTO-7 tapes exhibit any PSD measurements outside of the claimed range.

Based on the preceding discussion, the Commission finds that Fujifilm has failed to show by a preponderance of the evidence that its asserted LTO-7 DI Products practice asserted claim 1 of the ’434 Patent. Accordingly, Fujifilm has failed to satisfy the technical prong of the domestic industry requirement with respect to the ’434 Patent.

6. Obviousness

a. Final ID

Sony asserted that claim 1 of the ’434 Patent is invalid as obvious over Yamazaki ’101⁴³

⁴³ U.S. Patent No. 6,703,101 (“Yamazaki ’101”) (JX-0003). This patent was previously asserted in this investigation (*i.e.*, “the ’101 patent”), but was later terminated from the investigation. *See supra* at Section III. A.

PUBLIC VERSION

in view of Hayakawa⁴⁴ and/or Naoe '598⁴⁵. Final ID at 290. Specifically, Sony argued that Yamazaki '101 discloses subject matter that satisfies the following limitations:

- 1a: “a magnetic recording medium”;
- 1b: “a magnetic recording medium comprising a magnetic layer comprising a hexagonal ferrite powder and a binder on one surface of a nonmagnetic support and a backcoat layer on the other surface of the nonmagnetic support”;
- the magnetic layer PSD aspect of 1c: “a power spectrum density at a pitch of 10 micrometers ranges from 800 to 10,000 nm³ on the magnetic layer surface”;
- 1d: “the magnetic layer has a center surface average surface roughness Ra, as measured by an atomic force microscope, ranging from 0.5 to 2.5 nm”; and
- 1e: “the hexagonal ferrite powder has an average plate diameter ranging from 10 to 40 nm.”

Id. at 287.⁴⁶

The Final ID finds that “Yamazaki ['101] discloses . . . limitations 1a, 1b, the magnetic layer PSD aspect of 1c, 1d, and 1e, but fails to disclose the backcoat layer PSD aspect.” *Id.* at 287-288. Specifically, the Final ID finds that, despite Dr. Talke’s testimony that a POSITA “would control backcoat roughness based on the prior art” (RX-0005C at Q/A 460-461), “he

⁴⁴ U.S. Patent App. Pub. No. 2006/0019123 (“Hayakawa”).

⁴⁵ U.S. Patent No. 6,475,598 (“Naoe”)

⁴⁶ Sony referred to its arguments made with respect to the asserted references and an additional reference, Greczyna (RX-78), noting that its arguments with respect to the asserted references at issue merely drop Greczyna. *See* Final ID at 290.

PUBLIC VERSION

does not point to any text suggesting the claimed range, which weighs against an obviousness conclusion.” *Id.* at 288.

Regarding the “center surface average surface roughness” of the magnetic layer limitation, the Final ID finds, referring to its discussion of the combination of Hayakawa or Naoe ’598 with Sony’s prior art DDS-3 tapes,⁴⁷ that “Dr. Talke’s ‘ballpark’ assertion” that a POSITA would be “motivated to use an AFM to measure surface roughness of the magnetic layer of the Sony Product Prior Art Tapes . . . is not clear and convincing evidence that the prior art discloses the claimed range.” *Id.* at 284.

b. Analysis

The Final ID finds that Yamazaki ’101 alone discloses all of the limitations recited in claim 1 of the ’434 Patent save two: (1) “a power spectrum density at a pitch of 10 micrometers ranges from 20,000 to 80,000 nm³ on the backcoat layer surface” and (2) “the magnetic layer has a center surface average surface roughness Ra, as measured by an atomic force microscope, ranging from 0.5 to 2.5 nm.”

Regarding the backcoat surface limitation, Sony’s expert, Dr. Talke, acknowledged that “while Yamazaki [’101] discloses a ‘backcoat layer surface’ . . . it does not explicitly disclose ‘a power spectrum density at a pitch of 10 micrometers ranges from 20,000 to 80,000 nm³ on the backcoat layer surface’ as recited in claim 1.” RX-0005C at Q/A 459. Dr. Talke asserted, however, that “controlling backcoat roughness to reduce embossment (or transfer) of the

⁴⁷ The Final ID directly references its discussion regarding the combination of Yamazaki ’101, Greczyna, Hayakawa and/or Naoe. *Id.* That discussion in turn references the discussion concerning Sony’s prior art DDS-3 tapes, Hayakawa, and Naoe. *Id.* at 289-290.

PUBLIC VERSION

magnetic layer of one winding by the backcoat layer of an adjacent winding during storage—a problem that the '434 Patent purports to solve—was well known in the art . . . [and] is taught by Hayakawa as well.” *Id.*; *see also id.* at Q/A 460 (discussing the disclosure of Hayakawa in more detail).

Regarding the motivation to combine Yamazaki '101 and Hayakawa, Sony's expert, Dr. Talke, explained that “[i]n light of [the teaching of Hayakawa] and Yamazaki's teaching of controlling the PSD of the magnetic layer at 10 microns, it would have been obvious to a [POSITA] to modify Hayakawa to control the PSD of the backcoat layer at the same pitch—*i.e.*, 10 microns.” *Id.* at Q/A 461. Dr. Talke further asserted that “[s]ince it would have been obvious to a [POSITA] to control the surface roughness of Yamazaki's backcoat layer at a pitch of 10 microns it would also have been obvious to modify Yamazaki to achieve PSD of the backcoat within a range of 20,000 to 80,000 nm³.” *Id.* Specifically, Dr. Talke testified that

a backcoat layer PSD at 10 microns is a result-effective variable—*i.e.*, a variable which achieves a recognized result . . . [and] a [POSITA] would have performed routine experimentation to discover a workable range for the PSD of the backcoat layer to, among other things, control backcoat surface roughness to reduce embossment of the magnetic layer of one winding by the backcoat layer of an adjacent winding during storage. Indeed, it would have been the normal desire of a [POSITA] to seek to improve upon Yamazaki and Hayakawa to determine where within the various ranges of backcoat PSD values is the optimum range for controlling surface roughness.

Id.

Whether or not a POSITA, based on Yamazaki '101 and Hayakawa, would be able to arrive at the claimed range of 20,000 to 80,000 nm³ for the PSD on the backcoat layer based on the disclosures in the prior art depends on: (1) whether a POSITA would be able to obtain the

PUBLIC VERSION

claimed range through experimentation to arrive at a desired result and (2) whether a POSITA would know to attempt the necessary experimentation.

The Federal Circuit has explained that “discovery of an optimum value of a result effective variable ... is ordinarily within the skill of the art.” *In re Applied Materials, Inc.*, 692 F.3d 1289, 1295-96 (Fed. Cir. 2012). Dr. Talke asserted that “a backcoat layer PSD at 10 microns is a result-effective variable.” *See* CX-0005C at Q/A 461. Specifically, Dr. Talke explained that the desired result is “control[ling] backcoat roughness to reduce embossment of the magnetic layer of one winding by the backcoat layer of an adjacent winding during storage.” *Id.* at Q/A 447; *see* ’434 Patent at 2:10-27 (describing the problem of “reverse transfer” during extended storage of magnetic tapes). As Dr. Talke noted, Hayakawa also recognizes this problem. *Id.* at 460 (citing RX-0098 (Hayakawa) at ¶¶ 0031, 0037-0038). Dr. Talke explained that

Hayakawa teaches that it is desirable to have a back surface that is rough enough to provide friction for handling but not so rough that when wound imprints an adjacent magnetic layer. *See* RX-0098 (Hayakawa) ¶¶ 0031, 0037-0038. Hayakawa further teaches the importance of controlling roughness on the backcoat surface. RX-0098 (Hayakawa) at ¶ 0031; *see id.* at ¶ 0038 (“By providing the smoothed layer on the both surfaces of the nonmagnetic support it is possible to suppress influences against the magnetic layer due to not only the roughness of the surface of the non-magnetic support but also projections of the surface of the back layer.”)

Id. Thus, the desired “result” is the suppression of the reverse-transfer problem. Dr. Wang did not dispute that reverse-transfer was a known problem or that a POSITA would understand when the desired suppression had been achieved. Rather, Dr. Wang testified that Hayakawa does not disclose the concept of controlling the PSD of the backcoat layer such that a POSITA would

PUBLIC VERSION

have referenced the teachings of Hayakawa to arrive at the claimed PSD range for the backcoat layer.

This leads to the second question: whether the cited prior art teaches controlling the PSD of the backcoat layer. Fujifilm's expert, Dr. Wang, testified that Hayakawa merely discloses "preferred S_{Ra} value for the backcoat layer . . . [which] does not provide the same information as [PSD]." CX-0357C at Q/A 297.⁴⁸ While Yamazaki '101 discloses controlling the PSD of the magnetic layer surface, Yamazaki '101 does not disclose the concept of PSD with respect to the backcoat layer. RX-0005C at 442 (citing Yamazaki '101 at 12:50-65 (disclosing a "conventional backcoat layer")), *id.* at 459. Sony failed to address Dr. Wang's testimony in its petition for review although the Final ID directly cited to this evidence in finding that the prior art does not disclose the backcoat layer limitation. *See* Final ID at 288 (citing Fujifilm Post-Hearing Br. 271-273).

Based on Sony's lack of a response to this critical question, we find no basis to question the Final ID's conclusion that the prior art does not disclose the claimed backcoat layer PSD range. Specifically, although the prior art shows that the problem of reverse-transfer was known, there is no indication in the prior art that a POSITA would have considered adjusting the PSD of the backcoat layer to solve the problem as opposed to merely adjusting the S_{Ra} value of the backcoat layer. Moreover, Sony points to no evidence regarding how PSD and S_{Ra} values relate

⁴⁸ Dr. Wang further testified that "Dr. Talke noted in his opening report, exhibit CX-0476C at Paragraph 100, and I agree, [that] 'Ra value does not provide information regarding roughness components at different wavelengths.'" *Id.* The referenced exhibit, CX-0476C, is not part of the evidentiary record and, thus, we cannot confirm Dr. Talke's statement.

PUBLIC VERSION

to each other or how optimizing SRa values relates to optimizing PSD such that a POSITA, through experimentation, would arrive at the PSD range recited in claim 1 of the '434 Patent.

Because the Final ID correctly finds that the Yamazaki '101 in view of Hayakawa and/or Naoe '598 does not disclose the limitation “a power spectrum density at a pitch of 10 micrometers ranges from 20,000 to 80,000 nm³ on the backcoat layer surface” recited in claim 1 of the '434 Patent, the Commission has determined to affirm, with the additional discussion set forth above, the Final ID's finding that Sony has failed to show by clear and convincing evidence that Yamazaki '101 in view of Hayakawa and/or Naoe '598 renders obvious asserted claim 1 of the '434 Patent. The Commission has determined not to reach the question of whether the asserted prior art discloses the limitation “the magnetic layer has a center surface average surface roughness Ra, as measured by an atomic force microscope, ranging from 0.5 to 2.5 nm.” *See Beloit*, 742 F.2d at 1423.

E. '805 Patent

1. Overview of the Technology – '805 Patent

U.S. Patent No. 7,355,805 is entitled “Magnetic Tape and Method of Manufacturing Magnetic Tape, Servo Writer, and Method of and Apparatus for Specifying Servo Band.” '805 Patent (JX-0006). Claims 3 and 10 of the '805 Patent remain asserted in this investigation.

The '805 Patent discloses servo bands and servo signals, which are used for tracking control of a magnetic head. '805 Patent at 1:59-64; CX-0001C (Messner WS) at Q/A 38-54. Servo writing involves creating special magnetic patterns on a magnetic tape that allow a tape drive to determine the cross-tape, or transverse, position of the tape drive's read/write head. *See* CX-0001C (Messner DWS) Q/A 38. The magnetic patterns written to the tape allow the tape

PUBLIC VERSION

drive to position the read/write head over the tape in order to read data from or write data to the tape. *Id.*

Fig. 1 of the '805 Patent depicts a magnetic tape having five servo bands and four data bands, with each data band having a servo band on either side of it.⁴⁹ '805 Patent at Fig. 1. The magnetic patterns, which are written on the servo bands, are referred to as a "servo signal." CX-0001C at Q/A 40. Servo signals are comprised of servo stripes that are written to a servo band by applying a magnetic field to the tape. *Id.* The most common way to write servo stripes to magnetic tape is to apply an electric current through a coil that has been wrapped around a core composed of a material with special magnetic properties to magnetize it. *Id.* at Q/A 42; '805 Patent at Fig. 6. The magnetic field is induced by the electric current in the coil. Pulses of current through the coil transfer the geometric pattern of the gaps to magnetization patterns on the tape. These magnetization patterns are the servo stripes. *Id.*

"Tracking control" of a magnetic read/write head refers to the process of positioning the head laterally across the particular data band from which the drive is reading data or to which the drive is writing data. *Id.* at Q/A 47. According to the '805 Patent, conventional tracking methods require simultaneous comparisons of adjacent servo bands, leading to problems when, for example, one of the servo signals is not readout temporally or permanently due to blocking or clogging of the magnetic head. '805 Patent at 1:32-37. Furthermore, because it is necessary to simultaneously compare the adjacent servo bands, a plurality of servo signal read-out elements and signal-processing circuits are necessary. *Id.* at 1:37-40. The patent further explains that it is

⁴⁹ Data bands are regions of the tape where user data is written. CX-0001C at Q/A 40.

PUBLIC VERSION

necessary to write a servo pattern on a servo band in an accurately offset manner with respect to the other servo pattern written on the reference servo band. *Id.* at 1:41-44. Therefore a gap has to be formed in an accurate position of the servo write head in accordance with the offset along the longitudinal direction of the magnetic tape, which leads to an increase in manufacturing costs for the magnetic head. *Id.* at 1:44-48.

The invention of the '805 Patent seeks to provide a method and apparatus for specifying a servo band, wherein the magnetic head positions can be performed without comparing servo signals written on adjacent servo bands. *Id.* at 1:49-55. Specifically, the '805 Patent discloses a magnetic tape comprising: a plurality of servo bands on which are written servo signals for tracking control of a magnetic head, wherein data for specifying the servo band where the servo signal positions is embedded in a servo signal is written on one of the servo bands. *Id.* at 1:59-24. Asserted claims 3 and 10 of the '805 Patent recite a method of manufacturing the magnetic tape described above.

2. Asserted Claims⁵⁰

1. A magnetic tape comprising:

a plurality of servo bands on each of which is written a different servo signal for tracking control of a magnetic head, and

data is embedded in each servo signal for specifying the servo band corresponding to the data,

wherein reading the data enables a servo read head of the magnetic head to specify on which servo band the servo read head is currently positioned without referring to other servo bands.

⁵⁰ Asserted claim 3 depends from unasserted claims 1 and 2, and asserted claim 10 depends from unasserted claim 1.

PUBLIC VERSION

2. A magnetic tape according to claim 1, wherein the servo signal consists of a plurality of continuous patterns sets each of which pattern is nonparallel stripes, and the data is embedded in the servo signal by shifting a pair of nonparallel stripes along the longitudinal direction of the magnetic tape.

3. A method of manufacturing a magnetic tape of claim 2 comprising:

a first step of encoding data for specifying a servo band where the servo signal positions;

a second step of converting the data that is encoded in the first step into a recording pulse current; and

a third step of supplying the recording pulse current to the servo write head and writing on the servo band of the magnetic tape a servo signal in which is embedded the encoded data.

10. A method of manufacturing a magnetic tape of claim 1 comprising:

a first step of encoding data for specifying a servo band where the servo signal positions:

a second step of converting the data that is encoded in the first step into a recording pulse current; and

a third step of supplying the recording pulse current to the servo write head and writing on the servo band of the magnetic tape a servo signal in which is embedded the encoded data.

Id. at 9:27-53, 10:38-47.

3. Direct Infringement

a. Final ID

The Final ID finds that Sony's accused LTO-7 products do not infringe asserted claims 3 and 10 of the '805 Patent. Final ID at 311. Specifically, the Final ID finds that the accused LTO-7 products do not practice the limitation "a first step of encoding data for specifying a servo

PUBLIC VERSION

band where the servo signal positions” recited in asserted claims 3 and 10. *Id.* at 307-309.⁵¹

With respect to this limitation, Fujifilm argued that “the LTO-7 [standard] specification [JX-0052C] requires Sony to encode the servo band identification [REDACTED]⁵² data, that Sony encodes the [REDACTED] data with a servo writer, [and] that Sony’s source code ‘confirms’ the servo writer encodes the [REDACTED] data . . .” *Id.* at 307; *see also id* at 307-308 (noting the documentation and witness statements on which Fujifilm relies).

The Final ID finds that Fujifilm failed to show “by a preponderance of the evidence, that Sony performs the ‘first step of encoding data’ in connection with its LTO-7 products.” *Id.* at 308. In particular, the Final ID notes that Fujifilm relied on the LTO-7 Standard rather than “showing that the accused method is performed by Sony, on its products.” *Id.* Specifically, the Final ID finds that “Fujifilm’s expert could not identify the source code responsible for the encoding step (and also admitted [that he] had limited experience with the relevant programming language.” *Id.* (citing RX-0368C (Jennings RWS) at Q/A 7-10, 31-39; Jennings Tr. at 533-535, 580-585; Messner Tr. at 354-362 (discussing Verilog), 409 (discussing the LTO-7 Standard)).

b. Analysis

Fujifilm’s infringement argument may be summarized as follows: (1) “the LTO-7 specification specifically states that the [REDACTED] is part of the manufacturer’s data”; (2) “the manufacturer’s data *must be encoded by the manufacturer*”;

⁵¹ The Final ID finds that the accused LTO-7 products practice all of the other limitations of the asserted claims. *Id.* at 302-307, 310-311. Those findings were not reviewed.

⁵² The [REDACTED] is the “servo band ID”—*i.e.*, the data for specifying a servo band where the servo signal positions.” Sony Resp. at 27 n. 15 (citing JX-0052C (LTO-7 Format Specification) at 89).

PUBLIC VERSION

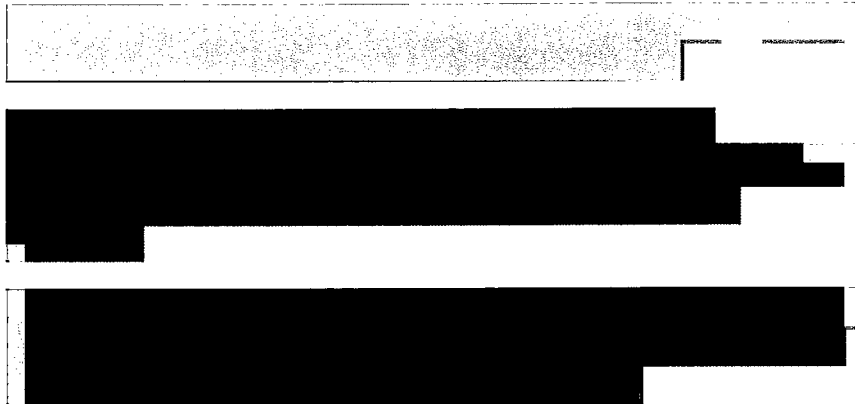
and (3) "Sony *admits* that its - [REDACTED] encodes the manufacturer's data, and that the manufacturer's data includes data for specifying a servo band." Fujifilm Pet. at 27. Fujifilm's expert, Dr. Messner, identified the module [REDACTED] as performing the step of encoding. CX-0001C (Messner WS) at Q/A 99 (identifying the module [REDACTED] in CX-306C (Sony Source Code) at 190).

Sony argues that, rather than performing the limitation "a first step of encoding data for specifying a servo band where the servo signal positions," it merely [REDACTED] [REDACTED] and, thus, it does not perform any encoding. Sony Resp. at 27-33. Specifically, Sony asserts that its expert, Mr. Jennings, "testified that Sony more likely than not simply [REDACTED] for use with LTO-7 by [REDACTED] [REDACTED] from external hardware." *Id.* at 33 (citing Jennings Tr. at 409:6-25). Sony argues that Fujifilm's expert "never explains how the [REDACTED] module encodes the - [REDACTED] when the module never mentions the - [REDACTED] but other portions of the - [REDACTED] do." *Id.* at 34 (citing Messner Tr. at 582:12-23; CX-0001C (Messner WS) at Q/A 99).

We questioned how the Final ID finds no infringement when it finds that Fujifilm satisfied the technical prong requirement based primarily on the same evidence. Specifically, Fujifilm's expert, Dr. Messner, testified that

In JX-0052C (LTO-7 specification), which is the LTO-7 specification, [REDACTED]

PUBLIC VERSION



CX-0001C at Q/A 155, 157.

Sony acknowledges that its accused products also comply with the LTO-7 standard. Sony Pet. at 27. Accordingly, the Commission must consider whether there is any contradiction in the Final ID's findings regarding infringement and the technical prong.

Sony asserts that there are "at least two methods of providing the encoded data that specifies a servo band to the servo writer" ~~OUII~~ ~~Br.~~ 14; *see also* OUII Reply Br. at 7 (concluding). Specifically, Sony contends that "[o]ne way is for the servo writer's software to perform the encoding step. A second way is for the servo writer's software to transfer the *already-encoded* data [redacted] directly into the servo signal, without the software doing the encoding." *Id.*

Fujifilm admits that its "servo writer executes software that performs the required encoding" for Fujifilm's DI Products. Fujifilm Br. at 17. Fujifilm explains that its expert, Dr. Messner, "reviewed [redacted] for Fujifilm's servo writer, which demonstrates that Fujifilm's servo writer encodes data for specifying a servo band where the servo signal position is precisely the same way that encoding is described in the LTO-7 Specification." *Id.* at 19 (citing CX-0001C (Messner DWS) at Q/A 162). Specifically, Fujifilm explains,

PUBLIC VERSION

in manufacturing its [DI] Products, Fujifilm's servo writer encodes symbols that uniquely identify a particular servo band into a corresponding bit pattern. *See id.* at Q/A 155. For example, Fujifilm encodes the symbol that identifies servo band 'O' into the bit pattern '1111 1111'. *Id.*; *see also* CX-0007C (Nakao DWS) at Q/A 46 (testimony from the inventor of the '805 patent that "data for specifying a servo band is first encoded [in F writer in accordance with the encoding scheme -

[REDACTED]

Id. Thus, there is no evidence that Fujifilm directly writes already-encoded data into the servo signal. Because Fujifilm's code performs the encoding function, there is no conflict between the Final ID's finding of no infringement, in which the ALJ found no evidence that Sony's code performs encoding, and the Final ID's finding that Fujifilm has satisfied the technical prong. Fujifilm's contention that direct writing of encoded data satisfies the encoding step is less persuasive where the evidence shows that Fujifilm does not perform encoding using such a method.

Furthermore, that Sony's [REDACTED] performs the claimed "encoding" step, Fujifilm's expert, Dr. Messner, testified as follows:

I analyzed Sony [REDACTED] that was made available for my review, which is CX-0306C [REDACTED]. At page SNY-ITC-SC 0000190, I reviewed module [REDACTED] I determined that this module [REDACTED] My determination was confirmed by two representatives from a source code analysis firm, iRunway, Inc., who specialize in [REDACTED]

CX-0001C at Q/A 99. Fujifilm notes that "Sony's expert, Mr. Jennings, also acknowledged that the [REDACTED] identified by Dr. Messner [REDACTED] the data that is

[REDACTED] i.e., [REDACTED]

PUBLIC VERSION

[REDACTED] Fujifilm Br. at 21 (citing RX-0368C (Jennings RWS) at Q/A 37-39, 41; RX-0003C (Jennings DWS) at Q/A 64). Fujifilm also relies on the testimony of Sony's expert, Mr. Jennings, "that, in his 26 years of experience at 3M and Imation, see RX-0003C (Jennings DWS) at Q/A 15, he had [REDACTED] [REDACTED] ... " *Id.* at 19 (citing Jennings Tr. at 588:18-22). Mr. Jennings first testified at his deposition that he [REDACTED] [REDACTED] Fujifilm Reply Br. at 10 (citing Jennings Tr. at 524:10-13).⁵³

Sony contends that, although prior generations of LTO, such as LTO-6, have required encoded data,

what sets the '805 patent apart is the requirement to encode data for specifying a servo band-- [REDACTED] [Messner] Tr. at 409:6-410:1; see also RX-0313 (L [REDACTED] and [REDACTED] does not dispute that the module cited by Fujifilm - [REDACTED] and [REDACTED] in the same way specified by all generations of LTO. But whether Sony's source code shows transformation of [REDACTED] is irrelevant to infringement because proof of [REDACTED] is the only thing that matters for purposes of the encoding step of the asserted claims. Tr. at 582:12-23.

Sony Br. at 28 (emphasis in original); Sony Reply Br. at 15-16. More specifically, Sony asserts that

⁵³ We note that, while the Final ID finds that Fujifilm's expert, Dr. Messner, admitted that he "had limited experience with the relevant programming language[,] Verilog (Final ID at 309; Messner Tr. at 354-362), Sony's expert Mr. Jennings, admitted that he had no experience with [REDACTED] prior to this in [REDACTED] nings Tr. at 517:12-14 ("Q. Prior to this case, you did not have experience with [REDACTED] correct? A. Correct."). Nevertheless, the Final ID apparently qualifies both Dr. Messner and Mr. Jennings as experts.

PUBLIC VERSION

Mr. Jennings testified that the [REDACTED] is expressly mentioned in [REDACTED] that Dr. Messner relied on [REDACTED], [Jennings Tr.] at 582:24-583:1 and that in those lines, the [REDACTED] merely identifies where the [REDACTED] characters are located in the bit stream and sends that information to an external device. *Id.* at 583:19-584:2. Mr. Jennings further testified that the [REDACTED] shows that the [REDACTED] likely is transferred from the final bit pattern specified in the LT0-7 Standard through external hardware referenced at [REDACTED] and then directly embedded into the servo signal, all without Sony performing the encoding step. *Id.* at 580:24-581:7, 585:5-11.

Id. at 27-28. Sony explains that Mr. Jennings provides no conclusive explanation for "how Sony's - [redacted] likely treats the - [redacted] ... because he only reviewed the [redacted] t h at D r. Mess n e r ... cited[,] " noting that Fujifilm has the burden of proof with respect to infringement.

Id. at 28 n.14.

Fujifilm argues that "Mr. Jennings' testimony about a new hypothetical way that Sony may possibly avoid encoding" is merely "a theory that is contradicted by [REDACTED] - [REDACTED]" Fujifilm Br. at 22 (citing Jennings Tr. 524:10-20 (admitting that, [REDACTED] [REDACTED]); [REDACTED] 588:4-17 (same)). Fujifilm also contends that Mr. Jennings never explained his non-infringement theory prior to the evidentiary hearing. Fujifilm Reply Br. at 9-10. We disagree.

ill his rebuttal witness statement, Mr. Jennings provided a detailed explanation of why, in his opinion, the - [REDACTED] on which Fujifilm relies does not encode the - [REDACTED] data, but merely [REDACTED] [REDACTED] See RX-0368C at Q/A 31-39. ill pait icular, Mr. Jennings explained why the accused [REDACTED] does not perfonn encoding as follows:

Turning back to JX-0209C (Messner Opening Report) at page 34, [REDACTED] b7C b7D the 94 Dr. Messner states that the module [REDACTED] accepts as input [REDACTED] citing to

PUBLIC VERSION

[REDACTED] You can see this in the [REDACTED]
[REDACTED] itself. Look at CX-0306C [REDACTED] at page
190. [REDACTED]
[REDACTED] shows the input of the value [REDACTED] which
Dr. Messner has identified as the manufactur [REDACTED] can
see that it is only - [REDACTED] based on the values - [REDACTED]
Looking now at JX-0052C LTO7 Fonnat S ecification at age
89 we see in [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED] And Dr. Messner does not cite to anything else in
Sony's [REDACTED] that he alleges performs the encoding.

Id. at Q/A 38 (emphasis added).

Fujifilm provides no rebuttal to Dr. Jennings' technical explanation of Sony's -

-] As such, the evidence reasonably suggests that the module Fujifilm accuses does not, in fact, perform the required step of encoding the UDIM but, instead, merely [REDACTED]

Based on the preceding discussion, the Final ID coITec tly fi n ds that Fujifilm failed to show by a preponderance of the evidence that Sony practices the limitation "a first step of encoding data for specifying a servo band where the servo signal positions" recited in asseli ed claims 3 and 10 in manufacturing the accused LTO-7 tapes. Accordingly, the Commission affnms the Final ID's finding of no infringement with the additional discussion set foli h above.

4. Anticipation - Hennecken⁵⁴

a. Final ID

The Final ID finds that Sony failed to show by clear and convincing evidence that

⁵⁴ U.S. Patent No. 6,710,967 ("Hennecken") (RX-0073).

PUBLIC VERSION

Hennecken anticipates the asserted claims of the '805 Patent. Final ID at 327. Specifically, the only limitation the Final ID finds that Hennecken discloses is the preamble, *i.e.*, “a magnetic tape comprising.” We discuss the Final ID’s findings concerning the remaining limitations in turn.

1) Claim 1

- a) “a plurality of servo bands on each of which is written a different servo signal for tracking control of a magnetic head”

The Final ID finds that, as Fujifilm’s expert, Dr. Messner explained, “there is no disclosure in Hennecken that indicates each of the servo bands ‘has a signal of low frequency transitions that differ from one another.’” *Id.* at 315 (citing CX-0335C (Messner RWS) at Q/A 48). The Final ID also finds that “none of Hennecken’s embodiments embed a servo stripe number in the servo signal, and the high frequency transitions in Hennecken do not play a role in tracking control.” *Id.*

- b) “data is embedded in each servo signal for specifying the servo band corresponding to the data”

The Final ID finds that the claimed “servo signal” is for tracking control, but that “Hennecken does not explain ‘that data is embedded in each servo signal for specifying the servo band.’” *Id.* at 317 (citing CX-0355C at QA 53. Specifically, Fujifilm asserted that, although Hennecken “discloses that a ‘servo stripe number’ may be embedded in the servo track for coarse transverse location . . . there is no disclosure [] that this data is embedded in *each* servo signal for tracking control.” *Id.* at 316 (emphasis in original).

- c) “wherein reading the data enables a servo read head of the magnetic head to specify on which servo band the servo read head is currently positioned without referring to other servo bands”

The Final ID finds that “[a]s Dr. Messner explained, ‘gross positioning information

PUBLIC VERSION

embedded in the high frequency transitions is not embedded in a servo signal for tracking control[,]’ so the embedding discussed in Hennecken does not meet the limitation of the claim.” *Id.* at 318 (citing CX-0355C (Messner RWS) at Q/A 55; *see also id.* at 54-57). The Final ID further finds that “Hennecken does not disclose ‘enabling a servo read head to specify on which servo band is positioned without referring to other servo bands.” *Id.* (citing CX-0355C at Q/A 57).

2) Claim 2

- a) “the servo signal consists of a plurality of continuous patterns sets each of which pattern is nonparallel stripes”

Sony’s expert, Mr. Jennings, acknowledged that Hennecken does not disclose a specific embodiment that anticipates the claims of the ’805 Patent and, in particular, does not “show a picture of embedding data by shifting a pair of nonparallel stripes along the longitudinal direction of the magnetic tape.” *Id.* at 320 (citing RX-0003C (Jennings WS) at Q/A 277, 280). Rather, the Final ID notes that Mr. Jennings relied on several other references contemporaneous with Hennecken to assert that “this method of encoding was so common by the time Hennecken was filed, that a [POSITA] would have well known that Hennecken too was disclosing embedding data by shifting a pair of nonparallel stripes along the longitudinal direction of the magnetic tape.” *Id.*

The Final ID finds that “[t]he close temporal proximity of these references does not suggest that the claimed method of encoding was so common, and so well known, that Hennecken would omit these details or that a [POSITA] would ‘have well known that Hennecken too was disclosing embedding data by shifting a pair of nonparallel stripes’” *Id.*

PUBLIC VERSION

at 321 (citing RX-0003C at Q/A 280). The Final ID further finds that “the passage that Dr. Jennings relies on, RX-0073 at 1:51-2:4, does not disclose, either expressly or inherently, embedding data by shifting a pair of nonparallel stripes.” *Id.* at (CX-0335C (Messner RWS) at Q/A 59).

- b) “the data is embedded in the servo signal shifting a pair of nonparallel stripes along the longitudinal direction of the magnetic tape”

The Final ID finds that “Hennecken’s embedding technique requires moving only one stripe [as opposed to shifting a pair of nonparallel stripes], which he calls a transition.” *Id.* at 322 (CX-0355C at Q/A 59; RX-0073 at 1:51-2:4). Accordingly, the Final ID finds that Hennecken does not disclose this claim limitation.

3) Claims 3 and 10⁵⁵

- a) “a first step of encoding data for specifying a servo band where the servo signal positions”

Sony noted that, as Fujifilm’s expert testified, claims 3 and 10 recite the only known way of writing the servo bands recited in claims 1 and 2.” *Id.* at 323. As such, Sony argued that “when Hennecken discloses the servo according to claims 1 and 2, the servo writing method of claims 3 and 10 was the method of writing the servo bands necessarily used; Hennecken *inherently* anticipates claims 3 and 10.” *Id.*

The Final ID finds that Hennecken does not disclose the claimed “encoding” step. *Id.* at 324. Specifically, the Final ID finds that “[a]s Dr. Messner explained, Hennecken’s ‘encoding’ is different from the ’805 Patent’s encoding, because Hennecken’s ‘encoding’ corresponds to the

⁵⁵ Asserted claims 3 and 10 recite the same limitations. The only difference is that claim 3 depends from unasserted claim 2 while claim 10 depends from unasserted independent claim 1.

PUBLIC VERSION

‘embedding’ that is performed in the ’805 Patent. *Id.* (citing CX-0335C (Messner RWS) at Q/A 60-62).

- b) “a second step of converting the data that is encoded in the first step into a recording pulse current”

The Final ID finds that, “because Hennecken does not disclose the first step [of encoding], it also does not disclose the second step.” *Id.* at 326 (citing CX-0335C at Q/A 63-64). Moreover, the Final ID finds that “Dr. Messner’s testimony provides additional reasons for finding that Hennecken does not disclose the second step.” *Id.* Specifically, Dr. Messner testified that “Hennecken also fails to disclose the conversion of any data into a recording pulse current.” *Id.* at 325. Sony asserted that Hennecken discloses “timing read signals” that are received by a “control logic” module, which generates “control signals” for high frequency drivers. *Id.* (citing RX-0073 at 9:11-28, Fig. 9 RX-0003C (Jennings WS) at Q/A 290). Mr. Jennings asserted that “control signals are ‘encoded data.’” *Id.* The Final ID relies on Dr. Messner’s testimony that “[n]othing in Hennecken suggests that the control signals are binary encoded data.” *Id.* at 325 (citing CX-0355C at Q/A 64).

- c) “a third step of supplying the recording pulse current to the servo write head and writing on the servo band of the magnetic tape a servo signal in which is embedded the encoded data”

The Final ID finds that, because Hennecken does not disclose the first step of “encoding data,” it does not disclose the third step, which recites “writing on the servo band . . . a servo signal in which is embedded the encoded data.” *Id.* at 327 (citing CX-0355C at Q/A 65). In addition, the Final ID notes Dr. Messner’s testimony that “the only embodiments disclosed by Hennecken write both low frequency and high frequency transitions, where additional data is embedded in the high frequency transitions,” which are not involved in tracking. *Id.* at 326-327

PUBLIC VERSION

(citing CX-0335C at Q/A 64; RX-0003C at Q/A 291).

b. Analysis

The Commission has determined to affirm with modification the Final ID's finding of no anticipation. Specifically, the Final ID correctly finds that Hennecken does not disclose the limitations recited in unasserted independent claim 1 of the '805 Patent and in asserted claims 3 and 10, which depend from claim 1. Accordingly, the Commission adopts the Final ID with respect to those findings, which are dispositive of the issue of anticipation issue. The Commission has further determined, however, to take no position on whether Hennecken discloses the limitations of unasserted claim 2 of the '805 Patent, from which asserted claim 10 directly depends. *See Beloit*, 742 F.2d at 1423.

F. Sony's Essentiality Defenses

1. Final ID

Fujifilm explained that "[t]he AP-75 is the operative license agreement for the LTO-7 Format entered into by" Technology Provider Companies ("TPCs") (*i.e.*, Hewlett-Packard, IBM, and Quantum) and Format Specification Participants ("FSPs") such as Fujifilm and Sony. Final ID at 363-364. "Each FSP seeking to obtain format specifications or manufacture LTO tape mechanisms or cartridges must sign an agreement package ('AP') with the TPCs collectively." *Id.* According to Sony, "[b]y executing the AP-75 Agreement, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]" *Id.* at 363 (citing JX-0033C (Fujifilm AP-75 Agreement) at 9). Sony asserts that "[a]t a minimum, this license covers all patent claims

PUBLIC VERSION

owned by Fujifilm . . . that are ‘essential’ to the practice of the LTO-7 on standard and non-discriminatory terms.” *Id.*

Sony argued that the asserted claims of the ’612, ’106, and ’805 Patents are essential to the LTO-7 Standard. *See id.* at 126, 205, 312. Specifically Sony argued that “the LTO-7 Standard requires each and every limitation of the claims either expressly or necessarily.” *Id.* at 205 (citing Sony Post-Hearing Br. at 236).

The Final ID finds that none of the asserted claims are essential to the LTO-7 Standard. *Id.* at 127-128, 206, 312. Accordingly, the Final ID also finds that Sony’s breach of contract allegations do not apply because Fujifilm was not obligated to license those patents. *Id.* In addition, the Final ID rejects Sony assertions regarding patent misuse, waiver, implied license, and exhaustion. *Id.* at 370-375.

a. ’612 Patent

Regarding the ’612 Patent, the Final ID finds that “Sony . . . has not shown that the LTO-7 Standard requires a tape that meets limitation 1[c]⁵⁶ of claim 1.” *Id.* at 127-128 (citing CX-0357 (Wang RWS) at Q/A 590-597. In particular, the Final ID notes that “Sony’s corporate representative testified that the []” *Id.* at 128 (citing JX-0152C (Kato Dep.) at 95). Moreover, the Final ID finds that “Sony also has not shown that the []” *Id.* at 128 n.43. Specifically, the Final ID finds that “[w]hile Sony’s

⁵⁶ Limitation 1[c] recites “the number of pits having a depth of $\frac{1}{2}$ or more of the minimum recording bit length present on a surface of said magnetic layer is equal to or less than $100/10,000 \mu\text{m}^2$.” *See id.* at 108.

PUBLIC VERSION

expert opined that these requirements would be necessary to practice the standard, Sony's corporate representative gave equivocal testimony that indicates the LTO-7 Standard does not [REDACTED] *Id.* (citing JX-0152C at 83, 95-96; *see also id.* at 85 (Mr. Kato testified that [REDACTED])).

b. '106 Patent

Regarding the '106 Patent, the Final ID finds that

Sony (and Mr. Jennings) has not shown that the LTO-7 Standard requires a tape that meets limitations 1[c] and 1[d] of claim 1.⁵⁷ *See* CX-0357C (Wang RWS) at Q/A 701-11. Indeed, Sony's corporate representative testified that there is [REDACTED] in the LTO-7 specification. JX-0152C (Kato Dep.) at 92. Further, Sony has not shown that claims 2, 5, and 6 are essential. *See* CX-0357C (Wang RWS) at Q/A 712-22.

Id.

c. '805 Patent

Regarding the '805 Patent, the Final ID finds that

Sony (and Mr. Jennings) has not shown that the LTO-7 Standard requires a tape that meets limitation 3[b] of claim 3.⁵⁸ *See* CX-0355C (Messner RWS) at Q/A 152-53. Further, Sony's corporate representative testified that the LTO-7 specification does not contain any requirements that pertain to the [REDACTED].

⁵⁷ Limitation 1[c] recites: "a support having provided thereon a magnetic layer containing at least a ferromagnetic powder, an abrasive and a binder." *Id.* at 192. Limitation 1[d] recites: "wherein the average longer size (B) of the abrasive particle(s) which are present on the magnetic layer surface is $\frac{1}{3}$ or less of the track width (A)." *Id.*

⁵⁸ Limitation 3[b] recites: "a second step of converting the data that is encoded in the first step into a recording pulse current." *Id.* at 307.

PUBLIC VERSION

[] portions of claims 3 and 10.⁵⁹ JX-0152C (Kato Dep.) at 102. Additionally, the alternative techniques Dr. Messner proposes also show that the claims are not essential. *See* CX-0355C (Messner RWS) at Q/A 153, 156-59.

Id. at 313.

2. Analysis

The Commission has determined to affirm with modification the Final ID's finding that the asserted claims of the '612, '106, and '805 Patents are not essential to the LTO-7 Standard. In particular, with respect to the '106 Patent, the Commission has determined not to reach the issue of whether the LTO-7 Standard requires a tape having a magnetic layer that contains an abrasive particle. *See Beloit*, 742 F.2d at 1423. The Commission otherwise adopts the Final ID's findings that the LTO-7 Standard does not require practice of the asserted claims of the '612, '106, and '805 Patents.

Sony contended that "the ALJ's analysis of patent misuse, waiver, implied license, and exhaustion ([Final] ID at 370-375) each turn on whether Fujifilm breached § 8.2 of AP-75. Sony Pet. at 94. Because the Commission affirms, with the modification noted above, the Final ID's finding that the asserted claims of the '612, '106, and '805 Patents are not essential patent claims to the LTO-7 Standard, and thus that Fujifilm had no obligation to license those patents to Sony under the AP-75 Agreement, these contentions are moot. Accordingly, the Commission has determined not to reach any other issues concerning Sony's essentiality defenses (*i.e.*, breach of contract, patent misuse, waiver, implied license, and exhaustion). *See Beloit*, 742 F.2d at 1423.

⁵⁹ In addition to limitation 3[b], limitation 3[c] recites: "a third step of supplying the recording pulse current to the servo write head and writing on the servo band of the magnetic tape a servo signal in which is embedded the encoded data." *Id.*

PUBLIC VERSION

G. Domestic Industry (Economic Prong)

1. Final ID

Fujifilm asserted that its domestic industry expenditures with respect to its LTO-6 and LTO-7 DI Products satisfy the economic prong of the domestic industry requirement under prongs (A) and (B) of section 337(a)(3). Final ID at 375.⁶⁰ Fujifilm relied on its "manufacturing operations for assembling the final saleable DI Products [] conducted at FRMU's [FUJIFILM Recording Media U.S.A., Inc.] Bedford, Massachusetts facility." Final ID at 375. Specifically, Fujifilm asserted that

FRMU []
[REDACTED] Id.
FRMU then conducts []
[REDACTED] to its customers. CX-0010C (Faulhaber DWS) Q:7-14. These activities are necessary to convert the bulk magnetic tape and housing components into saleable tape cartridges. Id. Q:14; Hg. Tr. at 90:3-12 (Faulhaber); CX-003C (Vander Veen DWS) Q:37.

Id. Fujifilm presented "a sales-based allocation of its domestic LTO expenditures related to the DI Products from FY 2013-2016 (first half)." Id. at 375-376 (citing *Certain Toner Cartridges and Components Thereof*, Inv. No. 337-TA-740, Order No. 26 at 14 (June 1, 2011)).

a. Plant and Equipment

Fujifilm asserted that

⁶⁰ Fujifilm asserted that its LTO-6 cartridges are DI Products for the '891, '612 and '106 Asserted Patents, and its LTO-7 cartridges are DI Products for the '891, '612, '106, '434 and '805 Patents. Fujifilm Post-Hearing Br. at 343 n.28.

PUBLIC VERSION

Of FRMU's [REDACTED]
[REDACTED] CX-0011C (Ryder DWS) Q:14. "Nearly all of the activities at the Bedford facility are related to LTO products." *Id.* Q:8, 14. The older generations of LTO (LTO-1 through 5) are made in small (and modest) amounts. *See* CX-0455C (LTO Unit Sales History, FY16-18 Rebudget). In recent years, however, the majority of FRMU's LTO sales have been of Fujifilm's LTO-6 and LTO-7 DI Products. *See id.* CX-0010C (Faulhaber DWS) Q:22. Thus, the portion of FRMU's Bedford [facility], on a square foot basis, that is dedicated to the production of the DI Products is significant.

FRMU's domestic investments in fixed assets, such as land, property, plant, and equipment, have totaled more than [REDACTED]
[REDACTED] CX-0011C (Ryder DWS) Q:15-16, CX-0003C (Vander Veen DWS) Q:42; *see also* CX-0045C (Fixed Asset Rollforward). This includes domestic investments of over [REDACTED]
[REDACTED] CX-0011C (Ryder DWS) Q:17-19.

Id. at 376-377. Fujifilm further asserted that it depreciated past expenses on LTO equipment to its LTO-6 and LTO-7 products. *Id.* at 377. Fujifilm also purported to include storage costs for its LTO products. *Id.*

The Final ID finds that

Fujifilm has shown its allocated domestic expenditures for the LTO-6 products, from 2013-2015, are relevant and significant. In particular, Dr. Vander Veen testified that Fujifilm's depreciation expenditures for the LTO-6 products, from 2013-2015, [REDACTED]
[REDACTED] *See* CX-0003C (Vander Veen WS) at Q/A 68-69. Further, Fujifilm USA's fixed costs are significant- investments in [REDACTED], property, plant, and equipment held a net book value of over [REDACTED] million at the end of fiscal year 2015. *Id.* at Q/A 42.

Id. at 378. The Final ID declined to credit Fujifilm's storage costs, finding that "the evidence

PUBLIC VERSION

does not reliably delineate whether the storage was used for foreign (Japanese) products or domestic products." *Id.* 378 n.111. In any event, the Final ID concluded that "[d]iscarding the storage costs, however, does not alter the conclusion that the investment is significant, because the storage costs were relatively small - [REDACTED]." *Id.* (citing CX-0003C 0/ander Veen WS) at Q/A 42).

Regarding Fujifilm's LTO-7 DI Products, the Final ID finds that Fujifilm failed to show that its expenditures were significant. *Id.* Specifically, the Final ID notes that "Fujifilm USA did not begin any domestic activities for the LTO-7 products until [REDACTED] [REDACTED] ... and Fujifilm's depreciation expenditures, if accepted, total just [REDACTED] *Id.* at 378-379 (citing Faulhaber Tr. 62-63; CX-0003C 0/ander Veen WS) at Q/A 68).

b. Labor and Capital

Fujifilm asserted that

FRMU's workforce in Bedford manufacture the DI Products, maintain and upgrade the equipment needed to manufacture the DI products, and support the manufacturing operations. In particular, FRMU's workers [REDACTED]

[REDACTED] -a necessary steps to manufacture a specific product. CX-0010C (Faulhaber DWS) Q:8-11; CX-003C 0/ander Veen DWS) Q:42-43. FRMU's labor expenses over the past three years are significant. *See* CX-0011C (Ryder DWS) Q:21-37; CX-0003C 0/ander Veen DWS) Q:74-75.

FRMU currently employs approximately [REDACTED] individuals full-time in the United States. CX-0011C (Ryder DWS) Q:21; CX-0452C (Total Labor Costs and Employees). On average, between 2008-2015, FRMU employed approximately [REDACTED] full-time employees per year in the U.S. CX-0011C (Ryder DWS) Q:22. Approximately [REDACTED] of those employees have been dedicated to

PUBLIC VERSION

manufacturing and related engineering. CX-0011 C (Ryder DWS) Q:24.

Id. at 379. Fujifilm further argued that it "spent -] in labor from 2013-2015." *Id.* (citing CX-0003C (Vander Veen WS) at Q/A 74).

The Final ID finds that

Fujifilm has shown its allocated domestic expenditures for the LTO-6 products, from 2013-2015, are relevant and significant. In particular, Dr. Vander Veen testified that Fujifilm's labor expenditures for the LTO-6 products, from 2013-2015, totaled

[REDACTED]] See CX-0003C (Vander Veen WS) at Q/A 74. Further, Fujifilm USA's labor costs for manufacturing engineering employees and manufacturing employees, for 2013-2015, are significant- [REDACTED]

[REDACTED]] *Id.* at Q/A 55, 57, 59 (these do not include SG&A expenses).

Id. at 380. With respect to Fujifilm's LTO-7 DI Products, however, the Final ID finds that Fujifilm "has not shown that its expenditures with relation to its LTO-7 products are significant."

Id. at 381. Specifically, the Final ID finds that "Fujifilm USA did not begin any domestic activities for the LTO-7 products [REDACTED]

[REDACTED]] *Id.* (citing Faulhaber Tr. 62-63; CX-0003C (Vander Veen WS) at Q/A 74; CX-0500C (Vander Veen En a.ta) ; CX -04 57C (Vander Veen Tab 3)).

c. Significance of Fujifilm's Investment and Context of the Marketplace

With respect to Fujifilm's LTO-6 DI products, the Final ID finds that Fujifilm's domestic investments "are significant within the context of the relevant marketplace." *Id.* at 383 (citing CX-0026C at Q/A 92-93 (for FY2015, Fujifilm reported -] in revenue for its LTO-6 cartridges and -] in revenue for its LTO-7 cartridges)). In particular, the Final ID finds

PUBLIC VERSION

that “Fujifilm is [REDACTED] and it is partially responsible for over [REDACTED] while Sony [REDACTED] *Id.* (citing CX-0456C (“Summary for LTO 6” worksheet); RX-0006C (Yamaguchi WS) at Q/A 6; Kato Tr. 499-500, 764-765, 767). The Final ID further finds that “in 2015, Fujifilm’s labor expenses supported [REDACTED] full-time equivalent manufacturing jobs, which is qualitatively and quantitatively significant.” *Id.* (citing CX-0026C at Q/A 59). The Final ID also finds that Fujifilm’s “domestic activity is significant because Fujifilm’s LTO-6 products would not be saleable without the domestic contributions.” *Id.* (citing CX-0026 at Q/A 52).

With respect to Fujifilm’s LTO-7 DI Products, the Final ID finds that Fujifilm’s domestic investments “were not significant within the context of the relevant market place, when the complaint was filed.” *Id.* (citing CX-0026C (Vander Veen RWS) at Q/A 92-93 (for FY2015, Fujifilm reported [REDACTED] in revenue for its LTO-6 cartridges and [REDACTED] in revenue for its LTO-7 cartridges)).

2. Analysis

Sections 337(a)(3) sets forth the following requirements for determining the existence of a domestic industry:

(3) For purposes of paragraph (2), an industry in the United States shall be considered to exist if there is in the United States, with respect to the articles protected by the patent, copyright, trademark, mask work, or design concerned —

(A) significant investment in plant and equipment;

(B) significant employment of labor or capital; or

(C) substantial investment in its exploitation, including engineering, research and development, or licensing.

PUBLIC VERSION

19 U.S.C. § 1337(a)(3). To meet the economic prong of the domestic industry requirement, the complainant must establish that at least one of the criteria listed in subparagraph (a)(3) is satisfied “with respect to the articles protected by the patent.” 19 U.S.C. § 1337(a)(3); *Certain Variable Speed Wind Turbines and Components Thereof*, Inv. No. 337-TA-376, USITC Pub. No. 3003 (Nov. 1996), Comm’n Op. at 21 (Sep. 23, 1996), remanded on other grounds, *Enercon GmbH v. Int’l Trade Comm’n*, 113 F.3d 1256 (Fed. Cir. 1997).

a. LTO-6 DI products

1) Waiver

Sony argues that Fujifilm continuously shifted its economic prong allegations throughout the investigation and that, although the ALJ correctly struck Fujifilm’s attempt to submit new expert testimony at the last minute, he “improperly permitted, and in some instances adopted, the new assertions raised by Fujifilm for the first time in its Post-Hearing Brief.” Sony Pet. at 94. As such, Sony asserts, Fujifilm waived its “untimely contentions as to Fujifilm’s LTO-6 Products” pursuant to the ALJ’s ground rules. *Id.* at 95 (citing Order No. 2, Ground Rule 7.c).

When examining whether waiver should apply, the Commission has stated that “[g]enerally, an ALJ has discretion to establish and enforce ground rules” *Certain Flash Memory Controllers, Drives, Memory Cards, & Media Players & Prod. Containing Same*, Comm’n Op., Inv. No. 337-TA-619, 2009 WL 4087136, at *13 (Nov. 24, 2009).⁶¹ Here, Sony does not explain how the ALJ’s exercise of discretion under his ground rules was improper or prejudicial to Sony.

⁶¹ Moreover, Fujifilm notes that it asserted the same allocation percentages in its pre-hearing and post-hearing briefs. *Id.* (citing CX-0003C (Vander Veen WS) at Q/A 68; CPreHBr. at 339).

PUBLIC VERSION

2) Existence of Domestic Industry as of the Filing of the Complaint

Sony asserts that the Final ID correctly rejects Fujifilm's alleged 2016 investments, which Fujifilm attempted to introduce by submitting an errata sheet for its expert's testimony during the hearing. Sony Pet. at 95 (citing Final ID at 378 n.110, 279 n.112 & n.113, 380 n.114, 381 n.115). Thus, Sony argues, Fujifilm did not show that a domestic industry existed at the time the Complaint was filed. *Id.* (citing *Tex. Instruments, Inc. v. Int'l Trade Comm'n*, 988 F.2d 1165, 1181 (Fed. Cir. 1993); *Bally/Midway Mfg. Co. v. Int'l Trade Comm'n*, 714 F.2d 1117, 1121 (Fed. Cir. 1983)). Sony contends that the Final ID's reliance on Fujifilm's domestic investments prior to 2016 to find a domestic industry with respect to Fujifilm's LTO-6 DI products "is clearly erroneous and contrary to Commission precedent." *Id.* at 95-96.

Fujifilm asserts that its "ongoing and uninterrupted exploitation of the Asserted Patents since the 2012 launch of the LTO-6 is enough to meet the criteria of the statute, regardless of its level of investment in those activities at the time it filed its complaint." Fujifilm Resp. at 79-80 (citing *Certain Variable Speed Wind Turbines & Components Thereof*, Comm'n Op., Inv. No. 337-TA-376, 1996 WL 1056330, at *14 (Nov. 1996) (holding that "a domestic industry can be found based on a complainant's past activities in exploiting [an asserted] patent," provided "there is evidence that [the complainant] is still exploiting [the asserted] patent."); *see also Certain Battery-Powered Ride-On Toy Vehicles & Components Thereof*, ID, Inv. No. 337-TA-314, 1990 WL 710769, at *11 (Dec. 5, 1990) (unreviewed in relevant part) (finding that the complainant still had a domestic industry, despite ceasing manufacture of the patented products, because of its past expenditures and its inventory of patented products that it continued to sell as replacement parts)). Fujifilm asserts that it had never ceased to make its LTO-6 tapes, noting that the

PUBLIC VERSION

products are Fujifilm's "biggest seller." *Id.* at 80 (CX-0457C (Vander Veen Tab 3); CX-0456C ("Summary for LTO 6" Worksheet); CX-0003C (Vander Veen DWS) at Q/A 61). Moreover, Fujifilm notes that its reported investments for "fiscal year 2015 did not conclude until March 31, 2016 . . . less than two months before Fujifilm filed its complaint." *Id.* (citing CX-0011C (Ryder WS) at Q/A 15).

Sony has not provided any evidence to rebut Fujifilm's assertion that its domestic industry in the LTO-6 DI products was continuing at the time the Complaint was filed. Rather, the evidence shows that Fujifilm's domestic activities with respect to the LTO-6 products were continuing at least through September 2016. *See* CX-0456C (LTO-6 and LTO-7 Winding and Imports). As such, there is no basis for Sony's assertion that Fujifilm's investments in its LTO-6 DI products prior to 2016 should be rejected.

3) Fujifilm's Investments in Plant and Equipment

Sony argues that the Final ID errs in finding that "Fujifilm invested just over [REDACTED]
[REDACTED]
[REDACTED] Sony Pet. at 96. Specifically, Sony argues that "[t]he alleged 'fixed costs' relied upon in the [Final] ID were not allocated to Fujifilm's LTO-6 Products . . . but included other non-DI products." Sony does not state its specific objection to the Final ID's consideration of Fujifilm's depreciation expenses.

Fujifilm's expert, Dr. Vander Veen, explained that "[f]or the LTO depreciation expenditures, I multiplied these expenditures by the portion of FRMU's LTO products that are Domestic Industry Products manufactured in the United States in each of the following fiscal years: [REDACTED] CX-0003C at Q/A 68; *see also id.* at Q/A 69

PUBLIC VERSION

(explaining that "[s]ince FRMU's LTO-7 products well [REDACTED]
[REDACTED] the expenditures above for fiscal years 2013 - 2015 relate to FRMU's domestic industry LTO-6 products). As such, the evidence shows that Fujifilm appropriately allocated its depreciation expenditures to the LTO-6 product. *See* Final ID at 378 (considering only Fujifilm's expenditures from 2013-2015). The Commission therefore affirms the Final ID's finding that Fujifilm's depreciation expenditures for the LTO-6 products, from 2013-2015, totaled over - [REDACTED] Final ID at 378 (citing CX-0003C (Vander Veen WS) at Q/A 68-69).

Regarding Fujifilm's "fixed costs," the Final ID relied on Fujifilm USA's "investments in land, property, plant, and equipment[,]" finding that those assets "held a net book value of over - [REDACTED] at the end of fiscal year 2015." *Id.* (citing CX-0003C at Q/A 42). Fujifilm acknowledged that the FRMU facility is still used to manufacture "older generations of LTO (LTO-through 5)[,]" though Fujifilm asserted that those older models are "made in small (and modest) amounts." Final ID at 376; CX-0455C (LTO Unit Sales History, FY16-18 Rebudget); VC-0010C (Faulhaber WS at Q/A 22)). Dr. Vander Veen testified, however, that

over [REDACTED] of FRMU's total machinery and equipment expenditures [REDACTED] were specifically for its LTO products as of March 31, 2016. Although modifications and additional investments have been and continue to be made to the machinery and equipment in order to accommodate the assembly of newer generations of LTO products, *the Domestic Industry Products (FRMU's LTO-6 and LTO-7 products) are assembled on the same equipment and in the same facility as the prior generations of LTO products.* Therefore, FRMU's investments in plant and equipment for LTO products are related to the LTO-6 and LTO-7 products as well.

CX-0003C at Q/A 51 (emphasis added). Based on this testimony, the Final ID reasonably concluded that the equipment in question is used to assemble the LTO-6 products even though

PUBLIC VERSION

they are also used for older generation LTO products. The evidence therefore shows that the Final ID did not err in considering the entirety of Fujifilm's fixed costs of [] million as of the end of fiscal year 2015 as applicable to the LTO-6 product, and the Commission affirms this finding. *See Certain Biometric Scanning Devices, Components Thereof, Associated Software, & Prods. Containing the Same*, Inv. No. 337-TA-720 ("Certain Biometric Scanning Devices", ID at 6-7 (Feb. 16, 2011) (unreviewed in relevant part) ("[C]omplainant was required to invest in the space for each product regardless of whether the space is used to manufacture the other product.")).

4) Fujifilm's Investments in Labor and Capital

The Final ID bases its finding that Fujifilm satisfied prong (B) with respect to the LTO-6 DI products on Fujifilm's labor expenditures of [] from 2013-2015 (CX-0003C at Q/A 74) and labor costs for manufacturing engineering employees and manufacturing employees of over [] for 2013-2015 (*id.* at Q/A 55, 57, 59). Final ID at 380. Sony's primary criticism is that Fujifilm failed to allocate its asserted labor expenses to the LTO-6 DI Product. Sony Pet. at 98. Sony argues that "Fujifilm admitted that FRMU's alleged 'manufacturing and engineering' employees work on non-LTO products (Oracle T10,000 and IBM 3592 tapes)" *Id.* (citing Ryder Tr. at 101:22-103:9, 103:12-104:6, 104:12-16, 105:1-13; JX-0158 (Ryder Dep.) at 57:7-58:7; JX-0147C (Faulhaber Dep.) at 125:14-126:20). Sony further asserts that Fujifilm failed to specify "what fraction of its 'manufacturing and engineering' employees fall under" categories unrelated to the manufacturing of the LTO-6 products, "e.g. IT, packaging, labelling, storage, etc." *Id.* (citing Tr. at 103:2-9, 104:3-6, 104:17-105:10).

Fujifilm's expert, Dr. Vander Veen, testified that, "[a]ccording to the President of FRMU,

PUBLIC VERSION

Mr. Peter Faulhaber, nearly all of the manufacturing and engineering activities that took place at the Bedford facility were related to LTO products, nearly all of these costs were attributable to FRMU's LTO products." CX-0003C at Q/A54 (citing CX-0454C at ¶ 7 (Declaration of Peter Faulhaber in Support of Complaint)). Accordingly, Dr. Vander Veen included all of the so-called manufacturing engineering and manufacturing employee labor costs into the costs under those categories without attempting to apportion those costs to the expenditures directly related to the LTO-7 product. CX-0003C at Q/A 55, 57, 59. The testimony noted above from Ms. Kimberly Ryder, Vice President of Finance and Administration for FRMU, and Mr. Faulhaber, suggests that Mr. Vander Veen's assumption was not quite accurate.

In our view, it is appropriate to apply the same allocation Dr. Vander Veen applied to Fujifilm's plant and equipment expenditures. Specifically, Dr. Vander Veen identified the following allocation percentages for expenditures attributable to LTO-6 products in 2013-2015: [REDACTED] CX-0003C at Q/A 74. The Final ID relied on these very allocations in apportioning Fujifilm's labor expenditures for the LTO-6 products. *See* Final ID at 380 (citing CX-0003C at Q/A 74).

Applying these allocation percentages to the manufacturing engineering and manufacturing employee costs for 2013-2015 identified in the Final ID (at page 380) yields a total expenditure of [REDACTED]. This is in addition to the [REDACTED] in apportioned labor expenditures, which Sony does not dispute. Accordingly, the Commission finds that Fujifilm's total apportioned expenditures in labor and capital for 2013-2015 with respect to the LTO-6 DI products is [REDACTED].

PUBLIC VERSION

5) Significance of Fujifilm's Investment in the Context of the Marketplace

In *Certain Optoelectronic Devices*, the Commission stated the following regarding the context of a complainant's domestic expenditures:

As we held in *Certain Printing and Imaging Devices*, whether investment activities are significant or substantial “is not evaluated according to any rigid mathematical formula,” but rather, “entails ‘an examination of the facts in each investigation, the article of commerce, and the realities of the marketplace.’” *Certain Printing and Imaging Devices and Components Thereof*, Inv. No. 337-TA-690, Comm’n Op. at 27 (Feb. 17, 2011) (“*Printing Devices*”) (quoting *Certain Male Prophylactic Devices*, Inv. No. 337-TA-546, Comm’n Op. at 39 (Aug. 1, 2007)). There are a number of factors and approaches taken by the Commission in making this determination. For example, comparing complainant's domestic expenditures to its foreign expenditures is one of the possible factors that the Commission could but, contrary to Respondents' argument, is not required to consider. *Id.* at 27-28. *Accord*, *Certain Encapsulated Integrated Circuit Devices and Products Containing Same*, Inv. No. 337-TA-501, Comm’n Op. at 33 (Apr. 4, 2014).

Inv. No. 337-TA-860, Comm’n Op. at 18-19. The Commission then went on consider the significance of the complainant's expenditures with respect to the complainant's revenues, finding that the evidence showed “the relative importance of its R&D investments as they are directly tied to development of the articles protected by the patent and are critically important to [the complainant's] business as a whole.” *Id.* at 19.⁶²

Here, the Final ID based its finding that Fujifilm's domestic investments are significant on several factors, including the fact that “Fujifilm reported [] in revenue for its LTO-6 cartridges” in 2015. Final ID at 383 (CX-0026C (Vander Veen RWS) at Q/A 92-93). This

⁶² The Commission also considered the percentage of complainant's R&D domestic activities as a percentage of its worldwide activities. *Id.*

PUBLIC VERSION

figure reflects Fujifilm's worldwide revenue. An additional consideration is what percentage of Fujifilm's global revenues for the LTO-6 DI products are attributable to its domestic sales.

In response to a question in the Commission's notice of review, Fujifilm asserts that it "generated [REDACTED] in global revenue from its worldwide sales of LTO-6 products between the second half of 2012 and the first half of 2016." Fujifilm Br. at 23 (citing CX-0026C (Vander Veen RWS) at Q/A 92; *see also* ID at 247-248). Fujifilm further asserts that FRMU "generated approximately [REDACTED] of Fujifilm's unit sales during the same period[.]" which amounts to approximately [REDACTED] in domestic revenue. *Id.* (citing CX-0484C (Sales Quantity Information); *see also* JX-0144C (Ashihara Dep.) at 85:17-86:5).

[

]

CX-0484C. Fujifilm contends that

The qualitative significance of Fujifilm's domestic manufacturing operations for LTO-6 products also is reflected by the fact that these operations helped generate the vast majority of Fujifilm's

PUBLIC VERSION

LTO-6 sales (*i.e.*, [REDACTED]) between 2012 and first half of 2016. FRMU's President, Mr. Peter Faulhaber, testified regarding the significance of Fujifilm's domestic manufacturing operations which include [REDACTED] operations that Mr. Faulhaber identified as necessary to make final, saleable LTO-6 products. *See* CX-0010C (Faulhaber DWS) at Q/A 7-14 ("A shell cartridge without tape is not usable and tape without a shell cartridge is not useable, both are not saleable without the other."). The ALJ also found FRMU's manufacturing activities to be qualitatively significant. *See* ID at 383 ("The domestic activity is significant because Fujifilm's LTO-6 products would not be saleable without the domestic contributions" and "Fujifilm's labor expenses supplied [REDACTED] full-time equivalent manufacturing jobs, which is qualitatively and quantitatively significant.").

Id. at 24; *see also* CX-0010C (Faulhaber WS) at Q/A 7-14; CX-0003C (Vander Veen WS) at Q/A 59).

OUII also asserts that "Fujifilm's domestic sales represent approximately [REDACTED] of its total global LTO-6 sales ... from the second half of fiscal year 2012 through the first half of fiscal year 2016." OUII Br. at 8 (citing CX-0484C; CX-0026C (Vander Veen RWS) at Q/A 92). OUII provides the following chart to show the estimated per-year domestic revenue attributable to Fujifilm's LTO-6 DI products:

Id. (citing CX-0026C at Q/A 92). OUII further notes the Final ID's finding that "Fujifilm's investments related to its domestic activities conducted at its Bedford, Massachusetts facility are qualitatively significant, because Fujifilm's LTO-6 tape would not otherwise be saleable." *Id.* at 8-9 (citing Final ID at 383; CX-0026C at Q/A 52).

Sony asserts that Fujifilm's and OUII's attempt to discern "revenues by inferring the

PUBLIC VERSION

proportions from a spreadsheet putatively showing domestic and foreign unit sales (CX-484C) . . . improperly presumes that revenues from foreign- and domestically-sold products are approximately equal, which has no basis in the record, and should be rejected.” Sony Reply Br. at 17.⁶³ If Sony’s argument is that there is a significant difference in domestic versus foreign prices at which Fujifilm sells its LTO-6 DI products, Sony offers no evidence of that beyond attorney argument. Moreover, even if Fujifilm did not offer revenue data, the raw sales numbers, which Sony does not dispute, would be sufficient to establish that Fujifilm’s domestic sales are a significant portion of its worldwide LTO-6 sales.⁶⁴

Sony also argues that

Every step of manufacture takes place [redacted] including production of the LTO-6 tape that allegedly practices the Asserted Patents, and Fujifilm winds, packages and labels only some [an undisclosed percentage] of its imported LTO-6 tape in the United States. RX-0367C (Jarosz RWS) at Q&A 26. The imported pancake, which allegedly practices all asserted claims of the Asserted Patents on its own, constitutes approximately [redacted] [redacted] of the value of a completed LTO-6 tape cartridge, leaving less than [redacted] of the tape’s value to be accrued by domestic activities for the undisclosed percentage of the total LTO-6 tapes wound by Fujifilm in the United States. *Id.* at Q&A 59 (citing JX-0158C (Ryder Dep.) at 55:2-14), 60 (citing CX-0456C LTO6 Spreadsheet), 61 (citing JX-0147C (Faulhaber Dep.) at 72:5-9).

Id. at 18 (emphasis in original).

⁶³ We do not consider Sony’s arguments based on unadmitted exhibit (CX-0057C). *See* Sony Br. at 29-30.

⁶⁴ Sony also asserts that Fujifilm introduced new arguments regarding the significance of its domestic sales to its worldwide revenue. Sony Reply Br. at 17 (citing Fujifilm Br. at 24-25). Fujifilm, however, merely explained the significance of its domestic manufacturing operations, evidence the Final ID relied on in finding Fujifilm’s domestic investments with respect to its LTO-6 DI Products to be significant. *See* Final ID at 375, 383-84.

PUBLIC VERSION

The evidence, however, shows that the activities performed at FRMU “are necessary to convert the [imported] bulk magnetic tape and housing components into salable tape cartridges.” Final ID at 375; CX-0010C at Q/A 14; Faulhaber Tr. at 90:3-12; CX-0003C Q/A 37). The Commission has found precisely that these type of activities, which are necessary to produce a salable product, create “value added” to the imported unfinished product such that the domestic activities may be considered in evaluating the economic prong of the domestic industry requirement. *See Certain Male Prophylactic Devices*, Inv. No. 337-TA-546, Comm’n Op. at 41-46 (Aug. 1, 2007) (public version).

In our view, the fact that Fujifilm’s domestic operations account for [REDACTED] of its global revenues is unquestionably significant. Accordingly, the Commission affirms, with the modified analysis set forth above, the Final ID’s finding that Fujifilm’s domestic investments in plant and equipment and labor and capital investments in its LTO-6 DI products are significant under section 337(a)(3) (A) and (B).

As noted previously, Fujifilm asserted its domestic investments in its LTO-6 DI products with respect to the ’891, ’612, and ’106 Patents, and, thus, has satisfied the economic prong of the domestic industry requirement with respect to those patents.

b. LTO-7 DI Products

Fujifilm relies on its domestic investments with respect to only its LTO-7 DI products to support a finding that the economic prong of the domestic industry is satisfied with respect to the ’434 and ’805 Patents. As discussed above, *see supra* at Sections VI. D. and E., the Commission finds no violation of section 337 with respect to those patents for reasons independent of whether Fujifilm has satisfied the economic prong regarding those patents.

PUBLIC VERSION

Accordingly, the Commission has determined not to reach the issue of whether Fujifilm has satisfied the economic prong with respect to its domestic investments in its LTO-7 DI products. *See Beloit*, 742 F.2d at 1423.

In conclusion, the Commission finds that Fujifilm has shown a violation of section 337 with respect to the '891 Patent. The Commission must therefore consider the appropriate remedy and whether the public interest would prevent the issuance of such a remedy.

The Commission finds that Fujifilm has not shown a violation of section 337 with respect to the '612, '106, '434, and '805 Patents.

H. Remedy, Public Interest, and Bonding

1. Limited Exclusion Order

a. RD

Fujifilm requested issuance of a limited exclusion order ["LEO"] prohibiting Sony (and related parties) from importing, selling for importation, or selling after importation any infringing articles" RD at 13. Sony argued that any LEO that issues should be limited in scope. Specifically, Sony requested that

if the Commission grants a remedial order in this investigation, it should (1) except from the remedial order government and quasi-government entities, customers in the health-care and public safety sectors, and customers who can show that they need LTO-7 storage to meet important governmental regulatory requirements, and (2) grant a transition period for all customers, after expiration of the Presidential review period, during [which] Sony LTO-7 may continue to be imported and sold, prior to the commencement of any LEO. Given the public interest concerns, a transition period is necessary to allow these consumers time to test the viability of Fujifilm's LTO-7 or switch to another data storage method.

Id. OUII recommended issuance of an LEO against Sony and stated that "the Commission's

PUBLIC VERSION

standard practice with respect to limited exclusion orders should be followed here.” *Id.* Specifically, OUII noted that “the Commission’s standard practice is to include an explicit exception for importations by or on behalf of the U.S. Government.” OUII Post-Hearing Br. at 113. OUII further asserted that Sony “has offered no evidence to support” its request for delayed implementation of an exclusion order, noting that “Sony LTO-7 customers could purchase Fujifilm LTO-7 tapes, or could immediately switch to LTO-6 tapes” *Id.*

The ALJ recommended that the Commission issue an LEO covering Sony’s infringing products. RD at 14. Specifically, the ALJ recommended not delaying implementation of any LEO that issues “because substitute products (*e.g.*, Fujifilm’s LTO-7 products) are available.” *Id.* The ALJ notes that “[f]or Sony customers aware of this investigation, there has already been time to consider Fujifilm’s LTO-7 products and/or switching to another data storage system.” *Id.* at 14 n.6.

b. Analysis

The Commission has broad discretion in selecting the form, scope, and extent of the remedy in a section 337 proceeding. *Viscofan, S.A. v. Int’l Trade Comm’n*, 787 F.2d 544, 548 (Fed. Cir. 1986). An LEO directed to respondents’ infringing products is among the remedies that the Commission may impose. Indeed, upon finding a violation of section 337, the statute provides that the Commission “shall direct that the articles concerned, imported by any person violating the provision of this section, be excluded from entry into the United States, unless, after considering the effect of such exclusion upon the public health and welfare, competitive conditions in the United States economy, the production of like or directly competitive articles in the United States, and United States consumers, it finds that such articles should not be excluded

PUBLIC VERSION

from entry.” 19 U.S.C. § 1337(d)(1); see *Certain Automated Teller Machines, ATM Modules, Components Thereof and Products Containing the Same*, Inv. No. 337-TA-972, Comm’n Op. at 28 (May 19, 2017) (“*Automated Teller Machines*”); *Spansion*, 629 F.3d at 1359-60.

Sony argues that a tailored, delayed LEO is necessary because “for many LTO-7 customers, switching to LTO-6 amounts to using a lower quality product, possibly with unacceptable capacity or speed.” Sony Br. at 44-45 (citing RX-0367C (Jarosz RWS) at Q/A 73-74. Moreover, Sony contends, Fujifilm’s LTO-7 products are not “an immediate and fully viable alternative for current customers of Sony’s LTO-7[,]” noting that Sony’s customers are willing to pay higher prices for Sony’s cartridges “because Sony’s LTO-7 ‘clearly’ exhibits easier handling and winding characteristics, is smoother, and has better ‘wear’ and ‘shield damage’ characteristics.” *Id.* at 45. Sony asserts that “[s]uch customers will need time to determine if Fujifilm LTO-7 is acceptable and, if necessary, test, qualify, and switch to a different system.” *Id.* Sony further asserts that a delay of six months “would allow Sony to implement a commercially-viable design-around” with respect to the ’891 patent. *Id.* at 45-46. Sony also asserts that “importation for use by state and local government entities should be permitted under an LEO.” *Id.* at 46 (citing JX-0171C (identifying Sony’s government customers)). Sony also argues that an LEO should be tailored “to permit the repair or replacement of existing LTO cartridges” under its warranty services, including allowing importation of components of LTO-7, which “may be used to service Sony products under warranty.” *Id.* at 48-49.

Quantum asserts that “LTO-7 customers cannot easily switch to another form of data storage.” Quantum Lt. at 5. Quantum requests that any LEO allow for a six-month transition period “to allow Quantum, its end-user customers, and other consumers time to test the viability

PUBLIC VERSION

of Fujifilm's LTO-7 products, or switch to another data storage method." *Id.* at 7; *see also* HPE Lt. at 6 (requesting a six-month transition period "to allow HPE time to migrate its supply chain" to Fujifilm). Quantum also notes that Sony's AP-75 Agreement requires Sony to satisfy the technical compliance verification process for its LTO-7 tapes once a year, explaining that "the Compliance Verifier has been and is located in and conduct[s] its testing in the United States." *Id.* at 6-7. Quantum noted that, even if Sony were excluded from the United States market, "it would still be required to submit sample tapes for re-verification testing [] in the United States in order to sell LTO-7 in other countries." *Id.* at 7. Accordingly, "Quantum requests that Sony be permitted to import LTO-7 products into the United States at least for the limited purpose of its compliance re-verification testing, and for any compliance verification of any re-designed LTO-7 tape." *Id.*; *see also* HPE Lt. at 5-6.⁶⁵

In *Personal Data*, the Commission determined to delay the exclusion of HTC mobile handset where "HTC account[ed] for a majority of [non-party] T-Mobile's U.S. smartphone sales" and "T-Mobile builds its smartphone portfolio by sourcing Smartphones with specific features and prices, which it could not easily change on short notice" *Id.*, 2012 WL 11861755, at *49. Moreover, the Commission specifically noted that "the President's statements and the Department of Justice's lawsuit demonstrate the importance of competitive conditions in wireless telecommunications services in the United States generally and T-Mobile's role within it." *Id.*, 2012 WL 11861755, at *50.

⁶⁵ While Sony does not address its need for compliance testing in its opening submission, it does address this issue in its reply brief in the context of a cease and desist order. Sony Reply Br. at 23-24.

PUBLIC VERSION

Here, Sony points to no similar potentially broad-reaching effects regarding the exclusion of its LTO-7 products. While we acknowledge the statements from Quantum and HPE regarding their need to adopt either Fujifilm's LTO-7 products or to switch to a different storage solution, neither Sony, Quantum, nor HPE provide any evidence beyond unsupported argument regarding the difficulty of such adoption. The evidence shows that Fujifilm's LTO-7 tapes are fully compatible with the LTO-7 tape drives. CX-0010C (Faulhaber WS) at Q/A 33, 34; CX-0003C (Vander Veen WS) at Q/A 83). In addition, non-infringing LTO-6 tape products are also backwards compatible with LTO-7 drives. *Id.* Moreover, we note that the Commission publishes notice of its investigations in the Federal Register for the specific purpose of notifying the public. Sony's assertion that some of its own customers may not have been informed of the investigation and, thus, may not have "had the opportunity to consider the effects of an LEO" (Sony Br. at 45) is not a legitimate reason for the Commission to delay remedying an adjudicated violation of section 337. Accordingly, the evidence does not suggest that a delay in enforcing an LEO is warranted. Neither does Sony present a compelling reason to reach beyond the statute and extend an exception to infringing products imported for use by non-federal governmental entities.

Sony also requests that any LEO be tailored "to permit the repair or replacement of existing LTO cartridges." Sony Br. at 48. Sony asserts that it "has offered warranties to its customers on its LTO products." *Id.* Sony also requests that any LEO "exempt components of any LTO-7 tapes found in violation, since these components may be used to service Sony products under warranty." *Id.* at 48-49 (citing *Certain Mobile Devices, Associated Software, & Components Thereof*, Inv. No. 337-TA-744 Comm'n Op. at 21-22 (Jun. 5, 2012) (granting

PUBLIC VERSION

exemption for components used in the service, repair, or replacement of damaged smartphone devices); *Certain Sleep-Disordered Breathing Treatment Sys. & Components Thereof*, Inv. No. 337-TA-890, Comm’n Op. at 47 (Dec. 23, 2014) (exclusion order exempting infringing parts imported for service and repair); *Certain Liquid Crystal Display Devices*, Inv. No. 337-TA-631, Comm’n Op. at 27 (Jul. 14, 2009) (“[T]he public interest weighs in favor of an exemption to allow importation of service and replacement parts[.]”). Sony asserts that “these components are not typically sold” *Id.* at 49.

The ALJ found that Sony failed to provide “evidence of the warranty and support services it does provide, nor has it sufficiently described the services it intends to provide.” RD at 16. However, both Quantum and HPE state in their public interest submission that, under Sony’s warranty obligations, “if a Sony LTO-7 tape that Quantum has purchased turns out to be defective, Sony must either replace the product (*i.e.*, provide another Sony LTO-7 tape, not a comparable product) or refund the purchase price.” Quantum Lt. at 6; *see also* HPE Lt. at 5. In *Certain Automatic Teller Machines, ATM Modules, Components Thereof, and Products Containing the Same*, Inv. No. 337-TA-972, Commission Opinion at 26-27 (June 12, 2017) (public version), the Commission accepted evidence in the form of customer letters as sufficient support to exempt replacement parts from the LEO issued in that investigation.

Based on the preceding discussion, the Commission has determined to issue an LEO prohibiting entry of “magnetic data storage tapes and cartridges containing the same” that infringe the asserted claims of the ’891 Patent. The Commission has further determined that the LEO shall contain an exemption to allow for the importation of cartridges which Sony certifies are necessary for replacement under its warranty agreements.

PUBLIC VERSION

Sony argues that any CDO that issues should not prohibit use of LTO-7 tape products for compliance verification testing (*see infra* at Section V.H.3.b.), but does not assert that importation of infringing tapes should be permitted under an LEO for the purposes of compliance testing. However, to harmonize the LEO with the scope of cease and desists orders against the Sony respondents, *see infra*, the Commission has determined that the LEO shall also include an exemption for compliance verification testing.

2. Cease and Desist Order

a. RD

Fujifilm asserted that a cease and desist (“CDO”) against Sony “is necessary because Sony maintains commercially significant inventory in the United States.” *Id.* at 15. Fujifilm also argued that Sony has presented no “evidence supporting its request to provide warranty and support services.” *Id.* Sony argued that “its current inventory, totally [] of LTO-7 product, is not commercially significant in comparison to Fujifilm’s inventory and sales.” *Id.* Sony further asserted that “it has at most [] of inventory for the United States market.” *Id.*⁶⁶ Sony also requested that any CDO that issues “be narrowly tailored, and permit Sony to provide warranty services and support to its LTO-7 customers.” *Id.* OUII argues that Sony’s “products are used to support Sony’s commercial operations in the United States and thus are commercially significant” such that a CDO is appropriate. *Id.* at 16.

The ALJ recommended issuance of CDOs against each of the Sony respondents based on their collective inventories. *Id.* Specifically, the ALJ found that “any inventory beyond the

⁶⁶ Sony did not dispute the RD’s recommendation that the Commission treat the Sony respondents collectively with respect to the asserted inventory.

PUBLIC VERSION

|| [] in inventory beyond the end of the hearing would have been used to support Sony's commercial operations. Likewise, any inventory imported and sold during the presidential review period (or beyond) would also circumvent the exclusion order." *Id.* The ALJ found that Sony provided no evidence of its warranty and support services to justify a carve-out for such services. *Id.*

b. Analysis

Section 337 provides that in addition to, or in lieu of, the issuance of an exclusion order, the Commission may issue a cease and desist order as a remedy for violation of Section 337. *See* 19 U.S.C. § 1337(f)(1). Cease and desist orders are generally issued when, with respect to the imported infringing products, respondents maintain commercially significant inventories in the United States or have significant domestic operations that could undercut the remedy provided by an exclusion order.⁶⁷ *See, e.g., Certain Table Saws Incorporating Active Injury Mitigation Technology and Components Thereof*, Inv. No. 337-TA-965 ("Table Saws"), Comm'n Op. at 4-6 (Feb. 1, 2017) (public version); *Certain Protective Cases and Components Thereof*, Inv. No. 337-TA-780, USITC Pub. No. 4405, Comm'n Op. at 28 (Nov. 19, 2012) (citing *Certain Laser Bar Code Scanners and Scan Engines, Components Thereof and Products Containing Same*, Inv.

⁶⁷ When the presence of infringing domestic inventory is asserted as the basis for a cease and desist order under section 337(f)(1), Chairman Schmidtlein does not adopt the view that the inventory needs to be "commercially significant" in order to issue a cease and desist order. *See, e.g., Certain Table Saws Incorporating Active Injury Mitigation Technology and Components Thereof*, Inv. No. 337-TA-965, Comm'n Op. at 6-7, n.2 (Feb. 1, 2017) (public version); *Certain Network Devices, Related Software and Components Thereof (I)*, Inv. No. 337-TA-944, Comm'n Op. at 56, n.20 (July 26, 2016) (public version). In Chairman Schmidtlein's view, the presence of some infringing domestic inventory, regardless of the commercial significance, provides a basis to issue a cease and desist order. *See id.*

PUBLIC VERSION

No. 337-TA-551, Comm’n Op. at 22 (June 14, 2007)). A complainant seeking a cease and desist order must demonstrate, based on the record, that this remedy is necessary to address the violation found in the investigation so as to not undercut the relief provided by the exclusion order. *Certain Integrated Repeaters, Switches, Transceivers, and Products Containing Same*, Inv. No. 337-TA-435, USITC Pub. No. 3547 (Oct. 2002), Comm’n Op. at 27 (Aug. 16, 2002) (“[C]omplainants bear the burden of proving that respondent has such an inventory).

Fujifilm asserts that “Sony stipulated that it held at least [REDACTED] of Accused Product in the United States as of October 7, 2016.” Fujifilm Br. at 37 (citing JX-0211C (Stop. R. Sony’s Importation and Inventory)). Fujifilm contends that “Sony maintains sufficient inventory to supply [REDACTED] of sales.” *Id.* (citing JX-0159C (Murai Dep.) at 81:2-6). Fujifilm argues that, “based on Sony’s sales patterns, Sony’s inventory of more than [REDACTED] [REDACTED] that it has sold from [REDACTED]” *Id.* (citing CX-0003C (Vander Venn DWS) at Q/A 95-98. Fujifilm further asserts that Sony has [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]” *Id.* (citing CX-0003C at Q/A 98; CX-0217C (Sony DADC Inventory Report Product, dated July 21, 2016)). Fujifilm asserts that no tailoring of a CDO is warranted because Sony has “failed to provide any evidence as to the warranty and support services that it currently provides or intends to provide.” *Id.* at 38 (citing RD at 16). Fujifilm further asserts that “Quantum fails to point to any evidence in support of its conclusion that its customers will expect to receive the same Sony LTO-7 products as a replacement, rather than Fujifilm LTO-7 products or a refund.” *Id.*

PUBLIC VERSION

OUII asserts that Sony's stipulated inventory of "at least - [redacted] of the Accused Products in the United States as of October 7, 2016 ... [is] used to support Sony's commercial operations in the United States and are thus commercially significant." OUII Br. at 11 (citing RD at 16).

Sony argues that

The Commission has found inventories to be "commercially significant" based on their absolute value, or on a comparison between the quantity and the volume of product at issue sold or imported over time. *Certain Optoelectronic Devices for Fiber Optic Comm'n's, Components Thereof & Prods. Containing Same*, Inv. No. 337-TA-860, Comm'n Op. at 36-37 (May 9, 2014) [redacted] of ["Optoelectronic Devices"]. Sony's inventory is, at most, [redacted] of the total number of Sony products sold over the twelve month period between 10/15-9/16. Fujifilm IPHB at 375. In comparison, Fujifilm has imported over [redacted] an allegation with Fujifilm relies upon for its domestic industry allegations. CX-0456C; Fujifilm IPHB at 361. In that context, Sony's - [redacted] inventory is not commercially significant.

Sony Br. at 47. Sony asserts that the "Commission has also considered the length of time a respondent would be able to continue selling until its domestic inventories are exhausted." *Id.* (citing *Certain Abrasive Prods. Made Using a Process for Powder Preforms, & Prods. Containing Same*, Inv. No. 337-TA-449, Comm'n Op., U.S.I.T.C. Pub. 3530 (Aug. 2002) ("*Abrasive Prods.*"). Sony also raises the same issue regarding a service and repair exemption as it did with respect to an LEO. Sony Br. at 48-49.

In *Optoelectronic Devices*, the Commission compared the respondent's imports with its inventory, not with the complaint's market share, in determining that the respondent's inventory was commercially significant. As such, the fact that Fujifilm has a [redacted]

PUBLIC VERSION

[] is not relevant. We disagree with Sony that its admitted [] worth of inventory is not significant. Sony provides no argument against the ALJ's finding that Sony would use its inventory to support its commercial operations in the United States, thus continuing its infringing activities for the duration that its remaining inventory lasts.^{68, 69}

We do, however, agree with Sony that Fujifilm's proposal to include a restriction against compliance verification testing in the CDO would amount to a "world-wide" prohibition against Sony's products, since verification testing in the United States appears to be necessary even for foreign sales of Sony's LTO-7 products. Sony Reply Br. at 23-24; HP Lt. at 5. Furthermore, Sony should not be prohibited from engaging in any compliance testing during its efforts to design around the '891 Patent. *Id.* at 24. Fujifilm has not demonstrated that allowing Sony to engage in compliance testing would adversely affect its LTO-7 market share. *See Certain Devices for Connecting Computer via Tel. Lines*, Inv. No. 337-TA-360, Comm'n Op. at 10 (Nov. 18, 1994) ("A complainant that seeks exclusion of other types of entry [other than entry for consumption] should present evidence that activities by respondents involving other types of entry either are adversely affecting it or are likely to do so.").

Based on the preceding discussion, the Commission has determined to issue a CDO

⁶⁸ Sony argues that the ALJ erred in finding that Sony's imports during the period of Presidential review could be used to circumvent the exclusion order. Sony Br. at 48 (citing RD at 16). However, while Sony is correct that imports are allowed under bond during that period, the ALJ is correct that, in the absence of a CDO, any increase in Sony's inventory due to such imports could allow it to continue its commercial domestic activities with an increased inventory after the expiration of the review period.

⁶⁹ Chairman Schmidlein supports issuance of the cease and desist orders in this investigation due to the presence of some infringing domestic inventory, regardless of the commercial significance.

PUBLIC VERSION

against each of the Sony respondents. The CDOs permit Sony to use its domestic inventory for the purposes of compliance testing. As discussed with respect to an LEO, the CDOs also exempt tapes and cartridges necessary for satisfying Sony's warranty obligations.

3. Public Interest

a. Recommended Determination⁷⁰

Regarding public health and welfare, Sony argued that its customers include "U.S. and state and local government customers, as well as critical institutions such as hospitals and pharmaceutical companies." RD at 5. The ALJ found that Sony failed to cite to any evidence to "support a finding that an exclusion order would have an adverse impact on public health and welfare." *Id.* at 6 (citing *Spansion*, 629 F.3d at 1360 (identifying energy-efficient automobiles, basic scientific research, and hospital equipment as examples of important health-or-welfare needs)).

Regarding competitive conditions in the United States, Sony argued that "entering an exclusion order would hand Fujifilm a monopoly of the United States market, would increase consumer costs and reduce consumer choice, would 'have a major adverse impact' on innovation, and reduce the adoption rate of LTO-7." *Id.* at 7. The ALJ noted that "[w]hile excluding Sony from the market may decrease consumer choice, the Commission 'does not deny a remedy solely because the relief would remove a second supplier from the market.'" *Id.* at 8 (citing *Table Saws*, Comm'n Op. at 10). The ALJ found that "Sony's statements about the fungibility of LTO-7 tapes and other forms of data storage shows that consumers could choose

⁷⁰ As instructed by the Commission, the ALJ made findings concerning the public interest factors set forth in 19 U.S.C. § 1337(d)(1) and (f)(1). *See* 81 FR 43243; 19 CFR § 210.10(b).

PUBLIC VERSION

alternative products if Sony's LTO-7 products are excluded from the market." *Id.* (citing Sony's Statement on Public Interest, *Certain Magnetic Tape Cartridges and Components Thereof*, Inv. No. 337-TA-1036 ("*Magnetic Cartridges II*"), at 3 (noting "the availability of directly competitive articles in the marketplace")).

Additionally, the ALJ found that "Sony's concerns about pricing are not supported by the evidence, as Fujifilm faces competition from other data storage solutions." *Id.* (citing CX-0009C (Yahiro WS) at Q/A 69-70; see also CX-0010 (Faulhaber WS) at Q/A 39-45). The ALJ also found that "allowing Sony to import infringing products would cause a greater harm" than the possibility of reducing incentives to innovate magnetic tape technology by "excluding Sony from the United States market" *Id.* The ALJ also found Sony's "incentive to innovate is reduced only with relation to the United States market," not internationally, and noted that "competition from other data storage solutions . . . also provides an incentive for LTO tape manufacturers to innovate." *Id.* at 8-9 (citing CX-0009C (Yahiro WS) at Q/A 69-70; CX-0010 (Faulhaber WS) at Q/A 39-45)). The ALJ further found that "a decline in the rate of LTO-7 adoption has not been shown to have a significant adverse effect on competitive conditions in the United States economy (or that a lower rate of adoption is an undesirable outcome)." *Id.* at 9. Moreover, the ALJ found, "the harm of a slower adoption rate of LTO-7 would fall on Fujifilm, which could move to modify the exclusion order, if it desired, if the adoption rate fell too low." *Id.*

Lastly, the ALJ rejected Sony's argument that, leaving the entirety of domestic production of LTO-7 tapes to Fujifilm's [] would render the supply "susceptible to an 'accident or disaster' such as an earthquake or tsunami" thus possibly "caus[ing] a spike in prices and hoarding of LTO-7 tapes." *Id.* at 8 n.2. The ALJ suggested that

PUBLIC VERSION

“[i]f a disaster halts Fujifilm’s production and importation, Sony might consider filing a petition to modify or rescind the remedial orders.” *Id.* (citing 19 C.F.R. § 210.76).

Concerning the production of like or directly competitive articles, the ALJ noted that Sony did not address this factor, and, thus, found that “this factor does not support recommending a tailored limited exclusion order.” *Id.* at 10.

Regarding the effect of remedial orders on United States consumers, Sony argued that reduced choice would “force consumers to pay higher prices for Fujifilm’s LTO-7 tapes.” *Id.* Sony further argued that its “government and quasi-governmental customers, customers in the health-care and public safety sectors, and customers who rely on LTO-7 storage to meet important governmental regulations concerning data storage and backup” would face substantial harm from a limited exclusion order. *Id.* at 11. Sony also argued that “these customers cannot easily switch between LTO systems and other technologies (i.e., non-LTO systems).” *Id.*

The ALJ found that an exclusion order would not reach Sony’s governmental customers. *Id.* The ALJ also found that there was no evidence to support a finding of adverse impact with respect to Sony’s healthcare customers. *Id.* The ALJ rejected Sony’s assumption that “its customers would switch to another technology platform rather than Fujifilm’s LTO-7 tapes.” *Id.* The ALJ again rejected Sony’s arguments about any remedial orders leading to higher prices. *Id.*⁷¹

⁷¹ The ALJ also addresses Sony’s essentiality arguments. However, because the Commission finds that none of the asserted claims are essential with respect to Fujifilm’s AR-75 agreement, this issue is moot. *See* RD at 12 (noting that “Sony’s essentiality arguments are not relevant to the public interest considerations” because the Final ID finds that the asserted claims are not essential claims).

PUBLIC VERSION

b. Analysis

Before the Commission issues any remedial order for a violation of section 337, it must determine the potential effect of any such remedy on: (1) the public health and welfare, (2) competitive conditions in the United States economy, (3) the production of like or directly competitive articles in the United States, and (4) United States consumers. 19 U.S.C. §§ 1337(d)(1), (f)(1).

1) Public Health and Welfare

Sony asserts that its “LTO-7 customers include state and local government customers, as well as critical institutions such as hospitals⁷² and pharmaceutical companies[,]” including [] [REDACTED] Sony Br. at 35 (citing RX-160 (About SSP) at 2; RX-0142 (Juno Therapeutics)); *see* JX-171C (listing of Sony’s LTO-7 customers). Fujifilm explains that Sony’s LTO-7 products “are generally used for back-up, long-term, and archival storage of data.” Fujifilm Br. at 26 (citing CX-0004C (Wang WS) at Q/A 9; CX-0003C (Vander Veen WS) at Q/A 31). Although we agree with Sony that state and local government entities are not covered under the exemption of 19 U.S.C. § 1337(l) for federal government entities, Sony does not explain how its governmental customers utilize the accused LTO-7 tape products even generally, let alone how that use might affect the public health and welfare. Regarding the pharmaceutical companies, the evidence on which Sony relies states only the business of those companies, but fails to explain how they utilize the accused LTO-7 tape products in any context

⁷² IBM states that hospitals use LTO tape formats to record medical records. IBM Lt. (Jan. 3, 2018) at 1. There is no evidence, however, that any hospital exclusively uses LTO-7 tape format or exclusively uses Sony’s infringing product. Nor is there any evidence regarding how the use of specific recording media particularly affects the public health or welfare.

PUBLIC VERSION

that might impact the public health and welfare. In addition, Sony's reliance on the statements from Quantum and HPE regarding how "a remedy excluding Sony will increase [those companies'] prices, destabilize supply, and leave them without suitable alternatives" is unavailing considering the lack of evidence regarding how Quantum's and HPE's use of Sony's LTO-7 tapes would have any impact on public health and welfare. *Id.* at 35-36 (citing Quantum Lt. (Dec. 26, 2017) at 4-5; HPE Lt. (Jan. 2, 2018) at 4-5). Rather, Sony has admitted that "the fungibility of LTO-7 tapes and other forms of data storage shows that consumers could choose alternative products if Sony's LTO-7 products are excluded from the market." RD at 8 (citing Sony's Statement on Public Interest, *Magnetic Cartridges II* at 3 (noting "the availability of directly competitive articles in the marketplace"))).

Accordingly, the Commission finds that the public health and welfare factor does not weight against issuance of remedial orders.

2) Competitive Conditions in the United States

Sony asserts that an exclusion order would result in a monopoly for Fujifilm in the LTO-7 tape market. *Id.* at 36. Sony contends that "[t]he reduction in competition will likely be severe, and have long-term adverse implications for the tape storage marketplace." *Id.* (citing RX-0002C (Jarosz WS) at Q/A 173-184. Sony asserts that an exclusion order would impact pricing, consumer choice, and innovation. *Id.* at 36-37 (citing RX-0002C at Q/A 173-226), 37-38 (citing RX-0008C (Murai WS) at Q/A 115-117). In addition, Sony contends that "the adoption rate of LTO-7 may also be reduced as customers revert to previous generations or other storage method to meet their data storage needs." *Id.* at 37 (citing RX-0002C at Q/A 220-226).

Non-party Quantum asserts that, if the Commission excludes Sony's infringing LTO-7

PUBLIC VERSION

tapes, the consequences would be higher prices due to Fujifilm's resulting monopoly. Quantum Lt. at 4. Quantum further raises the risk of having only a single supplier, noting that "[a] single outside event, like a labor dispute or natural disaster[] could destroy availability entirely." *Id.* at 5. Quantum also asserts that "with only a single supplier, consumers may become more reluctant to upgrade to LTO-7 drives or future generations of LTO technology." *Id.*

Non-party HPE asserts that leaving "Fujifilm as the only remaining supplier of LTO-7 tape media for the United States [] likely would lead to several outcomes: (1) higher prices, (2) a less stable supply, and (3) perhaps a lower quality product as Fujifilm significantly ramps production to try to satisfy demand." HPE Lt. at 4. HPE cites to the example of the Enterprise tape market, noting that "IBM and Oracle each sell a proprietary, 'Enterprise' level tape product and in each case there is only a single tape media supplier and the price of tape cartridges for those markets is significantly higher than for LTO tape media." *Id.* HPE also asserts that "[m]ultiple suppliers [] ensure a stable supply[,]" noting the effect of the 2011 tsunami on Sony, which was "the exclusive manufacturer of a proprietary professional videotape format." *Id.* HPE notes that "[t]he resulting unavailability of these proprietary professional videotapes caused prices to spike, and caused many customers to abandon the format altogether." *Id.* HPE further asserts that a single supplier might refuse to comply with the specific requirements HPE demands for its LTO-7 products. *Id.* at 4-5.

Non-party IBM contends that "a one-source market for LTO tape media will deter new customers from choosing LTO tape solutions. IBM Lt. at 2. IBM further asserts that "a single source market for LTO media will stagnate, if not shrink, the market for LTO technology." *Id.*

The Commission has explained that it "does not deny a remedy solely because the relief

PUBLIC VERSION

would remove a second supplier from the market.” *Table Saws*, Comm’n Op. at 10; *see also Certain Chemiluminescent Compositions*, Inv. No. 337-TA-285, USITC Pub. No. 2370, Comm’n Op. at 13-14, (Mar. 1991) (“the Commission has rejected arguments for denial of relief that are based solely on the fact that a second supplier would be shut out of the market by an exclusion order”). In *Table Saws*, the Commission noted that the respondent had less than one percent of the relevant market, and concluded that “[b]ecause the vast majority of the table saw market would be unaffected by a remedy, the issuance of a remedy is unlikely to substantially impact competitive conditions in the overall table saw market.” *Id.*

Here, the evidence shows that Sony has a [REDACTED] [REDACTED] than Fujifilm. *See* CX-0368C (Faulhaber RWS) Q/A 8-9 (explaining that Fujifilm has [REDACTED]); Murai Tr. 762:22–763:1, 764:4-9 (admitting that Sony’s [REDACTED] [REDACTED]). Moreover, Sony’s witness, Mr. Murai,⁷³ explained that “LTO-7 tape cartridges compete against other forms of data storage, such as proprietary magnetic tapes, optical disk media, and hard disk drive storage.” Murai Tr. at 756:14-22; *see also id.* at 757:10-12 (“There is a relationship vis-à-vis other formats recording applications.”).⁷⁴

While we acknowledge Sony’s assertion regarding the potential for supply disruptions if Fujifilm becomes the only domestic supplier of LTO-7 tapes, we do not believe Sony’s

⁷³ Mr. Murai is the head of sales and marketing, including for Sony’s LTO-7 products, for Sony Latin America. Murai Tr. at 737:6-19.

⁷⁴ *See* CX-0049C at 7 (showing that LTO tape format accounted for only five percent of the storage media market in 2015).

PUBLIC VERSION

speculation about what could occur is sufficient to override the actual fact of Sony's infringement. *See Certain Personal Data & Mobile Commc'ns & Related Software* ("Personal Data"), Inv. No. 337-TA-710, Comm'n Op., 2012 WL 11861755, at *44 (Jun. 2012) ("The right to exclude under a patent, 35 U.S.C. § 154, is the right to exclude a competitor's products; such exclusion necessarily affects consumer choice. Accordingly, the mere constriction of choice cannot be a sufficient basis for denying the issuance of an exclusion order."). As the ALJ noted, should the circumstances warrant, Sony may file a petition to modify or rescind the remedial orders. RD at 8 n.2 (citing 19 C.F.R. § 210.76). However, Fujifilm has explained the contingency plans it has in place to deal with natural disasters. Fujifilm Reply Br. at 2 (citing CX-0010C (Faulhaber DWS) at Q/A 20).

Furthermore, Sony does not explain how its concern regarding the adoption rate of LTO-7 products pertains to the competitive conditions public interest factor. Given Sony's admission that there are "like or directly competitive articles in the United States" (19 U.S.C § 1337(d)-(f)), it is not clear how the speed at which consumers adopt LTO-7 technology may override the interest in preventing Sony from importing infringing goods.

Accordingly, the Commission finds that the potential impact on competitive conditions in the United States does not weight against issuance of remedial orders.

3) Production of Like or Directly Competitive Articles in the United States

Sony asserts that the correct comparison is not between its infringing LTO-7 tapes and the storage media market in general, but only other LTO tape products, in particular, LTO-6 products. Sony Br. at 38. Specifically, Sony contends that "[o]ther forms of data storage are often not an economically feasible or otherwise suitable alternative for the long-term storage

PUBLIC VERSION

market. *Id.* (citing RX-0002C (Jarosz WS) at Q/A 53, 59-61). Sony disputes Fujifilm's expert's hypothesis that "there are 'several interchangeable storage media Systems' in the storage media market and that NAND devices and hard disk drives, which make up approximately 12% and 83% of the storage media market, respectively, may be suitable alternatives to LTO-7." *Id.* at 38-39 (citing CX-0003C (Vander Veen WS) at Q/A 85; RX-0202 (IBM Overview) at 6). Rather, Sony asserts, Mr. Vander Veen "ignores the fact that the average price for NAND storage is almost 30 times greater than LTO tape media, optical disk about ten times greater, and hard disk drives are 3.8 times greater." *Id.* Sony notes that "[t]his price differential is important to large LTO customers like Quantum and HPE." *Id.* at 39 (citing Quantum LT. at 5; HPE Lt. a 4). Sony further asserts that "NAND and hard disk storage are typically unsuitable for long term storage over many years." *Id.* (citing Exh. 7-8).

Sony further asserts that "while technically compatible with LTO-7 drives, LTO-6 tapes are not suitable alternatives to the Sony LTO-7 tapes" because they "lack the large capacity and transfer rate of LTO-7 technology." *Id.* (citing RX-0367C (Jarosz RWS) at Q/A 74 ("Forcing those customers to use what is – to them at least – an inferior technology will have an adverse impact on those customers by depriving them of the benefits that they sought by adopting LTO 7.")).⁷⁵ Sony also disregards alternatives such as Enterprise tape, which is incompatible with

⁷⁵ Sony argues that "Fujifilm's LTO-7 tapes have performance issues in HPE's Green Tape Tests" and thus, "the business relationship between HPE and Fujifilm is not strong" *Id.* at 40 (citing JX-0101 (HPE LTO Brochure) at 4-5; JX-0160C (Yahiro Dep.) at 64:13–65:10, 85:17–86:8; JX-0118C (Faulhaber Email, Apr. 29, 2015) at 2). The evidence, however, shows that [] products." Fujifilm Reply Br. at 22 (citing CX-0010C at Q/A 20).

PUBLIC VERSION

LTO-7 drives, and other formats, such as HDD, NAND/flash, and optical disk, which Sony contends are inferior with respect to security, cost, and size. *Id.* (citing RX-0008C (Murai WS) at Q/A 119, 124-125; RX-0007C (Nakashio WS) at Q/A 75-77).

Sony further asserts that Fujifilm's LTO-7 tapes are not a suitable substitute due to customer requirements and the higher quality of Sony's products. *Id.* at 40-41. In addition, Sony again contends that Fujifilm may not have the capacity to satisfy the demand for LTO-7 products if it becomes the sole United States supplier, asserting that "Fujifilm would have to increase its production immediately by more than -] to supply Sony's LTO-7 customers." *Id.* at 41-43 (citing RX-0002C at Q/A 265).

Fujifilm argues that "[a]t most, only 11% of the U.S. consumers of data storage rely on Sony's Accused Products for their storage needs." Fujifilm Reply Br. at 21 (citing CX-0049 at 7 (showing that Sony's Accused Products comprise -] of LTO-7 sales in the U.S. and that all LTO products comprise 5% of the storage media worldwide); CX-0368C (Faulhaber RWS) at Q/A 7-9). Fujifilm contends that "[s]uppliers of the remaining] of the storage media market would be more than capable of replacing 11% of sales that are currently being met by Sony's Accused Products." *Id.* Fujifilm further asserts that it "can completely satisfy the needs of customers currently relying on Sony's infringing LTO-7 cartridges." *Id.* Specifically, Fujifilm contends that

The record evidence shows that the projected worldwide demand for LTO-7 is [REDACTED]

[REDACTED] See CX-0055C (Fujifilm Capacity & Production Planning); see CX-0003C (Vander Veen DWS) Q/A 87-89. Fujifilm has planned manufacturing capacity of [REDACTED]

PUBLIC VERSION

_____]—all of which surpass the projected worldwide demand for LTO-7. *Id.*

Id. at 16 n.10. Fujifilm contends that the Commission has found that where “the vast majority of the [relevant market] would be unaffected by a remedy, the issuance of a remedy is unlikely to substantially impact competitive conditions in the overall [] market.” *Id.* at 22 (citing *Table Saws*, Comm’n Op. at 10).

In our view, Sony has not presented sufficient evidence that there will be a significant effect on the production of like or directly competitive products in the United States should the Commission exclude Sony’s infringing LTO-7 products. Sony has not addressed the effect of an exclusion order on production of like or directly competitive articles in the United States.⁷⁶ In any event, while Sony insists the relevant market should be narrowed to LTO-7 tapes, its own witness admitted that all storage media directly compete with Sony’s LTO-7 products. Murai Tr. at 756:14-23. Sony has not cited to any investigations in which the Commission declined to issue an exclusion order against infringing goods merely because such issuance might result in higher prices or some inconvenience to consumers. Moreover, the evidence shows that Fujifilm is capable of fully supplying the domestic LTO-7 market, of which Sony currently has only a minute share.

Accordingly, the Commission finds that the potential impact on the production of like or directly competitive articles in the United States does not weight against issuance of remedial orders.

⁷⁶ Before the ALJ, OUII asserted that, “if anything, it would seem that the requested remedial orders could result in increased production of LTO-7 tapes at [Fujifilm’s] facility in the United States.” RD at 9-10.

PUBLIC VERSION

4) Impact on United States Consumers

Sony asserts that issuance of an exclusion order against its LTO-7 products would “substantially harm Sony’s government and quasi-governmental customers, customers in the health-care and public safety sectors, and customers who rely on LTO-7 storage to meet important governmental regulations concerning data storage and backup.” Sony Br. at 43. Sony contends that “[m]ost, if not all, of these customers cannot easily switch to other technologies, such as enterprise tape, optical media, or hard disk drive storage solutions, given their investments and budgetary constraints.” *Id.* Specifically, Sony asserts, many of its LTO-7 customers “are committed to the LTO-7 platform” and that “[t]he cost of switching includes not only the cost of acquiring new hardware, software, and developing new interfaces, but also of transitioning the customer’s current archive library to the new format.” *Id.* at 44. Quantum also contends that “LTO-7 customers cannot easily switch to another form of data storage[,]” further arguing that “[e]ven prior generation of the LTO program would not take full advantage of customers’ investments in LTO-7 drives.” Quantum Lt. at 5.

Sony’s and Quantum’s argument presume that Fujifilm will be unable to satisfy the demand for LTO-7 tapes should the Commission exclude Sony’s products. Even assuming that consumers would be completely averse to utilizing non-tape storage products, which currently comprise 95% of the storage media market (CX-0049 at 7), there is no evidence that customers would be unduly harmed by relying on Fujifilm as the sole supplier. Specifically, Fujifilm explains the cost constraints on storage media, including, for example, [REDACTED]
[REDACTED]
Fujifilm Reply Br. at 23 (citing CX-0010C at Q/A 40-43 (explaining how the price degradation

PUBLIC VERSION

of LTO-6 due to prior generation LTO cartridges, and how LTO-6 will constrain the price of LTO-7 products); CX-0048C (Fujifilm Recording Media Products Business Review) at 364). Moreover, as discussed previously, the evidence shows that Fujifilm has the capacity to supply the LTO-7 tape market. Fujifilm Reply Br. at 16 n.10.

Accordingly, the Commission finds that the potential impact on United States consumers does not weight against issuance of remedial orders.

Based on the preceding discussion, the Commission finds that there are no public interest considerations that would preclude issuance of remedial orders in this investigation.

4. Bonding

In his RD, the ALJ noted that Fujifilm is not seeking a bond. RD at 16 (citing Fujifilm Post-Hearing Br. at 373). As such, the Commission has determined to set a bond of 0% of the entered value of the covered products (*i.e.*, no bond) during the period of Presidential review.

V. CONCLUSION

For the reasons discussed above, the Commission has determined to find a violation of section 337 with respect to the '891 Patent, and a finding of no violation with respect to the '612, '106, '434, and '805 Patents. The Commission has further determined to issue an LEO against Sony and CDOs against each Sony respondent with respect to the '891 Patent with the exemptions noted above. The Commission has determined to set a bond of 0% during the period of Presidential review (*i.e.*, no bond).

PUBLIC VERSION

By order of the Commission.

A handwritten signature in black ink, appearing to read 'Lisa R. Barton'.

Lisa R. Barton
Secretary to the Commission

Issued: April 2, 2018

**CERTAIN MAGNETIC DATA STORAGE TAPES AND
CARTRIDGES CONTAINING THE SAME**

Inv. No. 337-TA-1012

CONFIDENTIAL CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **COMMISSION OPINION** has been served by hand upon the Commission Investigative Attorney, R. Whitney Winston, Esq., and the following parties as indicated, on **April 2, 2018**.



Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

**On Behalf of Complainants FUJIFILM Corporation and
FUJIFILM Recording Media U.S.A., Inc.:**

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UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.

In the Matter of

**CERTAIN MAGNETIC DATA
STORAGE TAPES AND CARTRIDGES
CONTAINING THE SAME**

Investigation No. 337-TA-1012

**NOTICE OF COMMISSION DETERMINATION TO REVIEW-IN-PART A FINAL
INITIAL DETERMINATION FINDING A VIOLATION OF SECTION 337;
REQUEST FOR WRITTEN SUBMISSIONS;
EXTENSION OF TARGET DATE FOR COMPLETION OF THE INVESTIGATION**

AGENCY: U.S. International Trade Commission.

ACTION: Notice.

SUMMARY: Notice is hereby given that the U.S. International Trade Commission has determined to review in part the presiding administrative law judge's ("ALJ") final initial determination ("Final ID") issued on September 1, 2017, finding a violation of section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337 ("section 337") in the above-captioned investigation. The Commission has also determined to extend the target date for completion of the above-captioned investigation to February 20, 2018.

FOR FURTHER INFORMATION CONTACT: Megan M. Valentine, Office of the General Counsel, U.S. International Trade Commission, 500 E Street, S.W., Washington, D.C. 20436, telephone (202) 708-2301. Copies of non-confidential documents filed in connection with this investigation are or will be available for inspection during official business hours (8:45 a.m. to 5:15 p.m.) in the Office of the Secretary, U.S. International Trade Commission, 500 E Street, S.W., Washington, D.C. 20436, telephone (202) 205-2000. General information concerning the Commission may also be obtained by accessing its Internet server at <https://www.usitc.gov>. The public record for this investigation may be viewed on the Commission's electronic docket (EDIS) at <https://edis.usitc.gov>. Hearing-impaired persons are advised that information on this matter can be obtained by contacting the Commission's TDD terminal on (202) 205-1810.

SUPPLEMENTARY INFORMATION: The Commission instituted this investigation on July 1, 2016, based on a Complaint filed by Fujifilm Corporation of Tokyo, Japan, and Fujifilm Recording Media U.S.A., Inc. of Bedford, Massachusetts (collectively, "Fujifilm"). 81 FR 43243-44 (July 1, 2016). The Complaint alleges violations of section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337 ("section 337"), in the sale for importation, importation, and sale within the United States after importation of certain magnetic data storage tapes and cartridges containing the same by reason of infringement of certain claims of U.S. Patent Nos. 6,641,891 ("the '891 patent"); 6,703,106 ("the '106 patent"); 6,703,101 ("the '101 patent");

6,767,612 (“the ’612 patent”); 8,236,434 (“the ’434 patent”); and 7,355,805 (“the ’805 patent”). The Complaint further alleges the existence of a domestic industry. The Commission’s Notice of Investigation named as respondents Sony Corporation of Tokyo, Japan; Sony Corporation of America of New York, New York, and Sony Electronics Inc. of San Diego, California (collectively, “Sony”). The Office of Unfair Import Investigations (“OUII”) was also named as a party to the investigation. The Commission later terminated the investigation as to the ’101 patent. Order No. 24 (Jan. 18, 2017); Notice (Feb. 15, 2017).

On September 1, 2017, the ALJ issued his final ID finding a violation of section 337 with respect to claims 1, 4-9, 11, and 14 of the ’891 patent and asserted claims 1, 2, 4, 5, 7, and 8 of the ’612 patent. The ALJ found no violation of section 337 with respect to asserted claims 9-11 of the ’612 patent; asserted claim 2, 5, and 6 of the ’106 patent; asserted claim 1 of the ’434 patent; and asserted claims 3 and 10 of the ’805 patent.

In particular, the Final ID finds that Sony’s accused products infringe claims 1, 4-9, 11, and 14 of the ’891 Patent under 35 U.S.C. § 271(a). The Final ID also finds that Fujifilm’s domestic industry (“DI”) products practice the asserted claims of the ’891 Patent, thus Fujifilm has satisfied the technical prong of the domestic industry requirement with respect to the ’891 Patent regarding its LTO-6 and LTO-7 DI products. The Final ID finds that Sony has not shown that the asserted claims of the ’891 Patent are invalid under 35 U.S.C. §§ 102, 103, or 112.

The Final ID finds that Sony’s accused products infringe asserted claims 1, 2, 4, 5, 7, and 8 of the ’612 Patent under 35 U.S.C. § 271(a). The Final ID finds, however, that Fujifilm failed to show that Sony has induced infringement of claims 9-11 of the ’612 Patent under 35 U.S.C. § 271(b). The Final ID further finds that Fujifilm’s DI products practice claims 1, 2, 4, 5, and 7-11 of the ’612 Patent and, thus, Fujifilm has satisfied the technical prong of the domestic industry requirement with respect to the ’612 Patent regarding its LTO-6 and LTO-7 DI products. The Final ID finds that Sony has not shown that the asserted claims of the ’612 Patent are invalid under 35 U.S.C. §§ 102, 103, or 112.

The Final ID finds that the accused products do not infringe asserted claims 2, 5, and 6 of the ’106 Patent under 35 U.S.C. § 271(a). The Final ID further finds that neither Fujifilm’s LTO-6 nor LTO-7 DI products practice any claim of the ’106 Patent, thus Fujifilm has failed to satisfy the technical prong of the domestic industry requirement with respect to the ’106 Patent. The Final ID also finds that Sony has not shown that the asserted claims of the ’106 Patent are invalid under 35 U.S.C. §§ 102 or 103, but has shown that the asserted claims of the ’106 Patent are indefinite under 35 U.S.C. § 112.

The Final ID finds that the accused products do not infringe asserted claim 1 of the ’434 under 35 U.S.C. § 271(a). The Final ID further finds that Fujifilm’s LTO-7 DI products do not practice any claim of the ’434 Patent, thus Fujifilm has failed to satisfy the technical prong of the domestic industry requirement with respect to the ’434 Patent. The Final ID finds that Sony has not shown that the asserted claims of the ’434 Patent are invalid under 35 U.S.C. §§ 102, 103, or 112.

The Final ID finds the accused products do not infringe asserted claims 3 and 10 of the '805 Patent under 35 U.S.C. § 271(a). The Final ID further finds that Fujifilm's LTO-7 DI products practice claims 1, 2, 3, and 10 of the '805 Patent. The Commission notes that the Final ID misstates its finding concerning the technical prong in the Conclusions of Fact and Law with respect to the '805 Patent. The Final ID finds that Sony has not shown that the asserted claims of the '805 Patent are invalid under 35 U.S.C. §§ 102, 103, or 112.

The Final ID finds that Fujifilm has satisfied the economic prong of the domestic industry requirement with respect to the '891, '612, and '106 Patent pursuant to 19 U.S.C. § 337(A) and (B) for the asserted LTO-6 DI products. The Final ID finds that Fujifilm has not satisfied the economic prong requirement for the asserted LTO-7 DI products, which Fujifilm asserted alone with respect to the '434 and '805 patents.

The Final ID finds Sony has not shown that the '612, '106, and '805 Patents are essential to the LTO-7 Standard. The Final ID also finds that Fujifilm has not breached any provisions of the Fujifilm AP-75 agreement, in particular §§ 8.2 or 11.11. The Final ID further finds that Sony has not shown that the AP-75 agreement warrants barring Fujifilm's claims or terminating the investigation. The Final ID also finds that patent misuse does apply to bar Fujifilm's claims. The Final ID further finds that Fujifilm has not waived its rights to enforce the patents-in-suit. The Final ID also finds that Sony does not have an implied license to the patents-in-suit. The Final ID further finds that Sony has not shown that patent exhaustion applies.

On September 12, 2017, the ALJ issued his recommended determination on remedy and bonding. As instructed by the Commission, the ALJ also made findings concerning the public interest factors set forth in 19 U.S.C. § 1337(d)(1) and (f)(1). *See* 81 FR 43243. The ALJ recommended that the appropriate remedy is a limited exclusion order and a cease and desist order against Sony. The ALJ recommended that the Commission require no bond during the period of Presidential review. The ALJ further found that public interest factors do not bar or require tailoring the recommended exclusion order. The ALJ also found that even if the asserted claims are essential, the public interest does not favor tailoring or curbing and exclusion order because Fujifilm did not breach its obligations under the AP-75 Agreement.

On September 18, 2017, Sony and OUII each filed petitions for review of various aspects of the Final ID. Also on September 18, 2017, Fujifilm filed a contingent petition for review of various aspects of the Final ID.

Sony petitions for review of the Final ID's finding that the asserted claims of the '891 Patent are not invalid as indefinite, anticipated, or obvious. Sony also petitions for review of the Final ID's findings that Sony's accused products infringe the asserted claims 1, 2, 4, 5, 7, and 8 of the '612 Patent and that the asserted claims of the '612 Patent are not invalid as obvious or indefinite. Sony contingently petitions for review of the Final ID's finding that the asserted claims are not invalid as obvious. Sony also contingently petitions for review of the Final ID's findings that the asserted claim of the '434 Patent is not invalid as indefinite or obvious. Sony further contingently petitions for review of the Final ID's findings that claims 3 and 10 are not invalid as anticipated. Sony also petitions for review of the Final ID's finding regarding

Fujifilm's AP-75 Agreement. Sony further petitions for review of the Final ID's finding that Fujifilm has satisfied the economic prong of the domestic industry requirement with respect to its LTO-6 DI products.

OUII petitions for review of the Final ID's finding that Fujifilm failed to satisfy the technical prong of the domestic industry requirement with respect to the '434 Patent and that Sony's accused products do not infringe claim 1 of the '434 Patent.

Fujifilm contingently petitions for review of the Final ID's findings that Sony's accused LTO-7 products do not infringe claim 1 of the '434 Patent and that Fujifilm's LTO-7 DI products do not satisfy the technical prong with respect to claim 1 of the '434 Patent. Fujifilm also contingently petitions for review of the Final ID's finding that Sony's accused products do not infringe the asserted claims of the '805 Patent. Fujifilm further contingently petitions for review of the Final ID's findings that Sony's accused LTO-7 products do not infringe the asserted claims of the '106 Patent, that Fujifilm's LTO products do not satisfy the technical prong with respect to the asserted claims of the '106 Patent, and that the asserted claims of the '106 Patent are invalid as indefinite. Fujifilm also contingently petitions for review of the Final ID's findings with respect to secondary considerations of non-obviousness with respect to the patents-in-suit. Fujifilm further contingently petitions for review of the Final ID's finding that Fujifilm has failed to satisfy the economic prong with respect to its LTO-7 DI products.

On September 26, 2017, Fujifilm, Sony, and OUII filed responses to the various petitions for review.

On October 6, 2017, Fujifilm filed a post-RD statement on the public interest pursuant to Commission Rule 210.50(a)(4). Sony filed its statement on October 13, 2017. No responses were filed by the public in response to the post-RD Commission Notice issued on September 13, 2017. *See* Notice of Request for Statements on the Public Interest (Sept. 13, 2017); 82 *Fed. Reg.* 43567-68 (Sept. 18, 2017).

Having examined the record of this investigation, including the Final ID, the petitions for review, and the responses thereto, the Commission has determined to review the Final ID in part.

Specifically, the Commission has determined to review-in-part the Final ID's finding of violation with respect to the '891 Patent. In particular, the Commission has determined to review the Final ID's findings with respect to anticipation and obviousness. The Commission has further determined to review the Final ID's findings concerning secondary considerations.

The Commission has also determined to review-in-part the Final ID's finding of violation with respect to the '612 Patent. Specifically, the Commission has determined to review the Final ID's finding that the asserted claims of the '612 Patent are not obvious. Accordingly, the Commission has also determined to review the Final ID's finding that Fujifilm has satisfied the technical prong of the domestic industry requirement with respect to the '612 Patent.

The Commission has further determined to review-in-part the Final ID's findings with respect to the '106 Patent. Specifically, the Commission has determined not to review the Final ID's finding that the asserted claims of the '106 Patent are invalid as indefinite. The Commission has also determined to determine to review the Final ID's findings with respect to obviousness, infringement, and the technical prong of the domestic industry requirement.

The Commission has also determined to review-in-part the Final ID's findings with respect to the '434 Patent. Specifically the Commission has determined to review the Final ID's finding that Sony's accused LTO-7 products do not infringe claim 1 of the '434 Patent. The Commission has also determined to review the Final ID's finding that Fujifilm's LTO-7 DI products do not practice claim 1. The Commission has further determined to review the Final ID's finding that claim 1 is not obvious.

The Commission has further determined to review-in-part the Final ID's findings with respect to the '805 Patent. Specifically, the Commission has determined to review the Final ID's finding that Sony's accused LTO-7 products do not infringe asserted claims 3 and 10 of the '805 Patent. The Commission has also determined to review the Final ID's finding that U.S. Patent No. 6,710,967 ("Hennecken") does not anticipate claims 3 and 10.

The Commission has also determined review the Final ID's findings that the asserted claims of the '612, '106, and '805 Patents are not essential to the LTO-7 Standard.

The Commission has further determined to review the Final ID's findings concerning the economic prong of the domestic industry.

The Commission has determined not to review the remaining issues decided in the Final ID.

The parties are requested to brief their positions on the issues under review with reference to the applicable law and the evidentiary record. In connection with its review, the Commission is particularly interested in responses to the following questions:

1. With respect to claim 1 of the '434 patent, please address the proper scope of the limitations "a power spectrum density at a pitch of 10 micrometers ranges from 800 to 10,000 nm³ on the magnetic layer surface." In particular, please explain whether the entirety of the claimed "magnetic layer surface" must exhibit the recited range of power spectrum densities such that a finding of infringement would require that no portion of the claimed "magnetic layer surface" exhibits a power spectrum density outside of the claimed range.
2. With respect to claim 1 of the '434 patent, please address the proper scope of the limitations "a power spectrum density at a pitch of 10 micrometers ranges from 20,000 to 80,000 nm³ on the backcoat layer surface." In particular, please explain whether the entirety of the claimed "backcoat layer surface" must exhibit the recited range of power spectrum densities such that a finding of infringement would require that no portion of the claimed "backcoat layer surface" exhibits a

power spectrum density outside of the claimed range.

3. Please address whether the backcoat layer of the accused products exhibit any power spectrum density values outside of the range recited in claim 1 of the '434 patent.
4. Please address whether the backcoat layer of the asserted domestic industry products exhibit any power spectrum density values outside of the range recited in claim 1 of the '434 patent.
5. Please address whether the magnetic layer of the asserted domestic industry products exhibit any power spectrum density values outside of the range recited in claim 1 of the '434 patent.
6. Please address how the asserted domestic industry products practice the limitation "a first step of encoding data for specifying a servo band where the servo signal positions" recited in claims 3 and 10 of the '805 patent and how, or if, that informs whether the accused products infringe that claim limitation.
7. Please provide a comparison of Fujifilm's domestic revenues to its global revenues for the LTO-6 DI Products for fiscal year 2013-2015, and address whether Fujifilm's domestic investments in the LTO-6 are significant in this context.

The parties have been invited to brief only these discrete issues, as enumerated above, with reference to the applicable law and evidentiary record. The parties are not to brief other issues on review, which are adequately presented in the parties' existing filings.

In connection with the final disposition of this investigation, the Commission may (1) issue an order that could result in the exclusion of the subject articles from entry into the United States, and/or (2) issue one or more cease and desist orders that could result in the respondent(s) being required to cease and desist from engaging in unfair acts in the importation and sale of such articles. Accordingly, the Commission is interested in receiving written submissions that address the form of remedy, if any, that should be ordered. If a party seeks exclusion of an article from entry into the United States for purposes other than entry for consumption, the party should so indicate and provide information establishing that activities involving other types of entry either are adversely affecting it or likely to do so. For background, see *Certain Devices for Connecting Computers via Telephone Lines*, Inv. No. 337-TA-360, USITC Pub. No. 2843 (December 1994) (Commission Opinion).

If the Commission contemplates some form of remedy, it must consider the effects of that remedy upon the public interest. The factors the Commission will consider include the effect that an exclusion order and/or cease and desist orders would have on (1) the public health and welfare, (2) competitive conditions in the U.S. economy, (3) U.S. production of articles that are like or directly competitive with those that are subject to investigation, and (4) U.S. consumers. The Commission is therefore interested in receiving written submissions that address the

aforementioned public interest factors in the context of this investigation.

----- If the Commission orders some form of remedy, the U.S. Trade Representative, as delegated by the President, has 60 days to approve or disapprove the Commission's action. See Presidential Memorandum of July 21, 2005, 70 FR 43251 (July 26, 2005). During this period, the subject articles would be entitled to enter the United States under bond, in an amount determined by the Commission and prescribed by the Secretary of the Treasury. The Commission is therefore interested in receiving submissions concerning the amount of the bond that should be imposed if a remedy is ordered.

WRITTEN SUBMISSIONS: The parties to the investigation, including the Office of Unfair Import Investigations, are requested to file written submissions on the issues identified in this notice. Parties to the investigation, including the Office of Unfair Import Investigations, interested government agencies, and any other interested parties are encouraged to file written submissions on the issues of remedy, the public interest, and bonding. Such submissions should address the recommended determination by the ALJ on remedy and bonding. Complainant and the Office of Unfair Import Investigations are also requested to submit proposed remedial orders for the Commission's consideration. Complainant is further requested to state the dates that the patents expire, the HTSUS numbers under which the accused products are imported, and any known importers of the accused products. The written submissions and proposed remedial orders must be filed no later than close of business on **December 27, 2017**. Initial submissions are limited to 50 pages, not including any attachments or exhibits related to discussion of the public interest. Reply submissions must be filed no later than the close of business on **January 5, 2018**. Reply submissions are limited to 25 pages, not including any attachments or exhibits related to discussion of remedy, the public interest, and bonding. No further submissions on these issues will be permitted unless otherwise ordered by the Commission.

Persons filing written submissions must file the original document electronically on or before the deadlines stated above and submit 8 true paper copies to the Office of the Secretary by noon the next day pursuant to section 210.4(f) of the Commission's Rules of Practice and Procedure (19 C.F.R. 210.4(f)). Submissions should refer to the investigation number ("Inv. No. 337-TA-1012") in a prominent place on the cover page and/or the first page. (See Handbook for Electronic Filing Procedures, https://www.usitc.gov/secretary/documents/handbook_on_filing_procedures.pdf). Persons with questions regarding filing should contact the Secretary (202-205-2000).

Any person desiring to submit a document to the Commission in confidence must request confidential treatment. All such requests should be directed to the Secretary to the Commission and must include a full statement of the reasons why the Commission should grant such treatment. See 19 CFR 201.6. Documents for which confidential treatment by the Commission is properly sought will be treated accordingly. All information, including confidential business information and documents for which confidential treatment is properly sought, submitted to the Commission for purposes of this Investigation may be disclosed to and used: (i) by the Commission, its employees and Offices, and contract personnel (a) for developing or maintaining the records of this or a related proceeding, or (b) in internal investigations, audits,

reviews, and evaluations relating to the programs, personnel, and operations of the Commission including under 5 U.S.C. Appendix 3; or (ii) by U.S. government employees and contract personnel^[1], solely for cybersecurity purposes. All nonconfidential written submissions will be available for public inspection at the Office of the Secretary and on EDIS.

The Commission has also determined to extend the target date for completion of the above-captioned investigation to February 20, 2018.

The authority for the Commission's determination is contained in section 337 of the Tariff Act of 1930, as amended (19 U.S.C. § 1337), and in Part 210 of the Commission's Rules of Practice and Procedure (19 C.F.R. Part 210).

By order of the Commission.



Lisa R. Barton
Secretary to the Commission

Issued: December 12, 2017

^[1] All contract personnel will sign appropriate nondisclosure agreements.

**CERTAIN MAGNETIC DATA STORAGE TAPES AND
CARTRIDGES CONTAINING THE SAME**

Inv. No. 337-TA-1012

PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **NOTICE** has been served by hand upon the Commission Investigative Attorney, R. Whitney Winston, Esq., and the following parties as indicated, on December 12, 2017.



Lisa R. Barton, Secretary
U.S. International Trade Commission
500 E Street, SW, Room 112
Washington, DC 20436

**On Behalf of Complainants FUJIFILM Corporation and
FUJIFILM Recording Media U.S.A., Inc.:**

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☐ Other: _____

PUBLIC VERSION

**UNITED STATES INTERNATIONAL TRADE COMMISSION
WASHINGTON, D.C.**

In the Matter of

**CERTAIN MAGNETIC DATA
STORAGE TAPES AND CARTRIDGES
CONTAINING THE SAME**

Inv. No. 337-TA-1012

INITIAL DETERMINATION

Administrative Law Judge David P. Shaw

Pursuant to the notice of investigation, 82 Fed. Reg. 43243 (July 1, 2016), this is the initial determination in *Certain Magnetic Data Storage Tapes and Cartridges Containing the Same*, United States International Trade Commission Investigation No. 337-TA-1012. It is held that a violation of section 337 of the Tariff Act, as amended, has occurred in the importation into the United States, the sale for importation, or the sale within the United States after importation, of certain magnetic tapes and cartridges containing the same, with respect to:

- U.S. Patent No. 6,641,891 and
- U.S. Patent No. 6,767,612.

It is held that a violation has not occurred with respect to:

- U.S. Patent No. 6,703,106,
- U.S. Patent No. 7,355,805, and
- U.S. Patent No. 8,236,434.

PUBLIC VERSION

TABLE OF CONTENTS

TABLE OF CONTENTS.....	I
TABLE OF ABBREVIATIONS	IX
I. BACKGROUND	1
A. Institution of the Investigation	1
B. Procedural History	2
C. The Private Parties	3
D. The Accused Products.....	4
E. The Domestic Industry Products.....	5
II. JURISDICTION AND STANDING	6
III. GENERAL PRINCIPLES OF LAW	7
A. Claim Construction	7
B. Infringement.....	9
C. Validity	12
D. Domestic Industry.....	17
E. Public Interest	20
IV. U.S. PATENT NO. 6,641,891	21
A. Overview of the '891 Patent	21
B. Claim Construction	21
1. Level of Ordinary Skill in the Art.....	21
2. Agreed Constructions.....	23
3. Disputed Constructions.....	23
C. Infringement.....	27
1. Claim 1.....	27
2. Claim 4.....	37

PUBLIC VERSION

3.	Claim 5.....	38
4.	Claim 6.....	39
5.	Claim 7.....	40
6.	Claim 8.....	40
7.	Claim 9.....	41
8.	Claim 11.....	42
9.	Claim 14.....	42
D.	Domestic Industry (Technical Prong).....	43
1.	Claim 1.....	45
2.	Claim 4.....	54
3.	Claim 5.....	54
4.	Claim 6.....	55
5.	Claim 7.....	56
6.	Claim 8.....	56
7.	Claim 9.....	57
8.	Claim 11.....	57
9.	Claim 14.....	57
E.	Anticipation.....	58
1.	Claim 1.....	59
2.	Claim 4.....	66
3.	Claim 5.....	67
4.	Claim 6.....	67
5.	Claim 7.....	68
6.	Claim 8.....	68
7.	Claim 9.....	70

PUBLIC VERSION

8.	Claim 11	70
9.	Claim 14	71
F.	Obviousness	71
1.	Yamazaki	71
2.	Yamazaki in View of McCann	76
3.	Yamazaki in View of McCann and Takahashi	79
4.	Yamazaki in View of McCann, Takahashi, Yusu, and ECMA-249	82
5.	Sony's DDS-3 Tapes in View of Yamazaki	86
6.	Secondary Considerations	90
G.	Enablement	100
H.	Indefiniteness	102
V.	U.S. PATENT NO. 6,767,612	103
A.	Overview of the '612 Patent	103
B.	Claim Construction	103
1.	Level of Ordinary Skill in the Art	103
2.	Agreed Constructions	104
3.	Disputed Constructions	105
C.	Direct Infringement	107
1.	Claim 1	108
2.	Claim 2	115
3.	Claim 4	116
4.	Claim 5	116
5.	Claim 7	116
6.	Claim 8	117
7.	License	117

PUBLIC VERSION

D.	Indirect Infringement	117
1.	Claim 9.....	117
2.	Claim 10.....	121
3.	Claim 11.....	126
E.	Essentiality	126
F.	Domestic Industry (Technical Prong).....	128
1.	Claim 1	129
2.	Claim 2.....	137
3.	Claim 4.....	138
4.	Claim 5.....	138
5.	Claim 7.....	139
6.	Claim 8.....	139
7.	Claim 9.....	140
8.	Claim 10.....	140
9.	Claim 11.....	144
G.	Obviousness	144
1.	Matsuno and Endo in View of Wallace	145
2.	Matsuno and Endo in View of Maeda	158
3.	Matsuno and Sasaki in View of Maeda	161
4.	Sony's DDS-3 Tapes in View of Endo or Sasaki	163
5.	Secondary Considerations.....	169
H.	Indefiniteness	176
1.	Pit Testing	176
2.	Need for Extraneous Information	177
3.	Mixed Apparatus and Method Claim.....	180

PUBLIC VERSION

VI.	U.S. PATENT NO. 6,703,106	181
A.	Overview of the '106 Patent	181
B.	Claim Construction	181
1.	Level of Ordinary Skill in the Art	181
2.	Agreed Construction	182
3.	Disputed Constructions	182
C.	Direct Infringement	190
1.	Claim 1	191
2.	Claim 2	199
3.	Claim 5	201
4.	Claim 6	203
D.	Indirect Infringement	203
E.	Essentiality	205
F.	Domestic Industry (Technical Prong)	207
1.	Claim 1	208
2.	Claim 2	215
3.	Claim 5	216
4.	Claim 6	216
G.	Anticipation	217
1.	Yamazaki	218
2.	Jinbo	226
H.	Obviousness	234
1.	Yamazaki	235
2.	Yamazaki or Jinbo in View of Araki	237
3.	Yamazaki or Jinbo in View of Ishikuro, Michihara, or Endo	240

PUBLIC VERSION

4.	Yamazaki or Jinbo in combination with Sony's DDS-3 tapes	242
5.	Secondary Considerations.....	245
I.	Indefiniteness	250
VII.	U.S. PATENT NO. 8,236,434	253
A.	Overview of the '434 Patent	253
B.	Claim Construction	253
1.	Level of Ordinary Skill in the Art.....	253
2.	Agreed Constructions.....	254
3.	Disputed Constructions.....	254
C.	Infringement.....	259
D.	Domestic Industry (Technical Prong).....	270
E.	Obviousness	277
1.	Sony's DDS-3 Tapes in View of Hayakawa and/or Naoe '598.....	277
2.	Yamazaki '101 in View of Greczyna and Hayakawa and/or Naoe '598.....	287
3.	Yamazaki '101 in View of Hayakawa and/or Naoe '598	290
4.	Secondary Considerations.....	291
F.	Indefiniteness	297
VIII.	U.S. PATENT NO. 7,355,805	299
A.	Overview of the '805 Patent	299
B.	Claim Construction	300
1.	Level of Ordinary Skill in the Art.....	300
2.	Claim Construction	301
C.	Infringement.....	301
1.	Claim 1	302

PUBLIC VERSION

2.	Claim 2.....	305
3.	Claims 3 and 10	306
D.	Domestic Industry (Technical Prong).....	311
E.	Essentiality	312
F.	Anticipation.....	313
1.	Hennecken.....	313
2.	Trabert.....	328
3.	Tran.....	337
G.	Obviousness	345
1.	Hennecken.....	345
2.	Trabert.....	348
3.	Tran.....	350
4.	Hennecken and Albrecht II	351
5.	Secondary Considerations.....	354
IX.	SONY'S AFFIRMATIVE DEFENSES	362
A.	Breach of Contract	363
1.	AP-75 Agreement	363
2.	Breach of Nondiscriminatory Licensing Clause (§ 8.2)	364
3.	Breach of Forum Section Clause (§ 11.11).....	367
B.	Patent Misuse	370
C.	Waiver.....	372
D.	Implied License and Exhaustion.....	374
X.	DOMESTIC INDUSTRY (ECONOMIC PRONG)	375
A.	Plant and Equipment.....	376
B.	Labor and Capital.....	379

PUBLIC VERSION

C.	Significance of the Investment and Context of the Marketplace.....	381
XI.	CONCLUSIONS OF FACT AND LAW	384
XII.	INITIAL DETERMINATION ON VIOLATION.....	386
XIII.	ORDERS.....	387

PUBLIC VERSION

TABLE OF ABBREVIATIONS

The following abbreviations may be used in this Initial Determination:

ABBREVIATION	FULL WORD OR PHRASE
ALJ	Administrative Law Judge
CDX	Complainant's Demonstrative Exhibit
CPX	Complainants' Physical Exhibit
CX	Complainants' Exhibit
Dep.	Deposition
EDIS	Electronic Document Imaging System
JPX	Joint Physical Exhibit
JX	Joint Exhibit
RDX	Respondents' Demonstrative Exhibit
RPX	Respondents' Physical Exhibit
RWS	Rebuttal Witness Statement
RX	Respondents' Exhibit
Tr.	Transcript
WS	Witness Statement

PUBLIC VERSION

I. BACKGROUND

A. Institution of the Investigation

On May 27, 2016, complainants Fujifilm Corporation and Fujifilm Recording Media U.S.A., Inc. (“Fujifilm USA”) (collectively, “Fujifilm”) filed a complaint alleging that respondents unlawfully import “certain magnetic tape media for data storage, and cartridges containing the same[.]” Compl., ¶ 1.1. The complaint asserted the following six patents:

- U.S. Patent No. 6,641,891 (the “‘891 Patent”) (JX-0001);
- U.S. Patent No. 6,703,106 (the “‘106 Patent”) (JX-0002);
- U.S. Patent No. 6,703,101 (the “‘101 Patent”) (JX-0003);
- U.S. Patent No. 6,767,612 (the “‘612 Patent”) (JX-0004);
- U.S. Patent No. 8,236,434 (the “‘434 Patent”) (JX-0005); and
- U.S. Patent No. 7,355,805 (the “‘804 Patent”) (JX-0006).

By publication of a notice in the Federal Register on July 1, 2016, pursuant to subsection (b) of section 337 of the Tariff Act of 1930, as amended, the Commission instituted this investigation to determine:

whether there is a violation of subsection (a)(1)(B) of section 337 in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain magnetic data storage tapes and cartridges containing the same by reason of infringement of one or more of claims 1, 4–9, 11, and 14 of the ‘891 Patent; claims 2, 5, and 6 of the ‘106 Patent; claim 1 of the ‘101 patent; claims 1, 2, 4, 5, and 7–11 of the ‘612 Patent; claim 1 of the ‘434 Patent; and claims 3 and 10 of the ‘805 Patent, and whether an industry in the United States exists as required by subsection (a)(2) of section 337[.]

82 Fed. Reg. 43243 (July 1, 2016). The Commission further directed the administrative law judge to:

take evidence or other information and hear arguments from the parties and other interested persons with respect to the public

PUBLIC VERSION

interest in this investigation, as appropriate; and provide the Commission with findings of fact and a recommended determination on this issue, which shall be limited to the statutory public interest factors set forth in 19 U.S.C. 1337(d)(1), (f)(1), (g)(1).

Id. (citing 19 C.F.R. § 210.50(b)(1)).

The Commission named Fujifilm Corporation and Fujifilm USA complainants. *Id.* The Commission named Sony Corporation, Sony Corporation of America, and Sony Electronics Inc. respondents. *Id.* The Office of Unfair Import Investigations (“Staff”) was also named a party to the investigation. *Id.*

B. Procedural History

The administrative law judge issued the procedural schedule on August 24, 2016. *See* Order No. 7 (Procedural Schedule). The procedural schedule set the target date for completion approximately 15 months from institution, which was later extend to January 2, 2018—18 months after institution of the investigation. *Id.*; *see also* Order No. 30 (initial determination not reviewed per Commission Notice (EDIS Doc. ID No. 613302)).

On January 13, 2017, Fujifilm moved to terminate the investigation in part as to all asserted claims of the ‘101 Patent. The administrative law judge granted the motion in an initial determination. *See* Order No. 24 (initial determination not reviewed per Commission Notice (EDIS Doc. ID No. 603599)).

A prehearing conference was held on February 7, 2017, with the evidentiary hearing beginning immediately thereafter. *See generally* Prehearing Tr. (Feb. 7, 2017); Order No. 25 (Allocation of Hearing Time). The hearing concluded on February 10, 2017. *See generally* Tr. (Feb. 7-10, 2017); Order No. 25. The parties were requested to file post-hearing briefs not to exceed 400 pages, and to file reply briefs not to exceed 150 pages. *See* Pre-Hr’g Tr. 9.

PUBLIC VERSION

On February 28, 2017, Fujifilm filed its post-hearing brief, which asserts the following claims:

- claims 1, 4-9, 11, and 14 of the '891 Patent (Fujifilm Br. at 38);
- claims 2, 5, and 6 of the '106 Patent (Fujifilm Br. at 192);
- claims 1, 2, 4, 5, and 7-11 of the '612 Patent (Fujifilm Br. at 117);
- claim 1 of the '434 Patent (Fujifilm Br. at 249); and
- claims 3 and 10 of the '805 Patent (Fujifilm Br. at 277-78).

Pursuant to Order No. 2 (Ground Rules), the parties also submitted a joint outline of the issues to be decided in the Final Initial Determination. *See* Joint Outline of Issues to Be Decided in the Final Initial Determination (EDIS Doc. ID No. 604538) ("Joint Outline").

C. The Private Parties

Complainant Fujifilm Corporation is a Japanese corporation and has a principal place of business in Tokyo, Japan. *See* Compl., ¶ 2.1. Complainant Fujifilm USA is a Delaware corporation and has a principal place of business in Bedford, Massachusetts. *Id.*, ¶ 2.2. Fujifilm USA is a wholly owned subsidiary of Fujifilm Holdings America Corporation, which is wholly owned by Fujifilm Corporation. *Id.* Fujifilm makes a variety of products, including the data storage cartridges at issue in this investigation.

Respondent Sony Corporation is a Japanese corporation having a principal place of business in Tokyo, Japan. Response, ¶ 3.1. Respondent Sony Corporation of America is a New York corporation having a principal place of business in New York, New York. Response, ¶ 3.2. Respondent Sony Electronics Inc. is a Delaware corporation having a principal place of business in San Diego, California. Response, ¶ 3.3. Sony Corporation of America and Sony Electronics Inc. are wholly-owned subsidiaries of Sony Corporation. Response, ¶¶ 3.2, 3.3.

PUBLIC VERSION

D. The Accused Products

Fujifilm accuses Sony's LTO-7 data cartridges, as follows:

The Accused Products include Sony's LTO Ultrium 7 Data Cartridge, Sony's LTO-7 Library Pack, Sony's Model Nos.: LTX6000G, 20LTX6000GL, 7307412, 7307415, C7977A, C7977A/4, C7977 AB, C7977 AB/4, C7977W, MR-L7MQN-01, 7307412LHB, 7307412LVB, 7307415VB, C7977AC, and any like LTO 7th generation product ("LTO-7") manufactured by Respondents and imported or sold by Respondents in the United States. *See* CX-0392. The Accused Products include magnetic storage tapes used for archival storage of digital information. JX-0054C (Sony LTO-7 Spec. Sheet). The Accused Products—like all other LTO cartridges—are compatible with LTO tape drives from other vendors. *Id.* Moreover, LTO tape drives are backwards compatible with earlier generations of LTO cartridges. *Id.* at 2. For example, a current generation (LTO-7) tape drive is able to read tapes from two generations prior (LTO-5 & LTO-6) and read and write to tapes from one generation prior (LTO-6). *Id.*

Fujifilm Br. at 23-24.

Sony describes the accused products, as follows:

On September 28, 2016, the parties filed a joint statement identifying the accused products, *see* CX-0392, and on October 27, 2016, the parties filed a joint statement identifying Sony's Ultrium 7 Data Cartridge Model No. LTX6000G as representative of all Accused Products identified in the joint statement. Sony's LTO-7 Products meet at least all of the non-optional requirements of the LTO-7 Standard, JX-0052C.

Sony Br. at 34; *see also* RX-0369C (Ross RWS) at Q/A 29 (the accused products include "any like LTO 7th Generation product manufactured by Sony.").

The Staff notes that the parties "agree that the Sony Ultrium 7 Data Cartridge Model No. LTX6000G is representative of the Accused Products." Staff Br. at 5 (citing Sony's Response to FUJIFILM's List of Proposed Representative Accused Products Assuming FUJIFILM's Infringement Contentions at 1-2 (EDIS Doc. ID 593160)).

PUBLIC VERSION

E. The Domestic Industry Products

Fujifilm identifies its domestic industry products, as follows:

Fujifilm's products that practice the Asserted Patents include, but are not limited to Fujifilm's LTO Ultrium 6 Data Cartridge (Model No. 16310732) and LTO Ultrium 6 WORM Data Cartridge (Model No. 16310756) (collectively, "Fujifilm's LTO-6 data cartridges"), and Fujifilm's LTO Ultrium 7 Data Cartridge (Model No. 16456574) and LTO Ultrium 7 WORM Data Cartridge (Model No. 16495661) (collectively, "Fujifilm's LTO-7 data cartridges"). Fujifilm's DI Products practice one or more of the Asserted Claims.

Fujifilm Br. at 23.

Sony identifies the domestic industry products, as follows:

On August 25, 2016, Fujifilm filed a statement identifying the Fujifilm products which it has relied upon in establishing a domestic industry, as required under Section 337. *See* CX-0421C. In support of a domestic industry for the '805 and '434 Patents, Fujifilm is relying *only* on its LTO-7 products. In support of a domestic industry for the '106, '612, and '891 Patents, Fujifilm is relying both on its LTO-7 Products as well as its LTO-6 Products. Fujifilm's LTO-6 Products represent the previous generation of LTO products and presumptively meet at least all of the non-optional requirements of the LTO-6 Standard, JX-0051C.

Sony Br. at 34 (emphasis in original).

The Staff notes that Fujifilm relies upon LTO-6 and LTO-7 cartridges, as shown in the following table:

DI Products	Model Numbers	Patents
FUJIFILM's LTO-6 data cartridges	LTO Ultrium 6 Data Cartridge (Model No. 16310732)	'891, '612, '106
	LTO Ultrium 6 WORM Data Cartridge (Model No. 16310756)	

PUBLIC VERSION

DI Products	Model Numbers	Patents
FUJIFILM's LTO-7 data cartridges	LTO Ultrium 7 Data Cartridge (Model No. 16456574) LTO Ultrium 7 WORM Data Cartridge (Model No. 16495661)	All Asserted Patents

Staff Br. at 5 (citing Fujifilm Pre-Hr'g Br. at 15-16, 44-54, 132-149, 191-201, 247-252, 290-296).

II. JURISDICTION AND STANDING

No party has contested the Commission's personal or subject matter jurisdiction in this investigation. *See* Fujifilm Br. at 28-29; Sony Br. at 34 (Sony's forum-selection argument is addressed in Part IX, *infra*); Staff Br. at 6.¹

Fujifilm has filed a complaint alleging a violation of section 337, and the Commission, therefore, has subject matter jurisdiction. *See Amgen, Inc. v. United States Int'l Trade Comm'n*, 902 F.2d 1532, 1535-37 (Fed. Cir. 1990).

In addition, Fujifilm and Sony have appeared and participated in the investigation. The Commission, therefore, has personal jurisdiction over the parties. *See, e.g., Certain Liquid Crystal Display Modules, Products Containing Same, and Methods for Using the Same*, Inv. No. 337-TA-634, Final Initial and Recommended Determinations at 3 (June 12, 2009) (not reviewed).

The Commission also has *in rem* jurisdiction, as Sony has stipulated that it imports the accused products. *See* JX-0211C (Joint Revised Stipulation Regarding Sony's Importation and Inventory in the U.S.); *Certain Male Prophylactic Devices*, Inv. No. 337-TA-546, Initial

¹ Neither Sony nor the Staff has challenged Fujifilm's ownership of the asserted patents or its standing to bring its complaint.

PUBLIC VERSION

Determination (June 30, 2006) (“All that is required for *in rem* jurisdiction to be established is the presence of the imported property in the United States.”) (relevant portion unreviewed).

III. GENERAL PRINCIPLES OF LAW

A. Claim Construction

Claim construction begins with the plain language of the claim.² Claims should be given their ordinary and customary meaning as understood by a person of ordinary skill in the art, viewing the claim terms in the context of the entire patent.³ *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (en banc), *cert. denied*, 546 U.S. 1170 (2006).

In some instances, claim terms do not have particular meaning in a field of art, and claim construction involves little more than the application of the widely accepted meaning of commonly understood words. *Phillips*, 415 F.3d at 1314. “In such circumstances, general purpose dictionaries may be helpful.” *Id.*

In many cases, claim terms have a specialized meaning, and it is necessary to determine what a person of skill in the art would have understood the disputed claim language to mean. “Because the meaning of a claim term as understood by persons of skill in the art is often not immediately apparent, and because patentees frequently use terms idiosyncratically, the court looks to ‘those sources available to the public that show what a person of skill in the art would

² Only those claim terms that are in controversy need to be construed, and only to the extent necessary to resolve the controversy. *Vanderlande Indus. Nederland BV v. Int’l Trade Comm.*, 366 F.3d 1311, 1323 (Fed. Cir. 2004); *Vivid Tech., Inc. v. American Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

³ Factors that may be considered when determining the level of ordinary skill in the art include: “(1) the educational level of the inventor; (2) type of problems encountered in the art; (3) prior art solutions to those problems; (4) rapidity with which innovations are made; (5) sophistication of the technology; and (6) educational level of active workers in the field.” *Environmental Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 696 (Fed. Cir. 1983), *cert. denied*, 464 U.S. 1043 (1984).

PUBLIC VERSION

have understood disputed claim language to mean.” *Phillips*, 415 F.3d at 1314 (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1116 (Fed. Cir. 2004)). The public sources identified in *Phillips* include “the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art.” *Id.* (quoting *Innova*, 381 F.3d at 1116).

In cases in which the meaning of a claim term is uncertain, the specification usually is the best guide to the meaning of the term. *Phillips*, 415 F.3d at 1315. As a general rule, the particular examples or embodiments discussed in the specification are not to be read into the claims as limitations. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc), *aff’d*, 517 U.S. 370 (1996). The specification is, however, always highly relevant to the claim construction analysis, and is usually dispositive. *Phillips*, 415 F.3d at 1315 (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). Moreover, “[t]he construction that stays true to the claim language and most naturally aligns with the patent’s description of the invention will be, in the end, the correct construction.” *Id.* at 1316.

Claims are not necessarily, and are not usually, limited in scope to the preferred embodiment. *RF Delaware, Inc. v. Pacific Keystone Techs., Inc.*, 326 F.3d 1255, 1263 (Fed. Cir. 2003); *Decisioning.com, Inc. v. Federated Dep’t Stores, Inc.*, 527 F.3d 1300, 1314 (Fed. Cir. 2008) (“[The] description of a preferred embodiment, in the absence of a clear intention to limit claim scope, is an insufficient basis on which to narrow the claims.”). Nevertheless, claim constructions that exclude the preferred embodiment are “rarely, if ever, correct and require highly persuasive evidentiary support.” *Vitronics*, 90 F.3d at 1583. Such a conclusion can be mandated in rare instances by clear intrinsic evidence, such as unambiguous claim language or a

PUBLIC VERSION

clear disclaimer by the patentees during patent prosecution. *Elektá Instrument S.A. v. O.U.R. Sci. Int'l, Inc.*, 214 F.3d 1302, 1308 (Fed. Cir. 2000); *Rheox, Inc. v. Entact, Inc.*, 276 F.3d 1319 (Fed. Cir. 2002).

If the intrinsic evidence does not establish the meaning of a claim, then extrinsic evidence may be considered. Extrinsic evidence consists of all evidence external to the patent and the prosecution history, and includes inventor testimony, expert testimony, and learned treatises. *Phillips*, 415 F.3d at 1317. Inventor testimony can be useful to shed light on the relevant art. In evaluating expert testimony, a court should discount any expert testimony that is clearly at odds with the claim construction mandated by the claims themselves, the written description, and the prosecution history, in other words, with the written record of the patent. *Id.* at 1318. Extrinsic evidence may be considered if a court deems it helpful in determining the true meaning of language used in the patent claims. *Id.*

B. Infringement

1. Direct Infringement

Under 35 U.S.C. § 271(a), direct infringement consists of making, using, offering to sell, or selling a patented invention without consent of the patent owner. The complainant in a section 337 investigation bears the burden of proving infringement of the asserted patent claims by a “preponderance of the evidence.” *Certain Flooring Products*, Inv. No. 337-TA-443, Comm’n Notice of Final Determination of No Violation of Section 337, 2002 WL 448690, at *59, (Mar. 22, 2002); *Enercon GmbH v. Int’l Trade Comm’n*, 151 F.3d 1376 (Fed. Cir. 1998).

Literal infringement of a claim occurs when every limitation recited in the claim appears in the accused device, *i.e.*, when the properly construed claim reads on the accused device

PUBLIC VERSION

exactly.⁴ *Amhil Enters., Ltd. v. Wawa, Inc.*, 81 F.3d 1554, 1562 (Fed. Cir. 1996); *Southwall Tech. v. Cardinal IG Co.*, 54 F.3d 1570, 1575 (Fed Cir. 1995).

If the accused product does not literally infringe the patent claim, infringement might be found under the doctrine of equivalents. “Under this doctrine, a product or process that does not literally infringe upon the express terms of a patent claim may nonetheless be found to infringe if there is ‘equivalence’ between the elements of the accused product or process and the claimed elements of the patented invention.” *Warner-Jenkinson Co., Inc. v. Hilton Davis Chemical Co.*, 520 U.S. 17, 21 (1997) (citing *Graver Tank & Mfg. Co. v. Linde Air Products Co.*, 339 U.S. 605, 609 (1950)). “The determination of equivalence should be applied as an objective inquiry on an element by element basis.”⁵ *Id.* at 40.

“An element in the accused product is equivalent to a claim limitation if the differences between the two are insubstantial. The analysis focuses on whether the element in the accused device ‘performs substantially the same function in substantially the same way to obtain the same result’ as the claim limitation.” *AquaTex Indus. v. Techniche Solutions*, 419 F.3d 1374, 1382 (Fed. Cir. 2005) (quoting *Graver Tank*, 339 U.S. at 608); accord *Absolute Software*, 659 F.3d at 1139-40.⁶

⁴ Each patent claim element or limitation is considered material and essential. *London v. Carson Pirie Scott & Co.*, 946 F.2d 1534, 1538 (Fed. Cir. 1991). If an accused device lacks a limitation of an independent claim, the device cannot infringe a dependent claim. See *Wahpeton Canvas Co. v. Frontier, Inc.*, 870 F.2d 1546, 1552 n.9 (Fed. Cir. 1989).

⁵ “Infringement, whether literal or under the doctrine of equivalents, is a question of fact.” *Absolute Software, Inc. v. Stealth Signal, Inc.*, 659 F.3d 1121, 1130 (Fed. Cir. 2011).

⁶ “The known interchangeability of substitutes for an element of a patent is one of the express objective factors noted by *Graver Tank* as bearing upon whether the accused device is substantially the same as the patented invention. Independent experimentation by the alleged infringer would not always reflect upon the objective question whether a person skilled in the art would have known of the interchangeability between two elements, but in many cases it would likely be probative of such knowledge.” *Warner Jenkinson*, 520 U.S. at 36.

PUBLIC VERSION

Prosecution history estoppel can prevent a patentee from relying on the doctrine of equivalents when the patentee relinquished subject matter during the prosecution of the patent, either by amendment or argument. *AquaTex*, 419 F.3d at 1382. In particular, “[t]he doctrine of prosecution history estoppel limits the doctrine of equivalents when an applicant makes a narrowing amendment for purposes of patentability, or clearly and unmistakably surrenders subject matter by arguments made to an examiner.” *Id.* (quoting *Salazar v. Procter & Gamble Co.*, 414 F.3d 1342, 1344 (Fed. Cir. 2005)).

2. Indirect Infringement

a) Induced Infringement

Section 271(b) of the Patent Act provides: “Whoever actively induces infringement of a patent shall be liable as an infringer.” 35 U.S.C. § 271(b).

“To prevail on a claim of induced infringement, in addition to inducement by the defendant, the patentee must also show that the asserted patent was directly infringed.” *Epcon Gas Sys. v. Bauer Compressors, Inc.*, 279 F.3d 1022, 1033 (Fed. Cir. 2002). Further, “[s]ection 271(b) covers active inducement of infringement, which typically includes acts that intentionally cause, urge, encourage, or aid another to directly infringe a patent.” *Arris Group v. British Telecomm. PLC*, 639 F.3d 1368, 1379 n.13 (Fed. Cir. 2011). The Supreme Court held that “induced infringement under § 271(b) requires knowledge that the induced acts constitute patent infringement.” *Global-Tech Appliances, Inc. v. SEB S.A.*, 563 U.S. 754, 766 (2011). The Court further held: “[g]iven the long history of willful blindness⁷] and its wide acceptance in the

⁷ “While the Courts of Appeals articulate the doctrine of willful blindness in slightly different ways, all appear to agree on two basic requirements: (1) the defendant must subjectively believe that there is a high probability that a fact exists and (2) the defendant must take deliberate actions to avoid learning of that fact. We think these requirements give willful blindness an

PUBLIC VERSION

Federal Judiciary, we can see no reason why the doctrine should not apply in civil lawsuits for induced patent infringement under 35 U.S.C. § 271(b).” *Id.* at 768 (footnote omitted).

b) Contributory Infringement

Section 271(c) of the Patent Act provides: “Whoever offers to sell or sells within the United States or imports into the United States a component of a patented machine, manufacture, combination or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer.” 35 U.S.C. § 271(c).

Section 271(c) “covers both contributory infringement of system claims and method claims.”⁸ *Arris*, 639 F.3d at 1376 (footnotes omitted). To hold a component supplier liable for contributory infringement, a patent holder must show, inter alia, that (a) the supplier’s product was used to commit acts of direct infringement; (b) the product’s use constituted a material part of the invention; (c) the supplier knew its product was especially made or especially adapted for use in an infringement” of the patent; and (d) the product is not a staple article or commodity of commerce suitable for substantial noninfringing use. *Id.*

C. Validity

One cannot be held liable for practicing an invalid patent claim. *See Pandrol USA, LP v.*

appropriately limited scope that surpasses recklessness and negligence.” *Global-Tech*, 563 U.S. at 769.

⁸ “Claims which recite a ‘system,’ ‘apparatus,’ ‘combination,’ or the like are all analytically similar in the sense that their claim limitations include elements rather than method steps. All such claims can be contributorily infringed by a component supplier.” *Arris*, 639 F.3d at 1376 n.8.

PUBLIC VERSION

AirBoss Railway Prods., Inc., 320 F.3d 1354, 1365 (Fed. Cir. 2003). Nevertheless, each claim of a patent is presumed to be valid, even if it depends from a claim found to be invalid. 35 U.S.C. § 282; *DMI Inc. v. Deere & Co.*, 802 F.2d 421 (Fed. Cir. 1986).

A respondent that has raised patent invalidity as an affirmative defense must overcome the presumption by “clear and convincing” evidence of invalidity. *Checkpoint Systems, Inc. v. United States Int’l Trade Comm’n*, 54 F.3d 756, 761 (Fed. Cir. 1995).

1. Anticipation

Anticipation under 35 U.S.C. § 102 is a question of fact. *z4 Techs., Inc. v. Microsoft Corp.*, 507 F.3d 1340, 1347 (Fed. Cir. 2007). Section 102 provides that, depending on the circumstances, a claimed invention may be anticipated by variety of prior art, including publications, earlier-sold products, and patents. See 35 U.S.C. § 102 (*e.g.*, section 102(b) provides that one is not entitled to a patent if the claimed invention “was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States”).

The general law of anticipation may be summarized, as follows:

A reference is anticipatory under § 102(b) when it satisfies particular requirements. First, the reference must disclose each and every element of the claimed invention, whether it does so explicitly or inherently. *Eli Lilly & Co. v. Zenith Goldline Pharms., Inc.*, 471 F.3d 1369, 1375 (Fed. Cir. 2006). While those elements must be “arranged or combined in the same way as in the claim,” *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1370 (Fed. Cir. 2008), the reference need not satisfy an *ipsissimis verbis* test, *In re Bond*, 910 F.2d 831, 832 33 (Fed. Cir. 1990). Second, the reference must “enable one of ordinary skill in the art to make the invention without undue experimentation.” *Impax Labs., Inc. v. Aventis Pharms. Inc.*, 545 F.3d 1312, 1314 (Fed. Cir. 2008); see *In re LeGrice*, 49 C.C.P.A. 1124, 301 F.2d 929, 940-44 (1962). As long as the reference discloses all of the claim limitations and enables the “subject matter that falls within the scope of the claims at issue,” the reference anticipates -- no “actual creation or

PUBLIC VERSION

reduction to practice” is required. *Schering Corp. v. Geneva Pharms., Inc.*, 339 F.3d 1373, 1380-81 (Fed. Cir. 2003); see *In re Donohue*, 766 F.2d 531, 533 (Fed. Cir. 1985). This is so despite the fact that the description provided in the anticipating reference might not otherwise entitle its author to a patent. See *Vas Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1562 (Fed. Cir. 1991) (discussing the “distinction between a written description adequate to support a claim under § 112 and a written description sufficient to anticipate its subject matter under § 102(b)”).

In re Gleave, 560 F.3d 1331, 1334 (Fed. Cir. 2009).

2. Obviousness

Under section 103 of the Patent Act, a patent claim is invalid “if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.”⁹ 35 U.S.C. § 103. While the ultimate determination of whether an invention would have been obvious is a legal conclusion, it is based on “underlying factual inquiries including: (1) the scope and content of the prior art; (2) the level of ordinary skill in the art; (3) the differences between the claimed invention and the prior art; and (4) objective evidence of nonobviousness.” *Eli Lilly and Co. v. Teva Pharmaceuticals USA, Inc.*, 619 F.3d 1329 (Fed. Cir. 2010).

The objective evidence, also known as “secondary considerations,” includes commercial success, long felt need, and failure of others. *Graham v. John Deere Co.*, 383 U.S. 1, 13-17 (1966); *Dystar Textilfarben GmbH v. C.H. Patrick Co.*, 464 F.3d 1356, 1361 (Fed. Cir. 2006). “[E]vidence arising out of the so-called ‘secondary considerations’ must always when present be considered en route to a determination of obviousness.” *Stratoflex, Inc. v. Aeroquip Corp.*, 713

⁹ The standard for determining whether a patent or publication is prior art under section 103 is the same as under 35 U.S.C. § 102, which is a legal question. *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1568 (Fed. Cir. 1987).

PUBLIC VERSION

F.2d 1530, 1538 (Fed. Cir. 1983). Secondary considerations, such as commercial success, will not always dislodge a determination of obviousness based on analysis of the prior art. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 426 (2007) (commercial success did not alter conclusion of obviousness).

“One of the ways in which a patent’s subject matter can be proved obvious is by noting that there existed at the time of invention a known problem for which there was an obvious solution encompassed by the patent’s claims.” *KSR*, 550 U.S. at 419-20. “[A]ny need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.” *Id.*

Specific teachings, suggestions, or motivations to combine prior art may provide helpful insights into the state of the art at the time of the alleged invention. *Id.* at 420. Nevertheless, “an obviousness analysis cannot be confined by a formalistic conception of the words teaching, suggestion, and motivation, or by overemphasis on the importance of published articles and the explicit content of issued patents. The diversity of inventive pursuits and of modern technology counsels against limiting the analysis in this way.” *Id.* “Under the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.” *Id.* A “person of ordinary skill is also a person of ordinary creativity.” *Id.* at 421.

Nevertheless, “the burden falls on the patent challenger to show by clear and convincing evidence that a person of ordinary skill in the art would have had reason to attempt to make the composition or device, or carry out the claimed process, and would have had a reasonable expectation of success in doing so.” *PharmaStem Therapeutics, Inc. v. ViaCell, Inc.*, 491 F.3d 1342, 1360 (Fed. Cir. 2007); *see KSR*, 550 U.S. at 416 (a combination of elements must do more

than yield a predictable result; combining elements that work together in an “unexpected and fruitful manner” would not have been obvious).¹⁰

3. Written Description

The issue of whether a patent is invalid for failure to meet the written description requirement of 35 U.S.C. § 112, ¶ 1 is a question of fact. *Bard Peripheral Vascular, Inc. v. W.L. Gore & Assocs., Inc.*, 670 F.3d 1171, 1188 (Fed. Cir. 2012). A patent’s written description must clearly allow persons of ordinary skill in the art to recognize that the inventor invented what is claimed. The test for sufficiency of a written description is “whether the disclosure of the application relied upon reasonable conveys to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date.” *Id.* (quoting *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc)).

4. Indefiniteness

The definiteness requirement of 35 U.S.C. § 112 ensures that the patent claims particularly point out and distinctly claim the subject matter that the patentee regards to be the invention. See 35 U.S.C. § 112, ¶ 2; *Metabolite Labs., Inc. v. Lab. Corp. of Am. Holdings*, 370 F.3d 1354, 1366 (Fed. Cir. 2004). If a claim’s legal scope is not clear enough so that a person of ordinary skill in the art could determine whether or not a particular product infringes, the claim is indefinite, and is, therefore, invalid. *Geneva Pharm., Inc. v. GlaxoSmithKline PLC*, 349 F.3d 1373, 1384 (Fed. Cir. 2003).¹¹

Thus, it has been found that:

¹⁰ Further, “when the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be nonobvious.” *KSR*, 550 U.S. at 416 (citing *United States v. Adams*, 383 U.S. 39, 52 (1966)).

¹¹ Indefiniteness is a question of law. *IGT v. Bally Gaming Int’l, Inc.*, 659 F.3d 1109 (Fed. Cir. 2011).

PUBLIC VERSION

When a proposed construction requires that an artisan make a separate infringement determination for every set of circumstances in which the composition may be used, and when such determinations are likely to result in differing outcomes (sometimes infringing and sometimes not), that construction is likely to be indefinite.

Halliburton Energy Servs. v. M-I LLC, 514 F.3d 1244, 1255 (Fed. Cir. 2008).

The Supreme Court addressed the issue of indefiniteness, and stated that a finding of indefiniteness should not be found if the claims, “viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014) (“*Nautilus*”).

A patent is not indefinite if the claims, “viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty.” *Nautilus*, 134 S. Ct. at 2124. “If, after a review of the intrinsic and extrinsic evidence, a claim term remains ambiguous, the claim should be construed so as to maintain its validity.” *Certain Consumer Electronics And Display Devices With Graphics Processing and Graphics Processing Units Therein*, Inv. No. 337-TA-932, Order No. 20 (Apr. 2, 2015) (quoting *Phillips*, 415 F.3d at 1327).

The burden is on the accused infringer to come forward with clear and convincing evidence to prove invalidity. See *Young v. Lumenis, Inc.*, 492 F.3d 1336, 1344 (Fed. Cir. 2007) (“A determination that a patent claim is invalid for failing to meet the definiteness requirement in 35 U.S.C. § 112, ¶ 2 is a legal question reviewed de novo.”).

D. Domestic Industry

A violation of section 337(a)(1)(B), (C), (D), or (E) can be found “only if an industry in the United States, with respect to the articles protected by the patent, copyright, trademark, mask

PUBLIC VERSION

work, or design concerned, exists or is in the process of being established.” 19 U.S.C.

§ 1337(a)(2). Section 337(a) further provides:

(3) For purposes of paragraph (2), an industry in the United States shall be considered to exist if there is in the United States, with respect to the articles protected by the patent, copyright, trademark, mask work, or design concerned—

(A) significant investment in plant and equipment;

(B) significant employment of labor or capital; or

(C) substantial investment in its exploitation, including engineering, research and development, or licensing.

19 U.S.C. § 1337(a)(3).

These statutory requirements consist of an economic prong (which requires certain activities)¹² and a technical prong (which requires that these activities relate to the intellectual property being protected). *Certain Stringed Musical Instruments and Components Thereof*, Inv. No. 337-TA-586, Comm’n Op. at 13 (May 16, 2008) (“*Stringed Musical Instruments*”). The burden is on the complainant to show by a preponderance of the evidence that the domestic industry requirement is satisfied. *Certain Multimedia Display and Navigation Devices and Systems, Components Thereof, and Products Containing Same*, Inv. No. 337-TA-694, Comm’n Op. at 5 (July 22, 2011).

¹² The Commission practice is usually to assess the facts relating to the economic prong at the time that the complaint was filed. See *Certain Coaxial Cable Connectors and Components Thereof and Products Containing Same*, Inv. No. 337-TA-560, Comm’n Op. at 39 n.17 (Apr. 14, 2010) (“We note that only activities that occurred before the filing of a complaint with the Commission are relevant to whether a domestic industry exists or is in the process of being established under sections 337(a)(2)-(3).” (citing *Bally/Midway Mfg. Co. v. U.S. Int’l Trade Comm’n*, 714 F.2d 1117, 1121 (Fed. Cir. 1983)). In some cases, however, the Commission will consider later developments in the alleged industry, such as “when a significant and unusual development occurred after the complaint has been filed.” See *Certain Video Game Systems and Controllers*, Inv. No. 337-TA-743, Comm’n Op., at 5-6 (Jan. 20, 2012) (“[I]n appropriate situations based on the specific facts and circumstances of an investigation, the Commission may consider activities and investments beyond the filing of the complaint.”).

PUBLIC VERSION

1. Economic Prong

With respect to the economic prong, and whether or not section 337(a)(3)(A) or (B) is satisfied, the Commission has held that “whether a complainant has established that its investment and/or employment activities are significant with respect to the articles protected by the intellectual property right concerned is not evaluated according to any rigid mathematical formula.” *Certain Printing and Imaging Devices and Components Thereof*, Inv. No. 337 TA-690, Comm’n Op. at 27 (Feb. 17, 2011) (“*Printing and Imaging Devices*”) (citing *Certain Male Prophylactic Devices*, Inv. No. 337 TA-546, Comm’n Op. at 39 (Aug. 1, 2007)). Rather, the Commission examines “the facts in each investigation, the article of commerce, and the realities of the marketplace.” *Id.* “The determination takes into account the nature of the investment and/or employment activities, ‘the industry in question, and the complainant’s relative size.’” *Id.* (citing *Stringed Musical Instruments* at 26).

With respect to section 337(a)(3)(C), whether an investment in domestic industry is “substantial” is a fact-dependent inquiry for which the complainant bears the burden of proof. *Stringed Musical Instruments* at 14. There is no minimum monetary expenditure that a complainant must demonstrate to qualify as a domestic industry under the “substantial investment” requirement of this section. *Id.* at 25. There is no need to define or quantify an industry in absolute mathematical terms. *Id.* at 26. Rather, “the requirement for showing the existence of a domestic industry will depend on the industry in question, and the complainant’s relative size.” *Id.* at 25-26.

2. Technical Prong

“With respect to section 337(a)(3)(A) and (B), the technical prong is the requirement that the investments in plant or equipment and employment in labor or capital are actually related to

PUBLIC VERSION

‘articles protected by’ the intellectual property right which forms the basis of the complaint.”

Stringed Musical Instruments at 13-14. “The test for satisfying the ‘technical prong’ of the industry requirement is essentially same as that for infringement, *i.e.*, a comparison of domestic products to the asserted claims.” *Alloc, Inc. v. Int’l Trade Comm’n*, 342 F.3d 1361, 1375 (Fed. Cir. 2003). “With respect to section 337(a)(3)(C), the technical prong is the requirement that the activities of engineering, research and development, and licensing are actually related to the asserted intellectual property right.” *Stringed Musical Instruments* at 13.

E. Public Interest

The Commission has delegated the taking of evidence or other information with respect to the public interest in this investigation to the administrative law judge. *See* 80 Fed. Reg. 66934 (October 30, 2015); 19 C.F.R. §210.10(b). Before issuing any remedial order for a violation of section 337, the Commission must weigh the effects of the remedy on the public interest by considering four factors. *Certain Inclined-Field Acceleration Tubes*, Inv. No. 337-TA-67, Comm’n Op. (Dec. 29, 1980). These public interest factors are: (1) the public health and welfare; (2) the competitive conditions in the United States economy; (3) the production of like or directly competitive articles in the United States; and (4) the United States consumers. 19 U.S.C. § 1337(d)(1). The Commission must then balance any potentially adverse impact on the public interest against the public’s interest in protecting and enforcing intellectual property rights. *See id.* If the negative impact of the remedial order outweighs its benefit, the Commission must deny the requested relief. *Id.*

In the few instances where the Commission has found a public interest impact significant enough to deny relief, “the exclusion order was denied because inadequate supply within the United States—by both the patentee and domestic licensees—meant that an exclusion order

PUBLIC VERSION

would deprive the public of products necessary for some important health or welfare need”

Spanston, Inc. v. ITC, 629 F.3d 1331, 1360 (Fed. Cir. 2010) (citing *Certain Fluidized Supporting Apparatus*, Inv. No. 337-TA-182/188, Comm’n Op. (Oct. 1984), *Inclined-Field Acceleration Tubes*, (Dec. 1980); and *Certain Automatic Crankpin Grinders*, Inv. No. 337-TA-60, Comm’n Op. (Dec. 1979)).

IV. U.S. PATENT NO. 6,641,891

A. Overview of the ‘891 Patent

The ‘891 Patent (JX-0001), entitled “Magnetic recording medium,” issued on November 4, 2003. The application that would issue as the ‘891 Patent, Application No. 10/112,502, was filed on March 27, 2002, and claims priority to JP 2001-093908 (filed March 28, 2001) and JP 2002-063599 (filed March 8, 2002). The ‘891 Patent discloses a recording medium (*e.g.*, a tape or disk) with a magnetic layer that has specific physical and chemical attributes. *See generally* JX-0001, Abstract.

B. Claim Construction

1. Level of Ordinary Skill in the Art

For the ‘891, ‘106, ‘612, and ‘434 Patents, Fujifilm argues:

A person of ordinary skill in the art of the Asserted Patents (for example, the art of magnetic recording) would be an individual who, as of the relevant priority date, would have a bachelor’s degree in materials science, physics, electrical engineering, mechanical engineering, chemistry, or a closely related field, and at least five years of experience in the field of magnetic recording, or Master’s degree or higher in materials science, physics, electrical engineering, mechanical engineering, chemistry, or a closely related field, with an emphasis in magnetic recording, and at least three years of experience in the field of magnetic recording. A person with less education but more relevant practical experience may also meet this standard.

Fujifilm Br. at 30 (citing CX-0004C (Wang DWS) Q/A 58).

PUBLIC VERSION

Sony argues:

As Dr. Ross testified, a POSA would have at least: (1) a bachelor's degree in electrical engineering, mechanical engineering, physics, materials science (or a related field) plus two years of experience working with magnetic storage systems or media; (2) an advanced degree in one of the disciplines identified above (or a related field), either with an emphasis in magnetic storage technology or equivalent experience working with magnetic storage systems or media; or (3) work experience equivalent to the prior qualifications. RX-0004C at Q&A 51.

Fujifilm has proposed an alternative definition that is unnecessarily high. However, a POSA would have reached the same conclusions on claim construction, infringement, and invalidity under either party's proposed level of skill in the art. *Id.*

Sony Br. at 48.¹³ After presenting both parties' proposals, Dr. Ross testified that:

... I have considered both parties' proposals. In my opinion, the parties' proposals are similar, but Sony's definition of the level of ordinary skill in the art for these patents is more accurate. A person with a bachelor's degree in the fields listed above plus two years of experience working with magnetic storage media (or an advanced degree in the fields listed above with emphasis on magnetic storage media or equivalent work experience) would be equipped to understand and analyze the subject matter of the '891 Patent. Fujifilm's proposal imposes an unnecessarily high level of qualification on such a person relative to the technology described in the patent. Though I believe my proposed level of ordinary skill is more accurate, Fujifilm's proposed level of ordinary skill is sufficiently close to my own that my opinions would be the same if I were to use Fujifilm's proposal.

RX-0004C (Ross DWS at Q/A 51).

The Staff argues, *inter alia*, that "at least some practical experience is necessary for one

¹³ Sony proposes the same level of ordinary skill for all of the asserted patents, as follows:

- '891 Patent: Sony Br. at 48 (citing RX-0001C (Ross WS) at Q/A 40);
- '612 Patent: Sony Br. at 121 (citing RX-0004C (Bhushan WS) at Q/A 51);
- '106 Patent: Sony Br. at 195 (citing RX-0004C (Bhushan WS) at Q/A 51);
- '434 Patent: Sony Br. at 255-56 (citing RX-0005C (Talke WS) at Q&A 64); and
- '805 Patent: Sony Br. at 310 (citing RX-0003C (Jennings) at Q/A 46).

PUBLIC VERSION

to qualify as a person of ordinary skill in the art.” Staff Br. at 15.

The administrative law judge has determined that a person of ordinary skill in the art would have a bachelor’s degree in electrical engineering, mechanical engineering, physics, materials science (or a related field) plus two years of experience working with magnetic storage systems or media. Fujifilm’s (and the Staff’s) proposed level of ordinary skill risks imposing an unnecessarily high level of skill that cannot be justified without additional evidentiary support. *See, e.g., Environmental Designs*, 713 F.2d at 696 (Fed. Cir. 1983); The Manual of Patent Examining Procedure § 2141.03, 9th Ed. (Nov. 2015) (providing five factors to consider in determining the appropriate level of ordinary skill). Sony’s proposed level of ordinary skill is encompassed by Fujifilm’s proposed level of ordinary skill in the art, thus reflecting at least some consensus between the parties.

2. Agreed Constructions

Fujifilm, Sony, and the Staff have submitted agreed constructions for two claim terms, as follows:

Claim Term	Relevant Claim(s)	Agreed Construction
Magnetic recording medium	1, 4-9, 11, and 14	No construction necessary. However, if construed: “medium on which information may be magnetically recorded.”
Magnetic cluster	1	“aggregate of magnetic particles that behave like a single magnetic member”

See Fujifilm Br. at 25; Sony Br. at 49; Staff Br. at 15-16 (citing CX-0004C (Wang WS) at Q/A 100-01; RX-0004C (Ross WS) at Q/A 87).

3. Disputed Constructions

The parties dispute two terms in the ‘891 Patent—“coercivity” and “average size of

PUBLIC VERSION

magnetic cluster at DC erase.” Fujifilm Br. at 31; Sony Br. at 49; Staff Br. at 16-19. Sony argues that both terms are indefinite. *See* Sony Br. at 49 (claim construction), 104-110 (invalidity).

a) Coercivity

Fujifilm argues, in part:

Coercivity is recited in claims 1, 6, and 7. Fujifilm and the Staff agree that coercivity means “the demagnetizing field strength required at saturation remanence to reduce magnetic flux density to zero.” The ‘891 Patent specification also uses the term “coercivity” as one of ordinary skill would understand it. JX-0001C (‘891 Patent) at 7:55-60. Sony contends that, though Fujifilm’s (and the Staff’s) definition is correct, the term “coercivity” renders the claims indefinite because coercivity can be measured in three directions (longitudinal, perpendicular, and transverse) and the claims do not explicitly recite a direction. RPreHBr. at 331-332.

As an initial matter, the mere possibility of different results from different measurement techniques does not render a claim indefinite. . . .

Fujifilm Br. at 31-32.

The Staff argues that Sony’s expert, Dr. Ross, was able to explain what “coercivity” is.

Staff Br. at 17. Dr. Ross testified, as follows:

Q75: Are you familiar with the term coercivity?

A: Yes, I am.

Q76: What is coercivity?

A: Coercivity arises in permanent magnetic materials (e.g. ferromagnetic and ferrimagnetic materials) from the fact that these materials exhibit magnetic hysteresis. That is when an external magnetic field is applied to one of these magnetic materials, the magnetic domains within the material align with the external field such that the material becomes magnetized according to the direction of the external field. When the external field is removed though the material retains some magnetization and an external magnetic field must be applied in the opposite direction to reduce

PUBLIC VERSION

the magnetization back to zero. The strength of this demagnetizing field is the coercivity of the material. Remanence is the amount of magnetization remaining at zero field. RDX-0008 illustrates the difference between remanence and coercivity.

RX-0004C (Ross WS) at Q/A 75-76. RDX-0008, in turn, provides a short explanation that coercivity is “a measure of the reverse field needed to drive the magnetization to zero after being saturated.”

The administrative law judge construes “coercivity” to mean “the demagnetizing field strength required at saturation remanence to reduce magnetic flux density to zero.” *See* CX-0004C (Wang WS) at Q/A 102-04 (citing JX-0001 at 7:55-60 and extrinsic evidence). In general, Sony’s argument that “coercivity” is indefinite pertains to how the property is measured, not its definition (or construction). Sony’s arguments about how to measure coercivity are addressed in the indefiniteness subsection. *See* Part IV(H), *infra*.

b) Average size of magnetic cluster at DC erase

Fujifilm argues:

Claim 1 recites, among other limitations: “an average size of magnetic cluster at DC erase is equal to or higher than 0.5×10^4 nm² and less than 5.5×10^4 nm².” The parties agree that a “magnetic cluster” means an “aggregate of magnetic particles that behave like a single magnetic member.” However, Sony’s expert, Dr. Ross, testified that the longer phrase is indefinite because the intrinsic record does not “inform a person of ordinary skill in the art how to set [certain] parameters” that may influence the “average size of magnetic cluster at DC Erase.” *See* RX-0004C (Ross DWS) Q:353.

Fujifilm Br. at 33. Fujifilm then argues that the patent expressly teaches how to measure the average size of magnetic cluster at DC erase. *See id.* at 33-38.

Sony argues, in part:

Claim 1 requires “an average size of magnetic cluster at DC erase is equal to or higher than 0.5×10^4 nm² and less than 5.5×10^4 nm².”

PUBLIC VERSION

Yet the '891 Patent only briefly touches on how to measure the average cluster size. The entire discussion appears in a single paragraph that refers to magnetic force microscopy ("MFM"), but does not impose any limits on the numerous parameters that factor into MFM measurement and subsequent processing. . . .

Sony Br. at 105.

The Staff argues:

The parties primarily dispute whether one of ordinary skill in the art can determine with reasonable certain whether a particular sample of magnetic tape has an average size of magnetic cluster at DC erase within a particular range. Compls. P.H. Br. at 32; Resps. P.H. Br. at 269-270. This indefiniteness argument, which does not appear to relate to claim construction, is addressed below in Section IV.F.3.

. . . it does not appear to the Staff that adopting FUJIFILM's proposed construction would resolve any issue of infringement or validity. Importantly, FUJIFILM's proposed construction does not bear on the question of indefiniteness, which is addressed below in Section IV.F.3.

Accordingly, the Staff submits that no construction is necessary.

Staff Br. at 18.

Fujifilm replies, in part:

. . . Sony has (incorrectly) suggested that average size of magnetic cluster at DC erase also includes the physical size of magnetic clusters, even though their physical sizes are not affected by DC erase. Fujifilm's proposed construction clarifies that the term refers to size of the magnetic force distribution, a magnetic property of clusters which *is* affected by DC erase. CX-0004C (Wang DWS) Q:108 ("everything in the patent and claims tells me this is about the magnetic properties of the clusters, not their physical size").

Fujifilm Reply at 11 (emphasis added by Fujifilm).

The administrative law judge has determined it is not necessary to construe the phrase "average size of magnetic cluster at DC erase." The parties do not dispute the meaning of the phrase, but rather how the relevant measurement should be made. Further, the parties did not

PUBLIC VERSION

require a construction to navigate infringement and invalidity arguments. Accordingly, it is not necessary to construe this phrase. *See O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008).¹⁴

C. Infringement

Fujifilm asserts claims 1, 4-9, 11, and 14 against Sony's LTO-7 products. *See* Fujifilm Br. at 23-24, 38-39; Sony Br. at 34; Staff Br. at 5 (The Staff notes that the parties "agree that the Sony Ultrium 7 Data Cartridge Model No. LTX6000G is representative of the Accused Products.").¹⁵ All of the asserted claims are product claims.

1. Claim 1

Claim 1 follows:

1. A magnetic recording medium, comprising:

an essentially nonmagnetic lower layer; and a magnetic layer comprising a ferromagnetic powder and a binder, the magnetic layer located over the lower layer,

wherein said magnetic layer has a thickness ranging from 0.01 to 0.15 μm and a coercivity equal to or higher than 159

¹⁴ *O2 Micro*, 521 F.3d at 1362, provides:

"We, however, recognize that district courts are not (and should not be) required to construe *every* limitation present in a patent's asserted claims. *See, e.g., Biotec Biologische Naturverpackungen GmbH & Co. KG v. Biocorp, Inc.*, 249 F.3d 1341, 1349 (Fed. Cir. 2001) (deciding that disputed issue was the proper application of a claim term to an accused process rather the scope of the term); *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir.1997) (Claim construction 'is not an obligatory exercise in redundancy.'). Rather, '[c]laim construction is a matter of resolution of disputed meanings and technical scope, to clarify and when necessary to explain what the patentee covered by the claims, for use in the determination of infringement.' *U.S. Surgical*, 103 F.3d at 1568."

¹⁵ Fujifilm has argued that Sony literally infringes the asserted claims. It has not presented any doctrine of equivalents arguments.

PUBLIC VERSION

kA/m, and the ferromagnetic particles contained in the ferromagnetic powder have a size less than 0.15 μm , and an average size of magnetic cluster at DC erase is equal to or higher than $0.5 \times 10^4 \text{ nm}^2$ and less than $5.5 \times 10^4 \text{ nm}^2$, and wherein the essentially non-magnetic lower layer has either no magnetic properties or magnetic properties to a degree not affected by recording information to the magnetic layer.

JX-0001 at 31:39-52.

Fujifilm divides the claim into seven limitations, which are shown as follows:

- [a] 1. A magnetic recording medium, comprising:
- [b] an essentially nonmagnetic lower layer; and a magnetic layer comprising a ferromagnetic powder and a binder, the magnetic layer located over the lower layer,
- [c] wherein said magnetic layer has a thickness ranging from 0.01 to 0.15 μm
- [d] and a coercivity equal to or higher than 159 kA/m,
- [e] and the ferromagnetic particles contained in the ferromagnetic powder have a size less than 0.15 μm , and
- [f] an average size of magnetic cluster at DC erase is equal to or higher than $0.5 \times 10^4 \text{ nm}^2$ and less than $5.5 \times 10^4 \text{ nm}^2$, and
- [g] wherein the essentially non-magnetic lower layer has either no magnetic properties or magnetic properties to a degree not affected by recording information to the magnetic layer.

See Fujifilm Br. at 39-46. Each limitation is addressed below.

a) *A magnetic recording medium, comprising:*

Fujifilm argues:

The parties agree that a “magnetic recording medium” requires no construction or alternatively is a “medium on which information may be magnetically recorded.” The Accused Products contain a medium (tape) on which data (information) can be recorded (stored) magnetically. Sony manufactures the Accused Products

I.

PUBLIC VERSION

Sony, its witnesses and its experts do not dispute that this limitation is met. Sony's witnesses also acknowledge that its Accused Products [

]; CX-0004C

(Wang DWS) Q:125-131; JX-0052C at 20.

Fujifilm Br. at 39.

The Staff argues that this limitation is met and notes that "Sony does not appear to dispute that this limitation is met." Staff Br. at 22; *see generally* Sony Br., § IV(F) (the limitation is not contested); Sony Reply, § II(C) (the limitation is not contested).

The evidence shows that Sony's LTO-7 products include a magnetic recording medium. *See* [

]; *see also* CX-0004C

(Wang DWS) Q/A 125-131; JX-0052C at 20 (LTO-7 specification, U-732); [

]; CX-0400C at 25-27. Accordingly, the administrative law judge has determined Sony's LTO-7 products satisfy this limitation.

b) an essentially nonmagnetic lower layer; and a magnetic layer comprising a ferromagnetic powder and a binder, the magnetic layer located over the lower layer,

Fujifilm argues that the LTO-7 products include the claimed layers and that Sony does not dispute that its LTO-7 products satisfy this limitation. Fujifilm Br. at 39-40. Fujifilm relies on [

], testing on

Sony's LTO-7 products (the LTX6000G), and expert testimony. *Id.* at 39-41.

The Staff argues that this limitation is met and notes that "Sony does not appear to dispute that this limitation is met." Staff Br. at 23; *see generally* Sony Br., § IV(F) (the

PUBLIC VERSION

limitation is not contested); Sony Reply, § II(C) (the limitation is not contested). The Staff presents the following image, which depicts an exemplary LTO-7 tape:

[

].

The evidence shows that Sony's LTO-7 products include an essentially nonmagnetic lower layer. *See* [

]; JX-0052C at 62

(the LTO-7 specification provides, "The tape shall consist of a multilayer composite of similar materials and construction to prior LTO tape generations, appropriately scaled to achieve the correct thickness and properties to meet the other requirements. The composite layers include a polymeric base material, a back coat, and front coatings including an under layer and magnetic layer."); CX-0004C (Wang WS) Q/A 132-36.

The evidence also shows that Sony's LTO-7 products include a magnetic layer comprising a ferromagnetic powder and a binder, and that the magnetic layer is located over the

PUBLIC VERSION

essentially nonmagnetic lower layer. In particular, the LTO-7 products are made with [

]; CX-0004C (Wang WS) at Q/A 137-39. The magnetic layer includes a binder. CX-0400C at 30-31; CX-0004C (Wang WS) at Q/A 137-39. [

]; *see also* CX-0004C (Wang WS) Q/A 137; JX-0052C (LTO-7 Specification) at 62, 76; []].

Accordingly, the administrative law judge has determined Sony's LTO-7 products satisfy this limitation.

c) wherein said magnetic layer has a thickness ranging from 0.01 to 0.15 μ m

Fujifilm argues that the LTO-7 products' magnetic layer has a thickness of 0.01 to 0.15 μ m and that Sony does not dispute that its LTO-7 products satisfy this limitation. Fujifilm Br. at 41. Fujifilm relies on [

], measurements on Sony's LTO-7 products (the LTX6000G), and expert testimony. *Id.*

The Staff argues that this limitation is met and notes that "Sony does not appear to dispute that this limitation is met." Staff Br. at 24; *see generally* Sony Br., § IV(F) (the limitation is not contested); Sony Reply, § II(C) (the limitation is not contested).

The evidence shows that the magnetic layer in Sony's LTO-7 products has a thickness between 0.01 and 0.15 μ m. *See* [

]; CX-0004C (Wang DWS) Q/A 148; CX-0002 (Sinclair DWS) at 46-48 (explaining measurement results, showing an

PUBLIC VERSION

average thickness of [] nm). Accordingly, the administrative law judge has determined Sony's LTO-7 products satisfy this limitation.

d) and a coercivity equal to or higher than 159 kA/m,

Fujifilm argues that the LTO-7 products' magnetic layer has a coercivity equal to or higher than 159 kA/m. Fujifilm Br. at 42. Fujifilm relies on its own expert's testing of the LTO-7 products, [], and its expert's testimony.

Sony argues that "aside from the invalidity of the claims, Fujifilm failed to present credible evidence from which to carry its burden of proving infringement by a preponderance of the evidence." Sony Br. at 111. Sony's expert, Dr. Ross, critiques the testing that Fujifilm's expert, Dr. Wang, performed. *See id.* at 111-12. In particular, Dr. Ross opines that there is some uncertainty as to whether Dr. Wang tested the leader portion of the LTO-7 tape, which differs from the normal (7th generation) portion of the tape. *See* RX-0369C (Ross RWS) at Q/A 79-88. Dr. Ross also opines that Dr. Wang insufficiently magnetically saturated the sample, which renders his results unreliable. *Id.* at Q/A 90-100.

The Staff notes Sony's critique of Dr. Wang's coercivity measurements, but concludes that "the evidence shows that Dr. Wang's coercivity measurement is sufficient to find infringement." Staff Br. at 25.

The evidence shows that Sony's LTO-7 products' magnetic layer has a coercivity equal to or higher than 159 kA/m. *See* [

]. Further, Sony does not present any evidence showing that Sony's LTO-7 products' magnetic layer has a coercivity less than 159 kA/m. Accordingly, the administrative law judge has determined Sony's LTO-7 products satisfy this limitation.

PUBLIC VERSION

- e) *and the ferromagnetic particles contained in the ferromagnetic powder have a size less than 0.15 μm , and*

Fujifilm argues that Sony's LTO-7 products include ferromagnetic particles having a size less than 0.15 μm . Fujifilm Br. at 43-44. Fujifilm relies on [

].

The Staff argues that this limitation is met and notes that "Sony does not appear to dispute that this limitation is met." Staff Br. at 25-26; *see generally* Sony Br., § IV(F) (the limitation is not contested); Sony Reply, § II(C) (the limitation is not contested).

The evidence shows that Sony's LTO-7 products include ferromagnetic particles having a size less than 0.15 μm . *See* [

]. Accordingly, the administrative law judge has determined Sony's LTO-7 products satisfy this limitation.

- f) *an average size of magnetic cluster at DC erase is equal to or higher than $0.5 \times 10^4 \text{ nm}^2$ and less than $5.5 \times 10^4 \text{ nm}^2$, and*

Fujifilm argues that the magnetic clusters in Sony's LTO-7 products meet this limitation. *See* Fujifilm Br. at 44-45. Fujifilm relies on expert testing and attendant testimony. *Id.* (referring to CX-0004C (Wang WS) at Q/A 170-80). Fujifilm argues Sony's expert does not "show any evidence of her own testing on the Accused Products to show that the actual average cluster size is outside the claimed range." *Id.* at 45 (citing RX-0369C (Ross RWS) at Q/A 102-112).

Sony disputes that Fujifilm's expert's testing and the attendant testimony show that the LTO-7 products satisfy this limitation. Sony Br. at 105-09, 110-14. Sony's expert critiques Dr.

PUBLIC VERSION

Wang's testing for being unclear as to whether Dr. Wang tested the leader tape, for skipping a magnetizing step in the procedure, for failing to specify sample orientation during DC erase, and for not discussing various "functions and parameters associated with the image processing and analysis required for determining average magnetic cluster size." *Id.* at 111-14.¹⁶

Sony also argues, with regard to indefiniteness, that variables such as the type of tip used to scan a sample using magnetic force microscopy ("MFM"), the settings used to convert images (as part of the MFM process), and noise-elimination thresholds "can have a major impact on the reported average size of magnetic clusters." Sony Br. at 105-06. Sony argues:

As Dr. Ross further explained, the results were profoundly different depending on the particular tip. *Id.* at Q&A 134, 359-363; RDX-0015. For instance, when measured with an MESP-LM tip, the tested sample had an average size of magnetic clusters of [], which is *outside* the range claimed by the '891 Patent. RX-0004C (Ross OWS) at Q&A 362; RDX-0015. In contrast, when measured with an MESP tip, the *same sample* had an average size of magnetic clusters of [], which is almost [] times larger than the value measured with the MESP-LM tip and is *within* the claimed range. *Id.*

Id. at 106 (emphasis added by Sony). For binarization threshold and noise elimination, Sony argues, in part:

For example, if excluding as noise anything smaller than 30 pixels—a reasonable choice consistent with Fujifilm's own MFM testing (RX-0240C at 14)—applying a binarization threshold of 30% yields an average cluster size of [] outside the claimed range. RX-0004C (Ross OWS) at Q&A 379. By contrast, applying a threshold of 70% yields an average cluster size of [] inside the claimed range. In sum, the choice of threshold dictates whether or not a particular tape is covered by the claims. At the hearing, Dr. Wang himself conceded that changing the threshold could significantly affect the measurements. Tr. at

¹⁶ Fujifilm argues it is unlikely Dr. Wang tested the leader tape given "different characteristics for leader tape, including a much greater thickness of [] μm as compared to the requirement for magnetic tape thickness of [] μm , and a splicing tape made of PET that connects the leader tape to the magnetic tape portion." Fujifilm Reply at 12.

PUBLIC VERSION

305.

Id. at 108.

The Staff argues that the limitation is met based upon Dr. Wang's testing. Staff Br. at 26. The Staff argues that "[a]lthough Sony criticizes Dr. Wang's failure to precisely describe his measurement technique, Sony has not shown that any alleged deficiency would render Dr. Wang's measurements suspect." *Id.*

In reply, Fujifilm argues that Dr. Ross's critiques of Dr. Wang's testing are insufficient: "Dr. Ross does not identify which parameters or functions Dr. Wang failed to identify, and does not explain how any of these functions could affect Dr. Wang's analysis." Fujifilm Reply at 12-13. Fujifilm further argues that Sony asks the administrative law judge "to require absolute certainty" of claims. *Id.* at 30-31. Fujifilm concludes:

Neither Sony nor Dr. Ross respond to Dr. Wang's testimony regarding how one of ordinary skill would consider the testing parameters, including the MFM tip's magnetic properties, for example, or the noise elimination threshold to use. Instead these reasons are dismissed as expert "preference." RPostHBr. at 107. Moreover, Dr. Ross's own magnetic cluster size testing and her analysis on Dr. Wang's testing show that a person of ordinary skill could, in fact, determine infringement with reasonable certainty, if a reasonable set of parameters were applied. Accordingly, Sony has failed to show with clear and convincing evidence that the Asserted Claims are indefinite.

Id. at 31.

Sony replies, in part:

Fujifilm's rebuttal concerning the selection of an MFM tip turns exclusively on Dr. Wang's personal opinion that a POSA would prefer a "medium to high magnetic moment." Fujifilm IPHB at 35-36. As Sony explained (Sony IPHB at 35-36), Dr. Wang's view neglects the instrument maker's own literature (CX-0346) and at best constitutes the "unpredictable vagaries" of a given expert's opinions.

PUBLIC VERSION

Sony Reply at 26. Sony further replies that the claims do not require any particular binarization or noise elimination thresholds. *Id.* at 26-27 (“Dr. Ross’s indefiniteness analysis turns on the wildly differing results obtained with 30% and 70% binarization thresholds in conjunction with one specific noise elimination threshold (*i.e.*, 30 pixels) that Fujifilm itself deemed reasonable for its own testing.” (emphasis omitted)).

The Staff replies that “Sony has not shown that any alleged deficiency would render Dr. Wang’s measurements suspect.” Staff Reply at 6.

The evidence shows that the magnetic clusters in Sony’s LTO-7 products have an average size, at DC erase, that is equal to or higher than $0.5 \times 10^4 \text{ nm}^2$ and less than $5.5 \times 10^4 \text{ nm}^2$. *See* CX-0004C (Wang WS) at Q/A 179. In particular, Dr. Wang’s testing, which involved three samplings, shows that the average size of magnetic clusters at DC erase at those locations to be []. *Id.* at Q/A 170-180. The 70% threshold Dr. Wang utilized is supported by the ‘891 Patent. *See* JX-0001 at 29:43-47 (“Seventy percent of the standard deviation (rms) value of the magnetic force distribution was set as the threshold value, the image was rendered binary, and only portions having a magnetic force equal to or higher than 70 percent were displayed.”); *see also* Sony Br. at 108 (“applying a threshold of 70% yields an average cluster size [], inside the claimed range.”). Further, Dr. Wang’s testing comports with the procedures outlined in the specification, JX-0001 at 29:35-49, while Dr. Ross’s testing that applies a 30% threshold (which corresponds to the data that falls outside of the claimed range) does not. Accordingly, the administrative law judge has determined Sony’s LTO-7 products satisfy this limitation.

PUBLIC VERSION

- g) *wherein the essentially non-magnetic lower layer has either no magnetic properties or magnetic properties to a degree not affected by recording information to the magnetic layer.*

Fujifilm argues that the lower layer in Sony's LTO-7 products "has no magnetic properties or magnetic properties to a degree not affected by recording information to the magnetic layer" and that Sony does not dispute that its LTO-7 products satisfy this limitation. Fujifilm Br. at 45. Fujifilm relies on [] and expert testimony []. *Id.* at 45-46.

The Staff argues that this limitation is met and notes that "Sony does not appear to dispute that this limitation is met." Staff Br. at 26; *see generally* Sony Br., § IV(F) (the limitation is not contested); Sony Reply, § II(C) (the limitation is not contested).

The evidence shows that the Sony LTO-7 products' lower layer has either no magnetic properties or magnetic properties to a degree not affected by recording information to the magnetic layer. *See* []. Accordingly, the administrative law judge has determined Sony's LTO-7 products satisfy this limitation.

In conclusion, the administrative law judge has determined that Sony's LTO-7 products infringe claim 1.

2. Claim 4

Claim 4 requires that the ferromagnetic powder of claim 1 is a hexagonal ferrite powder. JX-0001 at 31:59-60.

Fujifilm's entire argument is:

... Claim 4 depends from claim 1 and adds the limitation: "wherein said ferromagnetic powder is a hexagonal ferrite powder." As discussed with respect to claim 1, there is no dispute that Sony uses BaFe, a hexagonal ferrite powder. []

PUBLIC VERSION

]. The '891 Patent, JX-0001 at 7:1-7 also confirms that BaFe is a hexagonal ferrite. Dr. Wang concluded that the Accused Products include a ferromagnetic powder that is a hexagonal ferrite powder, e.g., CX-0004C (Wang DWS) Q:183-184, and Dr. Ross does not dispute that the Accused Products meet this limitation.

Fujifilm Br. at 46.

The Staff argues that claim 4 is infringed and notes that "Sony does not appear to dispute that this additional limitation is met." Staff Br. at 27; *see generally* Sony Br., § IV(F) (the claim/limitation is not contested); Sony Reply, § II(C) (the claim/limitation is not contested).

The evidence shows that Sony's LTO-7 products include barium ferrite, which is a hexagonal ferrite powder. *See* []; JX-0001 at 7:1-7; CX-0004C (Wang WS) at Q/A 183-84. Accordingly, the administrative law judge has determined Sony's LTO-7 products infringe claim 4.

3. Claim 5

Claim 5 requires that the hexagonal ferrite powder of claim 4 to have a mean plate diameter of equal to or less than 42 nm. JX-0001 at 31:61-63.

Fujifilm's entire argument is:

... As discussed above, Dr. Wang explains that the average particle size in claim 1 refers to mean plate diameter for hexagonal ferrites, which []. CX-0004C (Wang DWS) at Q:185-186; []. This is less than 42 nm, thus meeting the limitation of claim 5. Further, Dr. Wang's testing, described with respect to claim 1, found a mean plate diameter of [] nm, which is also less than 42 nm. *Id.*

Fujifilm Br. at 46.

The Staff argues that claim 5 is infringed and notes that "Sony does not appear to dispute that this additional limitation is met." Staff Br. at 27-28; *see generally* Sony Br., § IV(F) (the

PUBLIC VERSION

claim/limitation is not contested); Sony Reply, § II(C) (the claim/limitation is not contested).

The evidence shows that Sony's LTO-7 products include barium ferrite, which is a hexagonal ferrite powder. The hexagonal ferrite plates have an average diameter of [] nm. []; CX-0004C (Wang DWS) at Q/A 185-186. Accordingly, the administrative law judge has determined Sony's LTO-7 products infringe claim 5.

4. Claim 6

Claim 6 requires that the magnetic recording medium of claim 1 have a coercivity ranging from 159 to 318 kA/m. JX-0001 at 31:64-65.

Fujifilm's entire argument is:

... [

]. Furthermore, Dr. Wang's testing found a coercivity of [] kA/m, which is also within the range of 159 to 318 kA/m. CX-0004C (Wang DWS) Q:187-188.

Fujifilm Br. at 46-47.

Although Sony does not present argument for claim 6, Sony's arguments about the coercivity limitation from claim 1 also apply to claim 6. *See generally* Sony Br., § IV(F) (claim 6 is not specifically contested); Sony Reply, § II(C) (claim 6 is not specifically contested).

The Staff notes Sony's critique of Dr. Wang's coercivity measurements, but concludes that "Dr. Wang's coercivity measurements are sufficient to find infringement." Staff Br. at 28.

The evidence shows that the Sony LTO-7 products' magnetic layer has a coercivity between 159 and 318 kA/m. In particular, the LTO-7 products are manufactured [

PUBLIC VERSION

J. Further, Sony does not present any evidence showing that the Sony LTO-7 products' magnetic layer has a coercivity outside of the claimed range. Accordingly, the administrative law judge has determined Sony's LTO-7 products infringe claim 6.

5. Claim 7

Claim 7 requires that the magnetic recording medium of claim 1 have a coercivity ranging from 159 to 279 kA/m. JX-0001 at 31:66-67.

Sony's LTO-7 products infringe claim 7 based upon the same evidence that shows they infringe claim 6.

6. Claim 8

Claim 8 requires the magnetic layer of claim 1 to have a thickness ranging from 0.01 to 0.10 μm . JX-0001 at 32:1-3.

Fujifilm's entire argument is:

... [

].

Furthermore, testing directed by Dr. Sinclair on the Representative Product found a magnetic layer thickness of [] μm , which is also within range. CX-0002C (Sinclair DWS) at 46-48.

Fujifilm Br. at 47.

The Staff argues that claim 8 is infringed and notes that "Sony does not appear to dispute that this additional limitation is met." Staff Br. at 30; *see generally* Sony Br., § IV(F) (the claim/limitation is not contested); Sony Reply, § II(C) (the claim/limitation is not contested).

The evidence shows that the magnetic layer in Sony's LTO-7 products has a thickness

between [] μm . See [

]; CX-0004C (Wang

DWS) Q/A 148; CX-0002 (Sinclair DWS) at 46-48 (explaining measurement results, showing an average thickness of [] nm). Accordingly, the administrative law judge has determined Sony's LTO-7 products infringe claim 8.

7. Claim 9

Claim 9 requires the magnetic layer of claim 1 to have a thickness ranging from 0.02 to 0.08 μm . JX-0001 at 32:4-6.

Fujifilm's entire argument is:

... Dr. Sinclair's testing found a magnetic layer thickness of [] μm , which is within the claimed range of 0.02 to 0.08 μm . CX-0002C (Sinclair DWS) at 46-48. Sony also confirmed that [

].

Fujifilm Br. at 47-48.

The Staff argues that claim 9 is infringed and notes that "Sony does not appear to dispute that this additional limitation is met." Staff Br. at 30-31; *see generally* Sony Br., § IV(F) (the claim/limitation is not contested); Sony Reply, § II(C) (the claim/limitation is not contested).

The evidence shows that the magnetic layer in Sony's LTO-7 products has a thickness between 0.02 and 0.08 μm . See CX-0002 (Sinclair DWS) at Q/A 46-48 (explaining measurement results, showing an average thickness of [] nm); *see also* [

]. Accordingly, the administrative law judge has determined Sony's LTO-7 products infringe claim 9.

PUBLIC VERSION

8. Claim 11

Claim 11 requires the magnetic recording medium of claim 1 to be a tape. JX-0001 at 32:9-10.

Fujifilm's entire argument is:

The Sony LTO-7 Spec Sheet confirms the magnetic recording medium for Sony LTO-7 products is a tape. JX-0054C (Compl. Ex. 19) at 2. [

].

Fujifilm Br. at 48.

The Staff argues that claim 11 is infringed and notes that "Sony does not appear to dispute that this additional limitation is met." Staff Br. at 31; *see generally* Sony Br., § IV(F) (the claim/limitation is not contested); Sony Reply, § II(C) (the claim/limitation is not contested).

The evidence shows that the magnetic recording medium in Sony's LTO-7 products is a tape. *See* [

]. Accordingly, the administrative law judge has determined Sony's LTO-7 products infringe claim 11.

9. Claim 14

Claim 14 requires the ferromagnetic particles of claim 1 to have a size of less than about 0.1 μm . JX-0001 at 32:16-18.

Fujifilm's entire argument is:

... the average particle size in claim 1 refers to mean plate diameter for hexagonal ferrites, which Sony admits [

]. Expert testing also confirmed a mean plate diameter of [] nm, which is also less than 0.1 μm . CX-0004C (Wang DWS) Q:185-186, 198-199.

PUBLIC VERSION

Fujifilm Br. at 48.

The Staff argues that claim 14 is infringed and notes that “Sony does not appear to dispute that this additional limitation is met.” Staff Br. at 31; *see generally* Sony Br., § IV(F) (the claim/limitation is not contested); Sony Reply, § II(C) (the claim/limitation is not contested).

The evidence shows that Sony’s LTO-7 products include barium ferrite, which is a hexagonal ferrite powder. The hexagonal ferrite plates have an average diameter of [] nm. []; CX-0004C (Wang DWS) at Q/A 185-186. Accordingly, the administrative law judge has determined Sony’s LTO-7 products infringe claim 14.

D. Domestic Industry (Technical Prong)

Fujifilm argues that its LTO-7 and LTO-6 products practice claims 1, 4-9, 11, and 14 of the ‘891 Patent. Fujifilm Br. at 48. Fujifilm further argues that Sony “does not offer any affirmative evidence showing that Fujifilm’s DI Products do not practice the Asserted Claims of the ‘891 Patent.” *See id.* at 49.

Sony’s entire argument about Fujifilm’s LTO-7 and LTO-6 products follows:

Fujifilm’s Domestic Industry testing suffers from the same deficiencies as its infringement testing—*i.e.*, Dr. Wang failed to address the leader tape, failed to saturate the samples when measuring the coercivity, and conducted unreliable and deficient testing of the average size of magnetic clusters. RX-0369C (Ross RWS) at Q&A 113-114. Thus, for the same reasons discussed in Section IV.F as to the problems with Fujifilm’s testing of coercivity and average magnetic cluster size limitations, Fujifilm’s testing also fails to prove that the Domestic Industry Products practice these limitations.

Sony Br. at 114. This is the testimony Sony relies on:

Q113: In Dr. Wang’s opening witness statement, CX-0004C, he opined that Fujifilm’s LTO-6 and LTO-7 domestic industry products practice all of the Asserted Claims of the ‘891 Patent.

PUBLIC VERSION

Do you agree with that conclusion?

A: No. I disagree with Dr. Wang's domestic industry opinion for multiple reasons.

Q114: Can you briefly describe those reasons?

A: Well, many of the same flaws that I discussed with respect to Dr. Wang's infringement analysis apply equally with respect to Dr. Wang's domestic industry analysis. In particular, when testing the domestic industry products, Dr. Wang failed to address the leader tape, and he failed to saturate the samples when measuring the coercivity. Additionally, Dr. Wang's testing of the average size of magnetic clusters at DC erase was deficient because he failed to discuss the orientation of the samples during the DC erase procedure, his testing methodologies were inconsistent with those described in the '891 Patent, and he failed to describe the parameters associated with the image processing steps of his analysis. For at least these reasons, it is my opinion that Dr. Wang's testing is not sufficient to support a finding that Fujifilm's LTO-6 and LTO-7 products practice the asserted claims of the '891 Patent.

RX-0369C (Ross RWS) at Q/A 113-114 (Q/A 115-17 provide additional detail). Sony's reply maintains these critiques and argues that Fujifilm and Staff have misplaced the burden of proof in requiring Sony to prove that Fujifilm does not practice the asserted claims. *See* Sony Reply at 28-29.

The Staff argues that Fujifilm's products practice the asserted claims. Staff Br. at 33-34. The Staff notes although "Sony does not dispute most of Dr. Wang's domestic industry analysis, it raises the same three criticisms as it did with respect to infringement: 'Dr. Wang failed to address the leader tape, failed to saturate the samples when measuring the coercivity, and conducted unreliable and deficient testing of the average size of magnetic clusters.'" *Id.* (quoting Sony Pre-Hr'g Br. at 276). The Staff does not accept Sony's criticisms directed toward the Fujifilm products generally for the same reasons it does not accept Sony's criticisms directed toward Fujifilm's infringement arguments. *See id.*

PUBLIC VERSION

The asserted claims are addressed below.

1. Claim 1

a) A magnetic recording medium, comprising:

(1) Fujifilm's LTO-7 Products

For its LTO-7 products, Fujifilm argues:

Fujifilm's LTO-7 cartridges comply with the LTO-7 Format Specification. CX-0027 (Fujifilm's LTO-7 Sell Sheet) at 2. [

]. Because Fujifilm's products comply with the LTO-7 Specification, they must conform to certain physical and magnetic characteristics of magnetic tape, described by the LTO-7 Specification. CX-0004C (Wang DWS) Q:207-210; JX-0052C (LTO-7 Format Specification) at 20. Fujifilm's LTO-7 cartridges meet this limitation. See also CX-0004C (Wang DWS) Q:211-212.

Fujifilm Br. at 49.

The evidence shows that Fujifilm's LTO-7 products include a magnetic recording medium. See CX-0027 (Fujifilm's LTO-7 Sell Sheet); JX-0052C (LTO-7 Format Specification) at 20; see also [].

Accordingly, the administrative law judge has determined Fujifilm's LTO-7 products satisfy this limitation.

(2) Fujifilm's LTO-6 Products

For its LTO-6 products, Fujifilm argues:

Fujifilm's LTO-6 cartridges comply with the LTO-6 Format Specification, and must also conform to certain physical and magnetic characteristics of magnetic tape, described by the LTO-6 specification. See CX-0094 (Fujifilm's LTO-6 Sell Sheet); JX-0051C (LTO-6 Format Specification) at 17. As explained by Dr. Wang, Fujifilm's LTO-6 cartridges meet this limitation. See also CX-0004C (Wang DWS) Q:213-217.

Fujifilm Br. at 50.

PUBLIC VERSION

The evidence shows that Fujifilm's LTO-6 products include a magnetic recording medium. *See* CX-0094 (Fujifilm's LTO-6 Sell Sheet); JX-0051C (LTO-6 Format Specification) at 17. Accordingly, the administrative law judge has determined Fujifilm's LTO-6 products satisfy this limitation.

b) an essentially nonmagnetic lower layer; and a magnetic layer comprising a ferromagnetic powder and a binder, the magnetic layer located over the lower layer,

(1) Fujifilm's LTO-7 Products

Fujifilm argues the LTO-7 products include the claimed layers and that Sony does not dispute that Fujifilm's LTO-7 products satisfy this limitation. Fujifilm Br. at 50-52. Fujifilm relies on the LTO-7 specification, Fujifilm documents, and expert testimony and testing. *See id.*

The evidence shows that Fujifilm's LTO-7 tapes include an essentially non-magnetic lower layer and a magnetic layer. *See* JX-0052C [

]; JX-0045C (Fujifilm's LTO Application) at 19 and 61; CX-0450C (Sinclair Disk 1); JX-0228C; *see also* CX-0004C at (Wang WS) Q/A 218-2. [

[

J. As the images show, the magnetic layer is located over the lower layer. *Id.*

The evidence also shows that the magnetic layer includes ferromagnetic powder and a binder. JX-0228C; *see also* CX-0004C at (Wang WS) Q/A 218-27.

Accordingly, the administrative law judge has determined Fujifilm's LTO-7 products satisfy this limitation.

(2) Fujifilm's LTO-6 Products

For its LTO-6 products, Fujifilm argues:

For similar reasons, Fujifilm's LTO-6 cartridges meet this limitation. Dr. Wang explains that similar to the LTO-7 Specification, the LTO-6 Specification, at section 9.1 of the LTO-6 Specification shows that LTO-6 products, including Fujifilm's LTO-6 cartridges, include a magnetic layer with a binder, located over a base material. JX-0051C at 54. Testing directed by Dr. Sinclair on a Fujifilm's LTO-6 cartridge confirms that it includes an essentially nonmagnetic lower layer, and a magnetic layer with ferromagnetic powder dispersed in a binder. CX-0004C (Wang DWS) Q:228; *see also* CX-0450C (Sinclair Disk 1) in file ~Layerthickness\s6_Fuji-Ultrium6-MagLayerThicknes\S 13 (S5)_XTEM_CUT 1-2.3K 1.TIF; CDX-0003C at 14 (CX-0450C, also referred to as JX-0208C); CX-0002C (Sinclair DWS) Q:41. In addition, Dr. Sinclair's EDS analysis also confirms that the magnetic layer includes ferromagnetic powder that is BaFe, a hexagonal system ferrite. CX-0004C (Wang DWS) Q:228.

Additional evidence that this limitation is met is found in exhibit

PUBLIC VERSION

JX-0228C (Fujifilm's LTO-6/7 Structure), which lists components of the layers of the LTO-6 Products, and testimony of Mr. Ejiri about that document. *Id.*

Fujifilm Br. at 50.

The evidence shows that Fujifilm's LTO-6 tapes include an essentially non-magnetic lower layer and a magnetic layer. *See* JX-0051C at 54 [

]; CX-0002C (Sinclair DWS) Q/A 40-41; CX-0450C (Sinclair Disk 1); *see also* CDX-0003C at 14; CX-0004C (Wang WS) Q/A 228. [

]

CDX-0003C (Wang Demonstrative) at 14.

The evidence also shows that the magnetic layer includes ferromagnetic powder and a binder. JX-0228C; *see also* CX-0004C at (Wang WS) Q/A 228.

PUBLIC VERSION

Accordingly, the administrative law judge has determined Fujifilm's LTO-6 products satisfy this limitation.

c) *wherein said magnetic layer has a thickness ranging from 0.01 to 0.15 μm*

(1) Fujifilm's LTO-7 Products

For its LTO-7 products, Fujifilm argues that "[t]esting confirms that Fujifilm's LTO-7 cartridges have [], which is within the claimed range of 0.01 to 0.15 μm ." Fujifilm Br. at 52 (citing CX-0002C (Sinclair WS Q/A 46-48)).

The evidence shows that the magnetic layer in Fujifilm's LTO-7 products has a thickness between 0.01 and 0.15 μm . In particular, Dr. Sinclair's testing shows that Fujifilm's LTO-7 products have []. CX-0002C (Sinclair WS Q/A 46-48). Accordingly, the administrative law judge has determined Fujifilm's LTO-7 products satisfy this limitation.

(2) Fujifilm's LTO-6 Products

For its LTO-6 products, Fujifilm argues that "Testing confirms that Fujifilm's LTO-6 cartridges have [], which is within the claimed range of 0.01 to 0.15 μm ." Fujifilm Br. at 53 (citing CX-0002C (Sinclair WS Q/A 46-48)).

The evidence shows that the magnetic layer in Fujifilm's LTO-6 products has a thickness between 0.01 and 0.15 μm . In particular, Dr. Sinclair's testing shows that Fujifilm's LTO-6 products have []. CX-0002C (Sinclair WS Q/A 46-48). Accordingly, the administrative law judge has determined Fujifilm's LTO-6 products satisfy this limitation.

PUBLIC VERSION

d) and a coercivity equal to or higher than 159 kA/m,

(1) Fujifilm's LTO-7 Products

For its LTO-7 products, Fujifilm argues:

Dr. Wang's testing of Fujifilm's LTO-7 cartridges shows a coercivity [], which is within the claimed range. CX-0004C (Wang DWS) Q:236. []

].

Fujifilm Br. at 53.

The evidence shows that the Fujifilm's LTO-7 products' magnetic layer has a coercivity equal to or higher than 159 kA/m. In particular, Sony's and Dr. Wang's testing of the LTO-7 products have []. See CX-0423C at 13; []

]; CX-0004C (Wang WS) Q/A 236 (referring to JX-0214C at 48 of 297).

Further, Sony does not present any evidence showing that the Fujifilm LTO-7 products' magnetic layer has a coercivity less than 159 kA/m. Accordingly, the administrative law judge has determined Fujifilm's LTO-7 products satisfy this limitation.

(2) Fujifilm's LTO-6 Products

For its LTO-6 products, Fujifilm argues:

Dr. Wang's testing of Fujifilm's LTO-6 Cartridges shows a coercivity of 2246 Oe, or 178.7 kA/m, within the claimed range. CX-0004C (Wang DWS) Q:238. []

].

Fujifilm Br. at 53.

The evidence shows that Fujifilm's LTO-6 products' magnetic layer has a coercivity equal to or higher than 159 kA/m. In particular, []

]; CX-

0004C (Wang WS) Q/A 238 (referring to JX-0214C at 45 of 297). Further, Sony does not present any evidence showing that the Fujifilm LTO-6 products' magnetic layer has a coercivity less than 159 kA/m. Accordingly, the administrative law judge has determined Fujifilm's LTO-6 products satisfy this limitation.

e) *and the ferromagnetic particles contained in the ferromagnetic powder have a size less than 0.15 μ m, and*

(1) Fujifilm's LTO-7 Products

For its LTO-7 products, Fujifilm argues:

The hexagonal ferrite particles contained in the ferromagnetic powder used in Fujifilm's LTO-7 Cartridges are BaFe particles. CX-0027 (Fujifilm LTO-7 Sell Sheet); CX-0005C (Ejiri DWS) Q:31-38; JX-0228C (Fujifilm LTO-6/7 Structure). Dr. Sinclair's testing shows that the BaFe in Fujifilm's LTO-7 Cartridges has a [], i.e., within the claimed range. CX-0002C (Sinclair DWS) Q:61-75.

Fujifilm Br. at 54.

The evidence shows that Fujifilm's LTO-7 products include ferromagnetic particles having a size less than 0.15 μ m. In particular, Dr. Sinclair's testing shows that Fujifilm's LTO-7 products have ferromagnetic particles with []. See CX-0002C (Sinclair WS) Q/A 61-75. Accordingly, the administrative law judge has determined Fujifilm's LTO-7 products satisfy this limitation.

(2) Fujifilm's LTO-6 Products

For its LTO-6 products, Fujifilm argues:

Exhibit CX-0094 (Fujifilm LTO-6 Sell Sheet) states that Fujifilm's LTO-6 cartridges were the first LTO tape cartridges to use BaFe particles, and the magnetic layer thus includes ferromagnetic particles which are BaFe. JX-0228C (Fujifilm LTO-6/7 Structure); CX-0005C (Ejiri DWS) Q:31-38. Dr. Sinclair's testing shows an [], within the claimed range. CX-

PUBLIC VERSION

0002C (Sinclair DWS) Q:61-75.

Fujifilm Br. at 54.

The evidence shows that Fujifilm's LTO-6 products include ferromagnetic particles having a size less than 0.15 μm . In particular, Dr. Sinclair's testing shows that Fujifilm's LTO-6 products have ferromagnetic particles with []. See CX-0002C (Sinclair WS) Q/A 61-75. Accordingly, the administrative law judge has determined Fujifilm's LTO-6 products satisfy this limitation.

f) an average size of magnetic cluster at DC erase is equal to or higher than $0.5 \times 10^4 \text{ nm}^2$ and less than $5.5 \times 10^4 \text{ nm}^2$, and

For its LTO-7 and LTO-6 products, Fujifilm argues:

Dr. Wang measured the average size of magnetic clusters at DC erase from samples of the Fujifilm's LTO-7 and LTO-6 cartridges, according to the same procedures involved with measuring magnetic clusters with respect to this claim 1 in his infringement analysis, and in each of three locations for both types of products, the measurements were within the claimed range, showing that this limitation was met. CX-0004C (Wang DWS) Q:246-249. Dr. Ross argues that Dr. Wang did not "address sample orientation during DC erasure" and "depending on how the sample is oriented during DC erase, magnetic particles in the sample may end up with different magnetization states, which may lead to a different average cluster size." See RX-0369C (Ross RWS) Q:117. Dr. Ross does not offer evidence of "different average cluster size" based on actual testing. Indeed, nowhere does Dr. Ross show any evidence of her own testing to show that the actual average cluster size is outside the claimed range. Dr. Ross's speculation is insufficient to overcome proof in Dr. Wang's and Dr. Sinclair's testing, and the other evidence in this case.

Fujifilm Br. at 54-55.

The evidence shows that the magnetic clusters in Fujifilm's LTO-7 and LTO-6 products have an average size, at DC erase, that is equal to or higher than $0.5 \times 10^4 \text{ nm}^2$ and less than $5.5 \times 10^4 \text{ nm}^2$. See CX-0004C (Wang WS) at Q/A 246-49. In particular, Dr. Wang's testing, which

PUBLIC VERSION

involved three samplings for the LTO-7 products, shows that the average size of magnetic clusters at DC erase at those locations [

] *Id.* at Q/A 249. Dr. Wang's testing of the LTO-6 products, which also involved three samplings, shows that the average size of magnetic clusters at DC erase at those locations [

] *Id.* at Q/A 249.¹⁷ Further, Sony does not present any evidence showing that the Fujifilm's LTO-7 and LTO-6 products do not satisfy this limitation. Accordingly, the administrative law judge has determined Fujifilm's LTO-7 and LTO-6 products satisfy this limitation.

g) wherein the essentially non-magnetic lower layer has either no magnetic properties or magnetic properties to a degree not affected by recording information to the magnetic layer.

For its LTO-7 and LTO-6 products, Fujifilm argues:

As discussed earlier, the materials used in the lower layer of Fujifilm's LTO-7 and LTO-6 Products are all materials that have no magnetic properties or magnetic properties to a degree not affected by recording information to the magnetic layer. CX-0005C (Ejiri DWS) Q:31-38. For the same reasons, this limitation is met for both Fujifilm LTO-6 and LTO-7 cartridges.

Fujifilm Br. at 55.

The evidence shows that the Fujifilm LTO-7 and LTO-6 products' lower layers have either no magnetic properties or magnetic properties to a degree not affected by recording information to the magnetic layer. *See* CX-0005C (Ejiri WS) Q/A 31-38. Accordingly, the administrative law judge has determined Fujifilm's LTO-7 and LTO-6 products satisfy this limitation.

In conclusion, the administrative law judge has determined that Fujifilm's LTO-7 and

¹⁷ The 70% threshold and testing procedures utilized are supported by the patent, as discussed with relation to Fujifilm's infringement arguments.

PUBLIC VERSION

LTO-6 products practice claim 1.

2. Claim 4

For its LTO-7 and LTO-6 products, Fujifilm argues:

The evidence and analysis set forth described with respect to domestic industry of claim 1 demonstrated by Fujifilm's LTO-7 Cartridges applies equally to claim 4, because the Fujifilm DI Products include a magnetic layer with BaFe. JX-0052C at 76; JX-0223C at 18:10-20:5; CX-0005C (Ejiri DWS) Q:31.

...

The evidence and analysis set forth described with respect to domestic industry of claim 1 demonstrated by Fujifilm's LTO-6 Cartridges applies equally to claim 4. *See* CX-0005C (Ejiri DWS) Q:31; CX-0094 (Fujifilm LTO-6 Sell Sheet).

Fujifilm Br. at 55.

The evidence shows that Fujifilm's LTO-7 and LTO-6 products include barium ferrite, which is a hexagonal ferrite powder. *See* JX-0052C at 76; JX-0223C at 18:10-20:5; CX-0005C (Ejiri WS) Q/A 31; *see also* CX-0004C (Wang WS) at Q/A 183-84. Accordingly, the administrative law judge has determined Fujifilm's LTO-7 and LTO-6 products practice claim 4.

3. Claim 5

For its LTO-7 products, Fujifilm argues, "[a]s explained with respect to claim 1, Dr. Sinclair's testing shows that the barium ferrite in Fujifilm's LTO-7 Cartridges [], and in Fujifilm's LTO-6 Cartridges [], *i.e.*, both in the claimed range." Fujifilm Br. at 56. (citing CX-0002C (Sinclair WS) Q/A 61-75).

The evidence shows that Fujifilm's LTO-7 and LTO-6 products include barium ferrite, which is a hexagonal ferrite powder. The hexagonal ferrite plates in the LTO-7 products have a [], and the plates in the LTO-6 products []

[]. *See* CX-0002C (Sinclair WS) Q/A 61-75. Accordingly, the administrative law judge

PUBLIC VERSION

has determined Fujifilm's LTO-7 and LTO-6 products practice claim 5.

4. Claim 6

For its LTO-7 and LTO-6 products, Fujifilm argues:

... Dr. Wang measured Fujifilm's LTO-7 Cartridges as having a
[], which is within range of this limitation.
[]

[]. Dr. Wang also measured Fujifilm's LTO-6
cartridge with [], which is also within
range of 159 to 318 kA/m. []

[].

Fujifilm Br. at 56.

The evidence shows that the Fujifilm LTO-7 products' magnetic layer has a coercivity
between 159 and 318 kA/m. In particular, [] Dr. Wang's testing of the LTO-7 products
have []. See CX-0423C at 13; []

[]; CX-0004C (Wang WS) Q/A 236 (referring to JX-0214C at 48 of 297). Further, Sony
does not present any evidence showing that the Fujifilm LTO-7 products' magnetic layer has a
coercivity less than 159 kA/m.

The evidence also shows that Fujifilm's LTO-6 products' magnetic layer has a coercivity
equal to or higher than 159 kA/m. In particular, []

[]; CX-
0004C (Wang WS) Q/A 238 (referring to JX-0214C at 45 of 297). Further, Sony does not
present any evidence showing that the Fujifilm LTO-6 products' magnetic layer has a coercivity
less than 159 kA/m.

PUBLIC VERSION

Accordingly, the administrative law judge has determined Fujifilm's LTO-7 and LTO-6 products practice claim 6.

5. Claim 7

For its LTO-7 products, Fujifilm argues:

... Dr. Wang measured Fujifilm's LTO-7 cartridge with a [], which is within range of this limitation.
[]

[]. Dr. Wang [] testing of Fujifilm's LTO-6 cartridge found a coercivity of [], respectively, both of which are within range. []

[]

Fujifilm Br. at 56-57.

Fujifilm's LTO-7 and LTO-6 products practice claim 7 based upon the same evidence that shows they practice claim 6.

6. Claim 8

For its LTO-7 and LTO-6 products, Fujifilm argues:

... Dr. Sinclair measured Fujifilm's LTO-7 cartridge with [], which is within range, and further measured Fujifilm's LTO-6 cartridge with [], which is also within range. CX-0002C (Sinclair DWS) Q:46-48.

Fujifilm Br. at 57.

The evidence shows that the magnetic layers in Fujifilm's LTO-7 and LTO-6 products have a thickness between 0.01 and 0.10 μm . See CX-0002C (Sinclair DWS) Q/A 46-48. In particular, Dr. Sinclair's testing shows that the magnetic layer in Fujifilm's LTO-7 products has [] and that the magnetic layer in Fujifilm's LTO-6 products has []. *Id.* Accordingly, the administrative law judge has determined

Fujifilm's LTO-7 and LTO-6 products practice claim 8.

PUBLIC VERSION

7. Claim 9

For its LTO-7 and LTO-6 products, Fujifilm argues:

Dr. Sinclair measured Fujifilm's LTO-7 cartridge with [], which is within range of this limitation, CX-0002C (Sinclair DWS) Q:46-48, and further measured Fujifilm's LTO-6 cartridge with [], also within range. *Id.*

Fujifilm Br. at 57.

Fujifilm's LTO-7 and LTO-6 products practice claim 9 based upon the same evidence that shows they practice claim 8.

8. Claim 11

For its LTO-7 products, Fujifilm argues:

Both of the LTO-7 and LTO-6 specifications repeatedly describe the magnetic recording medium as a tape, and this limitation is not disputed. See JX-0052C (LTO7 Format Specification) at FF-SONY-ITC00025613; and JX-0051C (LTO6 Format Specification) at FF-SONY-ITC00025098.

Fujifilm Br. at 57.

The evidence shows that the magnetic recording medium in Fujifilm's LTO-7 and LTO-6 products is a tape. See JX-0052C (LTO-7 Format Specification) at 62; JX-0051C (LTO-6 Format Specification) at 54. Accordingly, the administrative law judge has determined Fujifilm's LTO-7 and LTO-6 products practice claim 11.

9. Claim 14

For its LTO-7 and LTO-6 products, Fujifilm argues that "Dr. Sinclair's testing shows that the barium ferrite in Fujifilm's LTO-7 Cartridges has [], and in Fujifilm's LTO-6 Cartridges has [] which are both within the claimed range." Fujifilm Br. at 57-58 (citing CX-0002C (Sinclair WS) Q/A 61-75).

Fujifilm's LTO-7 and LTO-6 products practice claim 14 based upon the same evidence

PUBLIC VERSION

that shows they practice claim 5.

E. Anticipation

Sony argues that U.S. Patent No. 6,017,605 (“Yamazaki” or “Yamazaki ‘605”), RX-0071, anticipates claims 1, 4-9, 11 and 14 of the ‘891 Patent. Sony Br. at 49.¹⁸

At the outset, Sony argues that “Fujifilm concedes that Yamazaki discloses every element of independent claim 1 except for a single limitation, concerning the claimed numerical range for ‘an average size of magnetic cluster at DC erase.’” Sony Br. at 49-50 (citing Tr. 276:16-25; emphasis and footnote omitted). This is the testimony Sony cites:

Q So let’s look a little bit at Yamazaki. Now, you believe that Yamazaki does not disclose the claimed average size of magnetic clusters. Is that fair?

A Correct.

Q And for claim 1 of the ‘891 Patent, that’s what you say is missing; correct?

A Definitely.

Q You agree the other claim limitations are met by Yamazaki?

A Yes.

Wang Tr. 276; *see also* Sony Br. at 52-55 (citing RX-0004C (Ross WS) at Q/A 190-98, 201).

Sony argues that Yamazaki inherently discloses the “average size of magnetic cluster at DC erase” limitation of claim 1 and the thickness limitations in dependent claims 8 and 9.

Fujifilm argues, for anticipation, that the numerical ranges in claim 1 “are jointly critical, because they result in improved performance characteristics and are unexpected.” Fujifilm Br. at

¹⁸ The Patent Trial and Appeal Board declined to institute an *inter partes* review of the asserted claims based on a petition presenting Yamazaki. *See* Ltr. to the Honorable Judge Shaw (filed July 11, 2017) (EDIS Doc. ID No. 616885), Ex. A (PTAB Decision Denying *Inter Partes* Review).

PUBLIC VERSION

58 (citing *Procter & Gamble Co. v. Teva Pharm. USA, Inc.*, 566 F.3d 989, 997 (Fed. Cir. 2009)). Fujifilm argues that the improved performance is reflected in “‘signal to noise ratios’ (SNR) or ‘carrier to noise ratios’ (CNR),” which are not claim limitations and were not relevant to the infringement analysis. *See id.* at 58. Fujifilm then argues that “Sony’s prior art references must disclose each jointly critical range of the ‘891 Patent with sufficient specificity.” *Id.* at 59 (citing *Atofina v. Great Lakes Chemical Corp.*, 441 F.3d 991 (Fed. Cir. 2006)). Fujifilm further argues that Yamazaki does not disclose, explicitly or inherently, every limitation of the asserted claims. *Id.* at 59-60.

The Staff generally concurs with Fujifilm’s anticipation argument. *See* Staff Br. at 37-39. The Staff’s brief generally focuses on “the claimed average size of magnetic clusters at DC erase.” *Id.* at 38.

The asserted claims are addressed below.

1. Claim 1

a) *A magnetic recording medium, comprising:*

Sony argues:

Yamazaki discloses a magnetic recording medium. RX-0004C (Ross OWS) at Q&A 190. Indeed, the title is “Magnetic Recording Medium.” RX-0071 (Yamazaki ‘605) at Title.

Sony Br. at 52.

The evidence shows that Yamazaki discloses a magnetic recording medium. *See* RX-0004C (Ross WS) at Q/A 190; *see also* RX-0071 (entitled “Magnetic Recording Medium”). Further, Fujifilm does not appear to dispute that Yamazaki discloses this limitation. *See generally* Fujifilm Br., § III(F)(1)(a)(iii) (the limitation is not contested); Fujifilm Reply, § III(D)(1) (same). Accordingly, the administrative law judge has determined that Yamazaki

discloses subject matter that satisfies this limitation.

- b) an essentially nonmagnetic lower layer; and a magnetic layer comprising a ferromagnetic powder and a binder, the magnetic layer located over the lower layer,*

Sony argues:

... Yamazaki teaches “a magnetic layer on a substantially nonmagnetic lower layer wherein the uppermost magnetic layer contains a ferromagnetic metal fine powder or a hexagonal ferrite fine powder.” RX-0071 (Yamazaki ‘605) at 1:8-13; *see id.* at 2:58-65, 3:1-13, 11:54-63, 19:22-33. Yamazaki further describes “[a] magnetic recording medium which comprises a support having thereon a magnetic layer mainly comprising a ferromagnetic powder dispersed in a binder.” RX-0071 (Yamazaki ‘605) at 3:1-13.

The ‘891 Patent explains that “[h]ere, the term ‘essentially nonmagnetic’ means that the layer may have magnetic properties to a degree not affected by recording. Also, the magnetic properties may be to a degree that they do not affect the recording properties of the recording layer.” ‘891 Patent at 8:43-47. Yamazaki similarly explains that “[t]he structure of the lower layer according to the present invention is not particularly limited so long as it is substantially nonmagnetic.” RX-0071 (Yamazaki ‘605) at 11:54-63. Yamazaki further explains that “[t]he term ‘substantially a nonmagnetic layer’ means that the residual magnetic flux density of the lower layer is 100 G or less and the coercive force of the lower layer is 100 Oe or less, preferably the residual magnetic flux density and the coercive force are zero.” *Id.* at 19:22-33. A POSA would have understood that a lower layer in which “the residual magnetic flux density and the coercive force are zero” is an example of an “essentially nonmagnetic lower layer” that has “no magnetic properties.” Thus, a POSA would have understood that the “substantially nonmagnetic” lower layer disclosed in Yamazaki constitutes “an essentially nonmagnetic lower layer” as claimed. RX-0004C (Ross OWS) at Q&A 193.

Sony Br. at 52-53.

The evidence shows that Yamazaki discloses a magnetic recording medium that includes an essentially nonmagnetic lower layer and a magnetic layer comprising a ferromagnetic powder and a binder. *See* RX-0071 at 1:8-13, 2:58-65, 3:1-13, 11:54-63, 19:22-33. Yamazaki’s

PUBLIC VERSION

magnetic layer is located over the essentially nonmagnetic lower layer. *Id.* at 3:1-13 (Yamazaki describes a “magnetic recording medium which comprises a support having thereon a magnetic layer mainly comprising a ferromagnetic powder dispersed in a binder.”). Further, Fujifilm does not appear to dispute that Yamazaki discloses this limitation. *See generally* Fujifilm Br., § III(F)(1)(a)(iii) (the limitation is not contested); Fujifilm Reply, § III(D)(1) (same).

Accordingly, the administrative law judge has determined that Yamazaki discloses subject matter that satisfies this limitation.

c) ***wherein said magnetic layer has a thickness ranging from 0.01 to 0.15 μ m***

Sony argues:

The magnetic layer disclosed in Yamazaki (“said magnetic layer”) has a thickness ranging from 0.01 to 0.15 μ m. RX-0004C (Ross OWS) at Q&A 194-195. In particular, Yamazaki discloses a preferred embodiment in which “the thickness of the magnetic layer is from 0.01 to 0.25 μ m.” RX-0071 at 3:25-27. Moreover, Yamazaki explains that “[t]he nonmagnetic lower layer coating solution was coated in a dry thickness of 1.7 μ m, immediately thereafter the upper magnetic layer coating solution was coated on the lower layer so as to give the magnetic layer having a thickness of 0.15 μ m.” *Id.* at 28:9-13. A POSA would have understood that the range claimed by the ‘891 Patent is intended to include magnetic layer thickness values up to and including 0.15 μ m. RX-0004C (Ross OWS) at Q&A 195. Indeed, embodiment 1 also has a magnetic layer thickness of 0.15 μ m. ‘891 Patent at Table 2.

Sony Br. at 53-54.

The evidence shows that Yamazaki discloses a magnetic recording medium having a magnetic layer with a thickness ranging from 0.01 to 0.15 μ m. *See* RX-0004C (Ross WS) at Q/A 194-195; RX-0071 at 3:25-27, 28:9-13, Table 2; *see also* RX-0071 at 5:66-6:15. Further, Fujifilm does not appear to dispute that Yamazaki discloses this limitation. *See generally* Fujifilm Br. at 67 (only claims 8 and 9 are contested); Fujifilm Reply at 21-22 (same).

PUBLIC VERSION

Accordingly, the administrative law judge has determined that Yamazaki discloses subject matter that satisfies this limitation.

d) and a coercivity equal to or higher than 159 kA/m,

Sony argues:

... the term “coercivity” as used in the ‘891 Patent is indefinite. Nonetheless, under either Fujifilm’s or the Staff’s proposed constructions for the term “coercivity,” Yamazaki’s magnetic layer has a coercivity equal to or higher than 159 kA/m as claimed in the ‘891 Patent. RX-0004C (Ross OWS) at Q&A 196-197. Yamazaki explains that “[t]he magnetic powders used in the magnetic layer have an Hc of from about 2,000 to about 4,000 Oe, preferably from 2,200 to 3,500 Oe.” RX-0071 at 11:1-5.

As Dr. Ross explained, a POSA would have known that units of Oersteds (Oe) can readily be converted into units of kiloAmperes/meter (kA/m). RX-0004C at Q&A 197; *see also* Tr. at 321 (Dr. Wang discussing the same). Using the applicable formula, a POSA would have known that 2,000 Oe is equivalent to 159 kA/m and that 4,000 Oe is equivalent to 318 kA/m. *Id.* Yamazaki thus teaches a coercivity range of 159 kA/m to 318 kA/m, and therefore discloses coercivity values that are “equal to or higher than 159 kA/m.” Moreover, Yamazaki claims a magnetic recording medium in which “the coercive force of said magnetic layer is 2,000 Oe or more.” RX-0071 (Yamazaki ‘605) at Claim 1.

Sony Br. at 54.

The evidence shows that Yamazaki discloses a magnetic recording medium having a magnetic layer with a coercivity equal to or higher than 159 kA/m. *See* RX-0004C (Ross WS) at Q/A 196-197; RX-0071 at 11:1-5; 31:55-65. Further, Fujifilm does not appear to dispute that Yamazaki discloses this limitation. *See generally* Fujifilm Br., § III(F)(1)(a)(iii) (the limitation is not contested); Fujifilm Reply, § III(D)(1) (same). Accordingly, the administrative law judge has determined that Yamazaki discloses subject matter that satisfies this limitation.

PUBLIC VERSION

- e) and the ferromagnetic particles contained in the ferromagnetic powder have a size less than 0.15 μm , and*

Sony argues:

Yamazaki teaches that “the ferromagnetic particles contained in the ferromagnetic powder have a size less than 0.15 μm . RX-0004C (Ross OWS) at Q&A 198. Dr. Ross confirmed this based on Yamazaki’s disclosures concerning both metal particles and hexagonal ferrite particles. *Id.* Claim 1 covers each, whereas certain dependent claims require the latter.

Sony Br. at 55.

The evidence shows that Yamazaki discloses a magnetic recording medium with ferromagnetic particles that have a size of less than 0.15 μm . *See* RX-0004C (Ross WS) at Q/A 198; RX-0071 at 9:32-35 (“The length of a long axis of ferromagnetic metal powders is generally from 0.01 to 0.15 μm , preferably from 0.03 to 0.15 μm , and more preferably from 0.03 to 0.12 μm .”). Further, Fujifilm does not appear to dispute that Yamazaki discloses this limitation. *See generally* Fujifilm Br., § III(F)(1)(a)(iii) (the limitation is not contested); Fujifilm Reply, § III(D)(1) (same). Accordingly, the administrative law judge has determined that Yamazaki discloses subject matter that satisfies this limitation.

- f) an average size of magnetic cluster at DC erase is equal to or higher than $0.5 \times 10^4 \text{ nm}^2$ and less than $5.5 \times 10^4 \text{ nm}^2$, and*

Sony argues that “under either Fujifilm’s or the Staff’s proposed constructions, Yamazaki discloses a procedure for making magnetic recording media that inherently have an average size of magnetic cluster at DC erase between 0.5 and $5.5 \times 10^4 \text{ nm}^2$.” Sony Br. at 55. Sony further argues that Yamazaki and the ‘891 Patent disclose “identical recipes” for the magnetic layer, the same processing steps for making the magnetic layer. *See id.* at 57-61 (“Yamazaki discloses the same ingredients and conditions that the ‘891 Patent later touted as important for achieving the purportedly novel aspect of the claimed invention.”). Sony Br. at 55-70.

PUBLIC VERSION

Fujifilm argues that Yamazaki does not expressly disclose this limitation. Fujifilm Br. at 59; *see also* Sony Reply at 12 (“Sony’s anticipation defense turns on a single question, consistent with the underlying principle that a prior art reference inherently discloses a claim element if that element is the ‘natural result flowing from’ teachings in the reference.”). Fujifilm argues that “Yamazaki ‘605 discloses a different evaluation of magnetic recording mediums manufactured by different methods and different materials” in comparison to the ‘891 Patent. Fujifilm Br. at 61. Fujifilm then argues that the ferromagnetic powders, manufacturing steps, and performance differ between Yamazaki and the ‘891 Patent. *Id.* at 61-67.

Sony replies that the magnetic powders between the two patents are “sufficiently similar to produce cluster sizes within the claimed range” and that “Dr. Ross’s analysis and calculations confirm that at least one of Yamazaki’s powders would yield an average cluster size within this expansive range when the powder is processed per Yamazaki’s Preparation Method 5 or 6, which are substantially the same as Manufacturing Method 6 of the ‘891 Patent.” Sony Reply at 14-15. Sony also argues that Fujifilm “offers no evidence” to show that the tapes contemplated by the ‘891 Patent perform differently from those in Yamazaki. *Id.* at 18.

The administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Yamazaki inherently discloses magnetic particles having an average size of magnetic cluster at DC erase between 0.5 and 5.5×10^4 nm². 35 U.S.C. § 282; *Microsoft Corp. v. i4i Ltd. P’ship*, 131 S. Ct. 2238, 2242 (2011). In particular, it is not clear that Yamazaki necessarily includes the unstated limitation, *i.e.*, average particle size. *See Rexnord Indus., LLC v. Kappos*, 705 F.3d 1347, 1355 (Fed. Cir. 2013) (“This court explained in *In re Omeprazole Patent Litigation*, 483 F.3d 1364 (Fed. Cir. 2007) that ‘anticipation by inherent disclosure is appropriate only when the reference discloses prior art that must necessarily include

the unstated limitation, [or the reference] cannot inherently anticipate the claims.”). Although there are similarities between the materials and procedures reported in Yamazaki and the ‘891 Patent, the average size of the magnetic cluster can change in response to variations in composition, magnetic layer thickness, magnetic particle size, coercivity, and other processing conditions. *See* CX-0357C (Wang WS) Q/A 365-73. Given these multiple variables, Sony has not carried its burden of showing that the claimed particles “necessarily and inevitably form[]” from methods disclosed in Yamazaki. *See Schering Corp. v. Geneva Pharmaceuticals*, 339 F.3d 1373, 1378 (Fed. Cir. 2003); *see also Cont’l Can Co. USA v. Monsanto Co.*, 948 F.2d 1264, 1269 (Fed. Cir. 1991) (“[i]nherency, however, may not be established by probabilities or possibilities.”). In addition, the administrative law judge notes that Sony does not rely on any extrinsic evidence or “other indicia of reliability” to support its inherency argument. *See REG Synthetic Fuels, LLC v. Neste Oil Oyj*, 841 F.3d 954, 961 (Fed. Cir. 2016). Accordingly, the administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Yamazaki inherently discloses the claimed particles.

- g) ***wherein the essentially non-magnetic lower layer has either no magnetic properties or magnetic properties to a degree not affected by recording information to the magnetic layer.***

Sony argues:

Yamazaki teaches that “the essentially non-magnetic lower layer has either no magnetic properties or magnetic properties to a degree not affected by recording information to the magnetic layer.” RX-0004C (Ross OWS) at Q&A 201. As discussed in Section IV.D.1.a.i(2), a POSA would have understood that Yamazaki’s substantially nonmagnetic lower layer is an “essentially nonmagnetic lower layer.” In particular, a POSA would have understood that a lower layer in which “the residual magnetic flux density and the coercive force are zero” is an example of an “essentially nonmagnetic lower layer” that has “no magnetic properties.” *Id.*

Sony Br. at 55.

The evidence shows that the non-magnetic layer in Yamazaki “has either no magnetic properties or magnetic properties to a degree not affected by recording information to the magnetic layer.” *See* RX-0004C (Ross WS) at Q/A 201; RX-0071 at 19:22-33. Further, Fujifilm does not appear to dispute that Yamazaki discloses this limitation. *See generally* Fujifilm Br., § III(F)(1)(a)(iii) (the limitation is not contested); Fujifilm Reply, § III(D)(1) (same). Accordingly, the administrative law judge has determined that Yamazaki discloses subject matter that satisfies this limitation.

2. Claim 4

Sony argues:

Fujifilm’s pretrial brief did not separately contest the validity of dependent claims 4, 5, 6, 7, 11, and 14. Indeed, as Dr. Ross explained and Dr. Wang did not dispute, Yamazaki expressly discloses the additional elements of these dependent claims.

Dependent claim 4 requires that “said ferromagnetic powder” (required in claim 1) be a hexagonal ferrite powder.” As Dr. Ross testified, Yamazaki discloses a hexagonal ferrite powder. RX-0004C (Ross OWS) at Q&A 226-28. Indeed, Yamazaki teaches a preference for hexagonal ferrite powders. RX-0071 at 8:36-39.

Sony Br. at 70 (emphasis omitted).

Fujifilm argues that Yamazaki “fails to anticipate dependent claims 4-9, 11, and 14” for the same reason it does not anticipate claim 1. Fujifilm Br. at 60. Fujifilm does not present separate argument for claim 4. *See generally* Fujifilm Br., § III(F)(1); Fujifilm Reply, § III(D).

The evidence shows that Yamazaki discloses a magnetic recording medium including barium ferrite, which is a hexagonal ferrite powder. *See* RX-0071 at 8:36-39, 10:15-17; *see also* RX-0004C (Ross WS) at Q/A 226-27. Accordingly, the administrative law judge has determined that Yamazaki discloses subject matter that shows claim 4 was known in the prior art, provided

that Yamazaki also anticipates claim 1.

3. Claim 5

Sony argues:

Dependent claim 5 recites “the magnetic recording medium according to claim 4” with the additional limitation that “said hexagonal ferrite powder has a mean plate diameter equal or less than 42 nm.” Yamazaki discloses that “said hexagonal ferrite powder has a mean plate diameter equal to or less than 42 nm.” RX-0004C at Q&A 229. In particular, Yamazaki teaches that “[t]he hexagonal ferrite has a hexagonal tabular diameter of from 10 to 100 nm, preferably from 10 to 60 nm, and particularly preferably from 10 to 50 nm” and further teaches that “the tabular diameter is preferably 40 nm or less.” RX-0071, 10:32-39. As Dr. Ross testified, a POSA would have understood the term “tabular diameter” as used in Yamazaki to be equivalent with the term “plate diameter” as used in the ‘891 Patent. RX-0004C at Q&A 229.

Sony Br. at 70 (emphasis omitted).

Fujifilm does not present separate argument for claim 5. *See generally* Fujifilm Br., § III(F)(1); Fujifilm Reply, § III(D).

The evidence shows that Yamazaki discloses a magnetic recording medium including barium ferrite, which is a hexagonal ferrite powder. Yamazaki further discloses hexagonal ferrite with a tabular diameter between 10 and 50 nm and of less than 40 nm. *See* RX-0071 at 8:36-39, 10:15-17, 10:32-39; *see also* RX-0004C (Ross WS) at Q/A 226-29. Accordingly, the administrative law judge has determined that Yamazaki discloses subject matter that shows claim 5 was known in the prior art, provided that Yamazaki also anticipates claim 1.

4. Claim 6

Sony argues:

Dependent claim 6 requires that the coercivity of the magnetic layer be less than 318 kA/m (*i.e.*, as an upper bound, in addition to the lower bound of 159 kA/m set by independent claim 1).

PUBLIC VERSION

Yamazaki further discloses a magnetic layer with coercivity ranging from 159 to 318 kA/m. RX-0004C (Ross OWS) at Q&A 230-231 (citing RX-0071 (Yamazaki '605) at 11:3-5).

Sony Br. at 71.

Fujifilm does not present separate argument for claim 6. *See generally* Fujifilm Br., § III(F)(1); Fujifilm Reply, § III(D).

The evidence shows that Yamazaki discloses a magnetic layer having a coercivity between 159 and 318 kA/m. *See* RX-0071 at 11:3-5; *see also* RX-0004C (Ross WS) at Q/A 230-31. Accordingly, the administrative law judge has determined that Yamazaki discloses subject matter that shows claim 6 was known in the prior art, provided that Yamazaki also anticipates claim 1.

5. Claim 7

Sony argues:

Dependent claim 7 requires that the coercivity of the magnetic layer be less than 279 kA/m (*i.e.*, as an upper bound, in addition to the lower bound of 159 kA/m set by independent claim 1). Yamazaki further discloses a magnetic layer with coercivity ranging from 159 to 279 kA/m. RX-0004C (Ross OWS) at Q&A 232-233 (citing RX-0071 (Yamazaki '605) at 11:4-5).

Sony Br. at 71.

The evidence shows that Yamazaki discloses a magnetic layer having a coercivity between 159 and 279 kA/m. *See* RX-0071 at 11:3-5; *see also* RX-0004C (Ross WS) at Q/A 232-33. Accordingly, the administrative law judge has determined that Yamazaki discloses subject matter that shows claim 6 was known in the prior art, provided that Yamazaki also anticipates claim 1.

6. Claim 8

Sony argues, in part:

PUBLIC VERSION

Nor is there any novelty in dependent claims 8 and 9, which merely set narrower ranges for the thickness of the magnetic layer. Indeed, Yamazaki discloses an “ultrathin” layer (RX-0071 at 8:15)—virtually verbatim to the ‘891 Patent’s disclosure of a “superthin” layer (4:15).

Dependent claim 8 requires a thickness between 0.01 to 0.10 μm . Tapes falling within this range are inherent in Yamazaki because they are the natural result of practicing Yamazaki’s Preparation Method 5. The ‘891 Patent discloses numerous embodiments of magnetic tapes (Embodiments 8-13) that exhibit a magnetic layer thicknesses ranging from 0.07 to 0.13 μm . RX-0004C (Ross OWS) at Q&A 238-239. Notably, each of these embodiments of the ‘891 Patent is manufactured according to Manufacturing Method 6. *Id.* As discussed in Section IV.D.1.a.ii, the ‘891 Patent’s Manufacturing Method 6 is substantially identical to Yamazaki’s Preparation Method 5. . . .

Sony Br. at 71-72 (emphasis omitted).

Fujifilm argues, for claims 8 and 9:

Additionally, Claim 8 recites “wherein said magnetic layer has a thickness ranging from 0.01 to 0.10 μm ” and Claim 9 recites “wherein said magnetic layer has a thickness ranging from 0.02 to 0.08 μm .” Yamazaki ‘605 merely discloses a magnetic recording medium with a thickness from 0.01 to 0.25 μm . RX-0071 at 3:25-27. In one example, Yamazaki discloses a magnetic layer coating solution coated on a lower layer “so as to give the magnetic layer having a thickness of 0.15 μm .” Yamazaki ‘605 at 28:9-13. However, the range of 0.01 to 0.25 μm and one example of a 0.15 μm thickness does not disclose a magnetic layer thickness with sufficient specificity to teach or suggest the narrower ranges claimed in Claim 8 and Claim 9.

Fujifilm Br. at 60.

The administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Yamazaki discloses, with sufficient specificity, a magnetic layer having thickness between 0.01 and 0.10 μm . *See Atofina*, 441 F.3d at 999 (finding that an earlier genus did not anticipate a narrower species with “sufficient specificity to anticipate”); *see also Ineos USA LLC v. Berry Plastics Corp.*, 783 F.3d 865, 869 (Fed. Cir. 2015) (“prior art is only

PUBLIC VERSION

anticipatory if it describes the claimed range with sufficient specificity such that a reasonable fact finder could conclude that there is no reasonable difference in how the invention operates over the ranges.”). Yamazaki teaches a magnetic layer having thickness of 0.01 to 0.25 μm . RX-0071C at 28:9-13. The claimed range’s upper bound is 60% lower than Yamazaki’s upper bound, and there is discussion of performance in the testimony Sony cites such that there could be a reasonable difference in how the invention operates over the ranges. Accordingly, the administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Yamazaki discloses magnetic layers of the claimed range.

7. Claim 9

Sony argues:

Dependent claim 9 is very similar to claim 8 and requires a magnetic layer thickness between 0.01-0.08 μm . As Dr. Ross testified, Yamazaki inherently anticipates this range as well. RX-0004C at Q&A 239. Fujifilm appears to concede that claims 8 and 9 rise or fall together.

Sony Br. at 73.

The administrative law judge determined that Sony has not shown that claim 8 is anticipated, as discussed above. Claim 9 is a narrower range than claim 8, and because Sony has not shown that Yamazaki disclosed the range of claim 8 with sufficient specificity, it also has not shown that Yamazaki discloses the range of claim 9 with sufficient specificity.

8. Claim 11

Sony argues:

Dependent claim 11 requires that the magnetic recording medium of claim 1 be a “tape.” Yamazaki further discloses that the magnetic recording medium is a tape. RX-0004C (Ross OWS) at Q&A 240-241 (citing RX-0071 (Yamazaki ‘605) at 5:59-65, 25:31-33).

Sony Br. at 71 (emphasis omitted).

PUBLIC VERSION

Fujifilm does not present separate argument for claim 11. *See generally* Fujifilm Br., § III(F)(1); Fujifilm Reply, § III(D).

The evidence shows that Yamazaki discloses a magnetic recording medium that is a tape. *See* RX-0071 at 5:59-65, 25:31-33; *see also* RX-0004C (Ross WS) at Q/A 240-41. Accordingly, the administrative law judge has determined that Yamazaki discloses subject matter that shows claim 11 was known in the prior art, provided that Yamazaki also anticipates claim 1.

9. Claim 14

Sony argues:

Dependent claim 14 requires that the ferromagnetic particles “have a size less than about 0.1 μm .” Yamazaki discloses ferromagnetic particle sizes ranging from 0.01 to 0.1 μm for hexagonal ferrite particles, which Yamazaki cites as an example of ferromagnetic particles. RX-0004C (Ross OWS) at Q&A 243 (citing RX-0071 at 1:8-13, 8:36-39, 9:32-35, and 10:32-34).

Sony Br. at 71 (emphasis omitted).

Fujifilm does not present separate argument for claim 14. *See generally* Fujifilm Br., § III(F)(1); Fujifilm Reply, § III(D).

The evidence shows that Yamazaki discloses a ferromagnetic particles having a size less than about 0.1 μm . *See* RX-0071 at 1:8-13, 8:36-39, 9:32-35, and 10:32-34; *see also* RX-0004C (Ross WS) at Q/A 242-43. Accordingly, the administrative law judge has determined that Yamazaki discloses subject matter that shows claim 14 was known in the prior art, provided that Yamazaki also anticipates claim 1.

F. Obviousness

1. Yamazaki

Sony argues that Yamazaki (RX-0071) discloses all of the limitations of the asserted claims except for “(1) the range of average size of magnetic cluster at DC Erase required by all

asserted claims and; (2) the ranges of magnetic layer thickness required for claims 8 and 9.”

Sony Br. at 73. Sony further argues that “there is nothing inventive about these particular ranges” and that “it would have been obvious to modify Yamazaki’s recipe in a way such that the natural result is magnetic recording media satisfying these requirements.” *Id.* at 73, 87.

a) Average Size of Magnetic Cluster at DC Erase

With regard to the magnetic cluster size limitation, Sony argues that a person of ordinary skill in the art would have been motivated to “tweak” Yamazaki’s preparation methods “in a way that necessarily [would] produce a magnetic layer having an average magnetic cluster size within the claimed range.” *Id.* at 88. In particular, Sony contends that Yamazaki expressly teaches using glass beads for dispersing magnetic clusters and that it is possible (and obvious) to use glass beads in a modification of preparation methods 5 and 6 (from Yamazaki). *Id.* Sony also contends that modifying the four-hour and six-hour mixing times from Yamazaki preparation methods 5 and 6 to arrive at the five-hour mixing time in the ‘891 Patent would have been “nothing more than routine optimization.” *Id.* at 90. These two modifications, according to Dr. Ross, would result in a preparation method that is “substantially identical” to method 6 from the ‘891 Patent, which produces a tape “that exhibit[s] an average magnetic cluster size within the claimed range.”¹⁹ *Id.* (citing RX-0004C (Ross WS) at Q/A 246-51).

Fujifilm argues:

... one having ordinary skill in the art would not be motivated to modify the examples or manufacturing methods disclosed in Yamazaki ‘605 in order to achieve the average size of magnetic clusters in the claimed range of Claim 1.

As discussed above, Yamazaki ‘605 does not mention average size of magnetic clusters anywhere in its disclosure, or the evaluation

¹⁹ Fujifilm notes that method 6 of the ‘891 Patent specifies a 5-hour mixing time, while methods 5 and 6 of Yamazaki call for 4 and 6 hours of mixing, respectively. Fujifilm Br. at 65, 68.

PUBLIC VERSION

of magnetic recording media to determine average size of magnetic clusters, or any other guidance or motivation to arrive at “an average size of magnetic cluster at DC erase is equal to or higher than $0.5 \times 10^4 \text{ nm}^2$ and less than $5.5 \times 10^4 \text{ nm}^2$ ” of claim 1. . . .

Fujifilm Br. at 67-68. Fujifilm also argues that the claims involve jointly critical ranges that produce unexpected results. *Id.* at 69.

The administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Yamazaki discloses the claimed magnetic particles, *i.e.*, magnetic particles having an average size of magnetic cluster at DC erase between 0.5 and $5.5 \times 10^4 \text{ nm}^2$, or that one of ordinary skill in the art would at once envisage a manufacturing process that would yield a tape having the claimed particles, after reading Yamazaki.²⁰ *See Blue Calypso, LLC v. Groupon, Inc.*, 815 F.3d 1331, 1341 (Fed. Cir. 2016) (quoting *Kennametal, Inc. v. Ingersoll Cutting Tool Co.*, 780 F.3d 1376, 1381 (Fed. Cir. 2015) for the proposition that “a reference can anticipate a claim even if it ‘d[oes] not expressly spell out’ all the limitations arranged or combined as in the claim, if a person of skill in the art, reading the reference, would ‘at once envisage’ the claimed arrangement or combination.”). While a person of ordinary skill has a college education and two years of relevant experience, Yamazaki does not discuss the average size of magnetic clusters in the magnetic layer. *See CX-0357C (Wang RWS) at Q/A 378* (“Yamazaki ‘605 does not ever discuss average size of magnetic clusters, or suggest how one of ordinary skill would evaluate magnetic cluster size”); *see generally RX-0071* (particle size is not discussed). Accordingly, the evidence is not clear and convincing that a person of ordinary skill in the art would modify two particular aspects (dispersion beads and milling time) of Yamazaki’s preparation processes to arrive at a process that would *inherently* exhibit an average size of

²⁰ The administrative law judge previously determined that Sony has not shown, through clear and convincing evidence, that Yamazaki inherently discloses the claimed magnetic particles. *See Part IV(E)(1)(f), supra.*

magnetic clusters within the claimed range of the '891 Patent. *See* CX-0357C (Wang RWS) at Q/A 379. Similarly, with respect to magnetic cluster size, it is not clear why a person of ordinary skill would modify or attempt to optimize Yamazaki's milling times at all, based on Yamazaki alone. *Id.* Accordingly, the administrative law judge finds that claims 1, 4-9, 11, and 14 would not have been obvious over Yamazaki alone because Yamazaki does not disclose the claimed magnetic cluster limitations.

b) Thickness of the Magnetic Layer

Sony argues:

Similarly, the ranges of magnetic layer thickness recited in claims 8 and 9 (0.01 to 0.1 μm , and 0.02 to 0.08 μm , respectively) are not critical and do not lead to any unexpected results. RX-0004C (Ross OWS) at Q&A 254. It had been known for decades that magnetic layer thickness is closely tied to the performance of a magnetic recording medium due to thickness loss as the recording density is increased. *Id.* at Q&A 287. The background section of the '891 Patent itself acknowledges this. '891 Patent at 1:55-57. As such, any improvements in performance resulting from the magnetic layer thickness being within the ranges recited in claims 8 and 9 are no more than the *expected* result of reducing thickness (*i.e.*, as compared to embodiments that satisfy independent claim 1 but are too thick to satisfy the dependent claims).

Here again, moreover, Fujifilm's criticality arguments do not account for Yamazaki, which was not disclosed during prosecution but which discloses a thickness range of 0.01 to 0.25 μm (RX-0071 at 5:7-11) and teaches the impact of thickness on performance (*id.* at 6:13-15). As such, claims 8 and 9 are at minimum presumptively obvious over Yamazaki. *Galderma Labs.*, 737 F.3d at 738. Yet Fujifilm never compared the performance associated with the claimed invention against the performance available with from any of Yamazaki's embodiments—much less tapes made with Yamazaki's target thickness of 0.15 μm (RX-0071 at 28:10-13).

Nor is there any data suggesting that thickness somehow interacted with other variables in an unexpected way. Indeed, as previously noted, Fujifilm appears to concede as much.

Sony Br. at 80 (emphasis added by Sony).

PUBLIC VERSION

Fujifilm argues that the “examples in Yamazaki ‘605 do not disclose a magnetic layer thickness with sufficient specificity to disclose the critical ranges in Claim 8 and Claim 9.”

Fujifilm Br. at 67. Fujifilm adds:

Further, these ranges are not a necessary consequence of the Manufacturing Methods disclosed in Yamazaki ‘605. Many variables affect the magnetic layer thickness, such as the amount of magnetic and nonmagnetic coating liquid and the type of ferromagnetic powders used. CX-0357C (Wang RWS) Q:371, 375, 376. Moreover, since Yamazaki ‘605 does not disclose any evaluation of the magnetic layer thickness in its example tapes and disks, it cannot be said with any certainty that Yamazaki ‘605 discloses the ranges described in claim 8 and claim 9. CX-0357C (Wang RWS) Q:376.

Id. Fujifilm has also argued that the ‘891 Patent’s embodiments, as reported in Table 3, provide evidence of unexpected results. *See* Fujifilm Br. at 29, 58-59, 69.

The administrative law judge has determined that determined that Sony has not shown, through clear and convincing evidence, that Yamazaki discloses layers having the claimed thickness, or that one of ordinary skill in the art would instantly envisage a tape with the claimed thicknesses after reading Yamazaki. *See Blue Calypso, supra*. Although Yamazaki discusses thin magnetic layers, Yamazaki does not provide guidance or motivation to arrive at layers having the particular claimed thicknesses. *See* CX-0357C (Wang RWS) at Q/A 383.

Additionally, Fujifilm has pointed to evidence showing that tapes satisfying claims 8 and 9 have superior performance versus tapes that do not meet these limitations. *Galderma Labs., L.P. v. Tolmar, Inc.*, 737 F.3d 731, 738 (Fed. Cir. 2013).²¹ For example, embodiments 9 and 14, which practice claims 9 and 8, respectively, have a good CN ratio, while embodiments 10 and

²¹ *Galderma*, 737 F.3d at 738, provides: “where there is a range disclosed in the prior art, and the claimed invention falls within that range, the burden of production falls upon the patentee to come forward with evidence that (1) the prior art taught away from the claimed invention; (2) there were new and unexpected results relative to the prior art; or (3) there are other pertinent secondary considerations.”

13, which do not practice claims 8 and 9, have a comparatively worse (but still good) CN ratio. See CX-0357C (Wang RWS) at Q/A 353, 383. Further, embodiments 8-14, which practice claim 1, have a good CN ratio in comparison to claims that do not practice the claim. *Id.*

Accordingly, the administrative law judge finds that claims 8 and 9 would not have been obvious over Yamazaki alone because Yamazaki does not disclose the claimed thickness limitations.

2. Yamazaki in View of McCann

Sony argues that all of the asserted claims are obvious over Yamazaki (RX-0071) in view of McCann²² (JX-0166):

... The teachings in McCann (JX-0166) further confirm that it would have been obvious to optimize Yamazaki's milling time and disperse for 5 hours. McCann is an article that was published in March 1999 and therefore, constitutes § 102(b) prior art to the '891 Patent. Accordingly, claims 1, 4-9, 11 and 14 are invalid as obvious over Yamazaki in view of McCann.

McCann investigated the relationship between milling time on the performance of BaFe dispersions for magnetic recording media. JX-0166 at 1 of 4; RX-0004C (Ross OWS) at Q&A 167. McCann also observes "a general noise decrease[] with milling time." JX-0166 at 4 of 4. For instance, Table 2 of McCann shows that noise power, including noise power at DC erase, decreases as milling time is increased from 30 minutes to 4 hours. *Id.* at 3. McCann also explains that increasing milling time breaks up agglomerates of BaFe particles, reducing noise. *Id.* at 1, 4. After milling for a long time (*e.g.*, 7 hours), the BaFe particles become so small that they begin to stack, causing noise to go back up. JX-0166 1, 4; RX-0004C at Q&A 167.

As Dr. Ross testified, McCann's teachings would have motivated a POSA to modify at least one embodiment of Yamazaki to exhibit an average size of magnetic clusters in the claimed range. RX-0004C at Q&A 257-258. ...

²² McCann is McCann, S.M. *et al.*, *Noise characterisation of barium ferrite dispersions*, JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS 193 (1999) 366-369.

PUBLIC VERSION

Sony Br. at 95-96. Sony argues that the performance metrics Fujifilm relies upon are irrelevant, as they are unclaimed. *See id.* at 97. Sony also argues that McCann does not teach away from a combination with Yamazaki, as McCann describes a benefit for milling over an initial period that is lost when milling is continued beyond the initial period. *Id.*²³

Fujifilm's entire argument is:

Sony asserts that the combination of Yamazaki '605 and McCann renders obvious the Asserted Claims of the '891 Patent. However, as Dr. Wang explains, McCann discloses different subject matter than the '891 Patent. CX-0357C (Wang RWS) Q:386. McCann analyzes remnant state noise, whereas the '891 Patent focuses on signal to noise ratio and carrier to noise ratio. McCann also analyzes BaFe with a coercivity of 1249 Oe (99.4 kA/m), which is outside of the scope of the claimed subject matter of the '891 Patent. *See* JX-0166 (McCann) at 2. One of ordinary skill would not look to McCann's disclosure of these BaFe particles having such different coercivities as the particles described in Table 1 of the '891 Patent, for example, having coercivities of 163 kA/m and above.

Dr. Ross opines that McCann's disclosure of increasing milling time from 30 minutes to 4 hours would motivate a person of ordinary skill to increase the dispersion time of Yamazaki '605 in order to achieve the claimed average magnetic cluster sizes. However, Dr. Wang explains that McCann actually teaches away from increasing dispersion time in order control magnetic cluster size, because at a dispersion time increased to 7 hours, McCann discloses that BaFe particles will begin to "stack". CX-0357C (Wang RWS) Q:387. As Dr. Ross admitted, "stacking" means that the BaFe particles would behave like a single large particle, much like a magnetic cluster. RX-0004C (Ross DWS) Q:258. Dr. Wang concluded that this would suggest to one of ordinary skill that increasing dispersion can lead to magnetic clusters. CX-0357C at Q:387-388. Accordingly, Yamazaki '605 in view of McCann does not disclose, suggest, or render obvious claim 1 or dependent claims 4-9, 11, and 14.

Fujifilm Br. at 70.

²³ Sony does not rely on McCann for the thickness limitations of claims 8 and 9. *See generally* Sony Br., § IV(D)(2)(d)(i).

Dr. Ross testified about Yamazaki and McCann, in part, as follows:

Q257 Does McCann disclose “an average size of magnetic cluster at DC erase is equal to or higher than $0.5 \times 10^4 \text{ nm}^2$ and less than $5.5 \times 10^4 \text{ nm}^2$ ”?

A Not explicitly, but the teachings of McCann would have motivated a POSA to modify an embodiment of Yamazaki to exhibit an average size of magnetic clusters in the claimed range.

Q258 What teachings of McCann would have motivated a POSA to modify an embodiment of Yamazaki?

A McCann describes an experimental investigation of the effects of milling time (*i.e.*, dispersion time) on the performance of barium ferrite dispersions for magnetic recording media. (JX-0166 (McCann) at Abstract). McCann explains that agglomerates decrease with increasing milling time (*e.g.*, from 30 minutes to 4 hours), thereby decreasing noise. (JX-0166 (McCann) at Abstract, p. 1, left column, Table 1, Fig. 2, p. 4, right column.) McCann further explains that, when milled for too long (*e.g.*, 7 hours), barium ferrite particles become so small that they begin to stack and behave like a single large particle, which causes noise to go back up. (*Id.*) Therefore, McCann demonstrates that, as of the filing date of the '891 Patent, a POSA would have known of the tendency of barium ferrite particles to aggregate into magnetic clusters, that the presence of these aggregates resulted in increased noise, and that breaking up the aggregates via milling (*i.e.*, dispersion) was effective for reducing the noise.

Q259 How would those teachings motivate a POSA to modify Yamazaki?

A In light of McCann a POSA would have understood that the term “average size of magnetic clusters” used in the asserted claims of the '891 Patent is merely a measure of the dispersion state of the magnetic particles in a magnetic recording medium, and that the milling time (*i.e.*, dispersion time) is a variable that is effective for controlling the dispersion state in order to optimize the performance of the medium in terms of the noise. Similarly, McCann would have motivated a POSA to modify at least one embodiment of Yamazaki by optimizing the milling time to achieve an optimal dispersion time. Such a modification would involve the break up aggregates of magnetic particles in the magnetic layer coating solution (*e.g.*, barium ferrite particles), and would thereby reduce the “average size of magnetic clusters,” resulting in an average cluster size within the claimed range.

RX-0004C at Q/A 257-59.

The administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Yamazaki or McCann explicitly disclose the claimed magnetic clusters, *i.e.*, magnetic particles having an average size of magnetic cluster at DC erase between 0.5 and 5.5×10^4 nm². *See* RX-0004C (Ross WS) at Q/A 257 (testifying that McCann does not explicitly disclose the claimed particles). Further, the evidence is not clear and convincing that a person of ordinary skill in the art would modify two particular aspects (dispersion beads and milling time) of Yamazaki's preparation processes to arrive at a process that would necessarily exhibit an average size of magnetic clusters within the claimed range of the '891 Patent. *See* CX-0357C (Wang RWS) at Q/A 379.²⁴ Similarly, it is not clear and convincing that a person of ordinary skill in the art would attempt to "optimize" the four-hour and six-hour mixing times from Yamazaki and that the hypothetical optimization would produce a five-hour mixing time of the '891 Patent, especially where Yamazaki does not address cluster size. Accordingly, the administrative law judge finds that claims 1, 4-9, 11, and 14 would not have been obvious over Yamazaki and McCann because the references do not disclose the claimed magnetic cluster limitations or a modified method that necessarily yields the claimed magnetic clusters.

3. Yamazaki in View of McCann and Takahashi

Sony argues that all of the asserted claims are obvious over Yamazaki (RX-0071) in view

²⁴ Although Dr. Wang's witness statement discusses teaching away, he admitted conflating his "scientist definition of teaching away and [a] legal definition" of the concept within the context of dispersion beads. Wang Tr. 289. Dr. Wang's confusion in that context undermines the reliability of his opinion that McCann teaches away from a combination of Yamazaki and McCann. *See, e.g.*, CX-0357C (Wang WS) at Q/A 387 ("McCann would actually teach away from increasing milling time to reduce magnetic cluster sizes.").

of McCann (JX-0166) and Takahashi²⁵ (JX-0164):

... Takahashi teaches that decreasing magnetic cluster size in magnetic media reduces noise. RX-0004C at Q&A 171. For example, Fig. 3 of Takahashi depicts MFM images for two different magnetic media (Media A and Media B). Media B has smaller and more uniformly distributed magnetic clusters than Media A, and exhibits lower noise than Media A. *Id.*; JX-0164 at Fig. 3. Takahashi further explains that “the media noise is mainly improved by the reduction in the magnetic cluster size.” JX-0164 at 2.

Takahashi also teaches a method for determining average magnetic cluster size by analyzing an MFM image of a magnetic recording medium at a dc-demagnetized state. *Id.* Figure 4 illustrates how magnetic cluster size is calculated from a line scan of the MFM image. Specifically, “magnetic cluster size is defined as the average interval between maximum and minimum peak for the signal profile from MFM image at dc-demagnetized state.” *Id.* at 2.

As Dr. Ross testified, these teachings in Takahashi would have informed a POSA that the average size of magnetic clusters is a result-effective variable that should be optimized in order to reducing noise and improve the performance of magnetic recording media. A POSA would have used the magnetic cluster size measurement of Takahashi to evaluate the cluster size and optimize the performance of a medium, such as an embodiment of Yamazaki modified in view of McCann. RX-0004C at Q&A 265-272. Moreover, while Takahashi’s experiments involved sputtered thin film magnetic media, Dr. Ross explained that a POSA would have understood that the teachings are also applicable to particulate type magnetic media, such as tapes. *Id.* at Q&A 269-272. Fujifilm’s argument to the contrary (Fujifilm PHB at 68) again invites legal error because it turns on the idea that Takahashi concerned a different type of noise than what the ‘891 Patent emphasized. As previously explained, however, “neither the particular motivation nor the avowed purpose of the patentee controls.” *KSR*, 550 U.S. at 419. Similarly, Dr. Wang’s rebuttal (CX-0357C at Q&A 394-95) again neglects that a POSA is “a person of ordinary creativity” rather than an “automaton.” *KSR*, 550 U.S. at 421. Takahashi’s teachings plainly are not limited to the particular *way* in which average cluster size is measured.

²⁵ “Takahashi” is Takahashi, M. *et al.*, *The Dependence of Media Noise on the Magnetic Cluster Size for Co Based Thin Film Media Fabricated under Ultra Clean Sputtering Process*, IEEE TRANSACTIONS ON MAGNETICS, Vol. 34, No. 4 (July 1998).

PUBLIC VERSION

Sony Br. at 98-99 (emphasis added by Sony).

Fujifilm argues:

... for at least the reasons set forth with respect to the combination of Yamazaki '605 and McCann, Yamazaki '605 in view of McCann and Takahashi does not render obvious the Asserted Claims of the '891 Patent. Furthermore, Dr. Wang explained that Takahashi is directed to a different kind of magnetic recording medium system than the ones described in Yamazaki '605 and McCann. CX-0357C (Wang RWS) Q:393. Takahashi discloses a thin film magnetic medium involving cobalt magnetic alloys. In contrast, Yamazaki '605 and McCann describe particulate media. One of ordinary skill in the art would not be motivated to combine the thin film magnetic medium of Takahashi, involving cobalt magnetic alloys, with particulate magnetic mediums of Yamazaki '605 and McCann, involving metal particles and BaFe.

... Takahashi discloses on page SNY-ITC0004172 that it is concerned with *transition* noise in Co-based thin film media, whereas the '891 Patent is concerned with mostly *particulate* noise in magnetic powder based tape media. Dr. Wang explained that these are two different kinds of noise in a magnetic medium. As a result, Takahashi's disclosure of magnetic clusters in the DC-demagnetized state is not relevant to the particulate noise characteristics that the '891 Patent concerns. Dr. Ross does not rebut any of these differences.

Fujifilm Br. at 71 (emphasis added by Fujifilm).

The administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Yamazaki, McCann, or Takahashi explicitly disclose the claimed magnetic clusters. See RX-0004C (Ross WS) at Q/A 262-72 (no testimony identifies Takahashi as explicitly disclosing the claimed clusters). Indeed, Takahashi is directed to sputter-deposited thin films involving cobalt magnetic alloys, not barium ferrite clusters. See CX-0357C (Wang RWS) at Q/A 392-93; JX-0164 at 1 ("The thin film media were fabricated under the UC process with a specialized production type sputtering machine (ILC3013 ANELVA) and ultraclean Ar gas (UC-Ar).").

Further, Sony and Dr. Ross rely on Takahashi for a method of measuring average cluster size, which is not a disputed issue (it is possible to measure an average particle size for the barium ferrite clusters), and a relationship between noise and cluster size. *See* RX-0004C (Ross WS) at Q/A 264. However, it is not clear that Takahashi and the '891 Patent are concerned with the same types of noise, and the milling described in Yamazaki and McCann is compatible with the sputtering described in Takahashi. *See* CX-0357C (Wang RWS) at Q/A 394, 396; JX-0164 at 1 (describing use of a "specialized production type sputtering machine"). Accordingly, the administrative law judge has determined that a person of ordinary skill in the art would not rely upon, or combine, Takahashi in view of Yamazaki and McCann, in a manner that would show the asserted claims would have been obvious.

4. Yamazaki in View of McCann, Takahashi, Yusu, and ECMA-249

Sony argues that all of the asserted claims are obvious over Yamazaki (RX-0071), in view of McCann (JX-0166), Takahashi (JX-0164), Yusu²⁶ (RX-0072), and ECMA-249²⁷ (RX-0173):

... Yusu *expressly* discusses magnetic cluster size and teaches that, if recording is to be performed at a certain density, magnetic clusters should be no larger than the bit cell length for that density. RX-0072 at 13:46-67. Thus, a POSA would have appreciated from Yusu not only that magnetic clusters should be small, but also a numerical formula for determining a suitable cluster size based on a desired recording density.

Yusu is directed to magnetic media "in which magnetic grains are dispersed in a nonmagnetic matrix." RX-0072 at 1:33-34. It states that "[t]he length of the recording magnetic domain in the linear direction for attaining a recording density of 1 Gb/in² is 150 nm,"

²⁶ "Yusu" is U.S. Patent No. 6,174,597.

²⁷ "ECMA-249" is the ECMA's Standard ECMA-249, 2nd Ed. - June 1998 ("8 mm Wide Magnetic Tape Cartridge for Information Interchange - Helical Scan Recording - DA-2 Format").

PUBLIC VERSION

and “if the average size of the magnetic cluster is set smaller than this value, recording at a high density of 1 Gb/in² or more is possible.” *Id.* at 13:55-61. Indeed, “noise level increases unless several magnetic clusters fall within the short side of the magnetic domain,” so even smaller cluster sizes are desirable. *Id.* at 13:61-67.

Dr. Ross explained that a POSA would have understood that Yusu uses “recording magnetic domains” to refer to “bit cells,” and that the length of a domain is the “bit cell length.” RX-0004C (Ross OWS) at Q&A 175. Thus, Yusu teaches that performance improves (*e.g.*, noise is reduced) when the magnetic cluster size is smaller than the bit cell length—and more so when the magnetic cluster size is small enough such that each bit cell contains several magnetic clusters. RX-0004C at Q&A 175. A POSA would have understood that the magnetic cluster size, however one chooses to measure it, such as after AC demagnetization or DC erase, should be smaller than the bit cell length in order to reduce medium noise. *Id.* . . .

Sony Br. at 99-100 (emphasis added by Sony). Sony relies on linear recording densities from Yamazaki and ECMA-249 to calculate bit cell lengths of 181 nm, 127 nm, or 262 nm, which it then approximates²⁸ to areas of $2.6 \times 10^4 \text{ nm}^2$, $1.2 \times 10^4 \text{ nm}^2$, and $5.39 \times 10^4 \text{ nm}^2$. *Id.* at 100-01 (citing RX-0004C (Ross WS) at Q/A 277-78). The approximate areas are within the cluster size range of claim 1.

Fujifilm’s entire argument is:

Sony further asserts that the combination of Yamazaki ‘605, McCann, Takahashi, Yusu, and ECMA renders obvious the Asserted Claims of the ‘891 Patent. In this combination, the prior art references Yamazaki ‘605, McCann, and Takahashi remain the same as in the first combination. Thus, for at least the reasons set forth with respect to the combination of Yamazaki ‘605 and McCann and Takahashi, Yamazaki ‘605 in view of McCann, Takahashi, Yusu, and ECMA does not render obvious the Asserted Claims of the ‘891 Patent.

Further, Dr. Wang explains that Yusu teaches away from the ‘891

²⁸ This approximation is based on an assumption that magnetic clusters have a circular shape. RX-0004C (Ross WS) at Q/A 278.

PUBLIC VERSION

Patent because Yusu discloses considering magnetic cluster size when the medium is AC demagnetized, which is different from considering magnetic cluster size at DC erase. CX-0357C (Wang RWS) Q:400. Moreover, Yusu only mentions magnetic cluster size once and in the context of estimating a magnetic domain size. Yusu does not at all explain how magnetic clusters are measured. One having ordinary skill would not use Yusu to disclose the area of magnetic clusters as explained in the '891 Patent.

ECMA also should not be combined with Yamazaki '605, McCann, and Yusu. Dr. Wang explains that because ECMA discloses reducing cluster size to less than a nominal bit cell length, ECMA does not suggest to one of ordinary skill how to measure an area of magnetic cluster sizes, as described in the '891 Patent. CX-0357C (Wang RWS) Q:401. As discussed previously, one of ordinary skill would not approximate the area of magnetic clusters by assuming a circular shape and correlating the nominal bit cell length of 0.262 μm described by ECMA with the area described in claim 1. CX-0357C (Wang RWS) Q:401.

Fujifilm Br. at 72-73.

The portions of Dr. Wang's witness statement that Fujifilm relies upon follow:

400.Q. How does Yusu teach away from the '891 Patent?

400.A. Yusu at column 13, line 47-55 states that "[a] magnetic domain is formed on the magnetic recording layer by a magnetic field from the magnetic head, and serves as one recording unit of information. If the minimum magnetic domain size on the magnetic recording layer is larger than the magnetic domain to be formed, the S/N ratio of the signal deteriorates, and reproduction cannot be performed in the worst case. The minimum magnetic domain size can be estimated by the magnetic cluster size when the magnetic recording medium is AC-demagnetized." However, Yusu does not disclose what magnetic cluster is or how its size is determined. Rather, Yusu at column 14, lines 6-8 states that magnetic grain size can be equal to or larger than magnetic cluster "when the magnetic recording medium is AC-demagnetized."

In contrast, the '891 Patent discloses detailed procedures for calculating the magnetic cluster size at DC erase, which is different from considering the size of magnetic cluster when the medium is AC demagnetized. Accordingly, Yusu teaches away from the '891 Patent. Further, the magnetic clusters in Yusu differ from both Takahashi and the '891 Patent, and thus it would not be possible to combine the methods of Yusu and Takahashi, two different kinds

PUBLIC VERSION

of magnetic clusters, in order to achieve the magnetic cluster sizes of the '891 Patent, a third kind of magnetic cluster size. Importantly, the minimum magnetic domain size formed by a magnetic recording head as disclosed by Yusu is fundamentally different from the magnetic cluster size disclosed in '891 Patent. The former depends on magnetic write head and head-medium spacing, among many other factors that are not discussed and are not related to the magnetic cluster size in the '891 Patent.

401.Q. How does ECMA teach away from the '891 Patent?

401.A. ECMA suggests that it is advantageous to reduce cluster size to less than a nominal bit cell length. This specifically teaches away from the focus of the '891 Patent. The magnetic cluster size in '891 Patent is specified as within range of $0.5 \times 10^4 \text{ nm}^2$ and $5.5 \times 10^4 \text{ nm}^2$, which is in the unit of area. The nominal bit cell length is in the unit of length by definition, which is completely different from magnetic cluster size taught in 891 Patent. Further, it does not make sense that one of ordinary skill would approximate magnetic clusters as approximately circular to correlate the nominal bit cell length of $0.262 \text{ }\mu\text{m}$ with a cluster area. As shown in the MFM images Dr. Ross and I have provided, the magnetic cluster shapes are highly irregular. No such correlation or relationship exists in the prior art between a bit cell length and magnetic clusters.

CX-0357C (Wang RWS) at Q/A 400-01.

The administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Yamazaki, McCann, Takahashi, Yusu, and EMCA provide a basis for finding the asserted claims would have been obvious. In particular, the administrative law judge has already determined that a person of ordinary skill in the art would not combine Takahashi with the other references; that determination applies equally here. Additionally, Dr. Ross's assumption that the magnetic particles are approximately circular, RX-0004C (Ross WS) at Q/A 278 (*e.g.*, "assuming that magnetic clusters are approximately circular, an average diameter of $0.262 \text{ }\mu\text{m}$ corresponds to an average area of magnetic clusters of $5.39 \times 10^4 \text{ nm}^2$ "), is unsupported. *See also* CX-0357C (Wang WS) at Q/A 401 ("it does not make sense that one of

ordinary skill would approximate magnetic clusters as approximately circular to correlate the nominal bit cell length of 0.262 μm with a cluster area.”).²⁹ Accordingly, the administrative law judge finds that claims 1, 4-9, 11, and 14 would not have been obvious over the combination of Yamazaki, McCann, Takahashi, Yusu, and ECMA-249.

5. Sony’s DDS-3 Tapes in View of Yamazaki

Sony argues:

Even if Yamazaki did not anticipate the asserted claims, they would at minimum be obvious over the Sony DDS3 tapes in view of Yamazaki. The tapes both fall within the purportedly inventive range of magnetic cluster sizes (*i.e.*, the one aspect of the claims not expressly addressed in Yamazaki or at the very least presumptively obvious given the range of thicknesses that Yamazaki discloses).

Sony Br. at 80-81. Sony relies on two tapes, (1) SNY-ITC_S0000001 (RPX-0001), in view of

²⁹ Dr. Wang’s opinions that Yusu and ECMA-249 both teach away from the proposed combination are afforded little weight. In *Gurley*, the Federal Circuit explained:

A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant. The degree of teaching away will of course depend on the particular facts; in general, a reference will teach away if it suggests that the line of development flowing from the reference’s disclosure is unlikely to be productive of the result sought by the applicant.

In re Gurley, 27 F.3d 551, 553 (Fed. Cir. 1994). However, a “reference that ‘merely expresses a general preference for an alternative invention but does not criticize, discredit, or otherwise discourage investigation into’ the claimed invention does not teach away.” *Meiresonne v. Google, Inc.*, 849 F.3d 1379, 1382 (Fed. Cir. 2017) (quoting *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314, 1326 (Fed. Cir. 2009)). Dr. Wang’s observation that Yusu’s AC-demagnetized procedure “is different from” the ‘891 Patent is not a sufficient basis for concluding that the references Yusu teaches away from the proposed combination. See CX-0357C (Wang RWS) at Q/A 400. Similarly, Dr. Wang’s observation that nominal bit cell length from EMCA-249 “is completely different from magnetic cluster size taught” in the ‘891 Patent does not discourage a person of ordinary skill in the art from investigating cluster size, and the difference alone does not criticize or discredit anything.

PUBLIC VERSION

Yamazaki, and (2) SNY-ITC_S0000016 (RPX-0012), also in view of Yamazaki.

a) SNY-ITC_S0000001 (RPX-0001)

Sony argues that RPX-0001 “was imported into the United States by [].”

Sony Br. at 81. This is a photograph of RPX-0001:



See RPX-0001 at 3. RPX-0001 was tested, and Dr. Ross concluded that RPX-0001 “embodies all of the limitations of claims 1, 4-9, 11, and 4 of the ‘891 Patent, except the magnetic layer thickness limitations (claims 1 and 8-9) and the hexagonal ferrite limitations (claims 4-5).” Sony Br. at 81 (citing RX-0004C (Ross WS) at Q/A 279). Sony contends that Yamazaki discloses these missing limitations and that “a POSA would have had reason to modify the SNY-ITC_S0000001 tape in light of Yamazaki given the ample prior art disclosure of hexagonal ferrite as a source of magnetic particles for recording media and the known benefits of hexagonal ferrite over the metal particles incorporated in the SNY-ITC_S0000001 tape product.” *Id.* (citing RX-0004C (Ross WS) at Q/A 300).

Fujifilm argues that the testing results are unreliable because the tape is likely to exhibit magnetization degradation in the tape’s magnetic layer [

]. Fujifilm Br. at 73 (citing CX-0357C (Wang RWS) at Q/A 404);

see also RX-0004C (Ross WS) at Q/A 185 []³⁰

Fujifilm also criticizes the testing as inconclusive because “no analysis was performed to ensure that the measured particles were ferromagnetic, and the metal particles’ acicular shape was not taken into account.” *Id.* at 74 (citing CX-0025C (Sinclair WS) at Q/A 6-12). Fujifilm further argues that “[e]ven if Sony’s testing were reliable, one of ordinary skill would not combine the DDS3 tapes which are used in a helican scan drive, with Yamazaki ‘605 which is directed to magnetic recording media to be used in a recording/reproduction system integrated with an MR head” and that it would require undue experimentation to modify the metal particles in the DDS3 tapes to barium ferrite, as required by claim 4 of the ‘891 Patent. *Id.* (internal quotation omitted).

The administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that RPX-0001 provides reliable data or that a person of ordinary skill in the art would combine RPX-0001 and Yamazaki. Although the DDS-3 tapes are intended to perform over at least a 20-year lifespan, the extent of this particular tape’s usage is ill-defined.

See [].

Additionally, Dr. Wang explained that modifying (*e.g.*, substituting) the metal particles in the DDS-3 tape with hexagonal ferrite particles from Yamazaki could render the Sony DDS-3 tape inoperable in its helical scan system. *See* CX-0357C (Wang RWS) at Q/A 409 (*see also* Q/A 162, 177, 280, 525); *Plas-Pak Indus., Inc. v. Sulzer Mixpac AG*, 600 F. App’x 755, 758 (Fed. Cir. 2015) (“combinations that change the basic principles under which the [prior art] was designed to operate . . . or that render the prior art “inoperable for its intended purpose . . . may

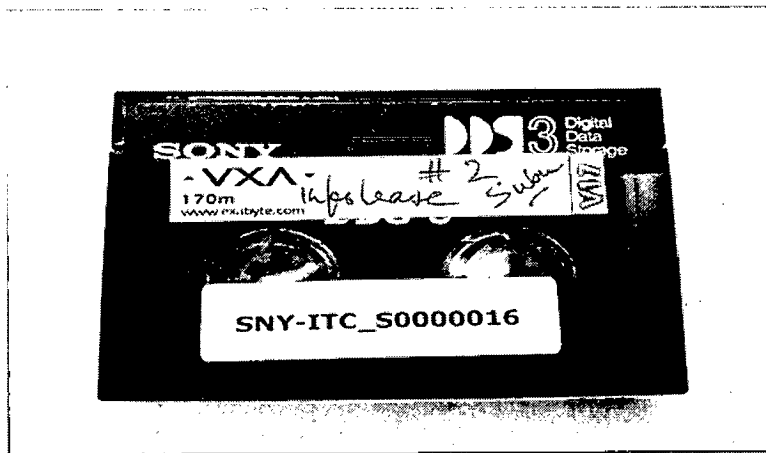
³⁰ Fujifilm critiques the condition of the tape’s “[],” but it does not thoroughly explain how these deficiencies are pertinent to the asserted claims. *See* Fujifilm Br. at 73.

PUBLIC VERSION

fail to support a conclusion of obviousness.” (quotations and citations omitted); *see also* RX-0004C (Ross WS) at Q/A 300 (“metal particles have higher remnant magnetization than hexagonal ferrite particles”). Accordingly, the administrative law judge finds that claims 1, 4-9, 11, and 14 would not have been obvious over the combination of RPX-0001 and Yamazaki.

b) SNY-ITC_S0000016 (RPX-0012)

Sony argues that RPX-0012 “was manufactured in the United States on [].” Sony Br. at 85. This is a photograph of RPX-0012:



RPX-0012 at 1. RPX-0012 was tested, and Dr. Ross concluded that, like RPX-0001, RPX-0012 “embodies all elements of claims 1, 4-9, 11, and 14, except the magnetic layer thickness limitations (claims 1 and 8-9) and the hexagonal ferrite limitations (claims 4-5).” Sony Br. at 85. Sony argues that “for the same reasons explained with respect to the SNY-ITC_S0000001 tape, modifying the SNY-ITC_S0000016 to include each of these limitations would have been obvious in view of Yamazaki.” *Id.*

Fujifilm does not present separate argument for RPX-0012, the second DDS-3 tape. *See generally* Fujifilm Br., § III(F)(2)(v); *see also* Staff Br., § IV(F)(e) (same).

As with RPX-0001, the administrative law judge finds that Sony has not shown, through clear and convincing evidence, that RPX-0012 provides reliable data or that a person of ordinary

skill in the art would combine RPX-0012 with Yamazaki. Accordingly, the administrative law judge finds that claims 1, 4-9, 11, and 14 would not have been obvious over the combination of RPX-0012 and Yamazaki.

6. Secondary Considerations³¹

Fujifilm argues that its tapes are a “once in a generation breakthrough” and that evidence pertaining to industry praise, licensing, long-felt need, failure of others, commercial success, and copying indicate that the ‘891 Patent would not have been obvious. *See generally* Fujifilm Br., § (III)(F)(2)(b). Fujifilm repeats these arguments for the ‘612, ‘106, and ‘434 Patents. *See generally* Fujifilm Br., §§ (IV)(G)(b), (V)(G)(e), (VI)(G)(b). As an example, for the ‘612 Patent, Fujifilm argues:

Sony’s failure to establish a *prima facie* case of obviousness ends the inquiry. Even if such a case existed, however, overwhelming objective evidence in the form of praise by others, failure of others, long-felt but unmet need, and commercial success of the inventions in the ‘612 Patent overcomes any such claim of obviousness, as discussed in Section III.F.2.b above.

Fujifilm Br. at 179.

Sony generally argues that Fujifilm’s arguments are “legally immaterial” and that the evidence Fujifilm cites lacks a nexus to the claims. *See generally* Sony Br. at 101.

The Staff argues that Fujifilm “has failed to establish a nexus between the claimed inventions and industry praise” and that Fujifilm has not shown licensing or copying demonstrate

³¹ Fujifilm has argued that all of the tape media patents exhibit joint criticality and includes “joint criticality” as a secondary consideration. *See, e.g.,* Joint Outline at 4. With regard to the secondary considerations analysis, the administrative law judge has determined that Fujifilm has not shown the tape media patents capture jointly critical subject matter. Similarly, the administrative law judge has determined that Fujifilm has not shown that the claims confer synergistic or unexpected results. Additionally, Sony has argued that there is no nexus between secondary consideration evidence and the asserted claims and includes “nexus” as a separate secondary consideration issue. *Id.* The administrative law judge has considered Sony’s nexus arguments within the context of each secondary consideration topic.

PUBLIC VERSION

the claims would not have been. Staff Br. at 43. The Staff, however, submits that “that the evidence establishes long-felt need and commercial success as objective indicia of nonobviousness.” *Id.* at 44.

a) Industry Praise

With respect to industry praise, the Federal Circuit has explained:

Evidence that the industry praised a claimed invention or a product which embodies the patent claims weighs against an assertion that the same claim would have been obvious. Industry participants, especially competitors, are not likely to praise an obvious advance over the known art. Thus, if there is evidence of industry praise in the record, it weighs in favor of the nonobviousness of the claimed invention.

WBIP, LLC v. Kohler Co., 829 F.3d 1317, 1334 (Fed. Cir. 2016).

Fujifilm argues:

Fujifilm presented overwhelming evidence of praise for the inventions in the Asserted Claims. Sony cannot, and does not, deny that Fujifilm’s technologies have received praise—it simply challenges the nexus between the praise and the Asserted Claims. But as explained below, and as explained by Dr. Wang and Dr. Messner, the praise is tied to the advancements in the Asserted Claims. *See* CX-0357C (Wang RWS) Q:38-65. . . .

Fujifilm Br. at 81-82. Fujifilm points to praise by IBM, Hewlett-Packard, Oracle, Quantum and Imation, Spectra Logic, Sony, and “other members” of the industry. Select examples follow:

- **IBM:** Fujifilm relies on a “Thought Leadership White Paper,” JX-0179C, that IBM published in December 2013. Fujifilm argues that the paper praises Fujifilm’s “the inventive concept of using BaFe particles in magnetic tape media, as claimed in the inventions of the Asserted Claims.” Fujifilm, however, has not specified what claims are the “Asserted Claims.” A second IBM resource that Fujifilm relies on, “The Future of Tape” presentation, CX-0214, simply presents a few high-level points about the benefits of barium ferrite. A third resource Fujifilm relies on, “The Technical and Operational Values of Barium Ferrite Tape Media,” CX-0219C, is a white paper that Fujifilm commissioned. It includes a quote from an IBM manager generally touting barium ferrite’s prospects “for several tape drive generations to come.” *See* CX-0219C at 7.

PUBLIC VERSION

- **Hewlett-Packard:** Fujifilm relies on a white paper published by HP entitled “Best of both worlds (HP LTO-6 Media Metal Particle and Barium Ferrite),” CX-0223C, that published in November 2012. The article explains that, in comparison to metallic particles, smaller particles are needed for enhanced magnetic properties, and that barium ferrite “is the future” for LTO-7.
- **Oracle:** Fujifilm again relies on “The Technical and Operational Values of Barium Ferrite Tape Media” white paper that Fujifilm commissioned, CX-0219C. It includes a quote from an Oracle Director generally touting barium ferrite’s areal densities and capacities, lower costs, and excellent chemical properties. *See* CX-0219C at 8.
- **Quantum:** Fujifilm again relies on a quote from CX-0219C. John Moore, a Vice President at Quantum, explains that barium ferrite particles do not require a ceramic shell to prevent oxidation, and thus inherently deliver a higher signal and improved SNR. *See* CX-0219C at 9.
- **Imation:** Fujifilm relies on a white paper Imation published in April 2013, CX-0224C. Fujifilm quotes the paper as follows: “An advantage of BaFe tape is that it offers improvements in SNR due to the relative media noise level. It is likely that a smaller pigment tape like **BaFe will be preferred over MP** for future tape generations since smaller particles will be required to achieve larger cartridge capacities.” Fujifilm Br. at 89 (citing CX-0224C at 5; emphasis added by Fujifilm).
- **Spectra Logic:** Fujifilm again relies on a quote from CX-0219C. Matt Starr, the Chief Technology Officer at Spectra Logic, generically touted barium ferrite, as follows: “Because Barium Ferrite is pre-oxidized, its shelf life is better, which makes it a better particle for the long-term retention of information; moreover, it is a smaller particle which means more particles in each bit that we write, and therefore a stronger bit: a stronger 1 or a stronger 0. The ‘go-forward’ tape media is almost certain to be based on a barium particle as it has extensive roadmap-potential.” CX-0219C at 11.
- **Other Members:** Fujifilm relies on CX-0470 and JX-0205, which are Japanese articles, and CX-0030, CX-0031, and CX-0033, which are quasi-promotional news broadcasts. The news articles are interviews with Hitoshi Noguchi, Fujifilm’s Director of Recording Media Research Laboratories, who is credited with saving magnetic tape “from the brink of oblivion. CX-0470 at 3. Mr. Noguchi is not a named inventor on the ‘891 Patent. The news broadcasts generally discuss the benefits of magnetic tapes (only one of the segments mentions barium ferrite) and do not add any value to Fujifilm’s arguments.

For praise by Sony, Fujifilm argues:

I

J.” *Id.*

Fujifilm Br. at 91-92.

Sony argues that Yamazaki discloses barium ferrite particles (of the exact same preferred size as the ‘891 Patent) and that nothing in the IBM article refers to magnetic cluster size. Sony Br. at 101-02; *see also* RX-0369C (Ross RWS) at Q/A 123 (“Fujifilm did not invent barium ferrite. . . . Yamazaki and McCann . . . both explicitly discuss the use of barium ferrite in magnetic recording media.”).

The evidence Fujifilm cites relates to magnetic tapes having barium ferrite, in general. The evidence does not identify Fujifilm’s products, which were found to practice the asserted claims, or Fujifilm’s patents. As discussed above, Yamazaki discloses magnetic tapes utilizing barium ferrite.³² Given the substantial overlap between Yamazaki and the ‘891 Patent and the generalized praise for barium ferrite that Fujifilm relies on, the administrative law judge cannot find that the praise Fujifilm cites is an advance over the known art, Yamazaki. *See WBIP, supra*. Accordingly, the administrative law judge has determined that Fujifilm has not shown that this secondary consideration supports a non-obviousness finding.

³² Sony notes that Yamazaki has expired. Sony Br. at 50.

PUBLIC VERSION

b) Licensing

Fujifilm argues that Sony attempted to license the asserted patents from Fujifilm for years. Fujifilm Br. at 93. Fujifilm relies on testimony from a General Manager of its Intellectual Property Headquarters (CX-0006C (Imai WS) at Q/A 10-31) and various Fujifilm-Sony correspondence about licensing. *Id.* at 94-95.

Sony argues:

Sony agrees with Staff (Staff PHB at 42) that Fujifilm has failed to establish licensing as an indication of non-obviousness for the '891 Patent. *See* Section III.B.1.b. Nor is there any indication of a nexus. The relevant discussions in Fujifilm's prehearing brief and Dr. Wang's witness statement never even mention the '891 Patent. *See* Fujifilm PHB at 87-90.

Sony Br. at 103.

Fujifilm does not present a reply for licensing. *See generally* Fujifilm Reply, § III(D)(5).

The evidence shows that Sony attempted to license multiple Fujifilm patents, but it does not show that Sony attempted to license the '891 Patent. *See* CX-0023C at 9 (listing patents Sony wished to license); JX-0067C at 4; [

J. Accordingly, the administrative law judge has determined that Fujifilm has not shown that this secondary consideration supports a non-obviousness finding.

c) Long-Felt Need

"Evidence of a long-felt but unresolved need can weigh in favor of the non-obviousness of an invention because it is reasonable to infer the need would not have persisted had the solution been obvious." *Apple Inc. v. Samsung Elecs. Co.*, 839 F.3d 1034, 1056 (Fed. Cir. 2016); *see also Goodyear Tire & Rubber Co. v. Ray-O-Vac Co.*, 321 U.S. 275, 279 (1944) (finding

PUBLIC VERSION

long-felt need where competing batteries were available for many years but did not address recognized defects). Long-felt need “is analyzed as of the date of an articulated identified problem and evidence of efforts to solve that problem.” *Texas Instruments Inc. v. U.S. Int’l Trade Comm’n*, 988 F.2d 1165, 1178 (Fed. Cir. 1993).

Fujifilm argues that its discovery of barium ferrite technology allowed the industry to overcome the limits of existing metallic particle (MP) technologies. Fujifilm Br. at 96. Fujifilm argues that:

The inventions of the Asserted Claims, however, allowed magnetic tapes to continue to meet and exceed the projected trajectory for storage density and overall capacity, as illustrated below and as explained by Dr. Wang. See CX-0357C (Wang RWS) Q:77. Fujifilm was successful in developing and commercializing its magnetic tapes using BaFe particles that surpassed the storage capacity needs of the market—a feat that no one else matched. See *id.*

Id.

Sony argues:

Fujifilm’s evidence of a supposed long-felt but unresolved need for any of the claimed inventions is immaterial for the reasons discussed in Section III.B.1.c. Moreover, Dr. Wang’s limited testimony referencing the ‘891 Patent deals specifically with the purported need for “a smaller magnetic particle” and/or thinner tapes. CX-0357C at Q&A 77-78, 83, and 84. As discussed above, however, Yamazaki had already disclosed hexagonal ferrite particles with the same diameter range (10-40 nm) that the ‘891 Patent touts. See *ABT Sys., LLC v. Emerson Elec. Co.*, 797 F.3d 1350, 1362 (Fed. Cir. 2015) (rejecting “long-felt need” argument given disclosure in closely-related prior art). Likewise, Yamazaki disclosed a tape having a thickness (15 nm) within the claimed range of ‘891 claim 1. Moreover, even the ‘891 Patent acknowledges that “[t]hinning of the magnetic layer [was] known to provide improvement.” ‘891 Patent at 1:55-57.

Sony Br. at 103.

The evidence generally shows that Fujifilm’s barium ferrite tapes provide superior

storage and that there was a cognizable commercial demand (need) for tapes with increased storage capacity. No evidence, however, shows that the clusters in the '891 Patent, as opposed to those from Yamazaki or other Fujifilm barium ferrite patents (such as Yamazaki or the ones that Sony sought to license from Fujifilm), cured the general long-felt need Fujifilm identified. Accordingly, while Fujifilm's argument and the evidence cited therein supports a finding of non-obviousness, it is of negligible value because the prior art teaches similar solutions as those of the '891 Patent. *See Apple Inc. v. Samsung Elecs. Co.*, 839 F.3d 1034, 1056 (Fed. Cir. 2016) ("There could be a long-felt need for what might be considered a relatively small improvement over the prior art—it all depends upon the evidence, and it is up to the fact finder to assess that evidence."); *see also Geo. M. Martin Co. v. All. Mach. Sys. Int'l LLC*, 618 F.3d 1294, 1304 (Fed. Cir. 2010) ("Where the differences between the prior art and the claimed invention are as minimal as they are here, however, it cannot be said that any long-felt need was unsolved.").

d) Failure of Others

Fujifilm argues that the industry's failure "to develop the inventions in the Asserted Claims" is evident because "no company had ever commercialized a magnetic tape using BaFe." Fujifilm Br. at 97. Fujifilm equates the success of LTO-7 with the "Asserted Patents." *See* Fujifilm Br., § (III)(F)(2)(b)(v)(3)(ii). As an example, Fujifilm argues:

... Moreover, BaFe particles used in the inventions of the Asserted Claims exhibited a significantly better overall performance than the other alternatives available in the market, and were adopted by LTO in the LTO-7 format. This, despite the fact that people skilled in the art were skeptical of many aspects of the inventions in the Asserted Claims because the properties of BaFe were not always apparent to the entire industry. [

].

Fujifilm Br. at 98.

PUBLIC VERSION

Sony argues that the failure-of-others argument has multiple problems, as the claims cover metal particles (MP) and because Fujifilm has not shown “evidence of any ‘articulated identified problem’ and ‘evidence of efforts to solve that problem’ as of the filing date of any of the asserted patents (dating back to the ‘891 Patent, with a 2001 priority date)—much less all of them.” Sony Reply at 11.

The evidence cited by Fujifilm generally shows that Fujifilm developed barium ferrite tapes and that [J. Fujifilm, however, ignores expired patents that disclose barium ferrite in magnetic tapes, *e.g.*, Yamazaki, and other examples of barium ferrite tapes that do not practice claims of the ‘891 Patent, *e.g.*, Comparative Example 9 from Table 3.³³ Accordingly, while Fujifilm’s argument and the evidence cited therein generally supports a finding of non-obviousness, it is of negligible value because the prior art and examples outside of the claims solve the problem Fujifilm identified (*e.g.*, making a high-capacity tape).

e) Commercial Success

For all of the asserted patents, Fujifilm argues that with “its pioneering inventions in barium ferrite tape media technology and advanced servo writing techniques, it [has] achieved overwhelming success.” Fujifilm Br. at 100. [

].³⁴ *Id.* at 101 (citing CX-0026C (Vander Veen RWS) at Q/A 93).

³³ Claim 1 pertains to ferromagnetic particles, and claims 4 and 5 pertain to hexagonal ferrite powders. See JX-0001 at 31:39-52, 31:59-63. Inasmuch as claims 1, 4, and 5 are broad enough to cover tapes that did not solve the alleged problem (*e.g.*, tapes made of “strontium ferrite, lead ferrite, calcium ferrite, and Co substitution products or the like” and Embodiment 14, which is made with ferromagnetic metal powder (MP)), the persuasiveness of Fujifilm’s failure-of-others argument about barium ferrite is diminished.

³⁴ [

].

PUBLIC VERSION

Fujifilm then points to its dominant market share and relationships with prominent customers.

Id. Fujifilm then presents argument that echoes its long-felt need and failure-of-others

arguments. *Id.* at 102-03.³⁵

Sony argues:

Similarly, Dr. Wang's limited testimony concerning commercial success in connection with the '891 Patent deals exclusively with features expressly disclosed in Yamazaki, such as thickness, coercivity, and the use of hexagonal ferrite. CX-0357C at Q&A 95; *see also* Fujifilm PHB at 96-97. As such, it is legally immaterial. [*Tokai Corp. v. Easton Enters., Inc.*, 632 F.3d 1358, 1369 (Fed. Cir. 2011)] ("If commercial success is due to an element in the prior art, no nexus exists.").

Sony Br. at 103-04.

For the nexus requirement, the Federal Circuit has explained that:

A nexus between commercial success and the claimed features is required. . . . However, if the marketed product embodies the claimed features, and is coextensive with them, then a nexus is presumed and the burden shifts to the party asserting obviousness to present evidence to rebut the presumed nexus. . . . The presumed nexus cannot be rebutted with mere argument; evidence must be put forth.

Brown & Williamson Tobacco Corp. v. Philip Morris Inc., 229 F.3d 1120, 1130 (Fed. Cir. 2000)

(citations omitted).

The evidence that Fujifilm cites shows that Fujifilm has sold many LTO-6 and LTO-7 cartridges and that these sales have brought Fujifilm much revenue. CX-0026C (Vander Veen RWS) at Q/A 92-93. The evidence also shows that Fujifilm practices the '891 Patent. *See* Part IV(D) (Domestic Industry), *supra*. The evidence does not support a strong nexus between the '891 Patent and Fujifilm's success, however. In particular, Yamazaki discloses many aspects of

³⁵ Fujifilm has also argued that Sony does not dispute Fujifilm's commercial success. Fujifilm Br. at 33. This argument, however, is built on an overly zealous reading of Sony's brief.

PUBLIC VERSION

the claims asserted from the '891 Patent, including the barium ferrite particles that Fujifilm heavily relies on. *See* Part IV(E) (Anticipation), *supra*; *see also Tokai*, 632 F.3d at 1369; *J.T. Eaton & Co. v. Atl. Paste & Glue Co.*, 106 F.3d 1563, 1571 (Fed. Cir. 1997) (“the asserted commercial success of the product must be due to the merits of the claimed invention beyond what was readily available in the prior art.”). Further, given that Fujifilm’s products also practice other claims, it is impossible to attribute Fujifilm’s success to any one claim from the ‘891 Patent versus other claims, thus weakening the nexus between the “Asserted Claims” (as Fujifilm has identified them) and Fujifilm’s LTO products. *See* Part V(F), *infra*; *see, e.g., Apple*, 839 F.3d at 1055 (upholding jury finding of commercial success and a nexus between a single claim and a product feature based on survey evidence, the prominent role of the feature in Apple advertising, and a video of a crowd bursting into cheers when the feature was first demonstrated). Accordingly, the administrative law judge has determined that Fujifilm’s showing of commercial success provides weak support for finding that ‘891 Patent is not obvious, because the nexus between the commercial success and the ‘891 Patent is weak.

f) Copying

Fujifilm argues “it is highly probable (if not undeniable) that Sony copied the concepts claimed in the Asserted Claims.” Fujifilm Br. at 105. Fujifilm notes that [] and juxtaposes this fact with an argument that Sony now makes “products using BaFe particles which practice each and every Asserted Claim.” *Id.* at 104.³⁶ Fujifilm then argues “an inference of copying is reasonable” under the facts of the investigation. *Id.* at 105 (citing *WBIP*, 829 F.3d at 1336-37).

Sony presents seven reasons why it did not copy Fujifilm’s products. *See* Sony Reply at

³⁶ [

].

PUBLIC VERSION

4-8. In particular, Sony explains [

].

The evidence does not support a finding of copying. Fujifilm does not claim that [

]. Further, at least some of the evidence that

Fujifilm cites, CX-0400C and CX-0357C (Wang RWS) at Q/A 60 and 100, does not support

Fujifilm's zealous arguments. Accordingly, the administrative law judge has determined that the evidence does not show that Sony copied Fujifilm's products.

g) Weighing the Secondary Considerations

On the whole, the administrative law judge has determined that Fujifilm's weak showing of long-felt need, failure of others, and commercial success, while generally negligible individually, together carry a slight weight in favor of finding the '891 Patent is not obvious. The remaining secondary considerations do not support a non-obviousness finding.

G. Enablement

Sony's entire argument is:

Even if one assumed—wrongly—that following Yamazaki's recipe would not necessarily produce recording media having an average magnetic cluster size within the claimed range, such a finding would necessitate invalidating the '891 Patent on a different basis: lack of enablement. *Wyeth & Cordis Corp. v. Abbott Labs.*, 720 F.3d 1380, 1384 (Fed. Cir. 2013). A claim is invalid for lack of enablement “when, at the effective filing date of the patent, one of ordinary skill in the art could not practice [the] full scope without undue experimentation.” *Id.*

PUBLIC VERSION

As explained in detail above, the '891 Patent discloses substantially the same materials and processes as those disclosed in Yamazaki. If Fujifilm's position regarding Yamazaki is credited, it follows that utilizing the nearly identical process of the '891 Patent using the nearly identical materials disclosed in the '891 Patent sometimes results in a magnetic recording medium with an average size of magnetic cluster that is outside the range claimed by the '891 Patent. See RX-0004C (Ross OWS) at Q&A 27, 404-405. In other words, either Yamazaki anticipates the '891 Patent, or the '891 Patent is invalid as not enabled. *Id.*

Sony Br. at 69-70.

Fujifilm argues that Dr. Ross's testimony is based on an erroneous interpretation of the agreed construction of magnetic cluster. Fujifilm Br. at 107-08. Fujifilm relies on Dr. Wang's testimony in arguing that it would not require undue experimentation to achieve the characteristics in the asserted claims. *Id.* at 108.

The Staff argues that "Sony has presented only conclusory statements, rather than any evidence as to lack of enablement." Staff Br. at 45-46 (citing *Vasudevan Software, Inc. v. MicroStrategy, Inc.*, 782 F.3d 671, 684 (Fed. Cir. 2015); *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988)).

The administrative law judge finds that Sony has failed to show, through clear and convincing evidence, that the asserted claims are not enabled. In particular, Sony points to no evidence addressing the amount of experimentation that would be necessary and no evidence suggesting what amount of experimentation would be undue (or routine). Further, evidence cited by Fujifilm suggests that the patent contains sufficient examples that curtail any undue experimentation. See JX-0001 at 28:24-67 (Embodiments 1-14, as shown in Tables 2-3); CX-0357C (Wang RWS) at Q/A 416, 442. Accordingly, the administrative law judge finds that claims 1, 4-9, 11, and 14 are not invalid for failing to satisfy the enablement requirement.

H. Indefiniteness³⁷

Sony argues, in part:

Claims 1, 3-9, 11 and 14 are also invalid as indefinite because independent claim 1 (from which the other claims depend) specifies particular ranges of (1) “average size of magnetic cluster at DC erase” and (2) “coercivity,” yet there are an array of reasonable techniques for measuring these properties. Those techniques can yield wildly different results—some inside the claimed ranges and some outside. Yet the intrinsic record does not dictate any particular measurement method. Thus, a POSA lacks “reasonable certainty” as to the “scope of the invention” and in particular whether any given tape would infringe. *Nautilus*, 134 S. Ct. at 2124.

Sony Br. at 104-05. Sony argues that the ‘891 Patent does not inform a person of ordinary skill in the art what type of tip to use to measure cluster size and what binarization-threshold and noise-elimination parameters are appropriate. *Id.* at 106-09. Sony also argues that because the ‘891 Patent “is silent” on how to measure coercivity, a person of ordinary skill would not know whether to measure the value in a longitudinal, transverse, or perpendicular direction. *Id.* at 109.

As to coercivity, Fujifilm argues that one of ordinary skill in the art would ordinarily measure coercivity in the longitudinal direction, which is in the direction of the recording field. Fujifilm Br. at 32. Fujifilm notes that Sony itself measures coercivity in the longitudinal direction. *Id.* (citing Ross Tr. 702-704).

For average size of magnetic cluster, Fujifilm argues that the ‘891 Patent expressly teaches how to measure average size. *Id.* at 33-34 (citing JX-0001 at 29:35-49). Fujifilm argues that Sony is purposefully creating uncertainty and demanding “absolute certainty from the claim language and intrinsic record” in its arguments. *Id.* at 34. Fujifilm argues that one of ordinary skill in the art would know to select an appropriate tip and appropriate binarization and noise-

³⁷ Sony has argued that all of the tape media patents (*i.e.*, the ‘891, ‘106, ‘612, and ‘434 Patents) are indefinite. See Sony Br., §§ IV(E), V(D)(2), VI(D), VII(F)(1).

PUBLIC VERSION

elimination thresholds. *Id.* at 37-38 (citing JX-0001 at 29:43-49; CX-0357C (Wang RWS) at Q/A 418-19, 431).

The administrative law judge finds that Sony has not shown that claims 1, 4-9, 11, and 14 are invalid for failing to delineate the scope of the invention with reasonable certainty. *See Nautilus*, 134 S. Ct. at 2124. The evidence shows that one of ordinary skill in the art would measure coercivity in the longitudinal direction. *See* CX-0357C (Wang RWS) at Q/A 433; JX-0223C (Nakashio Dep. Tr.) at 41:22-42:21; Ross Tr. 702-704. The evidence also shows that the '891 Patent provides a protocol for measuring average cluster size and that a person of ordinary skill in the art would be able to perform this measurement. *See* JX-0001 at 29:35-49; CX-0357C (Wang RWS) at Q/A 418-19, 426-31. Accordingly, the administrative law judge finds that Sony has not shown claims 1, 4-9, 11, and 14 are indefinite.

V. U.S. PATENT NO. 6,767,612

A. Overview of the '612 Patent

The '612 Patent (JX-0004), entitled "Magnetic recording medium," issued on July 27, 2004. The application that would issue as the '612 Patent, Application No. 10/201,908, was filed on July 25, 2002, and claims priority to JP 2001-229023 (filed July 30, 2001) and JP 2001-359063 (filed November 26, 2001). The '612 Patent discloses a recording medium (*e.g.*, a tape or disk) with a magnetic layer that has specific physical and chemical attributes. *See generally* JX-0004, Abstract.

B. Claim Construction

1. Level of Ordinary Skill in the Art

Fujifilm argues that the '612 Patent and the '891 Patent have the same level of ordinary skill in the art. *See* Fujifilm Br. at 109.

PUBLIC VERSION

Sony proposes the same level of ordinary skill for all of the asserted patents. *See* Sony Br. at 48, 121, 195, 255-56, 310; *see also* n.13, *supra*.

The Staff notes that the private parties have presented the same arguments for the ‘612 and ‘891 Patents. Staff Br. at 48. The Staff’s argument for level of ordinary skill is based on “the reasons set forth above” in the ‘891 Patent. *Id.* The Staff offers that “it does not appear that the differences in the proposed level of ordinary skill in the art will affect any of the substantive issues in the investigation.” *Id.* at 48-49.

The administrative law judge finds that the level of ordinary skill for the ‘612 Patent is the same as the level of ordinary skill for the ‘891 Patent, for the reasons set forth in Part IV(B)(1), *supra*. Thus, as with the ‘891 Patent, the administrative law judge has determined that a person of ordinary skill in the art would have a bachelor’s degree in electrical engineering, mechanical engineering, physics, materials science (or a related field (such as chemistry)) plus two years of experience working with magnetic storage systems or media.

2. Agreed Constructions

Fujifilm, Sony, and the Staff have submitted agreed constructions for three claim terms, as follows:

Claim Term/Phrase	Relevant Claim(s)	Agreed Construction
Magnetic recording medium	1, 2, 4-5, and 7-10	No construction necessary. However, if construed: “medium on which information may be magnetically recorded.”
Pits	1, 2, 4, 5, and 10	“indentations below the average plane”
The center surface average roughness of said magnetic layer surface SRA	1, 7, 8, and 10	No construction necessary. However, if construed: “arithmetic average of the absolute values of the measured profile height deviations from the average plane.”

PUBLIC VERSION

See Fujifilm Br. at 25; Sony Br. at 122-23; Staff Br. at 49 (citing CX-0004C (Wang WS) at Q/A 555; RX-0001C (Bhushan WS) at Q/A 61; RX-0004C (Ross WS) at Q/A 87).

3. Disputed Constructions

The parties dispute three phrases in the '612 Patent:

Claim Term/Phrase	Relevant Claim(s)
the/a number of pits having a depth	1, 2, and 10
the number of pits having a depth of $\frac{1}{3}$ or more of the minimum recording bit length present on a surface of said magnetic layer is equal to or less than $100/10,000 \mu\text{m}^2$	1, 2, 4, 5, and 7-9
a number of pits having a depth of $\frac{1}{3}$ or more of the minimum recording bit length present on the surface of said magnetic layer of $100/10,000 \mu\text{m}^2$ or less	10 and 11

Fujifilm Br. at 31; Sony Br. at 49; Staff Br. at 16-19. Sony argues that both of the pit depth-bit length phrases are indefinite. See Sony Br. at 122.

a) *The number of pits having a depth*

Sony states:

Claims 1, 2 and 10 recite the term “the/a number of pits having a depth.” For clarification purposes, Sony has proposed that this term should be construed to mean “the number of indentations below the average plane having a distance from the average plane.” The final construction of this term, however, does not ultimately impact the remainder of the issues in dispute for the '612 Patent. Accordingly, and to streamline the issues to be decided, Sony accepts Fujifilm and Staff's proposed construction for this term.

Sony Br. at 122.

Fujifilm and Sony propose construing the phrase as “the number of indentations below the average plane having a depth.” See Staff Br. at 50 (arguing there “no dispute that pits are measured with respect to the average plane”).

PUBLIC VERSION

The administrative law judge has determined it is not necessary to construe the phrase “the/a number of pits having a depth.” The parties do not require a construction to navigate infringement and invalidity arguments. Accordingly, it is not necessary to construe this phrase. *See O2 Micro, supra.*

b) Pit depth-bit length limitations

There are two pit depth-bit length limitations:

- “the number of pits having a depth of $\frac{1}{3}$ or more of the minimum recording bit length present on a surface of said magnetic layer is equal to or less than $100/10,000 \mu\text{m}^2$ ” (claim 1)
- “a number of pits having a depth of $\frac{1}{3}$ or more of the minimum recording bit length present on the surface of said magnetic layer of $100/10,000 \mu\text{m}^2$ or less” (claim 10)

JX-0004 at 26:3-9, 26:58-61.

Sony argues that the pit depth-bit length limitations are indefinite. Sony Br. at 122. Sony has agreed that if these terms are not indefinite, Fujifilm and the Staff’s proposed constructions should apply. *Id.* at 122, n.35. Sony’s indefiniteness arguments are addressed in Part V(H), *infra.*

Fujifilm and the Staff propose the following constructions:

Claim Term	Fujifilm’s Proposed Construction	The Staff’s Proposed Construction
the number of pits having a depth of $\frac{1}{3}$ or more of the minimum recording bit length present on a surface of said magnetic layer is equal to or less than $100/10,000 \mu\text{m}^2$	the number of indentations below the average plane having a depth of $\frac{1}{3}$ or more of the minimum recording bit length present on a surface of said magnetic layer is equal to or less than $100/10,000 \mu\text{m}^2$	the number of indentations below the average plane having a depth of $\frac{1}{3}$ or more of the minimum recording bit length present on a surface of the magnetic layer is equal to or less than $100/10,000 \mu\text{m}^2$

PUBLIC VERSION

Claim Term	Fujifilm's Proposed Construction	The Staff's Proposed Construction
a number of pits having a depth of $\frac{1}{3}$ or more of the minimum recording bit length present on the surface of said magnetic layer of 100/10,000 μm^2 or less	the number of indentations below the average plane having a depth of $\frac{1}{3}$ or more of the minimum recording bit length present on the surface of <i>said</i> magnetic layer is 100/10,000 μm^2 or less	the number of indentations below the average plane having a depth of $\frac{1}{3}$ or more of the minimum recording bit length present on the surface of <i>the</i> magnetic layer of 100/10,000 μm^2 or less

Fujifilm Br. at 110-11; Staff Br. at 51, 53 (emphasis added to show differences between proposed constructions). Both sets of proposed constructions simply substitute “pits” with the agreed proposed construction for “pits.”

The administrative law judge has determined that the above phrases do not need construction. The parties have not provided constructions for these phrases (beyond substituting “pits” with its agreed proposed construction). In addition, as Sony’s indefiniteness arguments generally pertain to measurements and attendant tape systems, and not the claim language itself, this too indicates that the phrases do not need to be construed. *See O2 Micro, supra*.

C. Direct Infringement

Fujifilm asserts claims 1, 2, 4, 5, and 7-11 against Sony’s LTO-7 products. *See* Fujifilm Br. at 117-19; Staff Br. at 54. Claims 1, 2, 4, 5, 7, and 8 are product claims, while claims 9-11 are method claims that contain product-specific limitations. Fujifilm argues that Sony directly infringes the product claims and indirectly infringes the method claims. Fujifilm Br. at 117-18.

Sony argues that it has not violated Section 337 because the asserted claims are invalid.³⁸ Sony Br. at 181. Sony also argues that Fujifilm has not met its burden of showing that Sony’s LTO-7 products infringe the asserted claims. *Id.* at 182. Sony principally contests two

³⁸ Fujifilm has argued that Sony literally infringes the asserted claims. It has not presented any doctrine of equivalents arguments.

PUBLIC VERSION

limitations from claim 1—“wherein the number of pits having a depth of $\frac{1}{3}$ or more of the minimum recording bit length present on a surface of said magnetic layer is equal to or less than $100/10,000 \mu\text{m}^2$ ” and “the minimum recording bit length is about 50 to 500 nm.” *Id.* at 182-85. Sony also contests that it induces infringement of claims 9-11. *Id.* at 185-88.

1. Claim 1

Claim 1 follows:

1. A magnetic recording medium comprising a nonmagnetic layer comprising a nonmagnetic powder and a binder and a magnetic layer comprising a hexagonal ferrite powder and a binder in this order on a nonmagnetic support, wherein

the number of pits having a depth of $\frac{1}{3}$ or more of the minimum recording bit length present on a surface of said magnetic layer is equal to or less than $100/10,000 \mu\text{m}^2$, the minimum recording bit length is about 50 to 500 nm, and the center surface average roughness of said magnetic layer surface SRa is equal to or less than 6.0 nm.

JX-0004 at 25:65-26:10.

Fujifilm divides the claim into five limitations, which are shown as follows:

- [a] 1. A magnetic recording medium comprising
- [b] a nonmagnetic layer comprising a nonmagnetic powder and a binder and a magnetic layer comprising a hexagonal ferrite powder and a binder in this order on a nonmagnetic support, wherein
- [c] the number of pits having a depth of $\frac{1}{3}$ or more of the minimum recording bit length present on a surface of said magnetic layer is equal to or less than $100/10,000 \mu\text{m}^2$,
- [d] the minimum recording bit length is about 50 to 500 nm,
- [e] and the center surface average roughness of said magnetic layer surface SRa is equal to or less than 6.0 nm.

See Fujifilm Br. at 119-30. Each limitation is addressed below.

PUBLIC VERSION

a) A magnetic recording medium comprising

Fujifilm argues, in part:

... The Accused Products contain a medium (tape) on which data (information) can be recorded (stored) magnetically, which Sony has acknowledged. [

]....

Fujifilm Br. at 119.

The Staff argues that this limitation is met and notes that “Sony does not appear to dispute that this limitation is met.” Staff Br. at 57.

As discussed above, Sony has not contested this limitation. *See generally* Sony Br., § V(E) (the limitation is not contested); Sony Reply, § III(B) (same).

The evidence shows that Sony’s LTO-7 products include a magnetic recording medium.

See [

]; JX-0052C at 20 (LTO-7

specification, U-732); [

]. Accordingly, the

administrative law judge has determined Sony’s LTO-7 products satisfy this limitation.

b) a nonmagnetic layer comprising a nonmagnetic powder and a binder and a magnetic layer comprising a hexagonal ferrite powder and a binder in this order on a nonmagnetic support

Fujifilm argues that Sony’s products “comply with the LTO-7 Specification, which requires that they include the same basic tape media structure of a lower layer and a magnetic layer located over the lower layer.” Fujifilm Br. at 120. Fujifilm relies on expert testimony, [

], testing

on Sony’s LTO-7 products (the LTX6000G), and expert testimony. *Id.* at 39-41.

PUBLIC VERSION

The Staff argues that this limitation is met and notes that “Sony does not appear to dispute that this limitation is met.” Staff Br. at 57-58; *see generally* Sony Br., § V(E) (the limitation is not contested); Sony Reply, § III(B) (the limitation is not contested).

The evidence shows that Sony’s LTO-7 products have a nonmagnetic layer that includes a nonmagnetic powder and a binder. *See* [

]; JX-0052C at 62 [

]; CX-0004C (Wang WS) Q/A 587.

The evidence also shows that Sony’s LTO-7 products have a magnetic layer that includes hexagonal ferrite powder and a binder (in this order) on a nonmagnetic support. In particular, the LTO-7 products are made with [

] at 20; CX-0004C (Wang WS) at Q/A 596.

The magnetic layer includes a binder. [] CX-0004C (Wang WS) at Q/A 137-39. The LTO-7 products further include a nonmagnetic support. *See* CX-0002C (Sinclair WS) Q/A 39-43; *see also* [

]; CX-0004C (Wang WS) Q/A 137; JX-0052C (LTO-7 Specification) at 62, 76;

[].

PUBLIC VERSION

Accordingly, the administrative law judge has determined Sony's LTO-7 products satisfy this limitation.

- c) *the number of pits having a depth of $\frac{1}{3}$ or more of the minimum recording bit length present on a surface of said magnetic layer is equal to or less than $100/10,000 \mu\text{m}^2$*

Fujifilm argues that Dr. Wang's testing demonstrates Sony's LTO-7 products satisfy this limitation. See Fujifilm Br. at 122. Fujifilm's brief explains that Dr. Wang tested six $6,400 \mu\text{m}^2$ areas (three tests were performed at 0.5 Hz, and the other three were performed at 2.0 Hz) for pits having the requisite depth. *Id.* at 123. Dr. Wang utilized the $6,400 \mu\text{m}^2$ area because it was the largest area his equipment could capture. Dr. Wang then extrapolated his results to the $10,000 \mu\text{m}^2$ area specified by claim 1. *Id.* Dr. Wang opines that the $6,400 \mu\text{m}^2$ area is a statistically representative area (64%) of the $10,000 \mu\text{m}^2$ area specified by claim 1. *Id.* (citing CX-0004C (Wang WS) at Q/A 613-14). Dr. Wang's testing indicates that Sony's LTO-7 products have (at most) [] pits of the requisite depth per $10,000 \mu\text{m}^2$. *Id.* at 124 (citing CX-0004C (Wang WS) at Q/A 616). Fujifilm then proactively addresses Sony's criticisms. *Id.* at 124-27.

Sony argues, in part:

Dr. Wang measured an $80 \mu\text{m} \times 80 \mu\text{m}$ square area (totaling only $6,400 \mu\text{m}^2$). Tr. at 266:20-24; CX-0004C at Q&A 611-612. He therefore looked at only a fraction of the area required by the claims and he drew his conclusions about infringement by making an "estimate" and "extrapolating" to the claimed $10,000 \mu\text{m}^2$ area. CX-0004C at Q&A 616; Tr. at 267:20-22, 268:6-10. As Sony's expert, Dr. Bhushan, has testified, pit distributions are variable—they are not uniform—and measuring the number of pits in a fraction of a given area does not necessarily provide you with conclusive data about the number of pits in the remainder of the area. RX-0366C at Q&A 57-61. Though the claims of the '612 Patent do not require a particular scan area be measured, they do specify a particular number of pits that must be present in a specific area to fall within the scope of the claim. RX-0366 at

PUBLIC VERSION

Q&A 60. To measure an area that is less than the area claimed may give one reason to believe that you can approximate (or “extrapolate” as Dr. Wang did) the number of pits in a different area of $10,000 \mu\text{m}^2$, but without actually measuring that area, one cannot know for sure. *Id.* Accordingly, Dr. Wang’s measurement and counting of pits and extrapolation based on a scan area of $6,400 \mu\text{m}^2$ is insufficient to meet the claimed limitation that specifically requires a certain number of pits in a different square area (*i.e.*, $10,000 \mu\text{m}^2$). RX-0366C (Bhushan RWS) at Q&A 60-61.

Sony Br. at 183. Sony also faults Dr. Wang for using “contact mode” for analyzing the scans, rather than “tapping mode,” based in part upon the particular AFM tip (*i.e.*, the SNL-10) used for the testing. *Id.* at 183-84. [

]. *See*

generally id.; *see also* CX-0004C (Wang WS) at Q/A 619; [

].

Fujifilm replies to Sony’s criticisms by noting that the claims do not actually require scans of $10,000 \mu\text{m}^2$ areas. Fujifilm Br. at 123 (CX-0004C (Wang WS) at Q/A 612). Fujifilm notes that the SNL-10 tip Dr. Wang used is suitable for contact mode applications. *See id.* at 127 (citing Wang Tr. 680-681; CX-0346 (Bruker Scanning Probe Microscopy) (stating “Preferred Bruker probes for [Contact Mode] application include ESP, MPP-31100-10, SNL-10, DNP-10, MLCT, and MSNL-10.”)).

In reply, Sony suggests that the [] pits of the requisite depth needed to avoid infringement (based on Dr. Wang’s findings of [] pits per $10,000 \mu\text{m}^2$) could be found in the 36% of the area that Dr. Wang did not examine. *See* Sony Reply at 49 (“Fujifilm’s infringement evidence *ignores what may be found in the 36% area that it did not examine.*” (emphasis added by Sony)).

The Staff argues that Fujifilm’s evidence is sufficient to support a finding of

PUBLIC VERSION

infringement. Staff Br. at 58.

The preponderance of the evidence shows that Sony's LTO-7 products have pits and that the number of pits having a depth of $\frac{1}{3}$ or more of the minimum recording bit length present on a surface of said magnetic layer is equal to or less than 100/10,000 μm^2 . See CX-0004C (Wang WS) at Q/A 601-21 (including test results). Dr. Wang's testimony and testing constitutes a showing that Sony's LTO-7 products satisfy this limitation. Although Sony presents critiques of the testing, the critiques alone do not sufficiently rebut Dr. Wang's testing. Indeed, [

]. Accordingly, the administrative law judge has determined Sony's LTO-7 products satisfy this limitation.

d) the minimum recording bit length is about 50 to 500 nm,

Fujifilm argues that Sony's LTO-7 products have a minimum recording bit length of about [] nm, which satisfies the limitation. Fujifilm Br. at 128. Fujifilm relies on [

], and expert testimony. *Id.*

Sony's entire argument is:

All of the claims of the '612 Patent recite a "minimum recording bit length" which serves to define the depth of the required number of pits. The '612 Patent itself, however, defines "minimum recording bit length" as a property of the system in which the magnetic recording medium is used (as opposed to a property of the magnetic recording medium itself). '612 Patent at 3:56-59. As Dr. Bhushan has testified, though the Sony Accused Products may be sold with a particular system in mind for use, the medium itself, as sold, has no data written to it and therefore no "minimum recording bit length" until used with a particular system. RX-

PUBLIC VERSION

0366C at Q&A 74-82. Mr. Jennings confirmed the same. Tr. at 575:7-576:3. The '612 Patent itself states that the value of a recording medium's "minimum recording bit length" can *vary from system to system*. '612 Patent at 3:56-59. Neither Fujifilm nor Dr. Wang have provided evidence that the Sony Accused Product, as sold (a blank tape with no data written to it and which has not yet been used in any system), has any "minimum recording bit length." RX-0366C at Q&A 77-82. For at least this reason, Fujifilm has failed to prove that the Sony Accused Product meets this limitation. RX-0366C at Q&A 83, 87, 91, 95, 98, 101, 104, 115, 117.

Sony Br. at 184-85.

The evidence shows that Sony's LTO-7 products have a minimum recording bit length between about [] nm. In particular, Sony's product literature advertises a minimum wavelength of [], which corresponds to a minimum recording bit length of [] nm. See []; JX-0004 at 3:56-59. Additionally, the advertised linear density of Sony's LTO-7 products is [] at 2; CX-0004C (Wang WS) at Q/A 624; []. Further, Dr. Bhushan's testimony does not opine on whether using one particular system over another is a material difference. See RX-0366C (Bhushan RWS) at Q/A 77 ("Claim 1 of the '612 Patent is directed only to a magnetic recording medium but is also broad enough to cover various different magnetic recording media operating with various different recording systems."). Accordingly, the administrative law judge has determined Sony's LTO-7 products satisfy this limitation.

e) the center surface average roughness of said magnetic layer surface SRA is equal to or less than 6.0 nm.

Fujifilm argues that Sony's LTO-7 products exhibit a SRA between [] nm. Fujifilm Br. at 128-30. Fujifilm relies on [], and expert testimony. *Id.*

The Staff argues that this limitation is met and notes that "Sony does not appear to

PUBLIC VERSION

dispute that this limitation is met.” Staff Br. at 59; *see generally* Sony Br., § V(E) (the limitation is not contested); Sony Reply, § III(B) (the limitation is not contested).

The evidence shows that the magnetic layer in Sony’s LTO-7 products has a center surface average roughness between [] nm, which is less than or equal to 6.0 nm. *See*

[]
[]; CX-0004C (Wang WS) at Q/A 627-28, 630, 634-35;

[]. Accordingly, the administrative law judge has determined Sony’s LTO-7 products satisfy this limitation.

In conclusion, the administrative law judge has determined that Sony’s LTO-7 products infringe claim 1.

2. Claim 2

Claim 2 requires that the number of pits having a depth greater than or equal to 50 nm cannot exceed 100 per 10,000 μm^2 . JX-0004 (“said magnetic layer has on a surface, the number of pits having a depth as measured by Atomic Force Microscope of 50 nm or more being equal to or less than 100/10,000 μm^2 ”).

Fujifilm argues that claim 2 is infringed based on the same evidence that shows claim 1 is infringed. Fujifilm Br. at 130. In particular, Fujifilm argues Sony’s LTO-7 products have (at most) [] pits having a depth of 17.5 nm or more per 10,000 μm^2 . *Id.* (citing CX-0004C (Wang WS) at Q/A 638-39). Fujifilm also notes that [

[]. *Id.*

Sony does not argue that the LTO-7 products do not infringe claim 2 specifically. *See generally* Sony Br., § IV(F) (the claim is not contested); Sony Reply, § II(C) (the claim is not contested).

PUBLIC VERSION

The Staff argues that claim 2 is infringed. Staff Br. at 59-60.

The evidence that shows it is more likely than not that Sony's LTO-7 products infringe claim 1, and also shows it is more likely than not that Sony's LTO-7 products infringe claim 2. In particular, the evidence shows that it is more likely than not that [] pits in Sony's LTO-7 products have a depth of greater than or equal to 50 nm. *See* CX-0004C (Wang WS) at Q/A 638-39). The evidence further shows that there are (at most) [] pits exceeding 17.5 nm in depth per every 10,000 μm^2 . *Id.* Accordingly, the administrative law judge has determined Sony's LTO-7 products infringe claim 2.

3. Claim 4

Claim 4 narrows the pit depth-bit length ratio of claim 1 to 80 pits per 10,000 μm^2 . *See* JX-0004 at 26:21-23.

Sony's LTO-7 products infringe claim 4 based upon the same evidence that shows they infringe claim 1.

4. Claim 5

Claim 5 narrows the pit depth-bit length ratio of claim 1 to 50 pits per 10,000 μm^2 . *See* JX-0004 at 26:24-26.

Sony's LTO-7 products infringe claim 5 based upon the same evidence that shows they infringe claim 1.

5. Claim 7

Claim 7 narrows the center surface average roughness limitation of claim 1 to a range of 1.0 to 5.0 nm. *See* JX-0004 at 26:31-33.

Sony's LTO-7 products infringe claim 7 based upon the same evidence that shows they infringe claim 1.

PUBLIC VERSION

6. Claim 8

Claim 8 narrows the center surface average roughness limitation of claim 1 to a range of 1.5 to 4.5 nm. *See* JX-0004 at 26:34-36.

Sony's LTO-7 products infringe claim 8 based upon the same evidence that shows they infringe claim 1. In particular, Dr. Wang's testing shows the products have an average roughness between [] nm. *See* CX-0004C (Wang WS) at Q/A 630.

7. License

Sony concludes its non-infringement arguments with the following:

As discussed in Section V.G. of this brief, the Asserted Claims of the '612 Patent (excluding claim 8) are essential to the practice of the LTO-7 standard. Because these Asserted Claims are "essential," Fujifilm has a contractual obligation to license them to Sony. As a licensee of claims 1, 2, 4, 5, 7, 9, 10 and 11 of the '612 Patent, Sony cannot be found liable for infringement. *See e.g.*, RX-0366C at Q&A 118-120.

Sony Br. at 188.

Sony's license arguments are addressed in Part IX, *infra*.

D. Indirect Infringement

1. Claim 9

Claim 9 follows:

9. A method for use of the magnetic recording medium according to claim 1, wherein a MR head is employed during recording and reproduction.

JX-0004 at 26:37-39.

Fujifilm argues:

... Sony documents demonstrate that Sony advertises that its LTO-7 tape media is manufactured for use in LTO-7 drives. CX-0004C (Wang DWS) Q:650. For example, [

].

LTO-7 drives make use of MR heads during recording and reproduction, and [

]. Further, Dr. Wang testified that according to JX-0072 (IBM TS3310 Tape Library) at 6, LTO-7 tape drives include GMR heads. CX-0004C (Wang DWS) Q:651. Dr. Wang explained that a GMR head, short for “giant magnetoresistive” head, is a type of MR head. *Id.*; JX-0004 (‘612 Patent) at 1:45-46. Thus, an MR head is employed during recording and reproduction, as required by claim 9.

Sony actively induces its customers to perform this limitation through marketing and instructional materials. [

]. Sony was aware of the ‘612 Patent and knew that use of the Accused Products by its customers would infringe this claim, as discussed above. Sony intends for its customers to record data to its LTO-7 recording media. [

]. And Sony’s customers actually record and reproduce data on the Accused Products—a fact Sony freely admits. *See* Sony’s Public Interest Statement, EDIS No. 583503 at 5. Accordingly the Accused Products infringe claim 9 when Sony and/or its customers use the Accused Products to record and reproduce data.

Fujifilm Br. at 133.

Sony argues that Fujifilm has not shown that Sony performs the method of claim 9 in the United States. Sony Br. at 185. [Sony also argues that it does not induce its customers to infringe claim 9. [

].” *Id.* at 186. Sony adds:

... Fujifilm has simply provided no evidence that Sony ever “actively or knowingly” intended its customers to infringe the Asserted Claims of the ‘612 Patent, either in the past or going forward. RX-0366C at Q&A 102-109. To the extent Fujifilm is relying on the fact that Sony’s Accused Products are **standardized** to be used with LTO-7 drives according to the LTO-7 standard specification, and can be used in no other manner (by implication or otherwise), Fujifilm concedes that the ‘612 Patent is essential to the practice of the LTO-7 standard and Sony is owed a license, as discussed in Section V.G., below. Beyond this, however, Sony’s mere contention that the ‘612 Patent is essential to the practice of the LTO-7 Standard is not evidence of active inducement at least because essential claims are subject to a license and therefore do not infringe. *See* Section V.G., below.

Id. at 186-87.

The Staff argues that Sony “knowingly and actively induces its customers to perform the claimed methods [

].” Staff Br. at 62 (citing [

].³⁹ The Staff notes that Sony admitted

having knowledge of the asserted patents since at least as early as [

].

Fujifilm replies that Sony’s essentiality argument is an admission of infringement and of Sony’s knowledge of its customers’ infringement. Fujifilm Reply at 56-57.

Sony replies that [

].”

³⁹ Sony has explained that “[c]ustomers and end-users of Sony-manufactured LTO-7 data cartridges use the accused cartridges to store data in large quantities and on a long-term basis in their tape storage systems.” *See, e.g.*, Sony’s Submission on the Public Interest (EDIS Doc. ID No. 583503, filed June 13, 2016).

PUBLIC VERSION

Sony Reply at 52.

The evidence shows that Sony had knowledge of the ‘612 Patent as of []. Further, Sony’s submission on the public interest confirms that Sony’s customers use Sony’s LTO-7 products. *See, e.g.,* Sony’s Submission on the Public Interest (EDIS Doc. ID No. 583503, filed June 13, 2016); *see also* [].

J. The LTO-7 products are used with a LTO-7 tape drive, which includes a MR head that is used during recording and reproduction. CX-0004C (Wang WS) at Q/A 651. Thus, there is sufficient evidence to conclude that Sony’s customers infringe claim 9.

Fujifilm has not, however, pointed to sufficient evidence to conclude that Sony induces infringement. In particular, the Sony Specification Sheet, JX-0054C, that Fujifilm cites does not provide a sufficient basis to conclude that Sony induces infringement because the sheet does not instruct, direct, or advise customers on how to perform the claimed method. *See Arris Group v. British Telecomm. PLC*, 639 F.3d 1368, 1379 n.13 (Fed. Cir. 2011) (“Section 271(b) covers active inducement of infringement, which typically includes acts that intentionally cause, urge, encourage, or aid another to directly infringe a patent.”). In other words, Fujifilm has not shown that it was Sony’s specific intent to infringe the ‘612 Patent. *See Commil USA, LLC v. Cisco Sys., Inc.*, 135 S. Ct. 1920, 1928 (2015) (“Section 271(b) requires that the defendant ‘actively induce[d] infringement.’ That language requires intent to ‘bring about the desired result,’ which is infringement.”); *see also Global-Tech Appliances, Inc., v. SEB S.A.*, 131 S. Ct. 2060 (2011). Accordingly, the administrative law judge finds that Fujifilm has not shown that Sony induces its

customers to infringe claim 9.

2. Claim 10

Claim 10 follows:

10. A magnetic recording and reproducing method comprising the steps of:

providing a magnetic recording medium comprising a nonmagnetic layer comprising a nonmagnetic powder and a binder and a magnetic layer comprising a hexagonal ferrite powder and a binder in this order on a nonmagnetic support, and, optionally, a backcoat layer comprising a selected type and quantity of course [sic] particles, wherein the center surface average roughness of said magnetic layer surface SRa is equal to or less than 6.0 nm,

writing a signal of a selected recording wavelength or range of recording wavelengths and of a selected track width on the magnetic recording medium using a head, and

reproducing the recorded signal using an MR head having a selected track width,

so as to achieve a number of pits having a depth of $\frac{1}{3}$ or more of the minimum recording bit length present on the surface, of said magnetic layer of $100/10,000 \mu\text{m}^2$ or less.

JX-0004 at 26:40-61.

Fujifilm divides the claim into five limitations, which are shown as follows:

10. A magnetic recording and reproducing method comprising the steps of:

[a] providing a magnetic recording medium comprising a nonmagnetic layer comprising a nonmagnetic powder and a binder and a magnetic layer comprising a hexagonal ferrite powder and a binder in this order on a nonmagnetic support,

[b] and, optionally, a backcoat layer comprising a selected type and quantity of course particles,

[c] wherein the center surface average roughness of said magnetic layer surface SRa is equal to or less than 6.0 nm,

PUBLIC VERSION

- [d] writing a signal of a selected recording wavelength or range of recording wavelengths and of a selected track width on the magnetic recording medium using a head, and
- [e] reproducing the recorded signal using an MR head having a selected track width, so as to achieve a number of pits having a depth of $\frac{1}{3}$ or more of the minimum recording bit length present on the surface of said magnetic layer of $100/10,000 \mu\text{m}^2$ or less.

See Fujifilm Br. at 135. Fujifilm contends that Sony's customers directly infringe claim 10 and that Sony induces its customers to infringe claim 10. Fujifilm's direct infringement arguments are addressed first.

- a) *providing a magnetic recording medium comprising a nonmagnetic layer comprising a nonmagnetic powder and a binder and a magnetic layer comprising a hexagonal ferrite powder and a binder in this order on a nonmagnetic support,*

Fujifilm argues that this limitation is equivalent to limitation [a] from claim 1 and that "the analysis and evidence discussed with respect to claim 1 applies." Fujifilm Br. at 135.

The Staff argues that this limitation is met and offers that it "is not disputed that this limitation is met." Staff Br. at 63; *see generally* Sony Br., § V(E) (the limitation is not contested); Sony Reply, § III(B) (the limitation is not contested).

The same evidence that shows Sony's LTO-7 products satisfy limitation 1[a] shows that Sony's LTO-7 products include the claimed magnetic and nonmagnetic layers. Further, Sony's submission on the public interest confirms that Sony's customers use Sony's LTO-7 products, which is sufficient to show that customers "provide" the required layers when they use a Sony LTO-7 tape in a tape drive.⁴⁰ Accordingly, the administrative law judge has determined that

⁴⁰ See, e.g., Sony's Submission on the Public Interest (EDIS Doc. ID No. 583503, filed June 13, 2016); *see also* [

PUBLIC VERSION

Sony's customers practice this limitation.

b) and, optionally, a backcoat layer comprising a selected type and quantity of coarse [sic] particles,

Fujifilm argues that the LTO-7 products have a backcoat that includes coarse-particle carbon black. *See* Fujifilm Br. at 136 (citing CX-0004C (Wang WS) at Q/A 659-60; [

].

The Staff argues that this limitation is met and notes that “Sony does not appear to dispute that this limitation is met.” Staff Br. at 63-64; *see generally* Sony Br., § V(E) (the limitation is not contested); Sony Reply, § III(B) (the limitation is not contested).

The evidence shows Sony's LTO-7 products have a backcoat with coarse particles. *See* CX-0004C (Wang WS) at Q/A 659-60; [

]; JX-0004 at 4:20 (identifying carbon black as a coarse particle). Further, Sony's submission on the public interest confirms that Sony's customers use Sony's LTO-7 products, which is sufficient to show that customers “provide” the backcoat layer when they use a Sony LTO-7 tape in a tape drive.⁴¹ Accordingly, the administrative law judge has determined that Sony's customers practice this limitation.

c) wherein the center surface average roughness of said magnetic layer surface SRa is equal to or less than 6.0 nm,

Fujifilm argues that this limitation is equivalent to limitation [e] from claim 1 and that “the analysis and evidence discussed with respect to claim 1 applies.” Fujifilm Br. at 135.

The Staff argues that this limitation is met and notes that “Sony does not appear to dispute that this limitation is met.” Staff Br. at 64; *see generally* Sony Br., § V(E) (the limitation is not contested); Sony Reply, § III(B) (the limitation is not contested).

⁴¹ *See id.*

PUBLIC VERSION

The same evidence that shows Sony's LTO-7 products satisfy limitation 1[e] shows that Sony's LTO-7 products have a magnetic layer with the claimed center surface roughness. Further, Sony's submission on the public interest confirms that Sony's customers use Sony's LTO-7 products, which is sufficient to show that customers "provide" the required layer when they use a Sony LTO-7 tape in a tape drive.⁴² Accordingly, the administrative law judge has determined that Sony's customers practice this limitation.

d) writing a signal of a selected recording wavelength or range of recording wavelengths and of a selected track width on the magnetic recording medium using a head, and

Fujifilm argues that Sony's customers practice this limitation when they record data onto Sony's LTO-7 products. Fujifilm Br. at 136. Fujifilm points to LTO-7 drives and the LTO-7 specification as satisfying the "selected" wavelength and track width aspects of this limitation. *Id.* at 136-37 (citing CX-0004C (Wang WS) at Q/A 665; []).

The Staff argues that this limitation is met and notes that "Sony does not appear to dispute that this limitation is met." Staff Br. at 64; *see generally* Sony Br., § V(E) (the limitation is not contested); Sony Reply, § III(B) (the limitation is not contested).

The evidence shows that Sony's customers practice this limitation when they write data onto Sony's LTO-7 products. *See* CX-0004C (Wang WS) at Q/A 663-65; JX-0054C.

⁴² *See, e.g.,* Sony's Submission on the Public Interest (EDIS Doc. ID No. 583503, filed June 13, 2016); *see also* []

PUBLIC VERSION

- e) *reproducing the recorded signal using an MR head having a selected track width, so as to achieve a number of pits having a depth of $\frac{1}{3}$ or more of the minimum recording bit length present on the surface of said magnetic layer of 100/10,000 μm^2 or less.*

Fujifilm argues that Sony's customers practice this limitation when they reproduce data that is written on Sony's LTO-7 products. Fujifilm Br. at 137 (citing CX-0004C (Wang WS) at Q/A 667-69; []; JX-0052C (LTO-7 Format Specification)).

The Staff argues this limitation is met and offers that the limitation "is substantially the same as the corresponding limitation of claims 1 and 9." Staff Br. at 64-65.

The evidence shows that Sony's customers practice this limitation when they reproduce data that is written on Sony's LTO-7 products. *See* CX-0004C (Wang WS) at Q/A 667-69. Sony's LTO-7 products satisfy the pit depth-bit length limitations for the reasons provided in relation to limitation 1[c], which is the equivalent limitation in claim 1.

f) *Sony's alleged inducement*

Fujifilm argues that Sony actively induces its customers to perform the claimed method through its marketing and instructional materials. *See, e.g.,* Fujifilm Br. at 136. Fujifilm cites [], the LTO-7 Format Specification (JX-0052C), and []. As discussed with respect to claim 9, [] does not provide a sufficient basis to conclude that Sony induces infringement because []

[]. *See Arris*, 639 F.3d at 1379; *Commil*, 135 S. Ct. at 1928. Similarly, the LTO-7 specification does not instruct, direct, or advise Sony's customers to use Sony's products (the specification applies to manufacturers, not customers). Further, [], not

PUBLIC VERSION

that Sony is actively trying to cause infringement. Accordingly, the administrative law judge finds that Fujifilm has not shown that Sony induces its customers to infringe the claim 10.

3. Claim 11

Fujifilm argues:

Claim 11 depends from claim 10, thus the analysis and evidence set forth with respect to claim 10 applies here as well. Claim 11 includes the additional limitation of “wherein the minimum recording bit length is from about 50 to 500 nm.” Claim 1 recites an identical limitation, thus the analysis and evidence cited with respect to claim 1 applies here as well. Accordingly, the Accused Products infringe claim 11 when used in an LTO-7 drive.

Fujifilm Br. at 138.

The Staff argues that claim 11 is infringed and notes that “Sony does not appear to dispute that this additional limitation is met.” Staff Br. at 65; *see generally* Sony Br., § IV(F) (the claim/limitation is not contested); Sony Reply, § II(C) (the claim/limitation is not contested).

Sony’s LTO-7 products satisfy the bit length limitation for the reasons provided in relation to limitation 1[d], which is the equivalent limitation in claim 1. Further, the evidence discussed in relation to claim 10 also shows that Sony’s customers practice this claim when they use Sony’s LTO-7 products in a LTO-7 tape drive.

The administrative law judge, however, finds that Fujifilm has not shown that Sony induces its customers to infringe claim 11 for the same reasons that Fujifilm has not shown Sony induces infringement of claims 9 and 10.

E. Essentiality

Sony argues that claims 1, 2, 4, 5, 7, and 9-11 are essential to the LTO-7 standard. Sony Br. at 189. Sony argues that the “nonmagnetic support” and “nonmagnetic” under layer are “necessarily” required by the standard:

PUBLIC VERSION

- “[A]lthough the LTO-7 standard does not explicitly state the support and under layer must be nonmagnetic, Mr. Jennings experience in testing slightly magnetic layers demonstrates that LTO-7 tape in practice must have a nonmagnetic support and under layer.” *Id.* at 190
- “LTO-7 tape must have a “nonmagnetic powder” within the under layer. RX-0003C at Q&A 200-05. Although the LTO-7 standard does not expressly require such a powder, a tape that did not have such a powder in the under layer would not be able to meet three different sections of the LTO-7 standard, including sections 9.10.1.2, 9.11.1.1, and 9.18.1.” *Id.*

Sony also argues that the LTO-7 requires that “LTO-7 tape must have less than 100 “pits” per 10,000 μm^2 .” *Id.* at 191 (“Mr. Jennings uses the very data provided by the ‘612 Patent to calculate the number of pits that would result in a drop in signal-to-noise ratio (SNR) by 2.5 dB—the LTO-7 requirement—and found that if the tape had more than 31-32 pits, it would not meet the LTO-7 standard.”).

Fujifilm argues that claims 1, 2, 4, 5, 7, and 9-11 are not essential because the LTO-7 specification “contains no requirements for ‘a nonmagnetic layer,’ ‘a nonmagnetic powder,’ ‘a nonmagnetic support,’ or ‘number of pits having a depth of $\frac{1}{3}$ or more of the minimum recording bit length present on a surface of said magnetic layer is equal to or less than 100/10,000 μm^2 .”

Fujifilm Br. at 158. Fujifilm relies on the LTO-7 specification (JX-0052C), Dr. Wang’s testimony (CX-0357C (Wang RWS) Q/A at 586-598), and [

] *Id.* at 158-59.

The Staff agrees with Fujifilm. Staff Br. at 66 (citing CX-0357C (Wang RWS) at Q/A 586-598, [

] The administrative law judge has determined that Sony has not shown, by a preponderance of the evidence, that claims 1, 2, 4, 5, 7, and 9-11 are essential to the LTO-7 standard. In particular, Sony (and Mr. Jennings) has not shown that the LTO-7 standard requires

PUBLIC VERSION

a tape that meets limitation 1[c] of claim 1.⁴³ See CX-0357C (Wang RWS) at Q/A 590-97.

Indeed, [

J. Accordingly, Sony has not shown that

claims 1, 2, 4, 5, 7, and 9-11 are essential to the LTO-7 standard.

F. Domestic Industry (Technical Prong)

Fujifilm argues that its LTO-7 and LTO-6 products practice claims 1, 2, 4, 5, and 7-11 of the '612 Patent. Fujifilm Br. at 140. Fujifilm argues that Sony's arguments are "arguments are based on erroneous claim construction positions regarding the plain and ordinary meaning of terms and are not supported by evidence." *Id.* Fujifilm concludes that Sony "no reasonable basis to challenge Fujifilm's domestic industry technical prong." *Id.*

Sony's entire argument is:

Fujifilm tested its own Domestic Industry Products (LTO-6 and LTO-7 tapes) in the same manner that it tested the Sony Accused Products, *i.e.*, by counting pits in a $6400\text{ }\mu\text{m}^2$ area and extrapolating, rather than identifying and counting pits in a $10,000\text{ }\mu\text{m}^2$ area. For the same reasons, discussed in Section V.E.1., above, regarding why Fujifilm's testing failed to prove that the Sony Accused Product has 100 or less (or 80 or less (claim 4) or 50 or less (claim 5) pits of a certain depth in an area of $10,000\text{ }\mu\text{m}^2$, so too does Fujifilm's testing fail to prove the same limitations are practiced by the Domestic Industry Products. See RX-0366C at Q&A 125-128.

In addition, for the same reason why the Accused Sony Product, on its own, has no "minimum recording bit length," the same is true for the Domestic Industry Products. Fujifilm has never alleged that the LTO-7 system (tape and drive) collectively constitutes the

⁴³ Sony also has not shown that the "nonmagnetic layer" and "nonmagnetic powder" requirements of limitation 1[b] are explicitly met. While Sony's expert opined that these requirements would be necessary to practice the standard, [

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PUBLIC VERSION

Domestic Industry Product and Fujifilm's LTO-6 and LTO7 tapes, as sold, have no data written to them and therefore no "minimum recording bit length." See RX-0366C at Q&A 129-132.

For at least these reasons, Fujifilm has failed to demonstrate that its Domestic Industry Products practice any claim of the '612 Patent. See RX-0366C at Q&A 121-156.

Sony Br. at 188-89.

The Staff notes that while "Sony does not dispute most of Dr. Wang's domestic industry analysis, it raises the same criticisms of Dr. Wang's testing as it did with respect to infringement." Staff Br. at 65. The Staff submits that Fujifilm's LTO-6 and LTO-7 products "satisfy each limitation of claims 1, 2, 4, 5, and 7-11 of the '612 Patent." *Id.* at 66 (citing CX-0004C (Wang WS) at Q/A 676-752).

Each of the asserted claims is addressed below.

1. Claim 1

a) *A magnetic recording medium comprising*

(1) Fujifilm's LTO-7 Products

For its LTO-7 products, Fujifilm argues:

Fujifilm's LTO-7 cartridges comply with the LTO-7 Specification. CX-0027 (Fujifilm LTO-7 Sell Sheet) at 2; CX-0004C (Wang DWS) Q:681-682. [

] Because Fujifilm's products comply with the LTO-7 Specification, they [

].

Fujifilm Br. at 141.

The evidence that Fujifilm cites shows that Fujifilm's LTO-7 products include a magnetic recording medium. Accordingly, the administrative law judge has determined Fujifilm's LTO-7

PUBLIC VERSION

products satisfy this limitation.

(2) Fujifilm's LTO-6 Products

For its LTO-6 products, Fujifilm argues:

Fujifilm's LTO-6 cartridges comply with the LTO-6 Format Specification. (See CX-0094 (Fujifilm LTO-6 Sell Sheet); CX-0004C (Wang DWS) Q:688-689. Because Fujifilm's LTO-6 cartridges comply with the LTO-6 Specification they [

]; see also CX-0004C (Wang DWS) Q:690-693, 216-217.

Fujifilm Br. at 141.

The evidence that Fujifilm cites shows that Fujifilm's LTO-6 products include a magnetic recording medium. Accordingly, the administrative law judge has determined Fujifilm's LTO-6 products satisfy this limitation.

b) a nonmagnetic layer comprising a nonmagnetic powder and a binder and a magnetic layer comprising a hexagonal ferrite powder and a binder in this order on a nonmagnetic support

(1) Fujifilm's LTO-7 Products

Fujifilm argues the LTO-7 products include the claimed layers. Fujifilm Br. at 141-43. Fujifilm relies on the LTO-7 specification, Fujifilm documents, expert testimony and testing, and testimony from a Fujifilm employee. See *id.*

The evidence shows that Fujifilm's LTO-7 products have a nonmagnetic layer that includes a nonmagnetic powder and a binder. See CX-0004C (Wang WS) at Q/A 695-700; see also [], 76; [

]:

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I.

The evidence also shows that Fujifilm's LTO-7 products have a magnetic layer that includes hexagonal ferrite powder and a binder (in this order) on a nonmagnetic support. *See* CX-0005C (Ejiri WS) Q/A 31-37; CX-0004C (Wang WS) Q/A 702-704; JX-0228C (Fujifilm LTO-6/7 Structure); CDX-0003C at 13.

Accordingly, the administrative law judge has determined Fujifilm's LTO-7 products satisfy this limitation.

(2) Fujifilm's LTO-6 Products

For its LTO-6 products, Fujifilm argues:

Fujifilm's LTO-6 Cartridges meet this limitation. Dr. Wang explains that similar to the LTO-7 Specification; I

I. CX-0004C (Wang DWS)

PUBLIC VERSION

Q:705. In addition, testing directed by Dr. Sinclair on a Fujifilm LTO-6 cartridge confirms that the tape's structure includes a substantially nonmagnetic lower layer, and a magnetic layer with ferromagnetic powder dispersed in a binder. CX-0004C (Wang DWS) Q:705; *see also* CX-0450C (Sinclair Disk 1) in file ~Layerthickness\s6_Fuji-Ultrium6-MagLayerThicknes\S 13 (S5)_XTEM_CUT 1-2.3K.1.TIF; CDX-0003C at 14 (CX-0450C, also referred to as JX-0208C); CX-0002C (Sinclair DWS) Q:40. In addition, Dr. Sinclair's EDS analysis also confirms that the magnetic layer includes ferromagnetic powder that is BaFe, a hexagonal system ferrite. CX-0004C (Wang DWS) Q:705, citing JX-0228C (Fujifilm LTO-6/7 Structure); CX-0002C (Sinclair DWS) Q:43.

Fujifilm Br. at 143-44.

I

].

The evidence that Fujifilm cites shows that Fujifilm's LTO-6 products have a nonmagnetic layer that includes a nonmagnetic powder and a binder. The evidence that Fujifilm

PUBLIC VERSION

cites also shows that Fujifilm's LTO-6 products have a magnetic layer that includes hexagonal ferrite powder and a binder (in this order) on a nonmagnetic support. Accordingly, the administrative law judge has determined Fujifilm's LTO-6 products satisfy this limitation.

- c) *the number of pits having a depth of $\frac{1}{3}$ or more of the minimum recording bit length present on a surface of said magnetic layer is equal to or less than $100/10,000 \mu\text{m}^2$*

(1) Fujifilm's LTO-7 Products

For its LTO-7 products, Fujifilm argues:

[

] All of the results are well below the 100 pit threshold. *Id.* Dr. Wang explains that even considering [

], which is below the claim's upper limit of 100 pits per $10,000 \mu\text{m}^2$. CX-0004C (Wang DWS) Q:710. Accordingly, the number of pits measured is well below the maximum of 100 recited in claim 1.

Fujifilm Br. at 144.

The evidence that Fujifilm cites shows that it is more likely than not that Fujifilm's LTO-7 products have pits and that the number of pits having a depth of $\frac{1}{3}$ or more of the minimum recording bit length present on a surface of said magnetic layer is equal to or less than $100/10,000 \mu\text{m}^2$. As with infringement, Sony's critiques of Dr. Wang's testing alone do not sufficiently rebut Dr. Wang's testing (particularly as Sony has not presented any evidence concerning the characteristics of Fujifilm's tapes). Accordingly, the administrative law judge has determined Fujifilm's LTO-7 products satisfy this limitation.

(2) Fujifilm's LTO-6 Products

For its LTO-6 products, Fujifilm argues:

[

]. All of the results are well below the 100 pit threshold. Dr. Wang explains that even considering [

], which is below the claim's upper limit of 100 pits per $10,000 \mu\text{m}^2$. CX-0004C (Wang DWS) Q:712. Accordingly, the number of pits measured is well below the maximum of 100 recited in claim 1.

Fujifilm Br. at 144-45

The evidence that Fujifilm cites shows that it is more likely than not that Fujifilm's LTO-6 products have pits and that the number of pits having a depth of $\frac{1}{3}$ or more of the minimum recording bit length present on a surface of said magnetic layer is equal to or less than $100/10,000 \mu\text{m}^2$. As with infringement, Sony's critiques of Dr. Wang's testing alone do not sufficiently rebut Dr. Wang's testing (particularly as Sony has not presented any evidence concerning the characteristics of Fujifilm's tapes). Accordingly, the administrative law judge has determined Fujifilm's LTO-6 products satisfy this limitation.

d) the minimum recording bit length is about 50 to 500 nm,

(1) Fujifilm's LTO-7 Products

For its LTO-7 products, Fujifilm argues:

As discussed above, the Fujifilm LTO-7 cartridges comply with the LTO-7 Specification. Dr. Wang confirms that the LTO-7 Specification, exhibit JX-0052C (LTO-7 Format Specification), at [

]. CX-0004C (Wang DWS) Q:714; JX-0052C (LTO-7 Format Specification) at 92. [

PUBLIC VERSION

]. CX-0004C (Wang DWS) Q:714; []. Applying this same calculation to Fujifilm's LTO-7 cartridges, Dr. Wang found that the MRBL on Fujifilm's LTO-7 cartridges of approximately [], which is within the claimed range of "about 50 to 500nm." CX-0004C (Wang DWS) Q:714.

Fujifilm Br. at 145.

The evidence that Fujifilm cites shows that Fujifilm's LTO-7 products have a minimum recording bit length between about 50 to 500 nm. Although Sony has argued Fujifilm's products do not have a minimum recording bit length, *see* Sony Br. at 188-89, the minimum recording bit length can be ascertained from the products' linear density, as Dr. Wang testified. Accordingly, the administrative law judge has determined Fujifilm's LTO-7 products satisfy this limitation.

(2) Fujifilm's LTO-6 Products

For its LTO-6 products, Fujifilm argues:

As discussed above, the Fujifilm LTO-6 cartridges comply with the LTO-6 Specification. Dr. Wang testified that the LTO-6 Specification, exhibit JX-0051C (LTO-6 Format Specification), in [

]. CX-0004C (Wang DWS) Q:715.

Dr. Wang explains that section 12.3 of exhibit JX-0051C (LTO-6 Format Specification), states "[

]. CX-0004C (Wang DWS) Q:715. Accordingly, [] is within the range of "50 to 500 nm" and this claim limitation is met. *Id.*

Fujifilm Br. at 145-46.

PUBLIC VERSION

The evidence that Fujifilm cites shows that Fujifilm's LTO-6 products have a minimum recording bit length between about 50 to 500 nm. Although Sony has argued Fujifilm's products do not have a minimum recording bit length, *see* Sony Br. at 188-89, the minimum recording bit length can be ascertained from the products' linear density, as Dr. Wang testified. Accordingly, the administrative law judge has determined Fujifilm's LTO-6 products satisfy this limitation.

e) *the center surface average roughness of said magnetic layer surface SRa is equal to or less than 6.0 nm.*

For its LTO-7 and LTO-6 products, Fujifilm argues:

The final limitation of claim 1 requires that the center surface average roughness of said magnetic layer surface SRa be equal to or less than 6.0 nm. Testing conducted by Dr. Wang demonstrates that the DI Products meet this limitation. Dr. Wang testifies that that he measured the center surface average roughness for the Fujifilm LTO-7 and LTO-6 Products according to the same procedures he set forth as part of the testing he performed in connection with his infringement analysis, and the DI Products meet this limitation. CX-0004C (Wang DWS) Q:717. Dr. Wang further explains that the data he obtained appears in exhibit JX-0214C (Exs. to Op. Expert Report of Dr. Wang) at 76-77. The values for Ra shown in this document for Fujifilm's LTO-7 Cartridges [] and accordingly meet this claim limitation. *Id.*; CX-0004C (Wang DWS) Q:717. The values for Ra shown in this document for Fujifilm's LTO-6 Cartridges [] and accordingly meet this claim limitation. *Id.* Dr. Wang's results show that the measured center surface roughness for all locations in each of the Fujifilm samples is well below the claimed 6.0 nm. CX-0004C (Wang DWS) Q:717-718.

Fujifilm Br. at 146-47. Fujifilm also points to [

].

The evidence that Fujifilm cites shows that the magnetic layer in Fujifilm's LTO-7 and

PUBLIC VERSION

LTO-6 products [], which is less than or equal to 6.0 nm. Accordingly, the administrative law judge has determined Fujifilm's LTO-7 and LTO-6 products satisfy this limitation.

In conclusion, the administrative law judge has determined Fujifilm's LTO-7 and LTO-6 products practice claim 1.

2. Claim 2

Claim 2 requires that the number of pits having a depth greater than or equal to 50 nm cannot exceed 100 per 10,000 μm^2 . JX-0004 ("said magnetic layer has on a surface, the number of pits having a depth as measured by Atomic Force Microscope of 50 nm or more being equal to or less than 100/10,000 μm^2 ").

Sony and the Staff do not specifically address claim 2. *See generally* Sony Br., § V(F); Sony Reply, § III(C); Staff Br., § V(E); Staff Reply, § IV(E).

Fujifilm argues that [

].

With regard to the LTO-6 products, Fujifilm argues that [

].

The evidence that Fujifilm cites, and that Dr. Wang relies upon, shows that it is more likely than not that Fujifilm's LTO-7 and LTO-6 products practice claim 2, as the products do not feature pits in excess of the claimed ratio. Accordingly, the administrative law judge has determined Fujifilm's LTO-7 products practice claim 2.

PUBLIC VERSION

3. Claim 4

For its LTO-7 and LTO-6 products, Fujifilm argues:

Claim 4 depends from claim 1 and modifies the number of permissible pits, reciting “wherein said number of pits is equal to or less than 80 pits/10,000 μm^2 .” Thus, the analysis and evidence set forth with respect to claim 1 applies to claim 4. In particular, testing of Fujifilm’s LTO-7 Cartridges performed by Dr. Wang

[redacted], and Fujifilm’s LTO-6 Cartridges show a [redacted] per 10,000 μm^2 . *Id.* Q:726. These pit counts are below the described maximum of 80 pits per 10,000 μm^2 recited in claim 4.

Fujifilm Br. at 149.

Sony and the Staff do not specifically address claim 4. *See generally* Sony Br., § V(F);

Sony Reply, § III(C); Staff Br., § V(E); Staff Reply, § IV(E).

The administrative law judge has determined it is more likely than not that Fujifilm’s LTO-7 and LTO-6 products practice claim 4 based upon the same evidence that shows it is more likely than not that they practice claim 1.

4. Claim 5

For its LTO-7 and LTO-6 products, Fujifilm argues:

Claim 5 depends from claim 1 and modifies the number of permissible pits, reciting “wherein said number of pits is equal to or less than 50 pits/10,000 μm^2 .” As discussed above, testing of Fujifilm’s LTO-7 Cartridges performed by Dr. Wang demonstrated

[redacted], and Fujifilm’s LTO-6 Cartridges show [redacted]. *Id.* Q:728. These are below the maximum of 50 pits per 10,000 μm^2 recited in claim 5.

Fujifilm Br. at 149.

Sony and the Staff do not specifically address claim 5. *See generally* Sony Br., § V(F);

Sony Reply, § III(C); Staff Br., § V(E); Staff Reply, § IV(E).

PUBLIC VERSION

The administrative law judge has determined it is more likely than not that Fujifilm's LTO-7 and LTO-6 products practice claim 5 based upon the same evidence that shows it is more likely than not that they practice claim 1.

5. Claim 7

For its LTO-7 and LTO-6 products, Fujifilm argues:

Claim 7 depends from claim 1 and modifies the center surface average roughness ranges, reciting "wherein said center surface average roughness SRA ranges from 1.0 to 5.0 nm." Thus, the analysis and evidence set forth with respect to claim 1 applies to claim 7. In particular, [

].

All of these values are within the SRA range of claim 7.

Fujifilm Br. at 150.

Sony and the Staff do not specifically address claim 7. *See generally* Sony Br., § V(F); Sony Reply, § III(C); Staff Br., § V(E); Staff Reply, § IV(E).

Fujifilm's LTO-7 and LTO-6 products practice claim 7 based upon the same evidence that shows they practice claim 1.

6. Claim 8

For its LTO-7 and LTO-6 products, Fujifilm argues:

Claim 8 depends from claim 1 and modifies the center surface average roughness ranges, reciting "wherein said center surface average roughness SRA ranges from 1.5 to 4.5 nm." Thus, the analysis and evidence set forth with respect to claim 1 applies to claim 8. In particular, [

].

All of these values are within the SRA range of claim 8.

Fujifilm Br. at 150.

Sony and the Staff do not specifically address claim 8. *See generally* Sony Br., § V(F); Sony Reply, § III(C); Staff Br., § V(E); Staff Reply, § IV(E).

PUBLIC VERSION

Fujifilm's LTO-7 and LTO-6 products practice claim 8 based upon the same evidence that shows they practice claim 1.

7. Claim 9

Fujifilm argues that Fujifilm USA (Fujifilm Recording Media U.S.A., Inc.) practices claim 9 “[

.]” Fujifilm Br. at 151. Fujifilm further argues it uses its LTO-7 and LTO-6 products [

] . See CX-0011C (Ryder WS) at Q/A 52-55. The LTO-7 and LTO-6 products are used with LTO-7 and LTO-6 tape drives. See CX-0004C (Wang WS) at Q/A 733-38.⁴⁴

Sony and the Staff do not specifically address claim 9. See generally Sony Br., § V(F); Sony Reply, § III(C); Staff Br., § V(E); Staff Reply, § IV(E).

The evidence shows it is more likely than not that Fujifilm practices claim 9 by using its [

]; CX-0004C (Wang WS) at Q/A 733-38. In particular, [

] . Accordingly, the administrative law judge has determined Fujifilm's LTO-7 and LTO-6 products practice claim 9.

8. Claim 10

[

] . See Fujifilm Br. at 152-56; see also CX-0011C (Ryder

⁴⁴ Fujifilm's contention that its products “practice claim 9 when inserted into a compatible tape drive,” see Fujifilm Br. at 151, is not a sufficient basis for finding infringement because it does not identify the actor who employed the corresponding MR head.

PUBLIC VERSION

WS) at Q/A 52-55; CX-0004C (Wang WS) at Q/A 733-38.

Sony and the Staff do not specifically address Fujifilm's allegation that [

] *See generally* Sony Br., § V(F);

Sony Reply, § III(C); Staff Br., § V(E); Staff Reply, § IV(E).

The administrative law judge finds that Fujifilm's use of the LTO-7 and LTO-6 products

[

] *See* Fujifilm Br. at 152-56; *see also*

CX-0011C (Ryder WS) at Q/A 52-55; CX-0004C (Wang WS) at Q/A 733-38. The product-specific attributes of claim 10 are addressed below.

- a) providing a magnetic recording medium comprising a nonmagnetic layer comprising a nonmagnetic powder and a binder and a magnetic layer comprising a hexagonal ferrite powder and a binder in this order on a nonmagnetic support,*

Fujifilm argues that this limitation is equivalent to limitation [a] from claim 1 and that "the analysis and evidence discussed with respect to claim 1 applies." Fujifilm Br. at 152.

Sony and the Staff do not specifically address claim 11. *See generally* Sony Br., § V(F); Sony Reply, § III(C); Staff Br., § V(E); Staff Reply, § IV(E).

The same evidence that shows Fujifilm's LTO-7 and LTO-6 products satisfy limitation 1[a] shows that Fujifilm's LTO-7 and LTO-6 products include the claimed magnetic and nonmagnetic layers. Further, Fujifilm "provides" the required layers when it uses the LTO-7 and LTO-6 products. Accordingly, the administrative law judge has determined that Fujifilm practices this limitation.

- b) and, optionally, a backcoat layer comprising a selected type and quantity of course [sic] particles,*

Fujifilm argues:

PUBLIC VERSION

By the language of the claim, this limitation is optional and the DI Products would practice claim 10 even if they did not meet this limitation. CX-0004C (Wang DWS) Q:742. Nevertheless, [

], Fujifilm's DI Products also include a backcoat layer. CX-0004C (Wang DWS) Q:742; JX-0045C (Fujifilm LTO Application) at 19 (translation at 61). Further, [

] Fujifilm's DI Products practice this limitation.

Fujifilm Br. at 153.

The evidence that Fujifilm cites shows its LTO-7 and LTO-6 products have a backcoat with coarse particles. Further, Fujifilm "provides" the backcoat when it uses the LTO-7 and LTO-6 products. Accordingly, the administrative law judge has determined that Fujifilm practices this limitation.

c) wherein the center surface average roughness of said magnetic layer surface SRa is equal to or less than 6.0 nm,

Fujifilm argues that this limitation is equivalent to limitation [e] from claim 1 and that "the analysis and evidence discussed with respect to claim 1 applies." Fujifilm Br. at 152.

The same evidence that shows Fujifilm's LTO-7 and LTO-6 products satisfy limitation 1[e] shows that Fujifilm's LTO-7 and LTO-6 products have a magnetic layer with the claimed center surface roughness. Further, Fujifilm "provides" the required layers when it uses the LTO-7 and LTO-6 products. Accordingly, the administrative law judge has determined that Fujifilm practices this limitation.

d) writing a signal of a selected recording wavelength or range of recording wavelengths and of a selected track width on the magnetic recording medium using a head, and

Fujifilm argues that Fujifilm USA practices this limitation [

PUBLIC VERSION

] Fujifilm Br. at 153. Fujifilm points to LTO-7 and LTO-6 drives and the LTO-7 and LTO-6 specifications as satisfying the “selected” wavelength and track width aspects of this limitation. *Id.* at 153-54. Specifically:

- Fujifilm argues that its LTO-7 products have a minimum recording wavelength of about 104 nm and a track width of 2.88 μm , [

].

- With regard to the LTO-6 products, Fujifilm argues these products have a minimum recording wavelength of about 132 nm and a track width of 4.75 μm , [

].

The evidence that Fujifilm cites shows its LTO-7 and LTO-6 products have a selected track width and that Fujifilm writes onto the tapes with a selected wavelength. Accordingly, the administrative law judge has determined that Fujifilm practices this limitation.

- e) reproducing the recorded signal using an MR head having a selected track width, so as to achieve a number of pits having a depth of $\frac{1}{3}$ or more of the minimum recording bit length present on the surface of said magnetic layer of 100/10,000 μm^2 or less.*

Fujifilm argues that its LTO-7 and LTO-6 satisfy the product-specific attributes of this limitation based upon the evidence “discussed in the analysis of claim 1[.]” Fujifilm Br. at 155-56. Fujifilm argues it reproduces a recorded signal with an MR head in connection with its Dternity services.

The evidence shows that Fujifilm practices this limitation when it reproduces data that is written on its LTO-7 and LTO-6 products. Fujifilm’s LTO-7 and LTO-6 products satisfy the pit depth-bit length limitations for the reasons provided in relation to limitation 1[c], which is the equivalent limitation in claim 1. *See* CX-0004C (Wang WS) at Q/A 748-49.

In conclusion, the administrative law judge has determined Fujifilm’s LTO-7 and LTO-6 products practice claim 10.

9. Claim 11

Fujifilm argues:

Claim 11 depends from claim 10, thus the analysis and evidence set forth with respect to claim 10 applies here as well. Claim 11 includes the additional limitation of “wherein the minimum recording bit length is from about 50 to 500 nm.” Claim 1 recites an identical limitation, thus the analysis and evidence cited with respect to claim 1 applies here as well. Accordingly, the DI Products practice claim 11. *Id.* Q:751.

Fujifilm Br. at 156.

Fujifilm’s LTO-7 and LTO-6 products practice claim 11 based upon the same evidence that shows they practice claims 1 and 10.

G. Obviousness

Sony generally argues that the asserted claims are directed toward known tape materials, leverage known relationships in the magnetic-media art, and recite arbitrary physical attributes to avoid prior art. *See* Sony Br. at 123-24 (citing *Application of Skoner*, 517 F.2d 947, 950 (C.C.P.A. 1975)). Sony relies upon the following references:

- **Matsuno:** JP Publication No. 2001-84549 (“Matsuno”) (RX-0333)
- **Endo:** JP Publication No. 2000-40218 (“Endo”) (RX-0334)
- **Wallace:** “The Reproduction of Magnetically Recorded Signals” *The Bell System Technical Journal* (Oct. 1951), pp. 1-29 (“Wallace”) (JX-0174)
- **Maeda:** JP Publication No. H9-231558 (“Maeda”) (RX-0335)
- **Sasaki:** Japanese Pub. No. 2001-84551 (“Sasaki”) (RX-0320)

Fujifilm generally argues that Sony has not shown the prior art discloses each and every limitation, that there would not have been a motivation to combine the prior art (and that Sony’s combinations are produced by hindsight), and that particular limitations of the asserted claims are critical and confer synergistic benefit. *See* Fujifilm Br. at 160-61.

PUBLIC VERSION

The Staff submits that the asserted claims would not have been, but it does not agree with Fujifilm's criticality arguments. *See generally* Staff Br., § V(G)(1).

1. Matsuno and Endo in View of Wallace

a) Claim 1

(1) A magnetic recording medium comprising

Sony argues that Matsuno, Endo, and Wallace each discloses a magnetic recording medium. Sony Br. at 136 (citing RX-0001C (Bhushan WS) at Q/A 200-204).

Fujifilm does not disagree that Matsuno, Endo, and Wallace disclose a magnetic recording medium. *See generally* Fujifilm Br., § IV(G)(1)(a); Fujifilm Reply, § IV(A).

Matsuno, Endo, and Wallace each discloses a magnetic recording medium. *See* RX-0001C (Bhushan WS) at Q/A 200-204; RX-0333, Abstract and ¶ 17; RX-0334, Abstract; JX-0174 at 1. Indeed, the title of Matsuno is "Magnetic Recording Medium." RX-0333 at 11. Accordingly, the administrative law judge finds that Sony has shown, through clear and convincing evidence, that the prior art (Matsuno, Endo, and Wallace) discloses magnetic recording medium that satisfies the preamble.

(2) a nonmagnetic layer comprising a nonmagnetic powder and a binder and a magnetic layer comprising a hexagonal ferrite powder and a binder in this order on a nonmagnetic support

Sony argues that Matsuno discloses a magnetic layer including hexagonal ferrite powder and a binder. Sony Br. at 137. Dr. Bhushan also testified that Matsuno and Endo disclose the claimed nonmagnetic and magnetic layers, in the requisite order. *See* RX-0001C (Bhushan WS) at Q/A 204-13.

Fujifilm does not disagree that Matsuno discloses the claimed nonmagnetic and magnetic layer. *See generally* Fujifilm Br., § IV(G)(1)(a); Fujifilm Reply, § IV(A).

PUBLIC VERSION

Matsuno and Endo each discloses a magnetic layer comprising a hexagonal ferrite powder and a binder. *See* RX-0001C (Bhushan WS) at Q/A 207-10; RX-0333, ¶¶ 17-20, 33; RX-0334, ¶ 27. The evidence also shows that Endo and Matsuno each discloses a nonmagnetic layer comprising a nonmagnetic powder and a binder. *See* RX-0001C (Bhushan WS) at Q/A 204-06; RX-0333, ¶¶ 17-20. Matsuno and Endo both disclose the layers in the requisite order. *See* RX-0001C (Bhushan WS) at Q/A 211-12. Accordingly, the administrative law judge finds that Sony has shown, through clear and convincing evidence, that the prior art (Matsuno and Endo) discloses nonmagnetic and magnetic layers in the requisite order, as specified by the limitation.

(3) the minimum recording bit length is about 50 to 500 nm,

Sony argues that Matsuno discloses a recording wavelength of no more than 1 μm (1,000 nm) that discloses the claimed range. Sony Br. at 139-40.

Fujifilm argues that “Matsuno’s general reference to the recording wavelengths of specific systems is not enough to disclose any particular shortest recording wavelength.”

Fujifilm Br. at 164.⁴⁵

The Staff submits that “Matsuno also discloses a shortest recording wavelength of 1 μm .” Staff Br. at 68.

Matsuno discloses a recording wavelength that a person of ordinary skill could convert to a minimum recording bit length between 0 and 500 nm, which overlaps the claimed range. *See* RX-0001C (Bhushan WS) at Q/A 216-22. Thus, the limitation is presumed to be obvious. *See Iron Grip Barbell Co. v. USA Sports, Inc.*, 392 F.3d 1317, 1322 (Fed. Cir. 2004) (“where there is

⁴⁵ The testimony that Fujifilm cites devotes unnecessary attention to other claim limitations, other invalidity arguments, and other asserted patents. Fujifilm Br. at 164 (citing CX-0357C (Wang RWS at Q/A 470-71)).

a range disclosed in the prior art, and the claimed invention falls within that range, there is a presumption of obviousness.”). Fujifilm has not shown that the prior art teaches away from the claimed range. *Id.* (teaching away is one way to rebut the presumption); *see also* RX-0001C (Bhushan WS) at Q/A 260-63 (no evidence of criticality, synergy, or unexpected results). Fujifilm has also not shown that the claimed range, either alone or in conjunction with other aspects of the ‘612 Patent, led to unexpected results. *Id.* (demonstrating “new and unexpected results relative to the prior art” is another way to rebut the presumption); *see also* RX-0001C (Bhushan WS) at Q/A 220, 260-63. Accordingly, the administrative law judge finds that Sony has shown, through clear and convincing evidence, that the prior art (Matsuno) discloses a magnetic recording media with a minimum recording bit length of about 0 to 500 nm, which renders the specified range obvious.

- (4) the number of pits having a depth of $\frac{1}{3}$ or more of the minimum recording bit length present on a surface of said magnetic layer is equal to or less than $100/10,000 \mu\text{m}^2$

Sony argues that this limitation is *prima facie* obvious because Matsuno discloses a pit count that overlaps with the claimed range. Sony Br. at 140. In particular, Sony argues:

Matsuno discloses a magnetic recording medium in which the pits—Matsuno refers to them as “indentations”—with a depth of greater than 50 nm are no more than 10 in $46,237.5 \mu\text{m}^2$. RX-0333 (Matsuno), ¶ 11; *see also* RX-0001C (Bhushan OWS) at Q&A 223. Dr. Wang admits this. Tr. at 251. This necessarily constitutes a disclosure of a range of number of pits (0-10) that falls within the range recited in claim 1 (0-100) and a depth of these pits (50 nm) that falls within the range recited in claim 1 of the ‘612 Patent (16.67 nm -166.67 nm). *See* RX-0001C (Bhushan OWS) at Q&A 224; RDX-0216 (Matsuno disclosures).

This is because if there are no more than 10 pits having a depth of greater than 50 nm in an area of $46,237.5 \mu\text{m}^2$, then there are also no more than 10 pits having a depth of greater than 50 nm in an area less than this such as $10,000 \mu\text{m}^2$ (the area recited in this claim limitation). *Id.* With respect to the pit depth, because 50 nm

PUBLIC VERSION

is a value that falls within the range of $\frac{1}{3}$ of 50-500 nm (or 16.67 to 166.67 nm), Matsuno discloses an example of a magnetic recording medium that has less than 10 (and therefore less than 100) pits of a depth (50 nm) falling within the specified claimed range of 16.67 nm to 166.67 nm per area of 10,000 μm^2 . RX-0001C (Bhushan OWS) at Q&A 225.

Id. at 141-42 (footnote omitted). Sony adds that persons of ordinary skill had been optimizing pit counts and pit depths in relation to recording wavelength in order to minimize signal loss, in view of Wallace's Law. *Id.* at 141 (citing RX-0001C (Bhushan WS) at Q/A 231).

Fujifilm argues that Matsuno discloses reducing pits of a fixed depth, *i.e.*, not tied to the minimum recording bit length). Fujifilm Br. at 164-65 ("Matsuno, at best, teaches that pits of a fixed depth are to be limited and makes no mention of that depth being limited to $\frac{1}{3}$ or more of the MRBL of the recording medium nor does it disclose a particular MRBL against which its 50 nm or more depth limitation can be evaluated. [CX-0357C (Wang RWS) at Q/A 473]").

Fujifilm also suggest that there is no motivation for modifying Matsuno in relation to pit depth limitation. *See id.* at 165. With regard to criticality and synergy, Fujifilm relies on Dr. Wang's testimony, which follows:

453.Q. What is your opinion of Dr. Bhushan's testimony that he has found no evidence that suggests that the particular combination of variables in the context of the claim generates some important synergy or other unexpected results?

453.A. I disagree with Dr. Bhushan. Indeed, the claims of the '612 Patent recite a combination of and a relationship between all three ranges. The recording medium which exhibits improved signal to noise ratio must satisfy all of these limitations. In response to Q263, Dr. Bhushan also states that "Tables 1 and 2 show only the combination of both variables (number of pits having a depth of $\frac{1}{3}$ or more of bit length and SRa) and the resulting signal-to-noise ratio." While Tables 1 and 2 do show combinations of both variables, I disagree that the effect of changing one variable is not shown or cannot be ascertained. For example, comparative example 6 has 113 pits with a depth of $\frac{1}{3}$ or more of the minimum recording bit length (which is outside the claimed range of 100)

PUBLIC VERSION

and a surface roughness of 5.7 nm (which is below the claimed SRA of 6.0 nm). The SNR for this example is 21.7, which is low. This is found in the '612 Patent, exhibit JX-0004 (U.S. Pat. No. 6,767,612) at Table 2, col. 25, lines 39-42. Comparative example 7, which is discussed at column 25 lines 30-34, has a number of pits within the range of claim 1 but an SRA above 6.0 nm. This example also had a low SNR. So, the data demonstrates that where one variable is within the range of the claim and another is without, the SNR is low. The data in the '612 Patent supports a conclusion that there is a synergy between the various limitations recited in claim 1—these limitations are critical and the resulting synergy unexpected.

CX-0357C (Wang RWS) at Q/A 453.

The Staff argues that Matsuno “recognizes that pits of a certain depth can cause fatal errors in a magnetic recording and reproduction system.” Staff Br. at 68.

Matsuno discloses a magnetic recording media having no more than 10 pits with a depth of greater than 50 nm in an area of $46,237.5 \mu\text{m}^2$. RX-0001C (Bhushan WS) at Q/A 223-25; RX-0333, ¶ 11. This media falls within the claimed range, and it also overlaps with the claimed range given the “no more than language.” See RX-0001C (Bhushan WS) at Q/A 225; see also Sony Br. at 141, n.37 (noting Fujifilm’s contention that the no more than “10 in $46,237.5 \mu\text{m}^2$ ” ratio from Matsuno should be converted to no more than “2.2 in $10,000 \mu\text{m}^2$ ” for a comparison to the claimed range). Matsuno thus shows that the claimed range is *prima facie* obvious. See *Iron Grip Barbell*, 392 F.3d at 1322. Fujifilm has not shown that the prior art teaches away from the claimed range or that the claimed range, either alone or in conjunction with other aspects of the '612 Patent, led to unexpected results. *Id.*; see also RX-0001C (Bhushan WS) at Q/A 231 (the relationship between signal loss and minimizing pits and was known to be critical), 260-63 (no evidence of criticality, synergy, or unexpected results). Accordingly, the administrative law judge finds that Sony has shown, through clear and convincing evidence, that the prior art (Matsuno) discloses a magnetic recording media with pits, where the number of pits having a

PUBLIC VERSION

depth of $\frac{1}{3}$ or more of the minimum recording bit length present on a surface of said magnetic layer is equal to or less than $100/10,000 \mu\text{m}^2$.

- (5) the center surface average roughness of said magnetic layer surface SRa is equal to or less than 6.0 nm.

Sony argues, in part:

Though Matsuno does not explicitly disclose a center surface average roughness SRa that is equal to or less than 6.0 nm as recited in the Asserted Claims of the '612 Patent, maintaining a low surface roughness, in addition to minimizing pits, would have been obvious to a POSA reading the disclosures of Matsuno and its drive towards decreased pits ("indentations") and increased surface smoothness, and in view of additional prior art such as Endo which explicitly teaches surface roughness ranges overlapping with those recited in claim 1.

...

In addition, Endo explicitly teaches reducing surface roughness of the magnetic layer to not more than 7.5 nm and preferably from 7.0 to 1.5 nm. RX-0334 (Endo) at ¶ 8. Endo's disclosure of a surface roughness of **not more than 7.5 nm** fully encompasses and therefore renders presumptively obvious the range of "equal to or less than 6.0 nm" disclosed in this limitation of claim 1. RX-0001C at Q&A 240-241. And Endo studied low surface roughness **in conjunction with** studying pits, thus demonstrating the independent value provided by examining **both metrics**. . . .

Sony Br. at 145-46 (emphasis added by Sony). Sony also argues that a person of ordinary skill in the art would combine Matsuno and Endo, in view of Wallace, given Matsuno and Endo's teachings about "the need to optimize surface characteristics to maximize signal reliability, while taking into account recording density." *Id.* at 147 (citing RX-0001C (Bhushan WS) at Q/A 242; RX-0333, ¶ 5; RX-0334, ¶ 5). Sony further argues that "there is no evidence that the particular SRa range discussed in claim 1 of the '612 Patent is critical or unexpected." *Id.* at 147.

Fujifilm argues:

Finally, Dr. Wang explained that the limitation on surface roughness (SRa) to 6.0 nm or less is critical based on data in the

PUBLIC VERSION

patent. CX-0357C (Wang RWS) Q:462. Dr. Wang testified that Tables 1 and 2 of the '612 Patent list examples with a surface roughness slightly above and slightly below 6.0 nm and accordingly the selection of 6.0 nm as a threshold is supported. *Id.* Q:462. Further, Dr. Wang noted that his demonstrative slide, *see* CDX-0007C at 55, shows that examples with SRa limited to 6.0 nm or less and which satisfy the other limitations of claim 1 result in an unexpected good SNR. *Id.* Q:462. Accordingly, these limitations are critical.

Fujifilm Br. at 163.

The Staff submits that “Matsuno, Endo, and Wallace fail to disclose or suggest” the surface roughness limitation. Staff Br. at 68 (citing CX-0357C (Wang RWS) at Q/A 480-87). The Staff also submits that one skilled in the art would not have been motivated to combine Matsuno and Endo. *Id.* at 69.

Sony's reply notes that the testimony the Staff cites does not discuss Endo, which Dr. Wang ignored. Sony Reply at 38-39.

Matsuno does not explicitly disclose a center surface average roughness SRa that is equal to or less than 6.0 nm as recited in claim 1. RX-0001C (Bhushan WS) at Q/A 233.. While Matsuno teaches that maintaining a low surface roughness is desirable, it does not provide sufficient context for showing, in a clear and convincing manner, that the numerical range of the claimed limitation was disclosed. *See id.* at Q/A 234.

Endo, however, discloses a magnetic layer with a surface roughness of less than 7.5 nm:

The upper layer magnetic layer 4 is formed by dispersing ferromagnetic powder and nonmagnetic particles in a binder. Also, the upper layer magnetic layer 4 has a surface roughness Ra of not greater than 7.5 nm, and preferably from 7.0 to 1.5 nm. As a result, spacing loss decreases and good electromagnetic conversion characteristics can be obtained.

RX-0334, ¶ 8; *see also* RX-0001C (Bhushan WS) at Q/A 240-41. This is sufficient to show that

the claimed range is *prima facie* obvious.⁴⁶

The evidence shows that a person of ordinary skill in the art would not combine Matsuno and Endo due to the differing problems the references address—Matsuno addresses ameliorating errors in a system that uses the RLL (2,7) modulation through limiting indentations of a specific depth, in tapes that use inductive heads, while Endo pertains to media having excellent electromagnetic conversion characteristics and low dropout, as achieved through minimizing the cross sectional area (observed at 20 nm) of various depressions. CX-0357C (Wang RWS) at Q/A 487. Further, Matsuno and Endo use different definitions of indentations and depressions, which also suggests that a person of ordinary skill in the art would not ascertain a rationale or motivation for combining the references in the manner that Sony and Dr. Bhushan suggest. *Id.* Accordingly, the administrative law judge has determined Sony has not shown, through clear and convincing evidence, that to a person of ordinary skill in the art, claim 1, as a whole, would have been obvious at the time of the invention based upon the disclosures and teachings of Matsuno, Endo, and Wallace.

b) Claim 2

Sony argues that claim 2 is obvious because it merely sets the number of pits to a specific depth (50 nm) while retaining the same pits-per-area ratio of “equal to or less than 100/10,000 μm^2 .” Sony Br. at 159. Sony argues that while claim 2 requires the use of an atomic force microscope (“AFM”), the use of an AFM was disclosed in Endo and known to a person of skill in the art. *Id.* at 160.

⁴⁶ See *Iron Grip Barbell*, 392 F.3d at 1322. Fujifilm has not shown that the prior art teaches away from the claimed range or that the claimed range, either alone or in conjunction with other aspects of the ‘612 Patent, led to unexpected results. *Id.*; see also RX-0001C (Bhushan WS) at Q/A 231 (the relationship between signal loss and minimizing pits and was known to be critical), 260-63 (no evidence of criticality, synergy, or unexpected results).

PUBLIC VERSION

For claims 2 and 4-8 Fujifilm argues:

Claim 2 depends from claim 1. For at least the reasons stated with respect to claim 1, the combination of Matsuno and Endo in view of Wallace does not render obvious Claim 2. Further, Claim 2 additionally recites “wherein said magnetic layer has on a surface, the number of pits having a depth as measured by Atomic Force Microscope of 50 nm or more being equal to or less than 100/10,000 μm^2 .” Dr. Bhushan provides no motivation or reason for one of skill in the art to replace the explicit protocol for measuring pits in Matsuno, *i.e.*, using a non-contact surface roughness meter, with AFM protocol described in Endo. CX-0357C (Wang RWS) Q:489-490. Moreover, claims 4-8 all depend from claim 1 or from claims that indirectly depend from claim 1. None of these claims are rendered obvious for at least the reasons stated with respect to claim 1 above.

Fujifilm Br. at 167-68.

Sony replies:

Fujifilm argues that, with respect to claim 2, “Dr. Bhushan provides no motivation or reason for one of skill in the art to replace the explicit protocol for measuring pits in Matsuno, *i.e.*, using a non-contact surface roughness meter, with AFM protocol described in Endo.” Fujifilm IPHB at 168. Again, this is false. Dr. Bhushan testified that both optical and AFM methods were known and used for counting pits as of the invention date of the ‘612 Patent. RX-0001C (Bhushan OWS) at Q&A 268-269. He also testified that a POSA would have understood that either method could be used to count pits and measure surface roughness (*id.*) as moving from one to the other was not an inventive leap, as demonstrated by Endo, which discussed using optical methods for measuring SRa and AFM for measuring pits. RX-0334C at ¶¶ 9, 54, 55.

Sony Reply at 39.

Fujifilm did not present a reply. *See generally* Fujifilm Reply, § IV(A).⁴⁷

Dr. Bhushan testified that AFM and optical devices were known and available for measuring pits as of the ‘612 Patent’s invention date. RX-0001C (Bhushan WS) at Q/A 268.

⁴⁷ The Staff did not address Sony’s arguments toward the dependent claims. *See generally* Staff Br., § V(G)(1); Staff Reply, § IV(F).

Specifying one known type of measurement from at least two known types of measurement is an obvious variant of the prior art. Further, the 50 nm pit-depth limitation in claim 2 comports with the 50-to-500 nm minimum recording bit length range from claim 1. Taken together, there is no independently patentable subject matter in claim 2. Accordingly, if claim 1 is later found obvious, then the administrative law judge has determined that Sony has shown, through clear and convincing evidence, that claim 2 also would have been obvious.

c) Claims 4 and 5

Sony argues that claims 4 and 5 “are likewise obvious in view of prior art overlapping ranges.” Sony Br. at 160 (Sony relies upon its reasoning presented for claim 1). Sony adds that “there is no evidence and Fujifilm provides no evidence that the upper threshold of 80 or 50 are at all critical or somehow unexpected.” *Id.*

Fujifilm argues:

Moreover, claims 4-8 all depend from claim 1 or from claims that indirectly depend from claim 1. None of these claims are rendered obvious for at least the reasons stated with respect to claim 1 above.

Fujifilm Br. at 168; *see also* Fujifilm Reply, § IV(A) (Sony’s obviousness arguments about the dependent claims are not addressed).

Dr. Bhushan testified that Matsuno discloses the pits-per-area ratio disclosed in claims 1, 4, and 5. RX-0001C (Bhushan WS) at Q/A 270-73. Further, Fujifilm has not shown that the narrower ranges recited in claims 4 and 5 provide an unexpected benefit. *See id.*; *see also id.* at Q/A 260-63 (no evidence of criticality, synergy, or unexpected results). The narrower ranges, therefore, are not a non-obvious variant or otherwise independently patentable from claim 1. Accordingly, if claim 1 is later found obvious, then the administrative law judge has determined that Sony has shown, through clear and convincing evidence, that claims 4 and 5 also would

have been obvious.

d) Claims 7 and 8

Sony argues that claims 7 and 8 “are likewise obvious in view of overlapping ranges in the prior art.” Sony Br. at 161. Sony adds that:

... neither the ‘612 Patent nor Fujifilm itself provides any evidence of criticality or unexpected results relating to the range of less than or equal to 6.0 nm and similarly provides no such evidence for these narrower ranges. Accordingly, and for reasons similar to those discussed above with respect to claim 1, a POSA would have found it obvious to combine the teachings of Matsuno and Endo, in view of Wallace, to arrive at the invention recited in claims 7 and 8 of the ‘612 Patent.

Id. at 162.

Dr. Bhushan testified that Endo discloses the roughness ranges in claims 1, 8, and 9. RX-0001C (Bhushan WS) at Q/A 240-41, 274-79. Further, Fujifilm has not shown that the narrower ranges recited in claims 7 and 8 provide an unexpected benefit. *See id.*; *see also id.* at Q/A 260-63 (no evidence of criticality, synergy, or unexpected results). The narrower ranges, therefore, are not a non-obvious variant or otherwise independently patentable from claim 1. Accordingly, if claim 1 is later found obvious, then the administrative law judge has determined that Sony has shown, through clear and convincing evidence, that claims 7 and 8 also would have been obvious.

e) Claim 9

Sony argues that Endo discloses MR heads and that MR heads were well known as of July 2001. Sony Br. at 162 (citing, *inter alia*, RX-0001C (Bhushan WS) at Q/A 280-281; RX-0334 (Endo), ¶ 23)). Sony further argues that MR heads “were also well known for use specifically with hexagonal ferrite magnetic recording media.” *Id.* at 163 (citing RX-0001C (Bhushan WS) at Q/A 372).

Fujifilm argues:

Dr. Wang explains that all of Matsuno's examples make use of inductive heads and accordingly, one of skill in the art would not have been motivated to modify the disclosure of Matsuno which applies to inductive read heads with the disclosure of Endo to use MR heads as these are two vastly different types of heads based on different principles of operation for different media (particularly in light of the skepticism of the industry described herein above). CX-0357C (Wang RWS) Q:496.

Fujifilm Br. at 168.

Dr. Bhushan testified that Endo (as well as Sasaki) discloses use of MR heads and that MR heads were well known as of July 2001. RX-0001C (Bhushan WS) at Q/A 341. Further, simply claiming the use of magnetic recording media with a known head is an obvious variant of the prior art. *See Dow Chem. Co. v. Mee Indus., Inc.*, 341 F.3d 1370, 1375 (Fed. Cir. 2003) ("The scope of what is taught by a prior art apparatus extends not only to the apparatus itself, but also to the obvious methods of use suggested by the structure of that apparatus."); *In re Lonardo*, 119 F.3d 960, 968 (Fed. Cir. 1997) ("We do not agree that there is a patentable distinction between the method of using the device and the device itself. The claimed structure of the device suggests how it is to be used and that use thus would have been obvious."). Thus, there is no independently patentable subject matter in claim 9. Accordingly, if claim 1 is later found obvious, then the administrative law judge has determined that Sony has shown, through clear and convincing evidence, that claim 9 also would have been obvious.

f) Claim 10

Sony argues, in part:

Many of the teachings discussed above with respect to claim 1 apply equally to claim 10. RX-0001C at Q&A 284-285, 287, 288-290. In addition, claim 10 recites reproducing a recorded signal using an MR head. As discussed above with respect to claim 9, MR heads were not new as of the invention date of the '612 Patent

PUBLIC VERSION

and, indeed, were an obvious choice for a recording and reproducing head in the context of the high-density recording discussed in the '612 Patent and all of the prior art references presented. RX-0001C at Q&A 280-281.

With respect to any differences between claim 1 and 10, the prior art teaches such differences in a manner that would have rendered the method recited in claim 10 obvious to a POSA as of the invention date of the '612 Patent.

Sony Br. at 163. Sony notes that both Matsuno and Endo discuss using the magnetic media they describe. *Id.* Sony also notes that both references disclose the claimed backcoat. *Id.*⁴⁸

For claims 10 and 11, Fujifilm argues:

Claim 10 is a method claim which recites several limitations that are identical or very similar to the limitations recited in claim 1. Accordingly, for at least the reasons set forth with respect to claim 1, Matsuno and Endo in view of Wallace do not render obvious claim 10. CX-0357C (Wang RWS) Q:498-501.

Fujifilm Br. at 169.

The administrative law judge has determined that claim 10 would not have been obvious for same reasons claim 1 would not have been obvious.⁴⁹ While though claim 10 is a method claim, the steps it recites are merely generic instructions for using a magnetic tape and do not contain any non-obvious aspects. *See Dow Chem.*, 341 F.3d at 1375; *In re Lonardo*, 119 F.3d at 968. Accordingly, the administrative law judge finds that claim 10 would not have been obvious over the combination of Matsuno and Endo in view of Wallace.

⁴⁸ Sony and Dr. Bhushan have also included an argument that claim 10 is "inoperable" because "it is not possible to 'achieve' the specified number of pits of a certain depth by carrying out the claimed 'magnetic recording and reproducing method' or by 'reproducing' a recorded signal 'using an MR head having a selected track width.'" Sony Br. at 163 n.39 (citing RX-0001C (Bhushan WS) at Q/A 290). Dr. Bhushan's testimony is not responsive to the question that was asked, and Sony's argument does not help Sony's obviousness defense (and it is not developed enough to support an enablement defense). Accordingly, the administrative law judge finds that Dr. Bhushan's "inoperable" testimony is not clear and convincing, and does not support Sony's invalidity defenses.

⁴⁹ If claim 1 is later found obvious, then claim 10 should also be found obvious.

g) Claim 11

Sony argues:

Claim 11 depends from claim 10 but further limits the recited method to “wherein the minimum recording bit length is from about 50 to 500 nm.” As discussed above, Matsuno discloses a range of minimum recording bit lengths from 0 nm to 500 nm which overlaps with and renders *prima facie* obvious this limitation of claim 11. For reasons similar to those discussed above with respect to this limitation from claim 1, Matsuno and Endo, in view of Wallace, render obvious this limitation of claim 11. RX-0001C at Q&A 291-292.

Sony Br. at 164-65.

Fujifilm does not present a separate argument for claim 11. *See, e.g.*, Fujifilm Br. at 168-69.

As discussed above in relation to claim 1, Matsuno discloses a recording wavelength that a person of ordinary skill could convert to a minimum recording bit length between 0 and 500 nm, which overlaps the claimed range. The administrative law judge, however, found that claim 1 would not have been obvious, and finds that claim 11 would not have been obvious for same reasons claim 1 would not have been obvious.⁵⁰ Accordingly, the administrative law judge finds that claim 11 would not have been obvious over the combination of Matsuno and Endo in view of Wallace.

2. Matsuno and Endo in View of Maeda

Sony argues that Maeda teaches a relationship between loss in a reproduced signal and the separation between the magnetic head from the medium surface. Sony Br. at 166 (citing RX-0335, ¶ 12; RX-0001C (Bhushan WS) at Q&A 296). Sony argues:

Maeda discusses, like Wallace discovered, that to calculate (and therefore minimize) this space loss, one must account for both the

⁵⁰ If claims 1 and 10 are later found obvious, then claim 11 should also be found obvious.

PUBLIC VERSION

distance between the surface and the head and the recording wavelength. *Id.* Thus, Maeda can be substituted for Wallace in the combination of Matsuno and Endo in view of Wallace to render the claims of the '612 Patent obvious. Though Dr. Wang attempts to distinguish Maeda because it is directed to "grooves" on magnetic disks as opposed to pits on tape, the claims are broad enough to encompass magnetic disk and the claimed "pits" are broad enough to encompass the "grooves" discussed in Maeda.

Id.

Fujifilm argues that this combination does not show the asserted claims would have been obvious for the same reasons as the combination of Matsuno, Endo, and Wallace. Fujifilm Br. at 169. Fujifilm also argues that "Maeda is directed to a different problem in a different form of magnetic recording media and is therefore nonanalogous art." *Id.* at 170 (citing CX-0357C (Wang RWS) Q/A at 506-507). Fujifilm notes Maeda is directed toward a hard disk and "makes no reference to minimizing pits at all." *Id.* Fujifilm concludes that "one of skill in the art would not be motivated to combine Matsuno and Endo, which disclose fixed depth pit thresholds, with Maeda." *Id.*

The Staff submits that Maeda is non-analogous art. Staff Br. at 69 (citing Fujifilm's evidence).

Sony replies:

To the extent there is any question, whatsoever, about whether a POSA would apply Wallace's Law to modern efforts to minimize spacing loss and thereby maximizing recording media performance in high-density recording, Maeda demonstrates that such efforts were routine. RX-0335, Abstract, ¶¶ 4-6, 12. As Dr. Bhushan testified, Maeda supports the general proposition that it was known, prior to the invention date of the '612 Patent, that minimizing pits of a certain depth, where this depth is a function of the recorded wavelength on the magnetic surface itself, would improve the performance of the magnetic recording medium. RX-0001C at Q&A 296. Though the specific teachings of the various limitations of the '612 Patent claims can be found in the disclosures of Matsuno and Endo, as discussed previously, Maeda

PUBLIC VERSION

provides evidence that the application of Wallace's Law to control spacing (via "grooves" or "pits") in relation to recorded wavelength was already being done by the time the '612 Patent was filed. *Id.* at Q&A 295-297.

Sony Reply at 40 (emphasis omitted).

The Federal Circuit has explained that:

Two separate tests define the scope of analogous prior art: (1) whether the art is from the same field of endeavor, regardless of the problem addressed and, (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved.

In re Bigio, 381 F.3d 1320, 1325 (Fed. Cir. 2004).

Dr. Wang testified that "Maeda is directed to improving 'recording density of a magnetic recording medium by preventing the errors caused by grooves, through adjusting the amount of texturing of grooves that are produced on the surface for the magnetic recording medium.'" CX-0357C (Wang RWS) at Q/A 507 (quoting RX-0335, Abstract). Dr. Wang adds that Maeda relates to hard disks. *Id.*

While Dr. Bhushan's testimony suggests that Maeda is from the same field of endeavor as Matsuno and Endo, it does not directly address the question of whether the references are from the same field of endeavor. *See Bigio*, 381 F.3d at 1325; RX-0001C (Bhushan WS) at Q&A 295-97. Dr. Bhushan's testimony also does not directly address whether Maeda is nonetheless reasonably pertinent to the problems in magnetic tapes. *Id.*

The administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that a person of ordinary skill in the art would have modified Matsuno or Endo in view of Maeda. In particular, Sony has not shown, through clear and convincing evidence, that Maeda is analogous art. Although the '612 Patent acknowledges that MR heads

PUBLIC VERSION

have been used with hard disk devices, it is not clear that a person of ordinary skill in the art would consider Maeda from the same field of endeavor or a reasonably pertinent reference. Accordingly, the administrative law judge finds that claims 1, 2, 4-5, and 7-11 would not have been obvious over the combination of Matsuno and Endo, in view of Maeda.

3. Matsuno and Sasaki in View of Maeda

Sony argues, in part:

As discussed above, Fujifilm did not invent the use of hexagonal ferrite in magnetic recording media, nor did it invent magnetic recording media for use with MR heads, nor did it invent the concept of minimizing surface roughness to values commensurate with those recited in the claims of the '612 Patent. Prior art reference, Sasaki (RX-0320) discloses all of these limitations. RX-0001C at Q&A 298-307. Sasaki discusses a magnetic recording medium for use in MR head reproducing systems that has improved surface properties for obtaining high recording density. RX-0320 (Sasaki), ¶¶ 2 - 5. Sasaki discusses the use of hexagonal ferrite and teaches BaFe, specifically. RX-0320 (Sasaki), abstract, ¶ 15.

Sony Br. at 166. Sony also argues that Sasaki discloses the use of barium ferrite, which is a hexagonal ferrite powder, and a magnetic layer with a surface roughness “no greater than 5 nm.”

Id. at 167 (citing RX-0001 (Bhushan WS) at Q/A 300-05). Sony further argues:

for the same reasons discussed in Section V.D.1.d.i. above with respect to the combination of Matsuno and Endo in view of Wallace, a POSA would have been motivated to process the magnetic recording media described in Matsuno to have a similar surface roughness as that disclosed in Sasaki, as doing so would further decrease spacing loss and provide improved surface properties for magnetic layer performance in high-density recording, a goal that is explicitly shared by both Matsuno and Sasaki and originates from the understood concept articulated by Wallace and applied by Maeda.

Id. (citing RX-0001 (Bhushan WS) at Q/A 306, 20; RX-0320 (Sasaki), ¶ 4).

Fujifilm argues that “for at least the reasons set forth above with respect to Matsuno and

PUBLIC VERSION

Maeda for these elements, Matsuno alone or in combination with Maeda does not disclose, suggest, or render obvious” the pit-depth or minimum recording bit length limitations. Fujifilm Br. at 171. Fujifilm also argues that a person of ordinary skill in the art would not combine Matsuno and Sasaki “because: (i) Sasaki is directed to magnetic recording mediums to be used with MR heads, which differs from Matsuno; (ii) Sasaki is directed to achieving a medium with high-durability while Matsuno is directed to reducing fatal errors by reducing the number of certain indentations; and (iii) Matsuno set a different constraint on “surface roughness” which was based on pits of a certain depth.” CX-0357C (Wang RWS) at Q/A 513.

The Staff submits that “Sony has failed to show that one skilled in the art would have been motivated to modify the magnetic recording medium disclosed by Matsuno in the manner described by Sasaki.” Staff Br. at 69.

Sony replies that “Fujifilm completely ignores the overarching fact that all of these references [(Matsuno, Endo, Sasaki, and the ‘612 Patent)] are identically drawn to hexagonal ferrite magnetic recording media for high-density recording in which the inventors/researchers manipulated surface characteristics including pits and surface roughness to achieve maximum performance.” Sony Reply at 41 (emphasis omitted).

Sasaki discloses a magnetic layer with a surface roughness of 10 nm or less. RX-0320, ¶ 5 (“(5) A magnetic recording medium in accordance with any of (1)-(4) in which the surface roughness Ra of the non-magnetic supporting body is no greater than 10 nm.”). The evidence shows that a person of ordinary skill in the art would not combine Matsuno and Endo due to the differing problems the references address—Matsuno addresses ameliorating errors in a system that uses the RLL (2,7) modulation through limiting indentations of a specific depth, in tapes that use inductive heads, while Sasaki is directed to achieving a medium with high-durability. CX-

0357C (Wang RWS) at Q/A 513. These differences further suggest that a person of ordinary skill in the art would not ascertain a rationale or motivation for combining the references in the manner that Sony and Dr. Bhushan suggest. *Id.* Accordingly, the administrative law judge has determined Sony has not shown, through clear and convincing evidence, that a person of ordinary skill in the art would have found that claim 1, as a whole, would have been obvious at the time of the invention based upon the disclosures and teachings of Matsuno and Sasaki, in view of Maeda.

4. Sony's DDS-3 Tapes in View of Endo or Sasaki

a) Claim 1

Sony argues that its DDS-3 tapes (RPX-0001 and RPX-0012) disclose all of the limitations in claim 1 except for the "hexagonal ferrite powder" requirement. *See* Sony Br. at 168- (citing RX-0001C (Bhushan WS) at Q/A 322-32, 347-54). Sony relies on Endo and Sasaki to provide the hexagonal ferrite powder. *Id.*; *see also* RX-0001C (Bhushan WS) at Q/A 327, 349. Sony further argues:

Though these prior art tapes do not employ hexagonal ferrite as the magnetic powder comprising the magnetic layer, this would have been an obvious materials choice given the ample prior art disclosure of hexagonal ferrite for use in the magnetic layer of magnetic recording media, as discussed in both Endo and Sasaki. RX-0001C at Q&A 327-328, 349-350. As discussed previously, Endo teaches this at ¶ 25 and Sasaki describes hexagonal ferrite in the abstract and at ¶ 15. Given the ample disclosure of use of hexagonal ferrite for the magnetic layer of high-density magnetic recording media a POSA would have deemed it obvious to use this material with the RPX-0001 (SNY-ITC_S0000001) and RPX-0012 (SNY-ITC_S0000016) tapes. RX-0001C at Q&A 327, 349. Moreover, as Dr. Bhushan testified, there would have been nothing surprising or unexpected about the use of hexagonal ferrite with these prior art tapes and nothing in the '612 Patent suggests otherwise. RX-0001C at Q&A 328, 350.

Sony Br. at 170.

PUBLIC VERSION

Fujifilm argues that Dr. Bhushan has used hindsight in modifying the DDS-3 tapes and that “Dr. Bhushan does not discuss how such a substitution would be made or how such a substitution would affect the manufacture of the tape including the need to use or substitute other elements in the manufacturing recipe.” Fujifilm Br. at 174 (citing CX-0357C (Wang RWS) at Q/A 525). Dr. Wang also opines that modifying the tapes may render them unfit for their intended purpose, as the modification would depart from the magnetization appropriate for inductive heads. CX-0357C (Wang RWS) at Q/A 525.

The Staff submits that “it would not have been obvious to one skilled in the art to use hexagonal ferrite instead of metal particles as part of a DDS-3 system.” Staff Br. at 70.

Sony replies:

As Dr. Bhushan testified, a POSA, understanding from references like Endo and Sasaki that hexagonal ferrite was being used in magnetic recording media for high-density recording, and understanding that the surface characteristics of the same were being optimized for peak performance, and “having knowledge of the surface characteristics of the [Prior Art Tapes] (all of which fall squarely within the claimed ranges) ... would have followed the teachings of Endo and Sasaki towards use of hexagonal ferrite particles” while measuring the previously-known surface characteristics of the Prior Art Tapes in the manner claimed in the ‘612 Patent. RX-0001C (Bhushan OWS) at Q&A 333, 345, 355, 367. Fujifilm’s argument that moving from metal particles to hexagonal ferrite involves “hindsight” reconstruction (see, e.g., Fujifilm IPHB at 174) ignores the fact that measuring and optimizing surface characteristics of hexagonal ferrite media was already being done by inventors like Endo and Sasaki. It is the knowledge that prior art, metal particle tapes bore characteristics identical to those claimed in the ‘612 Patent that makes the measurement of such existing hexagonal ferrite tapes in the manner claimed obvious.

Sony Reply at 41-42 (emphasis omitted).

The administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that its DDS-3 tapes provide reliable data or that a person of ordinary skill

PUBLIC VERSION

in the art would (successfully) modify the tapes in View or Sasaki. The evidence shows that modifying (*e.g.*, substituting) the metal particles in the DDS-3 tape with hexagonal ferrite particles from Endo or Sasaki could render the Sony DDS-3 tape inoperable in its helical scan system. *See* CX-0357C (Wang RWS) at Q/A 525 (*see also* Q/A 162, 177, 280, 409); *Plas-Pak Indus., Inc. v. Sulzer Mixpac AG*, 600 F. App'x 755, 758 (Fed. Cir. 2015) (“combinations that change the basic principles under which the [prior art] was designed to operate . . . or that render the prior art “inoperable for its intended purpose . . . may fail to support a conclusion of obviousness.” (quotations and citations omitted); *see also* RX-0004C (Ross WS) at Q/A 300 (“metal particles have higher remnant magnetization than hexagonal ferrite particles”). Accordingly, the administrative law judge finds that claims 1, 2, 4, 5, and 7-11 would not have been obvious over either DDS-3 tape in View or Sasaki.

b) Claim 2

Sony has not argued that claim 2 would have been obvious based on the DDS-3 tapes in view of Endo or Sasaki. *See generally* Sony Br., § V(D)(1)(d)(iv); *see also* RX-0001C (Bhushan WS) at Q/A 334-35 (claim 2 is not addressed).

Fujifilm has argued that claim 2 would not have been obvious based on the DDS-3 tapes in view of Endo or Sasaki. *See* Fujifilm Br. at 176.

Accordingly, the administrative law judge finds that Sony has not shown, through clear and convincing evidence, that claim 2 would have been obvious based on the DDS-3 tapes in view of Endo or Sasaki.

c) Claims 4 and 5

Sony argues that the evidence showing the DDS-3 tapes satisfy the “number of pits having a depth of $\frac{1}{3}$ or more of the minimum recording bit length present on a surface of said

PUBLIC VERSION

magnetic layer is equal to or less than $100/10,000 \mu\text{m}^2$ ” limitation also shows claims 4 and 5 would have been obvious. Sony Br. at 171 (“all of these results also fall within the ranges recited in claim 4 (80 or less) and claim 5 (50 or less)”).

Fujifilm argues “claims 4-8 all depend directly or indirectly from claim 1 and are not obvious for at least the same reasons expressed for claim 1.” Fujifilm Br. at 176.

Dr. Bhushan testified that the DDS-3 tapes disclose the pits-per-area ratio disclosed in claims 1, 4, and 5. RX-0001C (Bhushan WS) at Q/A 331, 335-38, 353, 357-60. Further, Fujifilm has not shown that the narrower ranges recited in claims 4 and 5 provide an unexpected benefit. *See id.* at Q/A 260-63 (no evidence of criticality, synergy, or unexpected results). The narrower ranges, therefore, are not a non-obvious variant or otherwise independently patentable from claim 1. Accordingly, if claim 1 is later found obvious, then the administrative law judge has determined that Sony has shown, through clear and convincing evidence, that claims 4 and 5 also would have been obvious.

d) Claims 7 and 8

Sony argues “testing revealed that both prior art tapes exhibited surface roughness values falling within the range recited claim 1 and the narrower ranges recited in claims 7 and 8.” Sony Br. at 171 (citing RX-0001C at Q/A 332; RX-0338).

Fujifilm argues “claims 4-8 all depend directly or indirectly from claim 1 and are not obvious for at least the same reasons expressed for claim 1.” Fujifilm Br. at 176.

Dr. Bhushan testified that the DDS-3 tapes have an average surface roughness of 4.25 and 4.78 nm. RX-0001C (Bhushan WS) at Q/A 332, 339-40, 354, 361-62. Further, Fujifilm has not shown that the narrower ranges recited in claims 7 and 8 provide an unexpected benefit. *See id.* at Q/A 260-63 (no evidence of criticality, synergy, or unexpected results). The narrower

PUBLIC VERSION

ranges, therefore, are not a non-obvious variant or otherwise independently patentable from claim 1. Accordingly, if claim 1 is later found obvious, then the administrative law judge has determined that Sony has shown, through clear and convincing evidence, that claims 7 and 8 also would have been obvious.

e) Claim 9

Sony argues: “Additional limitations relating to MR heads (claim 9) and methods of use (claim 9) and methods of recording and reproducing (claims 10 and 11) are taught by the publication prior art as discussed above. *See* Sections V.D.1.d.i.(5)-(7).” Sony Br. at 172. Sony argues that Endo and Sasaki were directed to media for use with MR heads. *Id.* at 172-73.

Fujifilm argues that Sony’s DDS-3 tapes were not compatible with MR heads because the DDS-3 tapes were designed for use with inductive heads. Sony Br. at 176-77.

The administrative law judge previously determined that claim 9 does not contain independently patentable subject matter. *See* Part V(G)(1)(e), *supra*. Accordingly, if claim 1 is later found obvious, then the administrative law judge has determined that Sony has shown, through clear and convincing evidence, that claim 9 also would have been obvious.

f) Claim 10

Sony argues that “methods of recording and reproducing (claims 10 and 11) are taught by the publication prior art as discussed above. *See* Sections V.D.1.d.i.(5)-(7).” Sony Br. at 172.

Fujifilm argues:

Claim 10 is a method claim which recites several limitations that are identical or very similar to the limitations recited in claim 1. Accordingly, for at least the reasons set forth with respect to claim 1, Dr. Wang explains that SNY-ITC_S0000001 and Endo or Sasaki do not render obvious claim 10. CX-0357C (Wang RWS) Q:543-547. Claim 11 depends from claim 10. For at least the reasons stated with respect to claim 10, the combination of SNY-ITC_S0000001 and Endo or Sasaki does not render obvious Claim

11.

Fujifilm Br. at 177.

As with Sony's arguments that the asserted claims are obvious over the combination of Matsuno and Endo in view of Wallace, *see* Part V(G)(1)(f), the administrative law judge has determined that claim 10 would not have been obvious for same reasons claim 1 would not have been obvious.⁵¹ Although claim 10 is a method claim, the steps it recites are merely generic instructions for using a magnetic tape and do not contain any non-obvious aspects. *See Dow Chem.*, 341 F.3d at 1375; *In re Lonardo*, 119 F.3d at 968. Accordingly, the administrative law judge finds that claim 10 would not have been obvious over the combination of Matsuno and Endo in view of Wallace.

g) Claim 11

Sony argues that "methods of recording and reproducing (claims 10 and 11) are taught by the publication prior art as discussed above. *See* Sections V.D.1.d.i:(5)-(7)." Sony Br. at 172.

Fujifilm does not present a separate argument for claim 11.

As discussed above in relation to claim 1, the DDS-3 tapes have a minimum recording bit length that falls within the claimed range. *See* RX-0001C (Bhushan WS) at Q/A 330, 352 (the minimum recording bit length for both tapes is []). The administrative law judge, however, found that claim 1 would not have been obvious, and finds that claim 11 would not have been obvious for same reasons claim 1 would not have been obvious.⁵² Accordingly, the administrative law judge finds that claim 11 would not have been obvious over the administrative law judge finds that claims 1, 2, 4, 5, and 7-11 would not have been obvious over

⁵¹ If claim 1 is later found obvious, then claim 10 should also be found obvious.

⁵² If claims 1 and 10 are later found obvious, then claim 11 should also be found obvious.

either DDS-3 tape in view of Endo or Sasaki.

5. Secondary Considerations⁵³

Fujifilm's entire argument is:

Sony's failure to establish a prima facie case of obviousness ends the inquiry. Even if such a case existed, however, overwhelming objective evidence in the form of praise by others, failure of others, long-felt but unmet need, and commercial success of the inventions in the '612 Patent overcomes any such claim of obviousness, as discussed in Section III.F.2.b above.

Fujifilm Br. at 179.

Sony argues that none of the evidence Fujifilm cites "is tied to any inventive aspect of the '612 Patent at all." Sony Br. at 173-74. Sony emphasizes that the evidence Fujifilm cites is connected with barium ferrite generally and not the asserted claims. *See id.* at 173-76.

The Staff argues:

As with the '891 Patent above, FUJIFILM contends that objective indicia of nonobviousness, including industry praise, licensing, long-felt but unresolved need, commercial success, and evidence of copying by others confirm the validity of the claims. Compls. P.H. Br. at 71-103. For the reasons set forth above, the Staff believes that the evidence shows long-felt need and commercial success as objective indicia of nonobviousness. *See supra* at Section IV.F.2. These factors weigh against a finding of obviousness.

Staff Br. at 70.

Fujifilm's reply does not present any secondary consideration argument that is specific to

⁵³ Fujifilm has argued that all of the tape media patents exhibit joint criticality and includes "joint criticality" as a secondary consideration. *See, e.g.,* Joint Outline at 4. With regard to the secondary considerations analysis, the administrative law judge has determined that Fujifilm has not shown the tape media patents capture jointly critical subject matter. Similarly, the administrative law judge has determined that Fujifilm has not shown that the claims confer synergistic or unexpected results. Additionally, Sony has argued that there is no nexus between secondary consideration evidence and the asserted claims and includes "nexus" as a separate secondary consideration issue. *Id.* The administrative law judge has considered Sony's nexus arguments within the context of each secondary consideration topic.

PUBLIC VERSION

the '612 Patent. *See generally* Fujifilm Reply.

Fujifilm argues that its tapes are a “once in a generation breakthrough” and that evidence pertaining to industry praise, licensing, long-felt need, commercial success, and copying indicate that the '891 Patent would not have been obvious. *See generally* Fujifilm Br., § (III)(F)(2)(b).

Fujifilm repeats these arguments for the '612, '106, and '434 Patents. *See generally* Fujifilm Br.,

§§ (IV)(G)(b), (V)(G)(e), (VI)(G)(b). As an example, for the '612 Patent, Fujifilm argues:

Sony's failure to establish a *prima facie* case of obviousness ends the inquiry. Even if such a case existed, however, overwhelming objective evidence in the form of praise by others, failure of others, long-felt but unmet need, and commercial success of the inventions in the '612 Patent overcomes any such claim of obviousness, as discussed in Section III.F.2.b above.

Fujifilm Br. at 179.

Sony generally argues that Fujifilm's arguments are “legally immaterial” and that the evidence Fujifilm cites lacks a nexus to the claims. *See generally* Sony Br. at 101.

The Staff argues that Fujifilm “has failed to establish a nexus between the claimed inventions and industry praise” and that Fujifilm has not shown licensing or copying demonstrate the claims would not have been. Staff Br. at 43. The Staff, however, submits that “that the evidence establishes long-felt need and commercial success as objective indicia of nonobviousness.” *Id.* at 44.

a) Industry Praise

The evidence of industry praise the Fujifilm cites relates to magnetic tapes having barium ferrite, in general. The evidence does not pertain to the attributes of the asserted claims (*e.g.*, pit depth and bit length, pits per area, and surface roughness). Accordingly, the administrative law judge has determined that Fujifilm has not shown that this secondary consideration supports a non-obviousness finding.

b) Licensing

As with the '891 Patent, the evidence shows that Sony attempted to license multiple Fujifilm patents, but it does not show that Sony attempted to license the '612 Patent. *See* CX-0023C at 9 (listing patents Sony wished to license); JX-0067C at 4; CX-0006C (Imai WS) at Q/A 19-24, 28 [

]. Accordingly, the administrative law judge has determined that Fujifilm has not shown that this secondary consideration supports a non-obviousness finding.

c) Long-Felt Need

Fujifilm argues that its barium ferrite tapes resolved the long-felt need for a high-capacity magnetic tape. Fujifilm Br. at 95-96. Fujifilm argues that:

The inventions of the Asserted Claims, however, allowed magnetic tapes to continue to meet and exceed the projected trajectory for storage density and overall capacity, as illustrated below and as explained by Dr. Wang. *See* CX-0357C (Wang RWS) Q:77. Fujifilm was successful in developing and commercializing its magnetic tapes using BaFe particles that surpassed the storage capacity needs of the market—a feat that no one else matched. *See id.*

Id.

Sony argues:

Fujifilm's evidence of long-felt need is, again, directed entirely to the benefits of BaFe. Though Fujifilm seems to suggest that evidence that Sony was working towards reducing the "overall thickness" of the magnetic tape supports a finding of non-obviousness, there is no link between this and the specific limitations of the Asserted Claims of the '612 Patent (*i.e.*, pits or surface roughness). Fujifilm makes vague generalizations about "roughness of the magnetic layer" but as already discussed, reducing the roughness of the magnetic layer was a goal that was well known in the prior art as of the invention date of the '612 Patent. RX-0001C at Q&A 376. Moreover, Fujifilm has provided no evidence of a long-felt need or failure of others with respect specifically to the particular limitations recited in the Asserted

PUBLIC VERSION

Claims of the '612 Patent, such as 100 or less pits of a depth that is $\frac{1}{3}$ the minimum recording bit length in an area of $10,000 \mu\text{m}^2$, or a surface roughness that is specifically equal to or less than 6.0 nm. *Id.*

Sony Br. at 175.

The '612 Patent was concerned with tape noise in MR heads. JX-0004 at 2:16-19 ("it is an object of the present invention to provide a particulate magnetic recording medium affording great improvement in medium noise in a recording and reproduction system adopting MR heads."). The long-felt need that Fujifilm identifies, high-capacity storage, is not reasonably related to noise. It has not been shown that the alleged benefits offered by the '612 Patent increased storage capacity of tapes. *See* RX-0001C (Bhushan WS) at Q/A 376 ("Fujifilm has provided no evidence of a long felt need or failure of others with respect specifically to the particular limitations recited in the Asserted Claims of the '612 Patent"). Accordingly, the administrative law judge has determined that the evidence does not support a finding that the '612 Patent satisfied a long-felt need.

d) Failure of Others

Fujifilm argues that the industry's failure "to develop the inventions in the Asserted Claims" is evident because "no company had ever commercialized a magnetic tape using BaFe." Fujifilm Br. at 97. Fujifilm equates the success of LTO-7 with the "Asserted Patents." *See* Fujifilm Br., § (III)(F)(2)(b)(v)(3)(ii).

Sony argues that "Fujifilm has provided no evidence of a long-felt need or failure of others with respect specifically to the particular limitations recited in the Asserted Claims of the '612 Patent, such as 100 or less pits of a depth that is $\frac{1}{3}$ the minimum recording bit length in an area of $10,000 \mu\text{m}^2$, or a surface roughness that is specifically equal to or less than 6.0 nm."

PUBLIC VERSION

Sony Br. at 175.

The evidence does not show that others tried, but failed to develop, tapes described by the asserted claims. *See* RX-0001C (Bhushan WS) at Q/A 376 (“Fujifilm has provided no evidence of a long felt need or failure of others with respect specifically to the particular limitations recited in the Asserted Claims of the ‘612 Patent”). Accordingly, the administrative law judge has determined that Fujifilm has not shown that this secondary consideration supports a non-obviousness finding.

e) Commercial Success

For all of the asserted patents, Fujifilm argues that with “its pioneering inventions in barium ferrite tape media technology and advanced servo writing techniques, it [has] achieved overwhelming success.” Fujifilm Br. at 100. [

].⁵⁴ *Id.* at 101 (citing CX-0026C (Vander Veen RWS) at Q/A 93).

Fujifilm then points to its dominant market share and relationships with prominent customers.

Id. Fujifilm then presents argument that echoes its long-felt need and failure-of-others arguments. *Id.* at 102-03.⁵⁵

Sony argues:

Fujifilm’s evidence regarding the commercial success of LTO-7 products bears no nexus to the actual limitations recited in the claims of the ‘612 Patent. There is no evidence that any customer bought Fujifilm’s LTO-7 or LTO-6 tapes for any reason other than perhaps the fact that the tapes comply with the respective standards, and there is certainly no evidence that any customer bought these tapes because of the specific ranges for pits, pit depth,

⁵⁴ [*See* CX-0026C (Vander Veen RWS) at Q/A 92-93.

⁵⁵ Fujifilm has also argued that Sony does not dispute Fujifilm’s commercial success. Fujifilm Br. at 33. This argument, however, is built on an erroneous reading of Sony’s brief.

PUBLIC VERSION

minimum recording bit length and surface roughness claimed. Moreover, as already discussed at length, the threshold values defining these ranges were in no way critical to the invention nor did they generate any unexpected results. Accordingly, any commercial success Fujifilm enjoyed with respect to its LTO-7 or LTO-6 tapes cannot be linked to any inventive aspect of the Asserted Claims of the '612 Patent. RX-0001C at Q&A 377.

Sony Br. at 175-76.

The evidence that Fujifilm cites shows that [

J. CX-0026C (Vander Veen

RWS) at Q/A 92-93. The evidence also shows that Fujifilm practices the '612 Patent. *See* Part V(D) (Domestic Industry), *supra*. The evidence does not support a strong nexus between the '612 Patent and Fujifilm's success, however. In particular, the prior art discloses many aspects of the claims asserted from the '612 Patent, including the barium ferrite particles that Fujifilm heavily relies on. *See* Part V(G)(1)-(4), *supra*; *see also Tokai*, 632 F.3d at 1369; *J.T. Eaton & Co. v. Atl. Paste & Glue Co.*, 106 F.3d 1563, 1571 (Fed. Cir. 1997) ("the asserted commercial success of the product must be due to the merits of the claimed invention beyond what was readily available in the prior art."). Further, given that Fujifilm's products also practice other claims, it is impossible to attribute Fujifilm's success to any one claim from the '612 Patent versus other claims, thus weakening the nexus between the "Asserted Claims" (as Fujifilm has identified them) and Fujifilm's LTO products. *See* Part IV(D), *infra*; *see, e.g., Apple*, 839 F.3d at 1055 (upholding jury finding of commercial success and a nexus between a single claim and a product feature based on survey evidence, the prominent role of the feature in Apple advertising, and a video of a crowd bursting into cheers when the feature was first demonstrated). Accordingly, the administrative law judge has determined that Fujifilm's showing of commercial success provides weak support for finding that '612 Patent is not obvious, because the nexus

PUBLIC VERSION

between the commercial success and the '612 Patent is weak.

f) Copying

Fujifilm argues “it is highly probable (if not undeniable) that Sony copied the concepts claimed in the Asserted Claims.” Fujifilm Br. at 105. Fujifilm notes that [

].” *Id.* at 104.⁵⁶

Fujifilm then argues “an inference of copying is reasonable” under the facts of the investigation. *Id.* at 105 (citing *WBIP*, 829 F.3d at 1336-37).

Sony argues, in part:

... []. Accordingly, Fujifilm’s allegations of copying are simply misguided and fail to support a finding of non-obviousness. [

]. . . .

Sony Br. at 176.

The evidence does not support a finding of copying. Fujifilm does not even present an argument that pertains to particular attributes (*e.g.*, pit depth and bit length, pits per area, and surface roughness) claimed in the '612 Patent. Accordingly, the administrative law judge has determined that the evidence does not show that Sony copied Fujifilm’s products.

g) Weighing the Secondary Considerations

On the whole, the administrative law judge has determined that Fujifilm’s weak showing of commercial success is generally negligible because there is a weak nexus between the commercial success and the '612 Patent. The remaining secondary considerations do not support a non-obviousness finding.

⁵⁶ [

].

H. Indefiniteness⁵⁷

Sony argues:

The claims of the '612 Patent fail to inform the public of their scope with reasonable certainty for two reasons: (1) they recite physical properties, the testing of which is determinative of claim scope but also variable, unclaimed and unidentified, and (2) they are defined by unclaimed systems and broad enough such that different possible uses are inexorably connected to different claim scopes.

Sony Br. at 176. Both theories are addressed below.

1. Pit Testing

Sony argues that the term "pit" is indefinite because it can be measured in "two equally plausible" ways:

First, one can apply a threshold depth when performing the AFM scan processing and any portion of the surface of the scan that reaches that depth can be depicted on the scan as a single, contiguous area. RX-0001C at Q&A 394. Each contiguous area is then counted as a single pit. *Id.*

Sony Br. at 177. Sony then argues:

... an alternate method for identifying and counting pits is to identify contiguous voids but to count such voids proportionately based upon their length in relation to the minimum recording bit length of the magnetic recording medium. *Id.* Per this method, if a given void is identified on the surface of the magnetic layer and that void is the length of three recording bit cells, that void is counted as three pits. *Id.* Per *Nautilus*, the intrinsic record "must disclose a single known approach or establish that, where multiple known approaches exist, a [POSA] would know which approach to select." *Dow Chem.*, 803 F.3d at 630.

Id. at 178 (citing RX-0001C (Bhushan WS) at Q/A 393-394). Sony notes the testing of its prior art tapes present inconsistent results based on the measurement method. *Id.*

⁵⁷ Sony has argued that all of the tape media patents (*i.e.*, the '891, '106, '612, and '434 Patents) are indefinite. See Sony Br., §§ IV(E), V(D)(2), VI(D), VII(F)(1).

PUBLIC VERSION

Fujifilm argues:

Dr. Bhushan's alleged alternative methods of counting / identifying pits ignore the private parties' and Staff's agreed claim constructions. RX-0001C (Bhushan DWS) Q:394-395. Dr. Bhushan suggests the possibility of counting contiguous voids as pits or to count such voids proportionately based on their length in relation to minimum recording bit length. *Id.* But each of these alternatives ignores the fact that the private parties and Staff have agreed "pits" is construed to mean "indentations below the average plane." Any method of counting pits must be consistent with this definition. Dr. Bhushan's many "alternatives" are not. Instead, they are nothing more than an attempt to muddy the waters and inject indefiniteness where there is none. In addition, Dr. Bhushan's alternative counting methods are inconsistent with the plain meaning that one of skill in the art would attribute to the process of counting pits, absent some other express definition. CX-0357C (Wang RWS) Q:574 [(sic, 577)].

Fujifilm Br. at 117.

The Staff does not address Sony's pit-testing argument. See generally Staff Br., § V(G)(2); Staff Reply, § IV(F).

The administrative law judge has determined that Dr. Bhushan's alternative method for identifying and counting pits is inconsistent with the plain meaning of the term pits. See CX-0357C (Wang RWS) at Q/A 577 ("There is no reason to believe that one of ordinary skill in the art would need the extraordinary amount of guidance Dr. Bhushan purports to require."). Further, Dr. Bhushan does not point to any corroborating evidence suggesting that his alternative method was publicly known. See RX-0001C (Bhushan WS) at Q/A 394. Accordingly, the administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that the asserted claims are indefinite under Sony's pit-measurement theory.

2. Need for Extraneous Information

Sony argues:

To the extent claim 1 of the '612 Patent requires a link between pit

PUBLIC VERSION

depth and the “minimum recording bit length” of the claimed medium, one must know the “minimum recording bit length” of that medium in order to identify and count pits. The same is true for all of the Asserted Claims. But according to the ‘612 Patent, “minimum recording bit length” is a property of the system in which the medium is recorded and depends on how densely information is written onto the medium. See ‘612 Patent at 3:56-59 (“The ‘minimum recording bit length’ means $\frac{1}{2}$ of the length of the shortest wavelength of the signal recorded by the system.”). A POSA, looking at the claimed recording medium, would not know, however, whether a given magnetic recording medium is covered by the claim without having some extraneous information about the recording system. And the claim is broad enough to cover a wide swath of different recording media. Thus, depending on the properties of that unknown system, a magnetic recording medium may or may not be covered by the claim.

Sony Br. at 180 (emphasis omitted).⁵⁸

Fujifilm argues that

First, Dr. Bhushan misinterprets the ‘612 Patent’s statement that “the ‘minimum recording bit length’ means $\frac{1}{2}$ of the length of the shortest wavelength of the signal recorded by the system” as requiring a magnetic recording medium to have something recorded on it before its minimum recording bit length can be determined. RX-0001C (Bhushan DWS) Q:185. In doing so, Dr. Bhushan misconstrues the phrase “recorded by the system” to mean something must be recorded on the tape. Rather, as Dr. Wang explains, one of skill in the art would understand this instead to be referring to the shortest wavelength “that can be recorded by the system.” CX-0357C (Wang RWS) Q:574.

...

MRBL can be calculated based on the linear density of the recording medium, which is a property of the medium itself. *Id.* Q:571. Dr. Wang explains that [

]. Indeed, this appears to be the understanding Dr. Bhushan applied when he determined the

⁵⁸ Sony cites to *Certain Wiper Blades*, Inv. No. 337-TA-816, Order No. 45, 2012 WL 4174874, *84-85 (Dec. 14, 2012) (“*Wiper Blades*”); *Halliburton Energy Servs., Inc. v. M-I LLC*, 514 F.3d 1244, 1249 (Fed. Cir. 2008); *Geneva Pharm., Inc. v. GlaxoSmithKline PLC*, 349 F.3d 1373, 1384 (Fed. Cir. 2003). Sony Br. at 179-80.

PUBLIC VERSION

MRBL for the purported prior art DDS-3 tapes. RX-0001C (Bhushan DWS) Q:100-107. In that calculation, Dr. Bhushan makes no reference to anything having been recorded on the Sony DDS-3 tapes in order to determine their MRBL. *Id.*

Fujifilm Br. at 111-13. Fujifilm also argues it is generally understood that tapes are “designed and manufactured to be used with particular recording systems,” such as those that are LTO-7 compliant, and that this reduces uncertainty about the term. *Id.* at 113; *see also* CX-0357C (Wang RWS) at Q/A 572. Fujifilm also points to [

], to support its argument that infringement can be determined without extraneous information. *See* JX-0054C at 2; CX-0357C (Wang RWS) at Q/A 571.

The Staff submits that the claim is not indefinite as Sony argues and that “Sony’s expert, Dr. Bhushan agrees that a given recording medium has only one minimum recording bit length.” Staff Br. at 70 (citing CX-0357C (Wang RWS) at Q/A 575; RX-0001C (Bhushan WS) at Q/A 225).

The administrative law judge finds that one skilled in the art could determine the minimum recording bit length for a particular sample of magnetic tape with reasonable certainty, and thereby ascertain whether that tape has a number of pits with a depth of $\frac{1}{3}$ of the minimum recording bit length less than the claimed threshold. *See* CX-0357C (Wang RWS) at Q/A 569-575. Indeed, Dr. Bhushan was able to calculate a minimum recording density in connection with Sony’s obviousness arguments. *See* RX-0001C (Bhushan WS) at Q/A 100-07. Accordingly, the administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that the asserted claims are indefinite under Sony’s extraneous-information theory.

3. Mixed Apparatus and Method Claim

In connection with an obviousness argument, Sony argued:

Claim 9 recites a method for use of the magnetic recording medium according to claim 1, wherein a MR head is employed during recording and reproduction. Claim 9 requires both method elements and apparatus elements in a single claim and is therefore of suspect validity for that reason alone. CX-0366C at Q&A 102; *See IPXL Holdings, L.L.C. v. Amazon.com, Inc.*, 430 F.3d 1377, 1384 (Fed. Cir. 2005) (holding a system claim to be indefinite where it recites “the user uses the input means”).

Sony Br. at 162. Sony has not argued that the claim is actually invalid.

Fujifilm replies:

Sony contends that claim 9 requires both method elements and apparatus elements in a single claim and is therefore of suspect validity. RPostHBr. at 162 (citing *IPXL Holdings, L.L.C. v. Amazon.com, Inc.*, 430 F.3d 1377, 1384 (Fed. Cir. 2005)). Sony however is mistaken. Claim 9 does not recite both an apparatus and a method of using the apparatus as was the case in *IPXL*. There, claim 25—the claim at issue—recited “The system of claim 2 [including input means] ... and the user uses the input means to either change the predicted transaction information or accept the displayed transaction type and transaction parameters.” *IPXL*, 430 F.3d at 1384. Thus, claim 25 in *IPXL* was a system claim which also included the method step “and the user uses the input means” Here, claim 9 is a method claim which only includes method steps. The preamble of claim 9 recites “A method for use of the magnetic recording medium according to claim 1.” This is no different than if the claim had recited “A method for use of a magnetic recording medium” Accordingly, *IPXL* does not apply.

Fujifilm Reply at 52.

The administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that claim 9 is invalid for claiming both an apparatus and a method of using the apparatus. Further, there is no confusion over when direct infringement occurs with respect to claims 1 or 9. *See In re Katz Interactive Call Processing Patent Litig.*, 639 F.3d 1303,

PUBLIC VERSION

1318 (Fed. Cir. 2011) (finding claims that create confusion as to when direct infringement occurs indefinite). Accordingly, the administrative law judge finds that claim 9 is not invalid under *IXPL*, for including both method elements and apparatus elements in a single claim.

VI. U.S. PATENT NO. 6,703,106

A. Overview of the ‘106 Patent

The ‘106 Patent (JX-0002), entitled “Magnetic recording and reproducing method and magnetic recording medium for use in the method,” issued on March 9, 2004. The application that would issue as the ‘106 Patent, Application No. 10/126,616, was filed on April 22, 2002 and claims priority to JP 2001-124336 (filed April 23, 2001). The ‘106 Patent discloses a magnetic recording medium (*e.g.*, a tape) having a particular track width and specific physical and chemical attributes. *See generally* JX-0002, Abstract.

B. Claim Construction

1. Level of Ordinary Skill in the Art

Fujifilm argues that the ‘106 Patent and the ‘891 Patent have the same level of ordinary skill in the art. *See* Fujifilm Br. at 180.

Sony proposes the same level of ordinary skill for all of the asserted patents. *See* Sony Br. at 48, 121, 195, 255-56, 310; *see also* n.13, *supra*.

The Staff notes that the private parties have presented the same arguments for the ‘106 and ‘891 Patents. Staff Br. at 72. The Staff’s argument for level of ordinary skill is based on “the reasons set forth above” in the ‘891 Patent. *Id.* The Staff offers that “it does not appear that the differences in the proposed level of ordinary skill in the art will affect any of the substantive issues in the investigation.” *Id.* at 72.

The administrative law judge finds that the level of ordinary skill for the ‘106 Patent is

PUBLIC VERSION

the same as the level of ordinary skill for the '891 Patent, for the reasons set forth in Part IV(B)(1), *supra*. Thus, as with the '891 Patent, the administrative law judge has determined that a person of ordinary skill in the art would have a bachelor's degree in electrical engineering, mechanical engineering, physics, materials science (or a related field (such as chemistry)) plus two years of experience working with magnetic storage systems or media.

2. Agreed Construction

Fujifilm, Sony, and the Staff have submitted agreed constructions for one claim term, as follows:

Claim Term/Phrase	Relevant Claim(s)	Agreed Construction
Magnetic recording medium	1, 2, 5, and 6	No construction necessary. However, if construed: "medium on which information may be magnetically recorded."

See Fujifilm Br. at 25; Sony Br. at 197; Staff Br. at 73 (citing CX-0004C (Wang WS) at Q/A 275).

3. Disputed Constructions

The parties dispute three terms in the '106 Patent:

Claim Term/Phrase	Relevant Claim(s)
average longer size (B) of the abrasive particle(s)	1 and 2
average longer size (B) of the abrasive particle(s) which are present on the magnetic layer surface	1 and 2
track width	1 and 2

Fujifilm Br. at 63-67; Sony Br. at 196-97; Staff Br. at 73-76. Sony argues that "track width" and "average longer size (B) of the abrasive particle(s) which are present on the magnetic layer

PUBLIC VERSION

surface” are indefinite. Sony Br. at 197.

a) *average longer size (B) of the abrasive particle(s)*

Fujifilm, Sony, and the Staff propose the following constructions:

Fujifilm’s Proposed Construction	Sony’s Proposed Construction	The Staff’s Proposed Construction
“average longer size of the abrasive particles and/or clusters” or “average of the largest value of the width of the abrasive particles and/or clusters”	the average longest dimension of abrasive particles and/or clusters	the average longest dimension of abrasive particles and/or clusters

Fujifilm Br. at 180-81; Sony Br. at 196; Staff Br. at 73.

Fujifilm argues, in part:

The Private Parties and Staff agree that the term “particle(s)” should be construed to mean “particles and/or clusters” and that the term “particles and/or clusters” should replace the word “particle(s)” in the “average longer size of the abrasive particles and/or clusters.” The sole dispute between Fujifilm on the one hand, and Sony and the Staff on the other, is that Sony and the Staff seek to limit the meaning of the word “longer” to require “longest.”

As a preliminary matter, Fujifilm respectfully submits that the dispute between the parties regarding the construction has no impact on the issues of infringement, validity, or essentiality in this case. Indeed, Sony’s expert, Dr. Bhushan, testified that applying Sony’s proposed construction, line “A” in RDX-0203 (reproduced below) would be the “average longer size.” Hg. Tr. at 653:20-654:5.

...

Fujifilm has proposed that this term should be construed to mean “average longer size of the abrasive particles and/or clusters” (reflecting the parties’ agreement that “particle(s)” should mean “particles and/or clusters” but otherwise maintaining language of the term). Alternatively, Fujifilm proposes that this term should mean “average of the *largest value of the width* of the abrasive particles and/or clusters” (reflecting the fact that, as used in the

PUBLIC VERSION

‘106 Patent, the “average longer size” refers to a two-dimensional measurement of the width, not the absolute largest dimension). Sony disputes these constructions and proposes that the term be construed to mean “the average **longest dimension** of abrasive particles and/or clusters.” The Staff agrees with Sony’s proposed construction.

There is no basis to replace the word “longer” with “longest.” Dr. Wang agrees that this is unnecessary because (i) the claim term is “longer,” and (ii) the word “longest” could require that the abrasive particles and/or clusters be measured in three dimensions. CX-0004C (Wang DWS) Q:277; CX-0357C (Wang RWS) Q:611. According to Dr. Wang, the specification confirms that “what is being measured as the largest value of the width is that shown from an electron microscope image,” which is a two-dimensional and not three-dimensional image. CX-0004C (Wang DWS) Q:277. Indeed, in order to obtain the size of abrasive particles and/or clusters a two-dimensional image—not a three-dimensional image—would be taken. A person of ordinary skill in the art would not arrive at a construction that does not square with the specification. *Bd. of Regents v. BENQ Am. Corp.*, 533 F.3d 1362 (Fed. Cir. 2008) (refusing to adopt a claim construction that “would effect [a] nonsensical result”).

Fujifilm Br. at 180-81 (emphasis added by Fujifilm).

Sony argues:

Sony proposes that this term be construed as “the average longest dimension of abrasive particles and/or clusters.” Proposed Constructions of the Private Parties and the Staff at 7 (Oct. 7, 2016) (Doc. ID 592339). Staff agrees. *Id.* Fujifilm proposes that this term be construed as “average longer size of the abrasive particles and/or clusters” or, alternatively, “average of the largest value of the width of the abrasive particles and/or clusters.” *Id.* Sony’s and Staff’s proposed construction is designed to clarify the scope of the claim, while Fujifilm’s proposal fails to do so. *See U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997) (“Claim construction is ... to clarify and when necessary, to explain what the patentee covered by the claims....”); *Funai Elec. v. Daewoo Elecs.*, 616 F.3d 1357, 1366 (Fed. Cir. 2010). As Dr. Bhushan explains, Sony’s and Staff’s proposed construction recognizes that while irregularly-shaped particles, such as abrasive particles, may have several dimensions that are “longer” than other dimensions, they will have only one single “longest” dimension. RX-0001C at Q&A 70. By contrast,

PUBLIC VERSION

Fujifilm's proposals fail to account for the words "longer size," which may refer to several dimensions in an irregularly-shaped particle that are longer than other dimensions. Fujifilm's primary proposal merely repeats the words verbatim, and Fujifilm's alternative construction uses the confusing phrase "average of the largest value of the width." Since Sony's and Staff's proposed construction provides more clarity for the factfinder as to the meaning of "longer size" than does Fujifilm's, Sony's and Staff's proposed construction should be adopted. *U.S. Surgical Corp.*, 103 F.3d at 1568.

Sony Br. at 196 (emphasis omitted).

The Staff argues:

The parties are in agreement that "abrasive particle(s)" means "abrasive particles and/or clusters." See Compl. P.H. Br. at 174-175; Resps. P.H. Br. at 92-93. The parties' remaining dispute concerns the meaning of the phrase "average longer size." See *id.* FUJIFILM proposes two constructions. The first does not construe the "average longer size" (it just repeats those words) and thus fails to address the central dispute of the parties. FUJIFILM's alternative proposal is "average of the largest value of the width of the abrasive particles and/or clusters." See Compl. P.H. Br. at 175-176. This proposal, however, leaves open the question of what it means to take the "average of the largest value" and which dimension constitutes the width of an abrasive particle and/or cluster. It appears to the Staff that FUJIFILM's alternative proposal is subject to multiple interpretations and is thus ambiguous.

Conversely, Sony and the Staff propose a construction that seeks to clarify the meaning of the terms consistently with the plain language of the claim and the specification. See Resps. P.H. Br. at 92-93. Accordingly, the Staff submits that the term be interpreted to mean "the average longest dimension of abrasive particles and/or clusters."

Staff Br. at 74.

The administrative law judge construes "average longer size (B) of the abrasive particle(s)" to mean "the average longest dimension of abrasive particles and/or clusters." Sony and the Staff's proposed construction brings clarity to the phrase, and Fujifilm has submitted that

PUBLIC VERSION

the construction has no effect on infringement, validity, or essentiality.⁵⁹

b) average longer size (B) of the abrasive particle(s) which are present on the magnetic layer surface

Fujifilm, Sony, and the Staff propose the following constructions:

Fujifilm's Proposed Construction	Sony's Proposed Construction	The Staff's Proposed Construction
Fujifilm does not clearly present a construction in its post-hearing brief; rather, it argues that the phrase is definite.	Sony argues this phrase is indefinite.	The Staff does not clearly present a construction (for the longer phrase) in its post-hearing brief.

Fujifilm Br. at 182-83; Sony Br. at 197; Staff Br., § VI(C).

Sony, in general, argues that this term is indefinite because the patent does not provide sufficient guidance on how to select 50 particles for sampling. Sony Br. at 202-03.

Fujifilm, in general, argues that “one of ordinary skill in the art would understand how to measure the ‘average longer size’ using appropriate equipment and sampling techniques and, although different measurement techniques may yield more or less accurate values, the average longer size is a physical measure that does not change based on how it is measured.” Fujifilm Br. at 183.

The Staff agrees with Fujifilm’s argument. Staff Br. at 81.

The administrative law judge has determined it is not necessary to construe the phrase “average longer size (B) of the abrasive particle(s) which are present on the magnetic layer surface.” The parties do not dispute the meaning of the phrase, but rather how the relevant

⁵⁹ Claims 1 and 2 contain the disputed phrase. See JX-0002 at 26:5-23. Additionally, the phrase “average longer” is used in the summary of the invention (which is essentially a copy of claim 1), the first six paragraphs of the detailed description of the invention, Table 1, the analysis of Table 1, and the effect of the invention (which is essentially another copy of claim 1). See *id.* at 2:32-39, 3:18-43, Table 1, 25:4-9, 25:32-33.

PUBLIC VERSION

measurement should be made. Further, the parties did not require a construction to navigate infringement and invalidity arguments. Accordingly, it is not necessary to construe this phrase. *See O2 Micro*, 521 F.3d at 1362. Sony's arguments about how to perform the relevant measurement are discussed below. *See* Part VI(I), *infra*.

c) *track width*

Fujifilm, Sony, and the Staff propose the following constructions:

Fujifilm's Proposed Construction	Sony's Proposed Construction	The Staff's Proposed Construction
Fujifilm does not clearly present a construction in its post-hearing brief; rather, it argues that the phrase is definite.	Sony argues this term is indefinite.	The Staff argues this term is indefinite.

Fujifilm Br. at 182-83; Sony Br. at 197; Staff Br., § VI(C)(3).

Fujifilm argues:

- That the “asserted claims of the ‘106 Patent do not merely recite ‘track width’—instead, the claims refer to ‘track width (A).’” Fujifilm Br. at 185.
- “The specification of the ‘106 Patent is clear—it refers to the term ‘track width (A)’ as the read track width.” Fujifilm Br. at 186.
- “Fujifilm maintains, and has always maintained, that the term ‘track width’ should be afforded its plain and ordinary meaning. The plain and ordinary meaning, however, is not to be determined in a vacuum. *See ACTV, Inc. v. Walt Disney Co.*, 346 F.3d 1082, 1088 (Fed. Cir. 2003) Fujifilm’s position—that the term ‘track width (A),’ when read in light of the specification, refers to the read track width—is consistent with the plain and ordinary meaning of the term ‘track width’ as read in the context of the specification.” Fujifilm Br. at 187.
- “the ‘read track width’ would have been (and still is) understood as referring to ‘the effective width of the recorded track which contributes to readback signal.’—which is a property of the tape itself, not of the drive.” Fujifilm Br. at 189.
- Mr. Noguchi, one of the inventors, testified that an engineer of ordinary skill would know the track width. *See* Fujifilm Br. at 190 (citing Noguchi Tr. 193).

PUBLIC VERSION

- Track width is ascertainable from the relevant format specification. *See* Fujifilm Br. at 190-91 (citing Noguchi Tr. 192-193; Jennings Tr. 574-575).

Sony argues that “track width” has two different meanings—“the width of the recorded data tracks or the width of a read head used to read the recorded data tracks.” Sony Br. at 198. Sony notes that the LTO-7 specification calls for a read track width of [], which is within the claimed range of ‘less than 5 μm ,’ while the write track width specified is [], which is outside the claimed range.” *Id.* at 200. Sony further argues that an unrecorded tape does not have any track width at all until data is recorded to it, and thus are invalid because they are a property of the system (*e.g.*, an LTO tape drive). *Id.* at 201.

The Staff argues that “track width” is ambiguous, and thus indefinite, because it can refer to the width of the data track or the width of the read head. Staff Br. at 80. The Staff argues that “[b]ecause a magnetic recording medium does not have an associated read head track width, it is not possible for one skilled in the art to determine whether a product falls within the scope of the claimed invention with reasonable certainty.” *Id.* at 80-81.

Sony has shown, through clear and convincing evidence, that the term “track width” does not inform one of ordinary skill in the art about the scope of the invention with “inform those skilled in the art about the scope of the invention with reasonable certainty.” *See Nautilus*, 134 S. Ct. at 2124. The evidence shows that “track width” can refer to the width of the recorded data tracks or the width of a read head used to read the recorded data tracks. *See* RX-0001C (Bhushan WS) at Q/A 531-32. Likewise, the LTO-7 specification delineates between the two types of track width, as shown in the following image of Section 10.2:

[

[

]

JX-0052C at 76 (highlighting added); *see also* Jennings Tr. 572.⁶⁰ The specification and prosecution history do not resolve the ambiguity between “read track” and “write track” width, and the ambiguity is not otherwise resolved by extrinsic evidence (although the experts agree that data track width and read head width usually have different values, there is no clarity on whether the 5 μ m cutoff denotes read track width over write track width).

With regard to Sony’s argument that the tapes do not have a track width until they are written, and are thus dependent on the system they are used in, *see* Sony Br. at 201, the administrative law judge finds that this does not show the claim term in indefinite. The tapes in question will eventually have a track width that can be used to determine infringement.⁶¹ Further, the evidence shows that the tapes are designed with a particular width in mind, so that they will work with a particular tape drive. *See* Noguchi Tr. 192-193; Jennings Tr. 574-575.

⁶⁰ JX-0052C at 94 specifies a track width of [].

⁶¹ Whether the tapes have a track width, when the tapes have a track width, and if the recording process imparts a track width that does or does not satisfy the limitation are infringement issues.

PUBLIC VERSION

Indeed, the LTO-7 specification dictates that tapes should have a read track width within a relatively narrow range of tolerance. *See* JX-0052C at 76. Taken as a whole, while evidence shows that the tapes can be used in different systems, this does not render the claim term indefinite.

In conclusion, the administrative law judge finds that the term “track width” is indefinite because the intrinsic and extrinsic record does not sufficiently delineate between “read track” and “write track” width. The administrative law judge does not find that the term is indefinite because a tape can be used with different tape drives.⁶²

C. Direct Infringement

Fujifilm asserts claims 2, 5, and 6, all of which depend from claim 1, which is not asserted. Fujifilm Br. at 194; JX-0002 at 26:5-42. Claim 1 is a method claim, while claims 2, 5, and 6 are directed toward products that implement the method of claim 1.⁶³ *Id.*

Fujifilm further explains:

Claim 1 of the ‘106 Patent, which is a method claim, is not asserted. As set forth in more detail below, asserted claims 2, 5 and 6 are not dependent upon claim 1; rather they are apparatus claims that reference claim 1 using functional language (*i.e.*, “magnetic recording medium *which is used in* the magnetic recording and reproducing method as claimed in claim 1”), which is not entitled to patentable weight. *See, e.g., HTC Corp. v. IPCom GmbH & Co., KG*, 667 F.3d 1279 [(sic, 1270)], 1273 (Fed. Cir. 2012). As such, claim 1 need not be infringed for claims 2, 5, and 6 to be infringed. Sony disagrees and argues that claims 2, 5 and 6 are dependent claims and that Fujifilm must prove that Sony either directly or indirectly infringes claim 1 in order to show infringement of claims 2, 5 and 6. *See* RPreHBr. at 94-95. Even

⁶² For infringement, domestic industry, essentiality, anticipation, and obviousness, the administrative law judge has used Fujifilm’s arguments that “track width” refers to the read track width. *See* Fujifilm Br. at 186-87.

⁶³ Fujifilm has argued that Sony literally infringes the asserted claims. It has not presented any doctrine of equivalents arguments.

PUBLIC VERSION

assuming, arguendo, that Sony is correct, Sony's Accused Products satisfy the elements of method claim 1 of the '106 Patent as explained in detail below and, further, Sony induces its customers to practice each method step of claim 1.

Fujifilm Br. at 194-95 (emphasis in original).⁶⁴

The Staff agrees that claim 1 is not limiting with respect to claims 2, 5, and 6. Staff Br. at

77. The Staff argues that Sony does not infringe, as follows:

Next, Sony contends that FUJIFILM is unable to show that the Accused Products satisfy the "average longer size (B) of the abrasive particle(s) which are present on the magnetic layer surface is $\frac{1}{3}$ or less of the track width (A)" limitation of claim 2. Resps. P.H. Br. at 94-97. In this regard, the Staff agrees. First, FUJIFILM is unable to show that this limitation is met because the "track width" limitation is indefinite. *Id.* There is no read head track width associated with the Accused Products. *Id.* Furthermore, Sony identifies several numerous flaws in Dr. Sinclair's testing. Resps. P.H. Br. at 96-97; RX-366C (Bhushan RWS) at Q/A 193-194.

Id.

Sony, in general, argues that Fujifilm has not proven infringement. *See* Sony Br. at 245.

Sony does not present any test results to rebut Fujifilm's showing. *Id.* at 245-50. With respect to the products, Sony argues that it does not infringe because it does not satisfy the track width or average longer ratio limitations. *Id.* at 248-50.

Fujifilm's direct infringement allegations—made against Sony's LTO-7 products and Sony's customers—are addressed first. Fujifilm's indirect infringement allegations are then addressed separately.

1. Claim 1

Claim 1 follows:

⁶⁴ The Patent Office determined that claims 2-5 were dependent claims. *See* JX-0008 at 138 (identifying one independent claim).

PUBLIC VERSION

1. A magnetic recording and reproducing method comprising recording and reproducing a signal with a magnetic head in a track width (A) of less than 5 μm on a magnetic recording medium comprising a support having provided thereon a magnetic layer containing at least a ferromagnetic powder, an abrasive and a binder, wherein the average longer size (B) of the abrasive particle(s) which are present on the magnetic layer surface is $\frac{1}{3}$ or less of the track width (A).

JX-0002 at 26:5-13.

Fujifilm divides the claim into four limitations, which are shown as follows:

- [a] 1. A magnetic recording and reproducing method comprising
- [b] recording and reproducing a signal with a magnetic head in a track width (A) of less than 5 μm on a magnetic recording medium comprising
- [c] a support having provided thereon a magnetic layer containing at least a ferromagnetic powder, an abrasive and a binder,
- [d] wherein the average longer size (B) of the abrasive particle(s) which are present on the magnetic layer surface is $\frac{1}{3}$ or less of the track width (A).

See Fujifilm Br. at 196-203. Each limitation is addressed below.

a) A magnetic recording and reproducing method comprising

Fujifilm argues:

To the extent the preamble is limiting, the Accused Products meet this limitation at least because the Accused Products comply with the LTO-7 Specification. Dr. Wang explains that the LTO-7 Specification requires conformity with certain physical and magnetic characteristics to allow a data interchange between LTO-7 tape drives vis-a-vis LTO-7-compliant tape cartridges, such as the Accused Product. See JX-0052C (LTO-7 Specification) at 20. [

1.

As Dr. Wang demonstrates, LTO-7 tape drives, such as the drive included in IBM's TS3310 Tape Library, can read and write to LTO-7-compliant products, including Sony's Accused Product. *See* CX-0004C (Wang DWS) Q:303; JX-0072 (IBM TS3310 Tape Library) at 2. [

] And, Sony contends through Mr. Jennings and Dr. Bhushan, that the Asserted Claims of the '106 Patent are essential to the LTO-7 Specification. RX-0003C (Jennings DWS) Q:98-194; RX-0366C (Bhushan RWS) Q:210. But that is incorrect, as Dr. Wang explained. CX-0004C (Wang DWS) Q:288-289; CX-0357C (Wang RWS) Q:698-722. Still, Sony's assertion is an admission concerning infringement by the composition and use of the Accused Products. Thus, this is also an admission that Sony is aware that use of the Accused Products by its customers infringes method claim 1.

Nonetheless, the evidence makes clear that Sony does induce its customers to carry out the method of claim 1. The LTO-7 Specification together with Sony's marketing materials establishes that the only reason for having LTO-7 cartridges is to read and write data to the tape media. Sony's circulation of its marketing materials for LTO-7 cartridges induces its customers or potential customers to purchase and use the Accused Products for reading and writing data to the tapes. Accordingly, Sony actively induces its customers perform claim 1 of the '106 Patent.

Fujifilm Br. at 196.

Sony and the Staff do not address this limitation specifically. *See generally* Sony Br., § VI(G); Sony Reply, § IV(E); Staff Br., § VI(D); Staff Reply, § V(A).

Sony, however, argues that Fujifilm has failed to prove direct infringement because it has not shown that Sony's customers use Sony's LTO-7 products in the United States:

Fujifilm asserts that the Accused Product performs the claimed method, including the claimed "recording and reproducing step,"

PUBLIC VERSION

when inserted into an LTO-7 tape drive. CX-0004C (Wang OWS) at Q&A 296. But this is not possible as *the LTO-7 tape is an inanimate object and cannot itself perform any method*. See RX-0366C (Bhushan RWS) at Q&A 171-172, 180. Fujifilm's only other evidence of direct infringement of the method of claim 1 is:
[

]; (3) the LTO-7 standard; and (4) an IBM announcement disclosing that IBM's LTO-7 tape drives use GMR heads. See CX-0004C (Wang OWS) at Q&A 296-307; [

]; JX-0052C (LTO7 Format Specification); [

]. None of this evidence makes any reference whatsoever to any act of performing the method recited in claim 1. RX-0366C (Bhushan RWS) at Q&A 176-180. Fujifilm has thus failed to prove that either Sony or any other third party directly infringes claim 1. RX-0366C (Bhushan RWS) at Q&A 169-177, 180.

Sony Br. at 247 (emphasis added).

Fujifilm's reply argues that "Dr. Wang's analysis confirms that every element of the asserted apparatus claims of the '106 Patent is present in the Accused Products, and that each step of method claim 1 is practiced when the Accused Products are used by Sony's customers for their intended purpose—to record and reproduce information." Fujifilm Reply at 75 (citing CX-0004C (Wang WS) Q/A 298).

The evidence that Fujifilm cites for the '106 Patent, in both its post-hearing brief and reply, does not show that anyone practices the recording and reproducing method in the United States.⁶⁵ For the '612 Patent, however, the administrative law judge determined that Sony had

⁶⁵ In particular, Dr. Wang's testimony just generally summarizes evidence from various sources; Dr. Wang does not personally profess to have knowledge that the method is performed in the United States. See CX-0004C (Wang WS) Q/A 298-303. Further, the evidence that Dr. Wang cites—[], the LTO-7 Specification, and an IBM press release, for instance—does not show that the process is performed in the United States. As an example, Dr. Wang says [

PUBLIC VERSION

knowledge of the '612 Patent as of [] and that Sony's submission on the public interest confirms that Sony's customers use Sony's LTO-7 products. [

]; Sony's Submission on the Public Interest (EDIS Doc. ID No. 583503, filed June 13, 2016); *see also* [].

Thus, there is sufficient evidence to conclude that Sony's customers perform the recording and reproducing steps specified by the claim.

b) recording and reproducing a signal with a magnetic head in a track width (A) of less than 5 μ m on a magnetic recording medium comprising

Fujifilm argues, in part:

As Dr. Wang explains with respect to the preamble of claim 1, an LTO-7 tape drive, such as the one in the IBM TS3310 Tape Library, can record on the magnetic tape of the Accused Products. For example, IBM's LTO-7 tape drive uses a Giant Magneto Resistive (GMR) head, which is a type of magnetoresistive head, and reproduces a signal—in other words, read data from the magnetic medium. *See* CX-0004C (Wang DWS) Q:303; JX-0072 (IBM TS3310 Tape Library) at 6.

...

... Additionally, Sony customers in the U.S. do, in fact, record and reproduce a signal using a magnetic head because the only purpose and operation of the LTO-7 tape cartridge is to record data to and read data from the media. As Sony's marketing materials demonstrate, Sony imports and sells cartridges in the U.S. with the intent that its customers record and reproduce a signal (*i.e.*, data) using a magnetic head. Sony induces its customers to do so by, *e.g.*, disseminating marketing materials such as the Sony LTO-7 Spec Sheet. The Accused Products are capable of recording and reproducing a signal with a magnetic head. ...

PUBLIC VERSION

Fujifilm Br. at 197; *see also* Fujifilm Reply at 75 (arguing “Sony cannot credibly refute that the Accused Products do not satisfy each and every element of the Asserted Claims of the ‘106 Patent.”).

As with the preamble, the record shows that Sony’s customers use Sony’s LTO-7 products. The evidence does not show, however, that Sony’s products are used to record and reproduce a signal in a track width (A) of less than 5 μm . In particular, Fujifilm (including Dr. Wang) points only to the LTO-7 specification for the track width aspect of the limitation—it does not cite any evidence about the accused product. *See* RX-0366C (Bhushan RWS) at Q/A .183-84. Thus, Fujifilm has failed to show that Sony’s LTO-7 products meet this limitation (and thus also do not satisfy the $\frac{1}{3}$ or less limitation).

- c) *a support having provided thereon a magnetic layer containing at least a ferromagnetic powder, an abrasive and a binder,*

Fujifilm argues, in part:

The Accused Products are LTO-7-compliant tape cartridges. *See e.g.,* [

]. All LTO-7-compliant tape cartridges have the same basic tape media structure as defined by the LTO-7 Specification, which requires a lower layer and a magnetic layer on the surface of a support. CX-0004C (Wang DWS) Q:309; *see* JX-0052C (LTO-7 Specification) at 62.

...

As to the limitation requiring an abrasive, Dr. Sinclair has also provided SEM scanning electron microscope images [

]. *See* CX-0004C (Wang DWS) Q:314; CX-0450C (Sinclair Disk 1).

Fujifilm Br. at 200.

Sony and the Staff do not address this limitation specifically. *See generally* Sony Br., § VI(G); Sony Reply, § IV(E); Staff Br., § VI(D); Staff Reply, § V(A).

PUBLIC VERSION

The evidence that Fujifilm cites shows that Sony's LTO-7 products, which Fujifilm alleges are used in accordance with the claimed method, satisfies this limitation. Accordingly, the administrative law judge has determined that Sony's LTO-7 tapes satisfy this limitation (which does not require any specific act).

d) wherein the average longer size (B) of the abrasive particle(s) which are present on the magnetic layer surface is $\frac{1}{3}$ or less of the track width (A).

Fujifilm argues that the abrasive particles on the magnetic layer surface of Sony's LTO-7 products meet this limitation. See Fujifilm Br. at 201-03. Fujifilm relies on expert testimony, testing, []. *Id.* In particular, Fujifilm argues that the LTO-7 specification mandates a track width of [], that Sony's products practice the LTO-7 specification, and that Sony's LTO-7 products "include abrasive particles and/or clusters with average longer size of the abrasive particles being [] nm, which is less than $\frac{1}{3}$ of the track width[.]" Fujifilm Br. at 201.

Sony argues:

First, to the extent that the term "track width" does not render the Asserted Claims indefinite, Fujifilm has failed to prove that the Accused Product has a "track width" at all. [RX-0366C (Bhushan RWS)] at Q&A 181-186. The Accused Product, as imported, does not have a track width because an unrecorded magnetic recording medium does not have any tracks whatsoever. *Id.* at Q&A 183-184; Tr. at 567:17-24, 574:10-13. In the absence of a track width, Fujifilm cannot prove that this claim limitation is met. Staff agrees. Staff PHB at 74.

Second, Fujifilm's testing of the abrasives in Sony's LTO-7 products is unreliable and therefore insufficient to prove infringement. As Dr. Bhushan explains, there are several flaws in the testing conducted by Fujifilm's expert, Dr. Sinclair, and his testing lab, Evans Analytical Group (EAG). RX-0366C (Bhushan RWS) at Q&A 191-197. First, the scanning electron microscopy (SEM) image that EAG used to obtain particle sizes contains severe noise/vibration artifacts. *Id.* at Q&A 192-194; RX-0199C

PUBLIC VERSION

(MVA Rep.) at 5. Dr. Bhushan explains that these noise/vibration artifacts severely distorted the SEM image, rendering any particle sizes derived from the image suspect. RX-0366C at Q&A 193-194. Second, the raw, thresholded, and filtered SEM images indicate that Dr. Sinclair may have measured small, non-particulate artifacts and, therefore, underestimated the particle sizes in a given tape sample. *Id.* at Q&A 195-197. Significantly, Dr. Sinclair computed the “average longer size” by taking the average value of 1,242 “particles and/or clusters,” not by taking the average value of 50 abrasive particles and/or clusters, as specified in the ‘106 Patent. The presence of small, non-particulate artifacts may have artificially decreased the “average longer size” obtained by Dr. Sinclair. *Id.* at Q&A 196-197. Thus, Dr. Sinclair does not reliably establish the average longer size of the abrasives in Sony’s Accused Product.

Sony Br. at 249-50.

The Staff agrees with Sony and because track width is indefinite and because Dr.

Sinclair’s testing was flawed. Staff Br. at 77.

Fujifilm replies that:

The alleged presence of artifacts on a small region of the tested Accused Product does not impact on the values obtained for substantially larger, artifact-free, regions. *See SunTiger, Inc. v. Sci. Research Funding Grp.*, 189 F.3d 1327, 1336 (Fed. Cir. 1999) (“If a claim reads merely on a part of an accused device, that is enough for infringement.”). Additionally, Dr. Wang explained how a person of ordinary skill in the art would know how to apply data post-processing to resolve any such alleged artifacts. CX-0357C (Wang RWS) Q:232, 329.

Fujifilm Br. at 201-02; *see also* Fujifilm Reply at 75 (referring to Fujifilm post-hearing brief).

Fujifilm also argues that taking more samples increases the accuracy of the average. *Id.*

The evidence that Fujifilm relies upon does not show that Sony’s LTO-7 products have a track width, either before importation (because an unrecorded magnetic recording medium does not have any tracks) or after importation (because the evidence Fujifilm cites pertains to the LTO-7 specification, not Sony’s actual, physical products). *See* RX-0366C (Bhushan RWS) at

PUBLIC VERSION

Q/A 183-84. Further, Fujifilm (including Dr. Wang) points only to the LTO-7 specification for the track width aspect of the limitation—it does not cite any evidence about the accused product. *Id.* at Q/A 183-84. Thus, Fujifilm has failed to show that Sony’s LTO-7 products meet this limitation (and thus also do not satisfy the $\frac{1}{3}$ or less limitation).

The evidence does show, however, that Sony’s LTO-7 tapes include abrasive particles with an average longer size of [] nm. *See* CX-0004C (Wang WS) at Q/A 318. [

]. While Dr. Bhushan criticizes the testing, his criticism is not supported by his knowledge or other corroborating evidence. RX-0366C (Bhushan RWS) at Q/A 193 (“It is my understanding that these artifacts could result from mechanical vibration of the tape sample during imaging or from electronic noise. Further, it is my opinion that these noise/vibration artifacts severely distort the image and render suspect any particle size data derived from this SEM image.”). Likewise, Sony and Dr. Bhushan do not present any rebuttal testing.

Accordingly, the evidence shows that Sony’s LTO-7 products, as imported, do not have a track width that satisfies the limitation. The evidence also shows that Sony’s LTO-7 products have an average longer size of [] nm.

In conclusion, the administrative law judge has determined that Sony’s LTO-7 products do not infringe claim 1.

2. Claim 2

At the outset, Fujifilm argues, in part:

Sony’s acts of direct infringement are based on the same analysis detailed in Sections I and III.D.1 above. For the reasons set forth below, Sony’s importation of the Accused Products that infringe the Asserted Claims of the ‘106 Patent constitutes an unfair act

PUBLIC VERSION

under Section 337.

Fujifilm Br. at 203.

Sony argues:

Claim 2 depends from claim 1, and claims 5 and 6 depend from claim 2. For at least the same reasons explained above with respect to claim 1, Fujifilm has failed to prove that Sony directly or indirectly infringes claims 2, 5, and 6. [RX-0366C (Bhushan RWS)] at Q&A 198-202, 208-209.

Sony Br. at 250.

The following analysis of claim 2, as well as claims 5 and 6 below, assumes that claim 1 is satisfied (*i.e.*, each claim is analyzed according to the words of that claim, regardless of the prior conclusion reached for claim 1) and that claims 2, 5, and 6 are directed solely to product features that do not require an actor to complete infringement.

Claim 2 follows:

2. A magnetic recording medium which is used in the magnetic recording and reproducing method as claimed in claim 1, wherein the magnetic recording medium is a magnetic recording medium comprising a support having provided thereon a magnetic layer containing at least a ferromagnetic powder, an abrasive and a binder, and the average longer size (B) of the abrasive particle(s) which are present on the magnetic layer surface is $\frac{1}{3}$ or less of the track width (A).

JX-0002 at 26:14-22. Claim 2 omits the “less than 5 μm ” aspect of the track-width limitation from claim 1.

With regard to claim 2, Fujifilm argues:

Dr. Bhushan has admitted that the Accused Products practice the limitations of the Asserted Claims of the ‘106 Patent. Hg. Tr. at 661:21-662:8. Accordingly, Dr. Bhushan’s and Sony’s leading noninfringement position is that the Asserted Claims of the ‘106 Patent are invalid and that “an invalid claim cannot be infringed.” RX-0366C (Bhushan RWS) Q:158. Of course, invalidity is a separate inquiry from infringement, and this argument is without

PUBLIC VERSION

merit and is separately addressed below. *See Commil USA, LLC v. Cisco Systems, Inc.*, 135 S.Ct. 1920, 1929 (2015).

The limitations of claim 2 are all present in claim 1, except that claim 2 also recites “a magnetic recording medium which is used in the magnetic and reproducing method as claimed in claim 1.” Accordingly, the evidence and analysis set forth with respect to claim 1, demonstrated above, apply equally to claim 2.

Fujifilm Br. at 204.

The administrative law judge found that Fujifilm failed to show that the accused products have a track width, and thus do not satisfy the $\frac{1}{3}$ or less limitation (limitation 1d). *See* Part VI(C)(1)d), *supra*. Accordingly, the administrative law judge finds that Sony’s LTO-7 products do not infringe claim 2.

3. Claim 5

Claim 5 requires that the magnetic recording medium of claim 2 have a non-magnetic lower layer and that the magnetic layer have a thickness from 0.01 to 0.15 μm . JX-0002 at 26:33-39.

Fujifilm argues:

As discussed with respect to claim 1, the Accused Products conform to the LTO-7 Specification, which requires all LTO-7 tape media to include the same basic tape structure of a base film (*e.g.*, a support), a lower layer provided on the support, and a magnetic layer provided on the lower layer (*i.e.*, and underlayer or under layer). JX-0052C (LTO-7 Specification) at 62. [

].)

PUBLIC VERSION

82:21-83:5.

...

Dr. Wang's and Dr. Sinclair's analysis and testing [] confirm that the Accused Products each comprise a magnetic layer having a layer thickness of from 0.01 to 0.15 μm .

[

] . Testing directed by Dr. Sinclair also confirms the Accused Products meet this limitation. *See* CX-0004C (Wang DWS) Q:342; CX-0450C (Sinclair Disk 1).

Fujifilm Br. at 204-05.

Sony and the Staff do not present a separate argument for claim 5. *See generally* Sony Br., § VI(G); Sony Reply, § IV(E); Staff Br., § VI(D); Staff Reply, § V(A).

The evidence that Fujifilm cites shows that Sony's LTO-7 products include a support with a substantially nonmagnetic lower layer and a magnetic layer having a thickness between 0.01 and 0.15 μm . Accordingly, the administrative law judge has determined that Sony's LTO-7 products satisfy the limitations of claim 5. However, claim 5 is not infringed because claims 1 and 2 are not infringed. *See Ferring B.V. v. Watson Labs., Inc.-Florida*, 764 F.3d 1401, 1411 (Fed. Cir. 2014) ("Because we hold that the asserted independent claims of Ferring's patents are not infringed, the asserted dependent claims are likewise not infringed.")).

PUBLIC VERSION

4. Claim 6

Claim 6 requires that the magnetic recording medium of claim 2 “is for MR head reproduction.” JX-0002 at 26:40-42.

Fujifilm argues:

Asserted Claim 6 depends from Asserted Claim 2, and adds the limitation “wherein the magnetic recording medium is for MR head reproduction.” Accordingly, the evidence and analysis set forth with respect to claims 2 and 1 applies equally to claim 6.

As discussed with respect to claim 1, the Accused Products operate in accordance with the LTO-7 Specification when inserted into an LTO-7 tape drive, such as the IBM TS3310 Tape Library. JX-0072 (IBM TS3310 Tape Library) at 2. For example, a tape drive receives IBM’s LTO-7 Tape drive uses a Giant Magneto Resistive GMR head, which is a type of MR head and records on a magnetic recording medium or tape. [

] Accordingly, the Accused Products include a magnetic recording medium for MR head reproduction.

Fujifilm Br. at 206.

Sony and the Staff do not present a separate argument for claim 6. *See generally* Sony Br., § VI(G); Sony Reply, § IV(E); Staff Br., § VI(D); Staff Reply, § V(A).

The evidence that Fujifilm cites shows that Sony’s LTO-7 products are “for MR head reproduction,” as claim 6 requires. Accordingly, the administrative law judge has determined that Sony’s LTO-7 products satisfy claim 6. However, claim 6 is not infringed because claims 1 and 2 are not infringed. *See Ferring*, 764 F.3d at 1411.

D. Indirect Infringement

Fujifilm argues that Sony induces its customers to infringe claim 1. Fujifilm Br. at 195.

Fujifilm argues, in part:

PUBLIC VERSION

Specifically, Sony manufactures its Accused Products with the intent that its customers use them for recording and reproducing data. In fact, using LTO-7 products for recording and reproducing data is the only purpose of Sony's Accused Products. As also described below (and above in connection with the '612 Patent), Sony admits that its customers use the Accused Products for recording and reproducing data.

Further, Sony admits that it was aware of the '106 Patent at least as early as [

]....

Id. Fujifilm further argues that Sony conceded "that it believes it is infringing" through its essentiality arguments. *Id.* Later, Fujifilm argues:

Nonetheless, the evidence makes clear that Sony does induce its customers to carry out the method of claim 1. The LTO-7 Specification together with [

].... Accordingly, Sony actively induces its customers perform claim 1 of the '106 Patent.

...

... Additionally, Sony customers in the U.S. do, in fact, record and reproduce a signal using a magnetic head because the only purpose and operation of the LTO-7 tape cartridge is to record data to and read data from the media. [

].... The Accused Products are capable of recording and reproducing a signal with a magnetic head.

Id. at 197-98.

Sony argues that Fujifilm first asserted induced infringement in its pre-hearing brief, that its experts' opinions on essentiality rely on assumptions about track width, and that marketing materials are insufficient to prove active inducement. Sony Br. at 247-48; Sony Reply at 74.

PUBLIC VERSION

The Staff does not address Fujifilm and Sony's indirect infringement arguments. *See generally* Staff Br., § VI(D); Staff Reply, § V(A).

Assuming Sony's customers practice claim 1, the administrative law judge finds that Fujifilm has not shown that Sony induces infringement. As with the '612 Patent, Fujifilm has not pointed to sufficient evidence to conclude that Sony induces infringement. In particular, the Sony Specification Sheet, JX-0054C, that Fujifilm cites does not provide a sufficient basis to conclude that Sony induces infringement because the sheet does not instruct, direct, or advise customers on how to perform the claimed method. *See Arris Group v. British Telecomm. PLC*, 639 F.3d 1368, 1379 n.13 (Fed. Cir. 2011) ("Section 271(b) covers active inducement of infringement, which typically includes acts that intentionally cause, urge, encourage, or aid another to directly infringe a patent."). In other words, Fujifilm has not shown that it was Sony's specific intent to infringe the '106 Patent. *See Commil USA, LLC v. Cisco Sys., Inc.*, 135 S. Ct. 1920, 1928 (2015) ("Section 271(b) requires that the defendant 'actively induce[d] infringement.' That language requires intent to 'bring about the desired result,' which is infringement."); *see also Global-Tech Appliances, Inc., v. SEB S.A.*, 131 S. Ct. 2060 (2011). Accordingly, the administrative law judge finds that Fujifilm has not shown that Sony induces its customers to infringe claim the asserted claims.

E. Essentiality

Sony argues that claims 1, 2, 5, and 6 are essential to the LTO-7 standard. Sony Br. at 236 ("the LTO-7 standard requires each and every limitation of the claims either expressly or necessarily."). Sony argues that "the LTO-7 standard necessarily requires that the magnetic layer of LTO-7 tape contain abrasive particles" because abrasive particles are required to achieve the minimum average wear index specified in § 9.12 of the standard. *Id.* Sony further argues

PUBLIC VERSION

that the abrasive particles must satisfy the “ $\frac{1}{3}$ or less of the track width” requirement in order to avoid being “too abrasive for § 9.12 of the LTO-7 standard[.]” *Id.* at 239-40.

Fujifilm argues that Sony has not shown the claims are essential for three reasons:

(1) Sony has already acknowledged that Fujifilm only asserted non-essential patent claims in this Investigation. Indeed, [

];

(2) Dr. Wang provided detailed opinions explaining that several requirements of claims 2, 5 and 6 are nowhere to be found in the LTO-7 Specification and that these requirements need not be practiced for compliance with the LTO-7 Format in the making, using, or selling of an LTO-7 Tape Product or an LTO-7 Tape Product Component, as explained below; and

(3) Dr. Wang provided several alternatives (to the requirements of claims 2, 5, and 6 of the ‘106 Patent) that may be used to comply with the LTO-7 Format in the making, using, or selling of an LTO-7 Tape Product or an LTO-7 Tape Product Component.

Fujifilm Br. at 217.

The Staff argues that the claims are not essential. Staff Br. at 78-79 (citing CX-0357 (Wang RWS) at Q/A 698-722; [

].

The administrative law judge has determined that Sony has not shown, by a preponderance of the evidence, that claims 1, 2, 5, and 6 are essential to the LTO-7 standard. In particular, Sony (and Mr. Jennings) has not shown that the LTO-7 standard requires a tape that meets limitations 1[c] and 1[d] of claim 1. *See* CX-0357C (Wang RWS) at Q/A 701-11. Indeed, [

]. Further, Sony has not shown that claims 2, 5, and 6 are essential. *See* CX-0357C (Wang RWS) at Q/A 712-22. Accordingly, Sony has not shown that claims 1, 2, 5, and 6 are essential to the LTO-7 standard.

F. Domestic Industry (Technical Prong)

Fujifilm argues:

Fujifilm's DI Products practice claims 2, 5, and 6 of the '106 Patent. Dr. Wang's analysis provides an element-by-element comparison of Fujifilm's DI Products, including Fujifilm's LTO Ultrium 7 Data Cartridge (Model No. 16456574) and Fujifilm's LTO Ultrium 6 Data Cartridge (Model No. 16310732), to the Asserted Claims of the '106 Patent. CX-0004C (Wang DWS) Q:349-431.

Fujifilm Br. at 207. Fujifilm also contends that its products practice claim 1. *Id.* at 207-13.

Sony argues:

Fujifilm also bears the burden of proving that its LTO-6 and LTO-7 tapes (collectively referred to as the "Domestic Industry Products") practice at least one claim of the '106 Patent. *See Certain Silicon Microphone Packages & Prod. Containing the Same*, Inv. No. 337-TA-695, Comm'n Det., 2011 WL 7575648, *3 (Jan. 21 2011). Fujifilm has also failed to meet this burden. RX-0366C (Bhushan RWS) at Q&A 211-233.

Just as Fujifilm was required to prove infringement of claim 1 by alleging a specific instance of Sony directly practicing the claimed method or actively inducing a third party to practice the claimed method, to meet its burden on technical domestic industry Fujifilm must at least allege a specific instance where Fujifilm itself has practiced claim 1 in the United States or induced a third party to do so. Fujifilm has not done so. RX-0366C (Bhushan RWS) at Q&A 211-217. Although Fujifilm has put forward evidence of the general existence of [

], such general evidence is insufficient to prove that Fujifilm performed the claimed magnetic and reproducing method in the United States or induced a third party to do so. RX-0366C (Bhushan RWS) at Q&A 212. Evidence that Fujifilm's LTO-6 and LTO-7 products conform to the LTO-6 and LTO-7 standards (CX-0004C (Wang OWS) at Q&A 356-362), respectively, is similarly insufficient to prove that Fujifilm performed the claimed magnetic and reproducing method in the United States or induced a third party to do so. RX-0366C (Bhushan RWS) at Q&A 213.

Fujifilm's testing of the abrasive sizes in its own products suffers from the same fatal flaws as did Fujifilm's testing of Sony's

PUBLIC VERSION

products. CX-0004C (Wang OWS) at Q&A 389, 392. And, as Dr. Bhushan explains, Fujifilm's testing of its Domestic Industry Products has a further fatal flaw. RX-0366C at Q&A 218-223. [

] For at least these reasons, Fujifilm has failed to show that its Domestic Industry Products practice any claim of the '106 Patent. *Id.* at Q&A 211-233.

Sony Br. at 250-51.

The Staff argues, in part:

In particular, Sony contends that FUJIFILM is unable to show that FUJIFILM's LTO-6 data cartridges and FUJIFILM's LTO-7 data cartridges satisfy the "average longer size (B) of the abrasive particle(s) which are present on the magnetic layer surface is $\frac{1}{3}$ or less of the track width (A)" limitation of each claim. Resps. P.H. Br. at 98-99. The Staff agrees. As discussed above, FUJIFILM is unable to show that this limitation is met because the "track width" limitation is indefinite. (*Id.*). There is no read head track width associated with the Accused Products. *Id.* Furthermore, Sony identifies several flaws in Dr. Sinclair's testing. Resps. P.H. Br. at 96-97; RX-366C (Bhushan RWS) at Q/A 218-223.

Staff Br. at 78.

1. Claim 1

a) *A magnetic recording and reproducing method comprising*

(1) Fujifilm's LTO-7 Products

Fujifilm argues:

Dr. Wang has shown that Fujifilm's LTO-7 cartridges practice this limitation of claim 1. CX-0004C (Wang DWS) Q:355. Fujifilm's LTO-7 Products comply with the LTO-7 Specification. CX-0027 (Fujifilm LTO-7 Sell Sheet) at 2. Fujifilm's LTO-7 Cartridges are manufactured to operate in accordance with the LTO-7 Specification when inserted into an LTO-7 tape drive. In addition, [

PUBLIC VERSION

18:1-3; *see also* CX-0004C (Wang DWS) Q:360; JX-0052C (LTO-7 Specification) at 20. Accordingly, and as Dr. Wang explains, the Fujifilm LTO-7 Cartridges practice this claim element. CX-0004C (Wang DWS) Q:362.

Fujifilm Br. at 208.

The evidence that Fujifilm and Dr. Wang rely upon (*e.g.*, CX-0004C (Wang WS) 355, 360, 362; JX-0096C at FF-SONY-ITC00070527; CX-0027; JX-0159C; JX-0159C; JX-0223C; JX-0052C) does not show that the recited steps (*i.e.*, recording and reproducing) are performed anywhere, much less in the United States. Nonetheless, the administrative law judge previously determined that is more likely than not that Fujifilm practices the '612 Patent by using its LTO-7 and LTO-6 products in tape drives []. *See* Part V(F)(7), *supra* (citing CX-0011C (Ryder WS) at Q/A 52-55; CX-0004C (Wang WS) at Q/A 733-38).⁶⁶ Accordingly, the administrative law judge has determined Fujifilm practices this limitation with its LTO-7 products.

(2) Fujifilm's LTO-6 Products

Fujifilm argues:

Fujifilm's LTO-6 Cartridges also practice the claim limitation of claim 1. CX-0004C (Wang DWS) Q:363-369. Fujifilm's LTO-6 Cartridges comply with the LTO-6 Format Specification. *See* CX-0094 (Fujifilm LTO-6 Sell Sheet) at 2. Because Fujifilm's LTO-6 Cartridges comply with the LTO-6 Specification they []

[]. *Id.* Accordingly, the Fujifilm LTO-6 Cartridges practice this claim element.

⁶⁶ Fujifilm later refers to the '612 Patent in arguing that its products practice claim 2. *See* Fujifilm Br. at 213 (referring to "Section IV.E.1.g.i").

Fujifilm Br. at 208.

The evidence that Fujifilm and Dr. Wang rely upon (*e.g.*, CX-0004C (Wang WS) 363-69; CX-0094; JX-0051C) does not show that the recited steps (*i.e.*, recording and reproducing) are performed anywhere, much less in the United States. Nonetheless, the administrative law judge previously determined that is more likely than not that Fujifilm practices the '612 Patent by using its LTO-7 and LTO-6 products in tape drives [

J. *See* Part V(F)(7), *supra* (citing CX-0011C (Ryder WS) at Q/A 52-55; CX-0004C (Wang WS) at Q/A 733-38). Accordingly, the administrative law judge has determined Fujifilm practices this limitation with its LTO-6 products.

b) recording and reproducing a signal with a magnetic head in a track width (A) of less than 5 μ m on a magnetic recording medium comprising

(1) Fujifilm's LTO-7 Products

Fujifilm argues:

Fujifilm LTO-7 Cartridges comply with the LTO-7 Specification which requires conformance to certain physical and magnetic characteristics so that a data interchange can occur between the cartridges and tape drives. An LTO-7 Tape Drive, such as the one included in IBM's TS3310 Tape Library, records on the magnetic tape of the Fujifilm's LTO-7 Cartridges and reproduces a signal uses a GMR head, which is a type of magnetoresistive head. CX-0004C (Wang DWS) Q:371; JX-0072 (IBM TS3310 Tape Library) at 6. The LTO-7 Specification also requires that the magnetic medium include a plurality of data tracks having a track width of [] for certain data bands) used for recording data. *See* JX-0152C (LTO-7 Specification) at 94; *see also* Section V.D.1.a.ii above. Regarding track width, the LTO-7 Specification requires tapes to have a track width of less than 5 μ m for reproducing a signal with a magnetic head. *Id.* at 94. Accordingly, the read track width must also be less than 5 μ m and, as such, the Fujifilm's LTO-7 Cartridges in a LTO-7 Tape Drive perform recording and reproducing a signal with a magnetic head in a track width (A) of less than 5 μ m on a magnetic recording medium. Therefore, and as Dr. Wang

PUBLIC VERSION

explains, the Fujifilm LTO-7 Cartridges practice this claim element. CX-0004C (Wang DWS) Q:375.

Fujifilm Br. at 208-09.

The evidence does not show that Fujifilm's products are used to record and reproduce a signal in a track width (A) of less than 5 μm . In particular, Fujifilm (including Dr. Wang) points only to the LTO-7 specification for the track width aspect of the limitation—it does not cite any evidence about Fujifilm's products apart from the specification. *See* RX-0366C (Bhushan RWS) at Q/A214-16. Thus, Fujifilm has failed to show that its LTO-7 products meet this limitation (and thus also do not satisfy the $\frac{1}{3}$ or less limitation).

(2) Fujifilm's LTO-6 Products

Fujifilm argues:

For the same reasons, Fujifilm's LTO-6 Cartridges also practice this limitation of claim 1. CX-0004C (Wang DWS) Q:376-379. Because Fujifilm's LTO-6 Cartridges comply with the LTO-6 Specification they must allow a data interchange to occur between the cartridges and drives. An LTO Tape Drive, such as one in the IBM TS3310 Tape Library records on the magnetic tape of Fujifilm's LTO-6 Cartridges and reads—or reproduces a signal—from the magnetic recording medium. Regarding track width, the LTO-6 Specification requires tapes to have [] tracks which are used for recording data. JX-0051C (LTO-6 Specification) at 85. The LTO-6 specification requires tapes to have a data track width of [] μm for reproducing a signal with a magnetic head, except that the last recorded forward data track in each sub data band has a width of [] μm and the last recorded reverse data track in each sub data band has a width of [] μm . *Id.* at 87. Accordingly, Fujifilm's LTO-6 Cartridges practice this claim element. CX-0004C (Wang DWS) Q:377-378.

Fujifilm Br. at 209-10.

The evidence does not show that Fujifilm's products are used to record and reproduce a signal in a track width (A) of less than 5 μm . In particular, Fujifilm (including Dr. Wang) points only to the LTO-6 specification for the track width aspect of the limitation—it does not cite any

PUBLIC VERSION

evidence about Fujifilm's products apart from the specification. *See* RX-0366C (Bhushan RWS) at Q/A 214-16. Thus, Fujifilm has failed to show that its LTO-6 products meet this limitation (and thus also do not satisfy the $\frac{1}{3}$ or less limitation).

c) a support having provided thereon a magnetic layer containing at least a ferromagnetic powder, an abrasive and a binder,

(1) Fujifilm's LTO-7 Products

Fujifilm argues that its LTO-7 products practice this limitation. Fujifilm Br. at 210-11. Fujifilm relies on expert testimony, testing, the LTO-7 specification, and Fujifilm internal technical documents. *See id.*

Sony and the Staff do not address this limitation specifically. *See generally* Sony Br., § VI(H); Sony Reply, § IV(F); Staff Br., § VI(E); Staff Reply, § V.

The evidence that Fujifilm cites (the internal technical documents and testing, in particular) shows that Fujifilm's LTO-7 products include a support with a magnetic layer that includes ferromagnetic powder, an abrasive, and a binder. Accordingly, the administrative law judge has determined Fujifilm's LTO-7 products satisfy this limitation.

(2) Fujifilm's LTO-6 Products

Fujifilm argues that its LTO-6 products practice this limitation. Fujifilm Br. at 211-12. Fujifilm relies on expert testimony, testing, the LTO-6 specification, and Fujifilm internal technical documents. *See id.*

Sony and the Staff do not address this limitation specifically. *See generally* Sony Br., § VI(H); Sony Reply, § IV(F); Staff Br., § VI(E); Staff Reply, § V.

The evidence that Fujifilm cites (the internal technical documents and testing, in particular) shows that Fujifilm's LTO-6 products include a support with a magnetic layer that includes ferromagnetic powder, an abrasive, and a binder. Accordingly, the administrative law

PUBLIC VERSION

judge has determined Fujifilm's LTO-6 products satisfy this limitation.

d) wherein the average longer size (B) of the abrasive particle(s) which are present on the magnetic layer surface is $\frac{1}{3}$ or less of the track width (A).

(1) Fujifilm's LTO-7 Products

Fujifilm argues:

Dr. Wang's testimony together with testing performed at the direction of Dr. Sinclair of Fujifilm's LTO-7 Cartridges and Fujifilm internal documents demonstrate that Fujifilm LTO-7 Cartridges meet this limitation. CX-0004C (Wang DWS) Q:387-390. As set forth in the LTO-7 Specification, the smallest nominal data track width of Fujifilm's LTO-7 cartridges is [] μm , and thus the nominal read track width would be slightly less than [] μm . Dr. Wang explained that even assuming a generous tolerance yielding a lower bound of 2 μm for the read track width of Fujifilm's LTO-7 cartridges, the average of the largest value of the width of the abrasive particles and/or clusters is less than $\frac{1}{3}$ of the track width. CX-0004C (Wang DWS) Q:388.

Furthermore, Dr. Sinclair's testing confirms that Fujifilm's LTO-7 Cartridges practice this limitation because Fujifilm's LTO-7 cartridge as tested [

] This is less than $\frac{1}{3}$ of the track width for LTO-7 Products, *i.e.*, less than 0.667 μm . Accordingly, Fujifilm's LTO-7 Cartridges practice this claim element.

Fujifilm Br. at 212.

The evidence that Fujifilm relies upon does not show that its LTO-7 products have a track width, either before or after importation. *See* RX-0366C (Bhushan RWS) at Q/A 224.

Further, Fujifilm (including Dr. Wang) points only to the LTO-7 specification for the track width aspect of the limitation—it does not cite any evidence about its products apart from the specification. *See, e.g.*, CX-0004C (Wang WS) Q/A 387-90. Thus, Fujifilm has failed to show that its products meet this limitation (and thus also do not satisfy the $\frac{1}{3}$ or less limitation).

The evidence does show, however, that [

PUBLIC VERSION

] See CX-0004C (Wang WS) Q/A 389 (this portion of Dr. Wang's testimony is relied on only for reporting the values Dr. Sinclair obtained); CX-0450C (Sinclair Disk 1). While Dr. Bhushan criticizes the testing, his criticism is not supported by his knowledge or other corroborating evidence. RX-0366C (Bhushan RWS) at Q/A 220 (presenting errors identified by MVA). Likewise, Sony and Dr. Bhushan do not present any rebuttal testing.

In conclusion, the evidence shows that Fujifilm's LTO-7 products, as imported, do not have a track width that satisfies the limitation. [

].

(2) Fujifilm's LTO-6 Products

Fujifilm argues:

Dr. Wang's testimony together with testing performed at the direction of Dr. Sinclair of Fujifilm's LTO-6 Cartridges and Fujifilm internal documents demonstrate that Fujifilm LTO-6 Cartridges meet this limitation. CX-0004C (Wang DWS) Q:391. As set forth in the LTO-6 Specification, the smallest nominal data track width of Fujifilm's LTO-6 cartridges is [] μm , and thus the nominal read track width would be slightly less than [] μm . Dr. Wang explained that assuming this generous lower bound for LTO-6, even though LTO-6 Product read track width is significantly larger, the average largest value of the width of the abrasive particles and/or clusters for Fujifilm's LTO-6 Cartridges is still less than $\frac{1}{3}$ of the track width. *Id.*

Furthermore, Dr. Wang explained that testing performed at the direction of Dr. Sinclair confirms that Fujifilm's LTO-6 Cartridges practice this limitation because Fujifilm's LTO-6 cartridge as tested [

] CX-0004C (Wang DWS) Q:392, 394; CX-0450C (Sinclair Disk 1). This is less than $\frac{1}{3}$ of the track width for LTO-7 Products, *i.e.*, less than 0.667 μm . Accordingly, Fujifilm's LTO-6 Cartridges practice this claim element.

Fujifilm Br. at 213.

The evidence that Fujifilm relies upon does not show that its LTO-6 products have a

PUBLIC VERSION

track width, either before or after importation. *See* RX-0366C (Bhushan RWS) at Q/A 224.

Further, Fujifilm (including Dr. Wang) points only to the LTO-6 specification for the track width aspect of the limitation—it does not cite any evidence about its products apart from the specification. *See, e.g.*, CX-0004C (Wang WS) Q/A 391. Thus, Fujifilm has failed to show that its products meet this limitation (and thus also do not satisfy the $\frac{1}{3}$ or less limitation).

The evidence does show, however, that [

]; CX-0450C

(Sinclair Disk 1). While Dr. Bhushan criticizes the testing, his criticism is not supported by his knowledge or other corroborating evidence. RX-0366C (Bhushan RWS) at Q/A 220 (presenting errors identified by MVA). Likewise, Sony and Dr. Bhushan do not present any rebuttal testing.

In conclusion, the evidence shows that Fujifilm's LTO-6 products, as imported, do not have a track width that satisfies the limitation. The evidence also shows that Fujifilm's LTO-6 products have an average longer size of [] nm.

2. Claim 2

Fujifilm argues:

For at least the reasons set forth with respect to claim 1, Dr. Wang's testimony together with testing performed at the direction of Dr. Sinclair of Fujifilm's LTO-7 Cartridges and Fujifilm internal documents demonstrate that Fujifilm's LTO-7 and LTO-6 Products practice claim 2. Sony's argument that Fujifilm and Dr. Wang have failed to establish that Fujifilm carries out all of the steps of the method of claim 1 with its DI Products is unavailing at least for the reasons set forth with respect [

]. *See* Section IV.E.1.g.i *supra*; CX-0004C (Wang DWS) Q:360, 366.

Fujifilm Br. at 213.

PUBLIC VERSION

Sony and the Staff do not specifically address claim 2. *See generally* Sony Br., § VI(H); Sony Reply, § IV(F); Staff Br., § VI(E); Staff Reply, § V.

The administrative law judge previously determined that Fujifilm failed to show that its LTO-7 products satisfy the track width aspect of claim 1, and thus also had not shown its products satisfy the “ $\frac{1}{3}$ or less” limitation (limitation 1d)). Those findings also apply here. Accordingly, the administrative law judge has determined Fujifilm has not shown its LTO-7 or LTO-6 products practice claim 2.

3. Claim 5

Fujifilm argues that its LTO-7 and LTO-6 products practice claim 5. Fujifilm Br. at 214-16. Fujifilm relies on expert testimony, testing, the LTO-7 and LTO-6 specifications, and Fujifilm internal technical documents. *See id.*

Sony and the Staff do not specifically address claim 5. *See generally* Sony Br., § VI(H); Sony Reply, § IV(F); Staff Br., § VI(E); Staff Reply, § V.

The evidence that Fujifilm cites (the internal technical documents and testing, in particular) shows that Fujifilm’s LTO-7 and LTO-6 products include a support with a magnetic layer that includes ferromagnetic powder, an abrasive, and a binder. The evidence also shows that Fujifilm’s LTO-7 and LTO-6 products have a magnetic layer with a thickness of [

], respectively. CX-0004C (Wang WS) at Q/A 421, 423.

Accordingly, the administrative law judge has determined that Fujifilm’s LTO-7 and LTO-6 products satisfy the limitations of claim 5. However, claim 5 is not practiced because claims 1 and 2 are not practiced. *See Ferring*, 764 F.3d at 1411.

4. Claim 6

Fujifilm argues:

PUBLIC VERSION

Dr. Wang's testimony together with Fujifilm internal documents demonstrate that Fujifilm LTO-7 and LTO-6 Products meet this limitation. CX-0004C (Wang DWS) Q:428-431 at 101. Dr. Wang explained that because Fujifilm's LTO-7 Cartridges comply with the LTO-7 Specification and Fujifilm's LTO-6 Cartridges comply with the LTO-6 Specification, an LTO tape drive such as the one included in IBM's TS3310 Tape Library, records on the magnetic tape of Fujifilm's LTO-7 and LTO-6 Products. The IBM's LTO tape drive of the TS3310 Tape Library use a GMR head, which is a type magnetic of magnetic head and reproduces a signal, in other words reads data from the magnetic medium with respect to both Fujifilm's LTO-7 and LTO-6 Products. Id.; JX-0072 (IBM TS3310 Tape Library) at 6. Accordingly, Fujifilm's LTO-7 and LTO-6 Products practice this limitation.

Fujifilm Br. at 216-17.

Sony and the Staff do not specifically address claim 6. *See generally* Sony Br., § VI(H); Sony Reply, § IV(F); Staff Br., § VI(E); Staff Reply, § V.

The evidence that Fujifilm cites shows that Fujifilm's LTO-7 and LTO-6 products are "for MR head reproduction," as claim 6 requires. Accordingly, the administrative law judge has determined that Fujifilm's LTO-7 and LTO-6 products satisfy claim 6. However, claim 6 is not practiced because claims 1 and 2 are not practiced. *See Ferring*, 764 F.3d at 1411.

G. Anticipation

Sony argues that the asserted claims, and claim 1, are anticipated by both Yamazaki (RX-0071) and Jinbo (RX-0029).⁶⁷ Sony Br. at 205.

Fujifilm, in general, argues that Yamazaki and Jinbo do not disclose any relationship between the track width and the size of abrasive particles. *See* Fujifilm Br. at 222; *see also* Fujifilm Reply, § V(G)(1).

The Staff has argued that because the '106 Patent is indefinite, "it is not possible to determine whether the asserted prior art references satisfy the limitation that 'the average longer

⁶⁷ Yamazaki is U.S. Patent No. 6,017,605. Jinbo is Japanese Patent Publication No. 2001-6147.

PUBLIC VERSION

size (B) of the abrasive particle(s) which are present on the magnetic layer surface is $\frac{1}{3}$ or less of the track width (A).” Staff Br. at 79-80. Beyond this, the Staff neither supports nor opposes Sony’s anticipation arguments. *See id.*

1. Yamazaki

Sony argues that Yamazaki inherently anticipates claim 1:

Yamazaki expressly discloses each and every limitation of independent claim 1 of the ‘106 Patent and each and every limitation of the Asserted Claims themselves, except for a single limitation: “wherein the average longer size (B) of the abrasive particle(s) which are present on the magnetic layer surface is $\frac{1}{3}$ or less of the track width (A).” RX-0001C (Bhushan OWS) at Q&A 435-459. The claimed “average longer size” range, however, is inherently disclosed by Yamazaki because the magnetic recording media disclosed in Yamazaki necessarily have abrasives with an “average longer size” within the claimed range. *Id.* at Q&A 441-450. Thus, each and every element set forth in the Asserted Claims of the ‘106 Patent is found, either expressly or inherently, in Yamazaki.

Sony Br. at 205.⁶⁸

Fujifilm, in general, argues that Yamazaki does not disclose width of the data track and an “average longer size (B) of the abrasive particle(s).” Fujifilm Br. at 223.

a) Claim 1

- (1) A magnetic recording and reproducing method comprising

Sony argues:

It is undisputed that Yamazaki expressly discloses several elements of claim 1 of the ‘106 Patent. To the extent that the preamble limits claim 1, Yamazaki discloses a “magnetic recording and reproducing method” throughout the specification and working examples. RX-0001C (Bhushan OWS) at Q&A 435. . . .

⁶⁸ The Patent Office issued a rejection based on Yamazaki, which one of the inventors helped overcome with a Rule 132 declaration. The Rule 132 declaration presented data from prepared samples that were intended to replicate Yamazaki Examples D10 and D14. *See* JX-0008 at 123.

Sony Br. at 206.

Fujifilm and the Staff do not address this limitation specifically. *See generally* Fujifilm Br., § V(G)(1)(a); Fujifilm Reply, § V(G)(1); Staff Br., § VI(G); Staff Reply, § V.

The evidence shows that Yamazaki discloses a magnetic recording medium and a sufficient description of using a tape that incorporates the magnetic recording medium. *See* RX-0001C (Bhushan WS) at Q/A 190; *see also* RX-0071 at 2:58-65, 3:35-39 (“The magnetic recording medium according to the present invention is used for a magnetic recording/reproduction system of reproducing recorded signals of from 0.15 to 2 G bit/inch² of areal recording density with a magneto resistive head (an MR head).”), 28:59-61. Accordingly, the administrative law judge has determined that Yamazaki discloses subject matter that satisfies this limitation.

- (2) recording and reproducing a signal with a magnetic head in a track width (A) of less than 5 μm on a magnetic recording medium comprising

Sony argues, in part:

First, Yamazaki discloses data track width ranges of 3.39 μm or less and 4.88 μm or less, both of which are species of the claimed genus of “a track width (A) of less than 5 μm .” *See* RX-0001C (Bhushan OWS) at Q&A 438. Specifically, Tables 2 and 3 of Yamazaki disclose working examples having track densities of 5,200 tracks per inch (TPI) or 7,500 TPI. RX-0071 (Yamazaki ‘605) at Tables 2-3. By taking the reciprocal of the track densities and converting from inches to microns, maximum data track widths of 4.88 μm and 3.39 μm were calculated from the track densities of 5,200 TPI and 7,500 TPI, respectively. RX-0001C (Bhushan OWS) at Q&A 438. These maximum data track widths correspond to data track width ranges of 4.88 μm or less and 3.39 μm or less. Each of these disclosed data track width ranges anticipates the claimed range of “a track width (A) of less than 5 μm ” because a species anticipates a later claimed genus and each of the disclosed ranges is a species of the claimed genus. *See, e.g., Titanium Metals*, 778 F.2d at 781-82; *Wm. Wrigley Jr.*, 683 F.3d at 1362.

Sony Br. at 207. Sony later argues:

Second, Yamazaki also discloses read head width ranges of 3.39 μm or less and 4.88 μm or less. RX-0001C (Bhushan OWS) at Q&A 439. As both Dr. Bhushan and Dr. Wang have explained, read heads have the same or narrower widths than the data tracks they read—otherwise, a read head would simultaneously read data from adjacent data tracks. *Id.*; CX-0004C (Wang OWS) at Q&A 305. Thus, when Yamazaki discloses data track width ranges of 3.39 μm or less and 4.88 μm or less, the reference necessarily discloses read head width ranges of 3.39 μm or less and 4.88 μm or less as well. RX-0001C at Q&A 439. A prior art reference inherently anticipates a claim limitation if the “natural result” flowing from the disclosure would satisfy the claim limitation. *SmithKline*, 403 F.3d at 1343. Yamazaki, therefore, inherently anticipates the claimed range.

Sony Br. at 207-08.

Fujifilm argues:

Sony argues that Yamazaki ‘605 inherently discloses a track width of less than 5 μm vis-à-vis its disclosure of two track densities. RX-0001C (Bhushan DWS) Q:438. Specifically, Dr. Bhushan asserts that the inverse of the two track densities of 5,200 or 7,500 TPI inherently provides track widths of 4.88 and 3.39 μm . But Sony cannot show to any reasonable degree of certainty the claimed relationship between track width (A) and average longer size (B). CX-0357C (Wang RWS), Q:631-33. According to Dr. Wang, the inverse of the track density at most provides a theoretical absolute maximum value of the track width, ignoring all other contributors to TPI, which Dr. Wang has demonstrated as being well known in the art at the time. *Id.*; CDX-0007C at 63-66. Because Yamazaki ‘605 does not provide sufficient information to determine what the actual width of the data track is, it follows that Yamazaki ‘605 also does not provide sufficient information to determine what the actual value of the read track is—and this feature thus cannot be inherent. Sony cannot then rely on inherency to suggest that Yamazaki ‘605 anticipates the Asserted Claims of the ‘605 patent.

Fujifilm Br. at 223.

The evidence shows that Yamazaki discloses recording and reproducing a signal with a magnetic head in a track width (A) of less than 5 μm . *See* RX-0001C (Bhushan WS) at Q/A

PUBLIC VERSION

436-39; *see also* RX-0071 at 3:35-39, Tables 2-3. Although Dr. Wang faults Yamazaki for disclosing a “theoretical upper bound” and not an actual track width, *see* CX-0357C (Wang RWS) at Q/A 632, the language of the claim requires “a track width (A) of less than 5 μm ,” not an actual, discrete width. Additionally, if the “track width” refers to read head width (and not data track width), then Yamazaki still discloses the track width, because the read head width is less than the data track width. *See* RX-0001C (Bhushan WS) at Q/A 439; CX-0357C (Wang RWS) at Q/A 633 (agreeing that the read track width must also be smaller than 5 μm). Accordingly, the administrative law judge has determined that Yamazaki discloses subject matter that satisfies this limitation.

- (3) a support having provided thereon a magnetic layer containing at least a ferromagnetic powder, an abrasive and a binder,

Sony argues:

Yamazaki also discloses a “magnetic recording medium comprising a support having provided thereon a magnetic layer containing at least a ferromagnetic powder, an abrasive and a binder.” [RX-0001C (Bhushan WS)] at Q&A 440.

Sony Br. at 206.

Fujifilm and the Staff do not address this limitation specifically. *See generally* Fujifilm Br., § V(G)(1)(a); Fujifilm Reply, § V(G)(1); Staff Br., § VI(G); Staff Reply, § V.

The evidence shows that Yamazaki discloses a magnetic tape that includes a support with a magnetic layer. The magnetic layer includes a ferromagnetic powder, an abrasive and a binder. *See* RX-0001C (Bhushan WS) at Q/A 440; *see also* RX-0071, Abstract, 5:1-7; 6:19-28, 8:15-18, 8:36-39, 14:2-4, 16:38-40, 21:22-24. Accordingly, the administrative law judge has determined that Yamazaki discloses subject matter that satisfies this limitation.

PUBLIC VERSION

- (4) wherein the average longer size (B) of the abrasive particle(s) which are present on the magnetic layer surface is $\frac{1}{3}$ or less of the track width (A).

Sony argues that Yamazaki discloses abrasive particles with “sizes of 0.12 μm , 0.2 μm , or 0.3 μm .” Sony Br. at 210. Sony adds:

“Primary particles” refer to the abrasive particles as they exist as an ingredient for making the magnetic recording media, prior to being embedded in the magnetic layer. Though clustering of such particles may occur, the primary particle sizes disclosed by Yamazaki can be used as the “average longer size” of abrasive particles because Yamazaki discloses methods of forming a magnetic recording medium that would necessarily contain at least 50 individual, non-clustered abrasive particles.

Id.

Sony then argues that this disclosure, coupled with the track widths discussed above, satisfies the claimed relationship:

Since Yamazaki discloses working examples with primary particle sizes within the claimed “average longer size” ranges of “1.63 μm or less” (based on $\frac{1}{3}$ of the maximum data track width of 4.88 μm) and “1.13 μm or less” (based on $\frac{1}{3}$ of the maximum data track width of 3.39 μm), as well as an overlapping range of 0.01 to 2 μm , Yamazaki inherently anticipates the claimed “average longer size” range. [RX-0001C (Bhushan WS)] at Q&A 443.

As an illustrative example, working example D3 from Table 2 of Yamazaki has a track density of 5,200 TPI, which corresponds to a data track width of 4.88 μm or less, and a primary abrasive particle size of 0.12 μm . *Id.* at Q&A 445; RX-0071 (Yamazaki ‘605) at 27:45-48, Table 2. Taking 4.88 μm as the track width (A) and 0.12 μm as the “average longer size” of the abrasive (B), the ratio (B)/(A) would be about 1/40, which is well within the claimed range of “ $\frac{1}{3}$ or less.” RX-0001C at Q&A 445. Moreover, an “average longer size” of 0.12 μm would satisfy the “ $\frac{1}{3}$ or less of the track width” requirement for any track width greater than or equal to 0.36 μm . *Id.* As Dr. Bhushan explains, it would not be reasonable for either a data track width or a read head width to be less than 0.36 μm , at least in part because as data track width or read head width decreases, the amount of signal that can be detected also decreases, which results in reduced signal amplitude

PUBLIC VERSION

and SNR. *Id.* Dr. Bhushan also explains that he is not aware of any commercially available magnetic recording systems with a data track width or read head width less than 0.36 μm . *Id.* Yamazaki thus inherently discloses an “average longer size” of individual abrasive particles that is “ $\frac{1}{3}$ or less of the track width.” *Id.*

Id. at 210-11. Sony then argues that the Rule 132 declaration Fujifilm submitted to the Patent Office to overcome Yamazaki is insufficient because it did not “use the same conditions” Yamazaki used in preparing samples and because the applicant “failed to use the appropriate track width in computing the ratio (B)/(A) of ‘average longer size of abrasive (B)’ to ‘track width (A).’” *Id.* at 212.

Fujifilm argues:

Yamazaki does not disclose the “average longer size (B) of the abrasive particle(s).” CX-0357C (Wang RWS), Q:635. The parties agree that the phrase “abrasive particle(s)” in the term “average longer size (B) of the abrasive particle(s)” refers to particles and/or clusters. Yamazaki discloses primary abrasive particle sizes—not the “average longer size (B)” —and says nothing about the size of the clusters formed by those particles when included on the surface of a magnetic recording media. *Id.* Thus, even assuming Yamazaki disclosed a particular track width, Yamazaki still does not (and cannot) disclose or suggest that the “average longer size (B)” of the abrasive particles and/or clusters is $\frac{1}{3}$ or less of the track width.

Fujifilm Br. at 223-24.

Sony replies, in part:

... as Sony has detailed, the term “average longer size (B) of the abrasive particle(s) which are present on the magnetic layer surface” encompasses an “average longer size” of (1) individual, non-clustered abrasive particles; (2) abrasive clusters; or (3) a combination of abrasive particles and clusters. Sony IPHB at 209. In the case of individual, non-clustered abrasive particles, the primary particle size can be used as the “average longer size” because the size of the individual particles on the magnetic layer surface would necessarily be less than or equal to the primary particle size.

Sony Reply at 65.

The administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Yamazaki expressly or inherently discloses particles with an “average longer size.” Dr. Bhushan testified as follows:

Q443: Does Yamazaki disclose particle sizes for individual, non-clustered abrasive particles?

A: Yes. Yamazaki discloses a preferred abrasive particle size range of 0.01 to 2 μm and teaches that abrasives having narrow particle size distributions are preferred. (Yamazaki at 16:51-56). In addition, in the working examples, Yamazaki describes α -alumina particles having particle sizes of 0.12 μm , 0.2 μm , and 0.3 μm . (Yamazaki at 25:42-43, 25:62-63, 27:46-48). So, the average size of abrasive particles may be as small as 0.01 μm or 0.12 μm .

RX-0001C (Bhushan WS) at Q/A 443.⁶⁹ Yamazaki discloses “primary” particle size, not the “average longer size” from claim 1. *See* CX-0357C (Wang WS) at Q/A 635. Further, it is not clear that Yamazaki’s particles would satisfy the measurement protocol that the ‘106 Patent specifies. *See id.*; *see also* JX-0002 at 3:18-44. Additionally, although Sony critiques the Rule 132 declaration, the purpose of the tests was to compare particles from Yamazaki to those from the ‘106 Patent while holding other variables (*e.g.*, track width) constant. *See* JX-0008 at 124; *see also* CX-0357C (Wang RWS) at Q/A 638-39. Accordingly, the administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Yamazaki expressly or inherently discloses “average longer” particles, and thus also does not disclose the $\frac{1}{3}$ ratio.

⁶⁹ Sony also has not shown, with clear and convincing evidence, that the particles disclosed in Yamazaki are present on the surface of the magnetic layer. *Compare* RX-0001C (Bhushan WS) at Q/A 441-50 with *id.* at Q/A 467 (opining that the disclosed method would promote the presence of abrasive particles on the surface of the magnetic layer).

PUBLIC VERSION

b) Claim 2

Sony's entire argument is:

Claim 2 depends from claim 1 but is directed to a magnetic recording medium which is used in the magnetic recording and reproducing method of claim 1. The limitations of claim 2 are otherwise similar or identical to those of claim 1, and for at least the reasons discussed above, Yamazaki anticipates each and every limitation of claim 2. [RX-0001C (Bhushan WS)] at Q&A 451-52.

Sony Br. at 213.

Fujifilm and the Staff do not address claim 2 specifically. *See generally* Fujifilm Br., § V(G)(1)(a); Fujifilm Reply, § V(G)(1); Staff Br., § VI(G); Staff Reply, § V.

For the reasons provided above, the administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Yamazaki anticipates claim 2.

c) Claim 5

Sony's entire argument is:

Claim 5 depends from claim 2 and recites additional limitations, each of which is disclosed by Yamazaki. *Id.* at Q&A 453-457. For example, Yamazaki anticipates the claimed feature of "a substantially nonmagnetic lower layer." [RX-0001C (Bhushan WS)] at Q&A 455. In addition, Yamazaki anticipates the claimed feature of a magnetic layer having "a layer thickness of from 0.01 to 0.15 μm " because it discloses working examples having a magnetic layer thickness of 0.15 μm and overlapping magnetic layer thickness ranges of 0.03 μm or less, 0.01 to 0.25 μm , and 0.05 to 0.20 μm . *Id.* at Q&A 457; *see, e.g., Ineos*, 783 F.3d at 869.

Sony Br. at 213-14.

Fujifilm and the Staff do not address claim 5 specifically. *See generally* Fujifilm Br., § V(G)(1)(a); Fujifilm Reply, § V(G)(1); Staff Br., § VI(G); Staff Reply, § V.

The evidence shows that Yamazaki discloses a magnetic recording medium with a support, a substantially nonmagnetic lower layer provided on the support, and a magnetic layer containing a ferromagnetic metal powder or a hexagonal ferrite powder dispersed in a binder

PUBLIC VERSION

provided on the nonmagnetic lower layer. *See* RX-0001C (Bhushan WS) at Q/A 453-56.

Yamazaki further discloses magnetic layer thickness ranges, including an example of a “magnetic layer having a thickness of 0.15 μm .” *Id.* at Q/A 457; *see also* RX-0071 at 27:25-30. Accordingly, if claims 1 and 2 are later found anticipated, then the administrative law judge has determined that Sony has shown, through clear and convincing evidence, that claim 5 is also anticipated.

d) Claim 6

Sony’s entire argument is:

Claim 6 depends from claim 2 and further recites that “the magnetic recording medium is for MR head reproduction.” Yamazaki discloses this additional limitation. RX-0001C (Bhushan OWS) at Q&A 458.

Sony Br. at 214.

Fujifilm and the Staff do not address claim 6 specifically. *See generally* Fujifilm Br., § V(G)(1)(a); Fujifilm Reply, § V(G)(1); Staff Br., § VI(G); Staff Reply, § V.

The evidence shows that Yamazaki discloses using the magnetic recording medium with a MR head. *See* RX-0071, Abstract, 3:35-39; *see also* RX-0001C (Bhushan WS) at Q/A 459. Accordingly, if claims 1 and 2 are later found anticipated, then the administrative law judge has determined that Sony has shown, through clear and convincing evidence, that claim 6 is also anticipated.

2. Jinbo

Sony argues that Jinbo inherently anticipates claim 1:

Like Yamazaki, Jinbo expressly discloses each and every limitation of independent claim 1 of the ‘106 Patent and each and every limitation of the Asserted Claims themselves, except for a single limitation: “wherein the average longer size (B) of the abrasive particle(s) which are present on the magnetic layer surface

PUBLIC VERSION

is $\frac{1}{3}$ or less of the track width (A).” RX-0001C (Bhushan OWS) at Q&A 460-477. The claimed “average longer size” range, however, is inherently disclosed by Jinbo because the magnetic recording media disclosed in Jinbo necessarily have abrasives with an “average longer size” within the claimed range. *Id.* at Q&A 466-469. Thus, each and every element set forth in the Asserted Claims of the ‘106 Patent is found, either expressly or inherently, in Jinbo.

Sony Br. at 214.

Fujifilm, in general, argues that Jinbo, like Yamazaki, does not disclose width of the data track and an “average longer size (B) of the abrasive particle(s).” Fujifilm Br. at 224.

a) Claim 1

- (1) A magnetic recording and reproducing method comprising

Sony argues:

To the extent that the preamble limits claim 1, Jinbo discloses a magnetic recording and reproducing method throughout the specification and working examples. RX-0001C (Bhushan OWS) at Q&A 461.

Sony Br. at 214.

Fujifilm and the Staff do not address this limitation specifically. *See generally* Fujifilm Br., § V(G)(1)(b); Fujifilm Reply, § V(G)(1); Staff Br., § VI(G); Staff Reply, § V.

The evidence shows that Jinbo discloses a magnetic recording medium and a sufficient description of using a tape that incorporates the magnetic recording medium. *See* RX-0001C (Bhushan WS) at Q/A 461; *see also* RX-0029, ¶¶ 8, 78-79, 91-92. Accordingly, the administrative law judge has determined that Jinbo discloses subject matter that satisfies this limitation.

- (2) recording and reproducing a signal with a magnetic head in a track width (A) of less than 5 μm on a magnetic recording medium comprising

Sony argues:

PUBLIC VERSION

Jinbo discloses the claimed step of “recording and reproducing a signal with a magnetic head” because paragraph 78 of Jinbo describes using a tilted sendust sputtered (TSS) head, which is a type of metal-in-gap (MIG) inductive head, to evaluate electromagnetic conversion characteristics, such as power and C/N, of certain magnetic tapes. RX-0001C (Bhushan OWS) at Q&A 462-464. As Dr. Bhushan explains, in order to evaluate these characteristics, the TSS head must perform the step of “recording and reproducing a signal.” *Id.* at Q&A 464. The TSS head is also, without question, a “magnetic head” —the “magnetic head” of claim 1 is not limited to any particular type of head. *Id.* at Q&A 463. Jinbo also discloses that the recording and reproducing step is performed “in a track width (A) of less than 5 μm ” since the TSS head of Jinbo has a read head width of 1.4 μm . *Id.* at Q&A 462; RX-0029 (Jinbo) at ¶ 78. A read head width of 1.4 μm is a species that anticipates the claimed genus. *See Ineos*, 783 F.3d at 869.

Sony Br. at 215.

Fujifilm argues:

Sony argues that Jinbo discloses the limitation requiring “a track width (A) of less than 5 μm ” based on a description of “a tilted sputtered sendust (TSS) head having a track width of 1.4 μm in paragraph [0078].” RX-0001C (Bhushan DWS) Q:462. However, Jinbo discloses the use of a TSS head for the purpose of testing electromagnetic conversion characteristics of the tape. RX-0029 (Jinbo, para. [0078]) at 32. In contrast with Dr. Bhushan’s interpretation of Jinbo, the Jinbo reference makes clear that “[t]he present invention is to provide a magnetic recording medium having . . . low abrasion of DLC films of a magnetoresistive (MR) head surface.” RX-0029 (Jinbo, para. [0009]) at 19. Because TSS heads are not MR heads, but are a type of inductive, metal-in-gap (MIG) head, a person of ordinary skill in the art would have understood that Jinbo’s description using a TSS head in paragraph [0078] is merely for the purpose of testing certain electromagnetic characteristics and not for the actual recording and reproducing of a signal. *See CX-0357C* (Wang RWS), Q:643-45; *see also CDX-0007C* at 58.

Fujifilm Br. at 224 (emphasis omitted).

Jinbo provides:

[0009] In the present invention, the coated microparticles added to

the magnetic layer are alumina microparticles coated with yttria. Because these coated microparticles have the functions of a grinding compound, an antistatic agent, and a lubricant, a low coefficient of friction of the magnetic layer as well as high power, high SIN, and low noise in the short wavelength region can be obtained. Furthermore, ***these coated microparticles are suitable particularly for magnetoresistive (MR) heads***, and are excellent in reducing abrasion of the DLC film of the MR head surface.

JX-0029, ¶ 9 (emphasis added). Jinbo later provides:

[0078] The magnetic characteristics were measured using a vibrating sample magnetometer (manufactured by Toei Industry) parallel to the orientation direction with an external magnetic field of 5 kOe. Electromagnetic conversion characteristics of tape For power, the relative speed of a TSS head (Sony sendust head for 8 mm video; head gap 0.2 µm, ***track width 1.4 µm***, saturation flux density 1.1 tesla) was set to 10 .2 ml s, and the optimum current was determined from input/output characteristics at ½ Tb (A= 0.5 ~tm), and this power was measured.

JX-0029, ¶ 78 (emphasis added).

The evidence shows that Jinbo teaches recording and reproducing a signal with a magnetic head in a track width of less than 5 µm. See RX-0001C (Bhushan WS) at Q/A 462-464; see also JX-0029, ¶¶ 78. Jinbo explicitly discloses a magnetic media for use in MR heads. JX-0029, ¶ 9. Jinbo also discloses a track width of less than 5 µm. *Id.*, ¶ 78.

Fujifilm's argument that the limitation is not disclosed because Jinbo discloses a TSS head would effectively narrow the claim language through a claim construction (that applies only for invalidity). Further, Fujifilm's arguments, if adopted, would render claim 1 and 6 commensurate in scope, which is contrary to Federal Circuit precedent. See *Unwired Planet L.L.C. v. Google, Inc.*, 660 F. App'x 974, 982 (Fed. Cir. 2016) ("the presence of a dependent claim that adds a particular limitation raises a presumption that the limitation in question is not found in the independent claim." (quoting *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 910 (Fed. Cir. 2004))). Accordingly, the administrative law judge has determined that Jinbo

PUBLIC VERSION

discloses subject matter that satisfies this limitation.

- (3) a support having provided thereon a magnetic layer containing at least a ferromagnetic powder, an abrasive and a binder,

Sony argues:

Jinbo also discloses a “magnetic recording medium comprising a support having provided thereon a magnetic layer containing at least a ferromagnetic powder, an abrasive and a binder.” [RX-0001C (Bhushan WS)] at Q&A 465.

Sony Br. at 214-15.

Fujifilm and the Staff do not address this limitation specifically. *See generally* Fujifilm Br., § V(G)(1)(b); Fujifilm Reply, § V(G)(1); Staff Br., § VI(G); Staff Reply, § V.

The evidence shows that Yamazaki discloses a magnetic tape that includes a support with a magnetic layer. The magnetic layer includes a ferromagnetic powder, an abrasive and a binder. *See* RX-0001C (Bhushan WS) at Q/A 465; *see also* RX-0029, Abstract and ¶¶ 1, 9, 17, 24, 31. Accordingly, the administrative law judge has determined that Jinbo discloses subject matter that satisfies this limitation.

- (4) wherein the average longer size (B) of the abrasive particle(s) which are present on the magnetic layer surface is $\frac{1}{3}$ or less of the track width (A).

Sony argues:

Jinbo inherently discloses an “average longer size” of individual, non-clustered abrasive particles that is “ $\frac{1}{3}$ or less of the track width.” RX-0001C (Bhushan OWS) at Q&A 466-469. Jinbo discloses that the “average particle size” of the yttria-coated alumina particles that act as “grinding compounds” is preferably 250 nm, and more preferably 10 to 240 nm, and, further, discloses working examples in which the yttria-coated alumina particles have “average particle sizes” of 180 nm, 138 nm, or 90 nm. *Id.* at Q&A 468. These disclosed “average particle sizes” can be used as the “average longer size” of abrasive particles because Jinbo describes methods of forming a magnetic recording medium that

PUBLIC VERSION

would necessarily contain at least 50 individual, non-clustered abrasive particles. *Id.* at Q&A 467. Since Jinbo discloses working examples with “average particle sizes” within the claimed “average longer size” range of “467 nm or less” (based on $\frac{1}{3}$ of the read head width of 1.4 μm), as well as an overlapping range of 10-240 nm, Jinbo inherently anticipates the claimed “average longer size” range. *Id.* at Q&A 468.

Sony Br. at 216.

Fujifilm argues:

Furthermore, Jinbo refers to the “primary” particle size and not the “average longer size(B) of the abrasive particle(s),” which includes particles and/or *clusters*. CX-0357C (Wang RWS), Q:647. Sony does not contend that Jinbo discloses an average longer size (B) of particles and/or clusters. Rather, Sony relies on Jinbo’s disclosure of the average particle size of individual, nonclustered yttria-coated microparticles as being within the range of 10 to 240 nm, allegedly anticipating the Asserted Claims of the ‘106 Patent. RX-0001C (Bhushan DWS, Q:466-469) at 134-135. In particular, Dr. Bhushan states that Jinbo “constrain[s] the average *particle size* of these coated microparticles to be 250 nm or less.” RX-0001C (Bhushan DWS) Q:484 (emphasis added) (citing Jinbo at Abstract, claim 3, paragraph [0011]). However, such disclosure does not anticipate the limitation containing the *average longer size (B) of abrasive particle(s)*.

Fujifilm Br. at 224-25 (emphasis added by Fujifilm).

Sony replies, in part:

... As discussed above, the term “average longer size (B) of the abrasive particle(s) which are present on the magnetic layer surface” encompasses the “average longer size” of individual, non-clustered abrasive particles, which can be obtained from the primary particle size. Since Jinbo discloses working examples with “average particle sizes” of 90 nm, 138 nm, and 180 nm, as well as an “average particle size” range of 10-240 nm, Jinbo inherently anticipates the claimed range of “467 nm or less” (based on $\frac{1}{3}$ of the read head width of 1.4 μm).

Sony Reply at 66.

The administrative law judge has determined that Sony has not shown, through clear and

convincing evidence, that Jinbo expressly or inherently discloses particles with an “average longer size.” Dr. Bhushan testified as follows:

Q468: What would be the “average longer size” of these particles?

A: Jinbo discloses that the “average particle size” of coated microparticles – that is, yttria-coated alumina particles that act as “grinding compounds” – is preferably 250 nm, and more preferably in the range of 10 to 240 nm. (Jinbo at paragraph [0011]). Jinbo also discloses coated microparticles having “average particle sizes” of 180 nm, 138 nm, or 90 nm in the working examples. (Jinbo at paragraph [0070]). In my opinion, the “average longer size” of 50 individual, non-clustered coated microparticles on the magnetic layer surface would be substantially similar to these “average particle sizes” of the coated microparticles.

RX-0001C (Bhushan WS) at Q/A 468.⁷⁰ Jinbo discloses “average particle size,” not the “average longer size” from claim 1. *See* CX-0357C (Wang WS) at Q/A 647. Further, it is not clear that Jinbo’s particles would satisfy the measurement protocol that the ‘106 Patent specifies. *See id.* Accordingly, the administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Jinbo expressly or inherently discloses “average longer” particles, and thus also does not disclose the $\frac{1}{3}$ ratio.

b) Claim 2

Sony’s entire argument is:

Claim 2 depends from claim 1 but is directed to a magnetic recording medium which is used in the magnetic recording and reproducing method of claim 1. The limitations of claim 2 are otherwise similar or identical to those of claim 1, and for at least the reasons discussed above, Jinbo anticipates each and every limitation of claim 2. [RX-0001C (Bhushan WS)] at Q&A 470.

Sony Br. at 216.

Fujifilm and the Staff do not address claim 2 specifically. *See generally* Fujifilm Br.,

⁷⁰ Sony has shown, with clear and convincing evidence, that the particles disclosed in Jinbo are present on the surface of the magnetic layer. *See* RX-0001C (Bhushan WS) at Q/A 467.

PUBLIC VERSION

§ V(G)(1)(b); Fujifilm Reply, § V(G)(1); Staff Br., § VI(G); Staff Reply, § V.

For the reasons provided above, the administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Jinbo anticipates claim 2.

c) **Claim 5**

Sony's entire argument is:

Claim 5 depends from claim 2 and recites additional limitations, each of which is disclosed by Jinbo. [RX-0001C (Bhushan WS)] at Q&A 471-475. For example, Jinbo anticipates the claimed feature of "a substantially nonmagnetic lower layer." *Id.* at Q&A 473. In addition, Jinbo anticipates the claimed feature of a magnetic layer having "a layer thickness of from 0.01 to 0.15 μm " because it discloses working examples having a magnetic layer thickness of 0.15 μm and overlapping magnetic layer thickness ranges of 0.01 to 0.5 μm and 0.05 to 0.4 μm . *Id.* at Q&A 475; RX-0029 (Jinbo) at ¶¶ 24, 74; *see Ineos*, 783 F.3d at 869.

Sony Br. at 216-17.

Fujifilm and the Staff do not address claim 5 specifically. *See generally* Fujifilm Br., § V(G)(1)(b); Fujifilm Reply, § V(G)(1); Staff Br., § VI(G); Staff Reply, § V.

The evidence shows that Jinbo discloses a magnetic recording medium with a support, a substantially nonmagnetic lower layer provided on the support, and a magnetic layer containing a ferromagnetic metal powder or a hexagonal ferrite powder dispersed in a binder provided on the nonmagnetic lower layer. *See* RX-0001C (Bhushan WS) at Q/A 472-74. Jinbo further discloses magnetic layer thickness ranges, including an example of a "magnetic layer having a thickness of 0.15 μm ." *Id.* at Q/A 475; *see also* RX-0029, ¶¶ 24, 74. Accordingly, if claims 1 and 2 are later found anticipated, then the administrative law judge has determined that Sony has shown, through clear and convincing evidence, that claim 5 is also anticipated.

d) **Claim 6**

Sony's entire argument is:

PUBLIC VERSION

Claim 6 depends from claim 2 and further recites that “the magnetic recording medium is for MR head reproduction.” Jinbo discloses that the yttria-coated microparticles described throughout the reference are particularly suitable for MR heads. RX-0001C (Bhushan OWS) at Q&A 477; RX-0029 (Jinbo) at ¶ 9.

Sony Br. at 217.

Fujifilm and the Staff do not address claim 6 specifically. *See generally* Fujifilm Br., § V(G)(1)(b); Fujifilm Reply, § V(G)(1); Staff Br., § VI(G); Staff Reply, § V.

The evidence shows that Jinbo discloses using the magnetic recording medium with a MR head. *See* RX-0029, ¶ 9; *see also* RX-0001C (Bhushan WS) at Q/A 477. Accordingly, if claims 1 and 2 are later found anticipated, then the administrative law judge has determined that Sony has shown, through clear and convincing evidence, that claim 6 is also anticipated.

H. Obviousness

Sony generally argues that using abrasive particles and controlling the size of the particles to avoid damaging the magnetic head and degrading magnetic performance were well known concepts in the art before the filing date. *See* Sony Br. at 203-04. Sony relies upon the following references:

- **Yamazaki:** U.S. Patent No. 6,017,605 (“Yamazaki”) (RX-0071)
- **Jinbo:** Japanese Patent Publication No. 2001-6147 (“Jinbo”) (RX-0029)
- **Araki:** U.S. Patent No. 6,149,989 (“Araki”) (RX-0104)
- **Ishikuro:** U.S. Patent No. 4,812,330 (“Ishikuro”) (RX-0076)
- **Michihata:** U.S. Patent No. 5,635,294 (“Michihata”) (RX-0099)
- **Endo:** Japanese Patent Publication No. JP 2000-40218 (“Endo”) (RX-0334)

Fujifilm generally argues that Sony has not shown the prior art discloses each and every limitation, that there would not have been a motivation to combine the prior art (and that Sony’s combinations are produced by hindsight), and that particular limitations of the asserted claims

are critical and confer synergistic benefit. *See* Fujifilm Br. at 226-27.

The Staff does not address obviousness. *See generally* Staff Br., § V(G).

1. Yamazaki

Sony's entire argument is:

As described above, Yamazaki discloses each and every limitation of claims 1, 2, 5, and 6. To the extent that Yamazaki does not anticipate a limitation of the Asserted Claims, that limitation would have been obvious over Yamazaki in view of the knowledge and experience of a POSA. RX-0001C (Bhushan OWS) at Q&A 479-482. For example, the claim limitation "wherein the average longer size (B) of the abrasive particle(s) which are present on the magnetic layer surface is $\frac{1}{3}$ or less of the track width (A)" would have been obvious because Yamazaki confirms that abrasive particle size is a result-effective variable connected to track width. *Id.* Optimizing a "result-effective variable" falls "within the grasp of one of ordinary skill in the art." *In re Applied Materials*, 692 F.3d at 1295-96.

The prior art, including Yamazaki, recognized that increasing the areal recording density of a magnetic recording medium advantageously increases recording capacity. RX-0001C at Q&A 480; RX-0071 (Yamazaki) at 3:63-65. Since areal recording density is the product of linear recording density and track density, an increase in areal recording density corresponds to an increase in track density and, therefore, a decrease in track width. RX-0001C at Q&A 480. Yamazaki also discloses that in order to achieve a high areal recording density with low noise, it is necessary to regulate the number of protrusions on the magnetic layer surface. *Id.*; RX-0071 at 3:44-50. Yamazaki further teaches that in order to control the protrusions on the magnetic layer surface, it is important for the granular components of the magnetic layer—such as the abrasive—to have small, highly dispersed particles. RX-0001C at Q&A 480; RX-0071 at 4:60-67.

A POSA would thus have understood that reducing abrasive particle size would reduce the number of protrusions on the magnetic layer surface, which would permit the areal recording density of the magnetic recording medium to be increased (and the track width of the magnetic recording medium to be decreased). RX-0001C at Q&A 481. A POSA would therefore have been motivated to optimize abrasive particle size through routine experimentation such that the average longer size of abrasive

PUBLIC VERSION

particles and/or clusters on the magnetic layer surface would have been $\frac{1}{3}$ or less of the track width. *Id.* As Dr. Bhushan has explained, experiments to optimize abrasive particle size would be “routine.” *Id.* at Q&A 482.

Sony Br. at 222.

Fujifilm argues that Sony has not explained why a person of ordinary skill in the art would modify the abrasive particles in relation to track width, as the claims specify. Fujifilm Br. at 227-28.

Sony’s reply references its post-hearing brief and restates its result-effective-variable argument. Sony Br. at 68-69.

The administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Yamazaki discloses the claimed particles having an “average longer size” or particles having an average longer size that is $\frac{1}{3}$ or less of the track width. *See* Part VI(G)(1)(a)(4), *supra*. Sony’s arguments do not provide a basis for finding that Yamazaki discloses these elements.⁷¹

Further, Sony has not provided a sufficient rationale for why one of ordinary skill in the art would modify the particle size in Yamazaki, or why one would modify abrasive particle size in relation to the track width. *See* CX-0357C (Wang RWS) at Q/A 657-68. While Sony has argued that particle size is “a result-effective variable connected to track width,” it has not identified an optimal size in relation to track width without relying on the ‘106 Patent to identify an optimal range. *See Para-Ordnance Mfg., Inc. v. SGS Importers Int’l, Inc.*, 73 F.3d 1085, 1087 (Fed. Cir. 1995) (obviousness “may not be established using hindsight or in view of the

⁷¹ Sony also has not shown, with clear and convincing evidence, that the particles disclosed in Yamazaki are present on the surface of the magnetic layer. *Compare* RX-0001C (Bhushan WS) at Q/A 441-50 with *id.* at Q/A 467 (opining that the disclosed method would promote the presence of abrasive particles on the surface of the magnetic layer).

teachings or suggestions” of the patent); cf. *InTouch Techs., Inc. v. VGO Commc'ns, Inc.*, 751 F.3d 1327, 1351 (Fed. Cir. 2014) (critiquing an expert who appeared to the patent-in-suit as a “roadmap” for her obviousness opinion).

Accordingly, the administrative law judge finds that claims 1, 2, 5, and 6 would not have been obvious over Yamazaki alone because Yamazaki does not disclose an “average longer size” or particles having an average longer size that is $\frac{1}{3}$ or less of the track width, and because Sony has not shown one of ordinary skill in the art would have modified Yamazaki as Sony suggests.

2. Yamazaki or Jinbo in View of Araki

Sony argues, in part:

Araki discloses “average longer size” ranges for abrasive particles and/or clusters of 0.05 μm to 0.4 μm and 0.1 μm to 0.3 μm . [RX-0001C (Bhushan WS)] at Q&A 486-487; RX-0104 (Araki) at 11:41-43. As Dr. Bhushan explains, these “average longer size” ranges of Araki refer not to primary particle size, but to the average longest dimension of abrasive particles and/or clusters appearing on the magnetic layer surface. RX-0001C at Q&A 486; RX-0104 (Araki) at 12:35-57, 15:13-21. Thus, to the extent there is any question about the reliability of the primary particle sizes discussed in Yamazaki or Jinbo, Araki provides sizes of abrasive particles and/or clusters actually present in the magnetic layer of the media discussed.

A POSA would have been motivated to combine the magnetic recording media of Yamazaki, which would have a maximum data track width of 4.88 μm or 3.39 μm , or the magnetic recording media of Jinbo, which would be associated with a read head width of 1.4 μm , with the abrasives of Araki, which would have an “average longer size” in the range of 0.05 μm to 0.4 μm . Either of these combinations would result in a magnetic recording medium that meets each limitation of the Asserted Claims of the ‘106 Patent. For example, each “average longer size” within the range of 0.05 μm to 0.4 μm would fall squarely within the claimed ranges of 1.63 μm or less (based on $\frac{1}{3}$ of the maximum data track width of 4.88 μm), 1.13 μm or less (based on $\frac{1}{3}$ of the maximum data track width of 3.39 μm), or 0.467 μm or less (based on $\frac{1}{3}$ of the read head width of 1.4 μm). RX-0001C at Q&A 486-488.

PUBLIC VERSION

Sony Br. at 223-24 (emphasis omitted).

Fujifilm argues that Yamazaki, Araki, and Jinbo do not disclose each of the limitations of claim 1 and that “Sony and Dr. Bhushan also fail to offer any credible reason why a person of ordinary skill in the art would be motivated to combine Yamazaki ‘605 or Jinbo with Araki.” Fujifilm Br. at 228-29.

Sony’s reply references its post-hearing brief and argues that Yamazaki, Jinbo, and Araki all disclose examples relating to helical scan magnetic tape, such that the references are not incompatible. Sony Reply at 69-70.

Dr. Bhushan cites the following excerpt from Araki:

The surface of the magnetic layer is photographed using a scanning electron microscope (SEM). To discern fine abrasive particles, the desired magnification at shooting is about 5,000 to 50,000 times. There is a fear that the density of the abrasive particles present in the magnetic layer may vary with location. Thus, it is preferred to choose the location of shooting randomly for each sample, and take pictures in 10 or more fields of view, preferably 20 or more fields of view so that 200 or more abrasive particles will be included. From the SEM pictures taken, whether the objects shot are abrasive particles or not can be judged usually from their shapes. A more accurate judgment can be made by performing EPMA (electron probe X-ray microanalyzer) analysis jointly with SEM photography. That is, the strict judgment can be rendered in the light of the amount of the Al element detected when the abrasive is Al_2O_3 , the amount of the Cr element detected when the abrasive is Cr_2O_3 , or the amount of the Si element detected when the abrasive is SiC or SiO_2 . From the so taken SEM photographs, the contours of the abrasive particles are marked. The marked contours are subjected to an ordinary image analyzer to input the shapes of the abrasive particles in a digitized manner, thereby determining the distribution of the particle sizes.

RX-0104 at 12:35-37; *see also* RX-0001C (Bhushan WS) at Q/A 486. Dr. Bhushan also cites the following text:

The particle size of this abrasive used alone affects, but does not equal, the actual particle size of abrasive particles present in the

PUBLIC VERSION

surface of the magnetic layer. The particle size of abrasive particles present in the surface of the magnetic layer varies with the dispersing conditions for the abrasive, and so forth. Furthermore, some particles easily appear, but other particles appear with difficulty, on the surface of the magnetic layer during the coating and drying steps.

RX-0104 at 15:13-21; *see also* RX-0001C (Bhushan WS) at Q/A 486. Based on these passages, Dr. Bhushan concludes that “the ‘average particle size of the abrasive present in the surface of the magnetic layer’ of Araki clearly refers not to primary particle size but to the average size of abrasive particles and/or clusters that are actually present on the surface of the magnetic layer.”

RX-0001C (Bhushan WS) at Q/A 486.

Dr. Wang testified as follows:

666.Q. Please explain the basis for your conclusion.

666.A. As discussed earlier, neither Yamazaki ‘605 nor Jinbo disclose or suggest at least the limitations “recording and reproducing a signal with a magnetic head in a track width (A) of less than 5 μm ” and the “average longer size (B) of the abrasive particle(s) which are present on the magnetic layer surface is $\frac{1}{3}$ or less of the track width (A).” Araki also fails to disclose or suggest those limitations. As discussed, Araki does not make any reference to track width—much less any relationship between the track width and the size of either the abrasive particles or the average longer size (B) of the abrasive particle(s) as claimed, and as such cannot disclose or suggest at least the feature of “wherein the average longer size (B) of the abrasive particle(s) which are present on the magnetic layer surface is $\frac{1}{3}$ or less of the track width (A).” For these reasons, in addition to those we discussed earlier, the combination of Yamazaki or Jinbo with Araki cannot disclose “wherein the average longer size (B) of the abrasive particle(s) which are present on the magnetic layer surface is $\frac{1}{3}$ or less of the track width (A)” and thus cannot render the asserted claims of the ‘106 obvious.

CX-0357C (Wang RWS) at Q/A 666.

The evidence shows that Araki discloses an “average longer” particle as specified in the ‘106 Patent. *See* RX-0001C (Bhushan WS) at Q/A 486. In particular, Dr. Wang does not rebut

PUBLIC VERSION

Dr. Bhushan's testimony regarding the protocol Araki details for observing abrasive particles.

Nevertheless, the administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Araki expressly or inherently discloses controlling particle size in relation to track width. *See* CX-0357C (Wang RWS) at Q/A 666. Accordingly, the administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Araki expressly or inherently discloses the claimed ratio (including the relationship between particle size and track width).

The administrative law judge has also determined that Sony has not shown, through clear and convincing evidence, that a person of ordinary skill in the art would modify (or otherwise combine) Yamazaki or Jinbo in view of Araki. In particular, although Sony identifies known problems in tape use (*i.e.*, head clogging and head wear) and contends that Yamazaki, Jinbo, and Araki are all "relevant" media references, Sony has not explained why a person of ordinary skill in the art would choose to modify Yamazaki or Jinbo.

Accordingly, the administrative law judge has determined Sony has not shown, through clear and convincing evidence, that a person of ordinary skill in the art would have found that claims 1, 2, 5, and 6, as a whole, would have been obvious at the time of the invention based upon the disclosures and teachings of Yamazaki, Jinbo, and Araki.

3. Yamazaki or Jinbo in View of Ishikuro, Michihata, or Endo

Sony argues, in part:

Yamazaki and Jinbo each anticipate and/or render obvious each and every limitation of claims 1, 2, 5, and 6 of the '106 Patent. [RX-0001C (Bhushan WS)] at Q&A 494-495. To the extent that Yamazaki or Jinbo does not anticipate or render obvious a limitation of the Asserted Claims, the limitation would have been obvious over Yamazaki or Jinbo in view of any one of Ishikuro, Michihata, and Endo and the knowledge and experience of a POSA. *Id.* at Q&A 495.

PUBLIC VERSION

Sony Br. at 227.

Fujifilm argues:

The combination of Yamazaki '605 or Jinbo and any of Ishikuro, Michihata, or Endo does not include each of the elements of the Asserted Claims of the '106 Patent. CX-0357C (Wang RWS), Q:668-74. Specifically, Sony has failed to show that “the average longer size (B) of the abrasive particle(s) which are present on the magnetic layer surface is $\frac{1}{3}$ or less of the track width (A)” —required by each of the Asserted Claims—is disclosed in any of Ishikuro, Michihata, or Endo. *Id.* at 670.

Sony and Dr. Bhushan also fail to offer any credible reason why a person of ordinary skill in the art would be motivated to combine Yamazaki '605 or Jinbo with Araki. By contrast, Dr. Wang explains that in light of the differences between Yamazaki and Jinbo, on one hand, and Ishikuro, Michihata, and Endo, on the other hand, one of skill in the art would not be motivated to consider these references in any combination. *Id.*

Fujifilm Br. at 229.

Sony replies, in part:

Fujifilm also raises baseless challenges to the motivation to combine Yamazaki or Jinbo with Ishikuro, Michihata, or Endo. Fujifilm IPHB at 229. As Sony and Dr. Bhushan have repeatedly explained, a POSA would have been motivated to combine Yamazaki or Jinbo with any one of Ishikuro, Michihata, and Endo because all of the references are directed to particulate magnetic recording media having similar multilayer structures, and the same fundamental principles guiding media development and improvement would apply. *See, e.g.*, RX-0001C (Bhushan OWS) at Q&A 498, 501, 503. Taking Ishikuro as a specific example, the working examples of Ishikuro refer to VHS tape, which is a helical scan tape much like the “computer tape” disclosed in Yamazaki and the 8 mm video tape disclosed in Jinbo. *Id.* at Q&A 498; RX-0076 (Ishikuro) at 6:40-68; RX-0071 (Yamazaki) at 27:9-28:43, 30:15; RX-0029 (Jinbo) at ¶¶ 78-79. Thus, a POSA would have found Ishikuro’s teachings to be relevant for improving the magnetic recording media disclosed in Yamazaki and/or Jinbo. RX-0001C at Q&A 498.

Sony Reply at 71.

PUBLIC VERSION

The administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Yamazaki, Jinbo, Ishikuro, Michihata, or Endo discloses the claimed particles having an “average longer size” or particles having an average longer size that is $\frac{1}{3}$ or less of the track width.⁷² See CX-0357C (Wang RWS) at Q/A 670; *see also* RX-0001C (Bhushan WS) at Q/A 496 (testifying that Ishikuro, Michihata, or Endo do “not explicitly” disclose the “average longer” and $\frac{1}{3}$ ratio limitations). While Sony presents arguments about particle agglomeration, it does not sufficiently relate these arguments or the accompanying evidence to claim 1. Further, Sony has not provided a sufficient rationale for why one of ordinary skill in the art would modify the particle size in Yamazaki or Jinbo, or why one would modify abrasive particle size in relation to the track width. See CX-0357C (Wang RWS) at Q/A 671-74. Accordingly, the administrative law judge finds that claims 1, 2, 5, and 6 would not have been obvious over Yamazaki, Jinbo, Ishikuro, Michihata, or Endo.

4. Yamazaki or Jinbo in combination with Sony’s DDS-3 tapes

Sony argues, in part:

The SNY-ITC_S0000016 tape and the SNY-ITC_S0000001 tape both meet several of the limitations recited in the Asserted Claims of the ‘106 Patent. See, e.g., [RX-0001C (Bhushan WS)] at Q&A 427, 429. For example, both the SNY-ITC_S0000016 tape and the SNY-ITC_S0000001 tape are magnetic recording media that can be used in a magnetic recording and reproducing method, and both tapes comprise a support, a non-magnetic layer layered on the support, and a magnetic layer layered on the non-magnetic layer. *Id.* at Q&A 427, 429, 505. In both prior art tapes, the magnetic layer comprises ferromagnetic metal particles, abrasive alumina particles, and a binder. *Id.* at Q&A 427, 429, 505. Further, testing

⁷² Sony also does not clearly explain how Ishikuro, Michihata, or Endo apply to which claim limitation(s). For example, Sony argues “To the extent that Yamazaki or Jinbo does not anticipate or render obvious a limitation of the Asserted Claims, the limitation would have been obvious over Yamazaki or Jinbo in view of any one of Ishikuro, Michihata, and Endo and the knowledge and experience of a POSA.” Sony Br. at 227. The limitation that “would have been obvious” is not clearly specified.

PUBLIC VERSION

commissioned by Dr. Bhushan showed that the maximum “average longer size” of abrasive particles and/or clusters which are present on the magnetic layer surface (*i.e.*, the “average longer size” value calculated from the 50 largest abrasive particles and/or clusters) was 386.6 nm for the SNY-ITC_S0000016 tape and 317.1 nm for the SNY-ITC_S0000001 tape. *Id.* at Q&A 427, 429, 506-507. Both of these “average longer size” values would fall within the claimed “average longer size” range of “ $\frac{1}{3}$ or less of the track width” for any track width greater than 1.1 μm (for the average longer size of 386.6 nm) and 0.95 μm (for the average longer size of 317.1 nm). Since the track widths of Yamazaki and Jinbo are significantly larger than these track widths—in particular, Yamazaki discloses maximum data track widths of 3.39 μm and 4.88 μm , and Jinbo discloses a read head width of 1.4 μm —the “average longer size” values of both the SNY-ITC_S0000016 tape and the SNY-ITC_S0000001 tape would fall within the claimed “average longer size” range for the track widths of Yamazaki or Jinbo. *Id.* at Q&A 508.

It would have been obvious to combine the magnetic recording media of Yamazaki or Jinbo with the abrasive particles and/or clusters of the SNY-ITC_S0000016 tape or the SNY-ITC_S0000001 tape. *Id.* at Q&A 509. Yamazaki, Jinbo, and the two prior art tapes all relate to helical scan tapes comprising an abrasive-containing magnetic layer. *Id.* Given these similarities, a POSA examining the prior art tapes would have understood that, in order to maintain or improve magnetic performance, the “average longer size” of abrasive particles and/or clusters present on the magnetic layer surface should be constrained to be less than about 317.1 nm or 368.6 nm. *Id.*

Sony Br. at 231-32.

Fujifilm argues that Sony’s DDS-3 tapes (RPX-0001 and RPX-0012) do not disclose a track width of less than 5 μm or an “average longer” particle that also satisfies the claimed $\frac{1}{3}$ ratio, and that one of ordinary skill would not modify or combine the references as Sony suggests. Fujifilm Br. at 229-30.

Sony replies that its proposed combination “combination would have been obvious because Yamazaki, Jinbo, and Tapes 1 and 16 all relate to helical scan tapes comprising an abrasive-containing magnetic layer—given these similarities, a POSA examining the prior art

tapes would have understood that, in order to maintain or improve magnetic performance, the ‘average longer size’ of abrasive particles and/or clusters present on the magnetic layer surface should be constrained to be less than the “average longer size” values of Tapes 1 and 16.” Sony Reply at 72.

The administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Yamazaki, Jinbo, or the DDS-3 tapes disclose the claimed particles having an “average longer size” or particles having an average longer size that is $\frac{1}{3}$ or less of the track width.⁷³ See CX-0357C (Wang RWS) at Q/A 679-82, 686. Sony also has not provided a sufficient rationale for why one of ordinary skill in the art would modify the particle size in Yamazaki or Jinbo in view of the DDS-3 tapes or that such a combination would have been successful. See *id.* at Q/A 683 (“The processing techniques used to create the tapes such as the dispersion characteristics and the other ingredients in the recipe can significantly impact the coalescing and agglomeration of the abrasive particles.”). Accordingly, the administrative law judge finds that claims 1, 2, 5, and 6 would not have been obvious over Yamazaki, Jinbo, or the DDS-3 tapes.

⁷³ The administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that the DDS-3 tapes disclose a track width of less than 5 μm . See CX-0357C (Wang RWS) at Q/A 681, 686. Indeed, Sony relies on Yamazaki to disclose track width.

5. Secondary Considerations⁷⁴

Fujifilm's entire argument is:

Sony's failure to establish a prima facie case of obviousness ends the inquiry. Even if such a case existed, however, overwhelming objective evidence in the form of praise by others, failure of others, long-felt but unmet need, and commercial success of the inventions overcomes any such claim of obviousness, as discussed in Section III.F.2.b above.

Fujifilm Br. at 232.

Sony argues that none of the evidence Fujifilm cites "relates to any inventive aspect of the '106 Patent." Sony Br. at 232. Sony emphasizes that the evidence Fujifilm cites is connected with barium ferrite generally and not the asserted claims. *See id.* at 232-36.

a) Industry Praise

The evidence of industry praise the Fujifilm cites relates to magnetic tapes having barium ferrite, in general. The evidence does not pertain to the attributes of the asserted claims (*e.g.*, "average longer" abrasive particles and track width). Accordingly, the administrative law judge has determined that Fujifilm has not shown that this secondary consideration supports a non-obviousness finding.

b) Licensing

The evidence shows that Sony was interested in licensing the '106 Patent. *See* JX-0067C at 3-4. Indeed, [

⁷⁴ Fujifilm has argued that all of the tape media patents exhibit joint criticality and includes "joint criticality" as a secondary consideration. *See, e.g.*, Joint Outline at 4. With regard to the secondary considerations analysis, the administrative law judge has determined that Fujifilm has not shown the tape media patents capture jointly critical subject matter. Similarly, the administrative law judge has determined that Fujifilm has not shown that the claims confer synergistic or unexpected results. Additionally, Sony has argued that there is no nexus between secondary consideration evidence and the asserted claims and includes "nexus" as a separate secondary consideration issue. *Id.* The administrative law judge has considered Sony's nexus arguments within the context of each secondary consideration topic.

J. *Id.* at 4.

While Sony argues “any evidence of Sony’s efforts to seek a license are irrelevant and inadequate,” it does not provide any legal authority to support its position. Sony Br. at 234.

Accordingly, the administrative law judge has determined that this secondary consideration supports a non-obviousness finding.

c) Long-Felt Need

Fujifilm argues that its barium ferrite tapes resolved the long-felt need for a high-capacity magnetic tape. Fujifilm Br. at 95-96. Fujifilm argues that:

The inventions of the Asserted Claims, however, allowed magnetic tapes to continue to meet and exceed the projected trajectory for storage density and overall capacity, as illustrated below and as explained by Dr. Wang. *See* CX-0357C (Wang RWS) Q:77. Fujifilm was successful in developing and commercializing its magnetic tapes using BaFe particles that surpassed the storage capacity needs of the market—a feat that no one else matched. *See id.*

Id.

Sony argues:

Dr. Wang’s limited testimony referencing the ‘106 Patent relates to the purported need to implement a narrow track width and reduce the size of abrasive particles to achieve increased storage capacity and density. CX-0357C (Wang RWS) at Q&A 77-78. However, there is abundant evidence in the prior art that researchers were already improving the performance of magnetic recording media by reducing abrasive size, for example by separately dispersing abrasive particles to reduce particle agglomeration, and by reducing track width. RX-0001C (Bhushan OWS) at Q&A 526. There is no evidence that others failed to reduce either abrasive size or track width. *Id.* at Q&A 528. Accordingly, there was no long-felt need or failure of others associated specifically with the claimed limitations of the ‘106 Patent.

Sony Br. at 175.

The '106 Patent was concerned with tape noise in MR heads. JX-0002 at 2:16-22; *see also* RX-0001C (Bhushan WS) at Q/A 66. The long-felt need that Fujifilm identifies, high-capacity storage, is not reasonably related to noise. It has not been shown that the alleged benefits offered by the '106 Patent increased storage capacity of tapes. *See* RX-0001C (Bhushan WS) at Q/A 526-27. Accordingly, the administrative law judge has determined that the evidence does not support a finding that the '106 Patent satisfied a long-felt need.

d) Failure of Others

Fujifilm argues that the industry's failure "to develop the inventions in the Asserted Claims" is evident because "no company had ever commercialized a magnetic tape using BaFe." Fujifilm Br. at 97. Fujifilm equates the success of LTO-7 with the "Asserted Patents." *See* Fujifilm Br., § (III)(F)(2)(b)(v)(3)(ii).

Sony argues that "[t]here is no evidence that others failed to reduce either abrasive size or track width." Sony Br. at 235.

The evidence does not show that others tried, but failed to develop, tapes described by the asserted claims. *See* RX-0001C (Bhushan WS) at Q/A 528-29. Accordingly, the administrative law judge has determined that Fujifilm has not shown that this secondary consideration supports a non-obviousness finding.

e) Commercial Success

For all of the asserted patents, Fujifilm argues that with "its pioneering inventions in barium ferrite tape media technology and advanced servo writing techniques, it [has] achieved overwhelming success." Fujifilm Br. at 100. [

PUBLIC VERSION

].⁷⁵ *Id.* at 101 (citing CX-0026C (Vander Veen RWS) at Q/A 93).

Fujifilm then points to its dominant market share and relationships with prominent customers.

Id. Fujifilm then presents argument that echoes its long-felt need and failure-of-others arguments. *Id.* at 102-03.

Sony argues:

Dr. Wang has attempted to attribute the alleged commercial success of Fujifilm's LTO-7 and LTO-6 products to features, such as presence of abrasive particles and reduced magnetic layer thickness, that were expressly disclosed in the prior art. *See* CX-0357C (Wang RWS) at Q&A 95; RX-0001C (Bhushan OWS) at Q&A 440, 457, 465, 475. Accordingly, any commercial success Fujifilm enjoyed due to these features bears no nexus to the merits of the claimed invention. *See In re Kao*, 639 F.3d at 1068; *Tokai*, 632 F.3d at 1369.

Dr. Wang has also attempted to attribute the alleged commercial success to the claimed abrasive size ranges, asserting that limiting the size of abrasive particles promotes durability. *See* CX-0357C (Wang RWS) at Q&A 95. However, there is no evidence that any of Fujifilm's customers purchased its products for this reason. As Dr. Bhushan explained, sales of products such as LTO-7 tape are largely driven by the fact that such tapes comply with a standard, not by particular abrasive size or track width characteristics. RX-0001C (Bhushan OWS) at Q&A 523. Accordingly, any commercial success Fujifilm enjoyed with respect to its LTO-7 or LTO-6 products cannot be linked to any inventive aspect of the Asserted Claims of the '106 Patent. *Id.*

Sony Br. at 235-36.

The evidence that Fujifilm cites shows that Fujifilm cites shows that [

].

CX-0026C (Vander Veen RWS) at Q/A 92-93. The evidence, however, does not show that Fujifilm practices the '106 Patent. *See* Part VI(F) (Domestic Industry), *supra*. Additionally, the evidence does not support a strong nexus between the '106 Patent and Fujifilm's success. In

⁷⁵ [

]. *See* CX-0026C (Vander Veen RWS) at Q/A 92-93.

PUBLIC VERSION

particular, the prior art discloses many aspects of the claims asserted from the ‘106 Patent, including the barium ferrite particles that Fujifilm heavily relies on. *See* Part V(G)(1)-(4), *supra*; *see also Tokai*, 632 F.3d at 1369; *J.T. Eaton & Co. v. Atl. Paste & Glue Co.*, 106 F.3d 1563, 1571 (Fed. Cir. 1997) (“the asserted commercial success of the product must be due to the merits of the claimed invention beyond what was readily available in the prior art.”). Further, given that Fujifilm’s products also practice other claims, it is impossible to attribute Fujifilm’s success to any one claim from the ‘106 Patent versus other claims, thus weakening the nexus between the “Asserted Claims” (as Fujifilm has identified them) and Fujifilm’s LTO products. *See* Parts IV(D) and V(F), *supra*; *see, e.g., Apple*, 839 F.3d at 1055 (upholding jury finding of commercial success and a nexus between a single claim and a product feature based on survey evidence, the prominent role of the feature in Apple advertising, and a video of a crowd bursting into cheers when the feature was first demonstrated). Accordingly, the administrative law judge has determined that Fujifilm’s showing of commercial success does not provide support for finding that ‘106 Patent is not obvious, because Fujifilm does not practice the ‘106 Patent and because the nexus between the commercial success and the ‘106 Patent is weak.

f) Copying

Fujifilm argues “it is highly probable (if not undeniable) that Sony copied the concepts claimed in the Asserted Claims.” Fujifilm Br. at 105. Fujifilm notes that [

].⁷⁶

Fujifilm then argues “an inference of copying is reasonable” under the facts of the investigation. *Id.* at 105 (citing *WBIP*, 829 F.3d at 1336-37).

⁷⁶ [

].

Sony argues:

[

].

Sony Br. at 236.

The evidence does not support a finding of copying. Fujifilm does not even present an argument that pertains to particular attributes (*e.g.*, “average longer” abrasive particles and track width) claimed in the ‘106 Patent. Accordingly, the administrative law judge has determined that the evidence does not show that Sony copied Fujifilm’s products.

g) Weighing the Secondary Considerations

The administrative law judge has determined that Fujifilm’s showing of commercial success is weak because there is a weak nexus between the commercial success and the ‘106 Patent. Further, Sony’s efforts to license the ‘106 Patent support a finding that the ‘106 Patent would not have been obvious. The remaining secondary considerations do not support a non-obviousness finding. Accordingly, on the whole, the secondary considerations support a finding that the ‘106 Patent would not have been obvious.

I. Indefiniteness⁷⁷

The administrative law judge previously determined that the term “track width” is indefinite because the intrinsic and extrinsic record does not sufficiently delineate between “read track” and “write track” width. *See* Part VI(B)(3)(c), *supra*. The following addresses Sony’s arguments about measuring the “average longer size (B) of the abrasive particle(s) which are present on the magnetic layer surface.”

Sony argues:

⁷⁷ Sony has argued that all of the tape media patents (*i.e.*, the ‘891, ‘106, ‘612, and ‘434 Patents) are indefinite. *See* Sony Br., §§ IV(E), V(D)(2), VI(D), VII(F)(1).

PUBLIC VERSION

In order to assess whether the “average longer size (B) of the abrasive particle(s) which are present on the magnetic layer surface” is less than or equal to $\frac{1}{3}$ of the track width, one must select some group of abrasive particles from which to calculate the average. RX-0001C (Bhushan OWS) at Q&A 538. The ‘106 Patent instructs that this should be done by “measuring ... the average value of 50 abrasive particles and/or cluster[s].” ‘106 Patent at 3:18-37. There are, however, far more than 50 abrasive particles and/or clusters in a typical magnetic recording medium. RX-0001C at Q&A 538. The ‘106 Patent provides no indication whatsoever about how the 50 “particles and/or clusters” are to be selected. *Id.*; see Tr. at 655:13-19.

Indeed, the use of “and/or” by the ‘106 Patent in this context without any other criteria for selection indicates that the selection may be entirely subjective and unrestrained. RX-0001C (Bhushan OWS) at Q&A 538. This would permit the selection of any 50 individual particles, any 50 clusters, or any combination of 50 particles and clusters anywhere on the surface of the magnetic layer of the magnetic recording medium. *Id.* Depending on how those 50 particles and/or clusters are chosen, the “average longer size” may be vastly different—for example, using the 50 smallest particles would result in a different average than using the 50 largest clusters. *Id.* at Q&A 539-540. Many possibilities exist, and given the lack of any explicit guidance by the ‘106 Patent, a POSA would not be able to assess which protocol or criteria to use. *Id.*

Fujifilm’s own expert, Dr. Sinclair, testified that below 200 measurements, the average value is not “reliable”—that is, the average can differ from a measurement made with 1000 particles. Tr. at 229:17-230:9. In fact, Dr. Sinclair testified that he “didn’t really trust the 50—50-particle average as representing what the true average size of the particles were.” *Id.* at 235:8-12. In his analysis, he opted for an entirely different method of calculating this average. Tr. at 229:17-230:20.

Ultimately, measuring the “average longer size” for purposes of the Asserted Claims can be done by at least three different methods, and the claims and intrinsic evidence fail to define which one should be used. A POSA therefore would not be able to determine the scope of the Asserted Claims with reasonable certainty. *Dow Chem.*, 803 F.3d at 635 (invalidating claims as indefinite because they relied upon an unclaimed, undefined measurement method).

PUBLIC VERSION

Fujifilm argues, in part:

Second, Sony argues that this term is indefinite because “[d]epending on how those 50 particles or [sic] chosen, the ‘average longer size’ may be vastly different.” RPreHBr. at 146 (citing RX-0001C Q:539-40). This argument, however, is based on the improper assumption that the ‘106 Patent requires measuring only 50 particles and allows for selectively choosing only non-clustered particles to measure. Dr. Bhushan acknowledged, however, that no such requirements are imposed by the claims or the specification of the ‘106 Patent. Hg. Tr. at 655:10-12; 655:20-25; 656:1-8.

Contrary to Sony’s assertions, one of ordinary skill in the art would understand how to measure the “average longer size” using appropriate equipment and sampling techniques and, although different measurement techniques may yield more or less accurate values, the average longer size is a physical measure that does not change based on how it is measured. For example, Dr. Sinclair explained that, although the specification of the ‘106 Patent provided an example where only 50 particles were measured, one of skill in the art would understand that as the number of measurements increases and surpasses approximately 200 or 250 samples, the calculated average asymptotically approaches to the actual average value. Hg. Tr. at 229:19-230:9.

Fujifilm Br. at 183-84. Fujifilm then distinguishes *Dow Chemical*. *Id.* at 184.

The Staff argues that one of skill in the art would know how to perform the relevant measurement in light of the specification. *See* Staff Br. at 93 (citing CX-0004C (Wang WS) at Q/A 759-769).

Sony replies that the ‘106 Patent is invalid because it does not explain “how to select the 50 particles and/or clusters to be used in computing the claimed ‘average longer size.’” Sony Reply at 63.

The administrative law judge finds that Sony has not shown that claims 1, 2, 5, and 6 are invalid for failing to delineate the scope of the invention with reasonable certainty. *See Nautilus*, 134 S. Ct. at 2124. The evidence shows that one of ordinary skill in the art would understand

how to obtain a scientifically reliable measurement in light of their skill and the direction provided by the specification. *See* CX-0357C (Wang RWS) at Q/A 610-612; JX-0002 at 3:18-40.⁷⁸ Accordingly, the administrative law judge finds that Sony has not shown claims 1, 2, 5, and 6 are indefinite for failing to providing sufficient guidance on measuring the abrasive particles.

VII. U.S. PATENT NO. 8,236,434

A. Overview of the ‘434 Patent

The ‘434 Patent (JX-0005), entitled “Magnetic recording medium, magnetic signal reproduction system and magnetic signal reproduction method,” issued on August 7, 2012. The application that would issue as the ‘434 Patent, Application No. 12/295,541, was filed on March 30, 2007, and claims priority to JP 2006-099936 (filed March 31, 2006). The ‘434 Patent discloses a magnetic recording medium having a particular power spectrum density and other specific physical and chemical attributes. *See generally* JX-0005, Abstract.

B. Claim Construction

1. Level of Ordinary Skill in the Art

Fujifilm argues that the ‘434 Patent and the ‘891 Patent have the same level of ordinary skill in the art. *See* Fujifilm Br. at 234.

Sony proposes the same level of ordinary skill for all of the asserted patents. *See* Sony Br. at 48, 121, 195, 255-56, 310; *see also* n.13, *supra*.

The Staff notes that the private parties have presented the same arguments for the ‘434 and ‘891 Patents. Staff Br. at 82. The Staff’s argument for level of ordinary skill is based on “the reasons set forth above” in the ‘891 Patent. *Id.* The Staff offers that “it does not appear that

⁷⁸ Indeed, Sony’s arguments that the specification does not tell one of ordinary skill how to select and measure 50 particles demands absolute guidance from the intrinsic record.

PUBLIC VERSION

the differences in the proposed level of ordinary skill in the art will affect any of the substantive issues in the investigation.” *Id.* at 83.

The administrative law judge finds that the level of ordinary skill for the ‘434 Patent is the same as the level of ordinary skill for the ‘891 Patent, for the reasons set forth in Part IV(B)(1), *supra*. Thus, as with the ‘891 Patent, the administrative law judge has determined that a person of ordinary skill in the art would have a bachelor’s degree in electrical engineering, mechanical engineering, physics, materials science (or a related field (such as chemistry)) plus two years of experience working with magnetic storage systems or media.

2. Agreed Constructions

The Staff notes the parties have agreed to the construction of two terms from claim 1, which is the only claim asserted, as follows:

Claim Term	Agreed Construction
Magnetic recording medium	No construction necessary. However, if construed: “medium on which information may be magnetically recorded.”
a center surface average roughness Ra	No construction necessary. However, if construed: “arithmetic average of the absolute values of the measured profile height deviations from the average plane.”

See Staff Br. at 83 (citing Fujifilm Pre-Hr’g Br. at 19-20; Sony Pre-Hr’g Br. at 93); *see also* Fujifilm Br. at 25.⁷⁹

3. Disputed Constructions

The parties dispute two phrases from claim 1: “backcoat layer on the surface of the non-

⁷⁹ The “magnetic recording medium” construction is identical to the same term from the ‘891, ‘612, and ‘106 Patents, and the “center surface average roughness Ra” construction is identical to the “the center surface average roughness of said magnetic layer surface SRa” term from the ‘612 Patent. See Fujifilm Br. at 25.

PUBLIC VERSION

magnetic support” and “power spectrum density at a pitch of[.]” Fujifilm Br. at 238-39; Sony Br. at 256, 259; Staff Br. at 84-86. Sony argues that the “power spectrum density” term is indefinite. Sony Br. at 259, 278-90.

a) Backcoat layer

Fujifilm, Sony, and the Staff propose the following constructions:

Fujifilm’s Proposed Construction	Sony’s Proposed Construction	The Staff’s Proposed Construction
“a coating layer on the back surface of the nonmagnetic support, <i>i.e.</i> , the surface opposite to the magnetic layer”	coating layer on the side of the nonmagnetic support opposite to the magnetic layer, where the coating layer is produced by: (a) Using a support in which the Ra and PSD (10 micrometers) have been controlled; (b) Providing a smoothing layer of radiation-curable resin or the like on one or both sides of the support to control the PSD (10 micrometers); (c) Employing a microgranular powder with good dispersion properties in the coating liquid; (d) Setting the conditions in the smoothing process step (smoothing, calendering); and (e) Subjecting the layer to a grading process (coarse particle centrifugal sedimentation, filtering)	coating layer on the side opposite to the magnetic layer

Fujifilm Br. at 235; Sony Br. at 256; Staff Br. at 84.

Fujifilm argues that its proposed construction “comports with the ordinary and customary meaning of backcoat layer, as understood by a person of ordinary skill in the art.” Fujifilm Br. at 234 (citing CX-0357C (Wang RWS) at Q/A 256).

PUBLIC VERSION

The Staff also argues that the construction is “consistent with the plain meaning of the claim language.” Staff Br. at 84.

Sony argues:

Sony’s construction is consistent with the representations Fujifilm made during prosecution regarding the scope of this term. Fujifilm repeatedly disclaimed a conventional “backcoat layer” to overcome the prior art, and argued instead that its claimed “backcoat layer” is a non-conventional backcoat layer produced by the “special means” described in the specification, and that these “special means” are used to control backcoat layer surface PSD in accordance with claim 1. *See* RX-0005C (Talke OWS) at Q&A 119. Sony’s proposed construction recites these “special means.”

Sony Br. at 257-57 (emphasis omitted). Sony argues that Fujifilm, during prosecution, distinguished the claimed backcoat based on “special means” described in the specification.

Sony Br. at 257 (“Fujifilm argued that a PSD within the claimed range is only achievable on the backcoat layer surface due to the use of these ‘special means.’”). Sony points to the following passages from the file history:

The backcoat layer of the magnetic recording medium of the present invention is not a conventional one. The special means described in [0020] of the specification are used for controlling the PSD of the backcoat layer, and thereby a PSD within the claimed range is achieved on the backcoat layer surface.

Sony Br. at 257 (citing JX-0011 at 352).

As asserted in the response to the previous Office Action, the backcoat layer of the magnetic recording medium of the present invention is **not** a conventional one. The special means described in paragraph [0020] of the specification are used for controlling the PSD of the backcoat layer, thereby a PSD within the claimed range can be obtained on the backcoat layer surface. Sasaki does not teach any of these means.

Id. (citing JX-0011 at 369 (emphasis in original)).

Applicants have previously explained that the backcoat layer of the magnetic recording medium of the present claims is **not** a

PUBLIC VERSION

conventional one. The special means described in paragraph [0020] of the specification are used to control the PSD of the backcoat layer, and thereby a PSD within the claimed range is achieved on the backcoat layer surface. The means taught by the present application are not taught by Doushita.

Id. (citing JX-0011 at 399 (emphasis in original)). Sony argues that Fujifilm's arguments constitute a "clear and unmistakable disclaimer of claim scope," and that the disclaimed subject matter is any backcoat not made with the "special means" disclosed in the '434 Patent. *Id.* at 258.

Fujifilm argues that the applicant emphasized that the claims were directed toward a specific range rather than limiting the patent to a particular method. Fujifilm Br. at 236. Fujifilm also notes that the language used in responding to the Examiner's rejections was exemplary rather than restrictive. *Id.* at 237. Fujifilm also argues that Sony argued the "special means" were known in the art and that other prior art discloses backcoats outside of the claimed range. *Id.* at 238.

Sony replies, *inter alia*, that "Fujifilm did not merely differentiate the claimed backcoat layer because the PSD is controlled; rather, Fujifilm expressly declared that the "special means" are in fact used to control the PSD of the backcoat layer." Sony Reply at 99. Sony also argues that the applicant's arguments were a clear surrender of subject matter, that the prior art disclosed one of the "special means" (thus showing that all of the special means are necessary for the construction), and that Comparative Example 6 and 9 from the '434 Patent's specification shows that the special means are essential for producing a backcoat per the claimed limitation. *Id.* at 99-100.

The administrative law judge construes "backcoat layer" to mean "a coating layer on the back surface of the nonmagnetic support," which is the surface opposite to the magnetic layer.

PUBLIC VERSION

This construction comports with how a person with skill in the art would understand the term. See CX-0004C (Wang WS) at Q/A 762-64; *see also* RX-0005C (Talke WS) at Q/A 118-27 (opining on disclaimer, not on the plain and ordinary meaning of the term). Further, the applicant's statements made during prosecution do not constitute a disclaimer because they are not a clear and unmistakable disavowal of claim scope. The statements Sony cites do not narrow the scope of the claims because the statements are not limited to one particular means for controlling the backcoat layer. Additionally, the statements do not alter the final physical attributes of the claimed backcoat—the power spectrum density is defined in numerical values, not by how those values are achieved.

b) Power spectrum density at a pitch of

Fujifilm's entire claim construction argument is:

Fujifilm and the Staff agree that “power spectrum density at a pitch of” means “power spectral density at a pitch of.” Sony asserts this term is indefinite, but would agree with this definition if the term is not found indefinite. For the reasons explained below, Sony's indefiniteness arguments are without merit.

As the Staff correctly pointed out, “[o]ne of ordinary skill in the art would understand that the claimed ‘power spectrum density’ is the same as ‘power spectral density,’ as that term is commonly used and understood in the art.” SPreHBr. at 83. Accordingly, the term “power spectral density at a pitch of” should be interpreted to mean “power spectral density at a pitch of.”

Fujifilm Br. at 239. Fujifilm then argues the claims are not indefinite. *Id.* at 239-49.

The Staff argues “[o]ne of ordinary skill in the art would understand that the claimed ‘power spectrum density’ is the same as ‘power spectral density,’ as that term is commonly used and understood in the art.” Staff Br. at 86. The Staff adds that the primary dispute is whether one can measure power spectral density at a particular pitch with reasonable certainty. *Id.*

Sony does not offer a construction. Sony Br. at 259. Sony later argues “claim 1 fails to

PUBLIC VERSION

inform the public of its scope with reasonable certainty because its recites physical properties, the testing of which is variable, unclaimed, unidentified, and determinative of claim scope. Such a claim is invalid as indefinite.” *Id.* at 278.

The administrative law judge has determined it is not necessary to construe the phrase “power spectrum density at a pitch of.” The parties do not dispute the meaning of the phrase, but rather how the relevant measurement should be made. Further, the parties did not require a construction to navigate infringement and invalidity arguments. Accordingly, it is not necessary to construe this phrase. *See O2 Micro*, 521 F.3d at 1362.

C. Infringement

Fujifilm asserts claim 1 against Sony’s LTO-7 products.⁸⁰ *See Fujifilm Br.* at 23-24, 38-39; *Sony Br.* at 260; *Staff Br.* at 86-87. Claim 1 is a product claim.

1. Claim 1

Claim 1 follows:

1. A magnetic recording medium comprising a magnetic layer comprising a hexagonal ferrite powder and a binder on one surface of a nonmagnetic support and a backcoat layer on the other surface of the nonmagnetic support, wherein

a power spectrum density at a pitch of 10 micrometers ranges from 800 to 10,000 nm³ on the magnetic layer surface,

a power spectrum density at a pitch of 10 micrometers ranges from 20,000 to 80,000 nm³ on the backcoat layer surface,

the magnetic layer has a center surface average surface roughness Ra, as measured by an atomic force microscope, ranging from 0.5 to 2.5 nm, and

the hexagonal ferrite powder has an average plate diameter ranging from 10 to 40 nm.

⁸⁰ Fujifilm has argued that Sony literally infringes the asserted claims. It has not presented any doctrine of equivalents arguments.

PUBLIC VERSION

JX-0005 at 32:18-32.

Fujifilm divides the claim into five limitations, which are shown as follows:

- [a] 1. A magnetic recording medium comprising
- [b] a magnetic layer comprising a hexagonal ferrite powder and a binder on one surface of a nonmagnetic support and a backcoat layer on the other surface of the nonmagnetic support,
- [c] wherein a power spectrum density at a pitch of 10 micrometers ranges from 800 to 10,000 nm³ on the magnetic layer surface, a power spectrum density at a pitch of 10 micrometers ranges from 20,000 to 80,000 nm³ on the backcoat layer surface,
- [d] the magnetic layer has a center surface average surface roughness Ra, as measured by an atomic force microscope, ranging from 0.5 to 2.5 nm, and
- [e] the hexagonal ferrite powder has an average plate diameter ranging from 10 to 40 nm.

Fujifilm Br. at 249-54. Each limitation and dependent claim is addressed below.

a) A magnetic recording medium comprising

Fujifilm argues:

Based on the parties' claim construction agreement, a "magnetic recording medium" requires no construction or alternatively is a "medium on which information may be magnetically recorded." Sony does not dispute that Sony's Accused Products meet this limitation.

[

] The LTO-7 Specification specifies a magnetic recording medium. See, e.g. JX-0052C (LTO7 Format Specification) at 20. [

].

Fujifilm Br. at 249.

The Staff argues that the “magnetic tape of the Accused Products is clearly a magnetic recording medium” and that “Sony does not appear to dispute that this limitation is met.” Staff Br. at 88; *see generally* Sony Br., § VII(D) (the limitation is not contested); Sony Reply, § V (the limitation is not contested).

The evidence shows that Sony’s LTO-7 products include a magnetic recording medium.

[
]; JX-0052C at 20 (LTO-7
specification, U-732); [
]. Accordingly, the
administrative law judge has determined Sony’s LTO-7 products satisfy this limitation.

- b) a magnetic layer comprising a hexagonal ferrite powder and a binder on one surface of a nonmagnetic support and a backcoat layer on the other surface of the nonmagnetic support*

Fujifilm argues that Sony’s LTO-7 products include the claimed layers:

Sony does not dispute that Sony’s Accused Products meet this limitation, at least under Fujifilm’s and the Staff’s proposed construction of “backcoat layer.”

Dr. Wang confirms that the Accused Products meet this limitation. CX-0004C (Wang DWS) Q:782-96. More specifically, as the Accused Products are compliant with the LTO-7 Specification, their structure necessarily meets this limitation. *See* JX-0052C at §§ 9.1 and 10.1. [
].

[
]. Finally, Dr. Wang’s conclusion is further supported by testing conducted by Dr. Sinclair on the representative product and [
]. *See, e.g.* CX-0450C (Sinclair Disk 1) at \Layer thickness\Sony LTO7\V1GTP085-Initial_SEM-EDS-TEM, slide 7; CX-0450C (Sinclair Disk 1) at \Layer thickness\Sony LTO7\V1GTP085-XTEM-EDS-Thickness, at slide 5; [
].

PUBLIC VERSION

Fujifilm Br. at 249. Fujifilm then argues that Sony's LTO-7 products also infringe under a claim construction that involves only one of the steps for making the backcoat. *Id.* at 249-50.

Sony argues that its LTO-7 products do not infringe under its proposed construction:

As properly construed, the Accused Products do not have a "backcoat layer" surface produced by the "special means" disclosed in the '434 Patent and set forth in Sony's proposed construction. [

].

Sony Br. at 273. Sony also argues:

[

].

Sony Br. at 274 (footnote and emphasis omitted).

PUBLIC VERSION

The Staff argues that this limitation is met and that “Sony disputes this limitation only under its proposed construction of ‘backcoat layer.’” Staff Br. at 88 (citing CX-0004C (Wang WS) at Q/A 782-805, Sony Pre-Hr’g Br. at 224-34).

The evidence shows that Sony’s LTO-7 products include magnetic, nonmagnetic and backcoat layers that satisfy this limitation. For example:

- [

-

-

JX-0185C at 3. Accordingly, the administrative law judge has determined Sony’s LTO-7¹ products satisfy this limitation.

PUBLIC VERSION

- c) *wherein a power spectrum density at a pitch of 10 micrometers ranges from 800 to 10,000 nm³ on the magnetic layer surface, a power spectrum density at a pitch of 10 micrometers ranges from 20,000 to 80,000 nm³ on the backcoat layer surface*

Fujifilm argues:

Dr. Wang's testing of the Accused Product confirms that this limitation is met. Specifically, the PSD measurement results obtained through that testing, fully reported in CX-0448C (EAG OP analysis Rep.), confirmed a PSD at a pitch of 10 micrometers at values of [], respectively, at three locations of the magnetic layer surface as well as a PSD at a pitch of 10 micrometers at values of [], respectively, at three locations of the backcoat layer surface — all within the claimed range. Sony does not dispute the accuracy of Dr. Wang's testing.

Fujifilm Br. at 251.⁸¹ Fujifilm then argues that Sony has not provided any valid testing to substantiate its non-infringement arguments. *Id.* at 251-53.

Sony argues:

Fujifilm has the burden of proving infringement under a preponderance of the evidence standard—*i.e.*, that it is more likely than not that infringement exists. Notwithstanding this burden, Dr. Wang relies on the testing of just three nearby locations on each of the magnetic and backcoat layers to support his opinion. These locations were all tested in the X-direction at 27.5x magnification (50x objective lens + 0.55x) with a single instrument (Bruker Contour GT-X8). This minimal testing is insufficient to satisfy Fujifilm's burden.

As an initial matter, Sony's LTO-7 tape is about []. Based on his scan area sizes, Dr. Wang thus only measured about *several billionth* [*sic*] of the total available area on the magnetic surface of a LTO-7 tape. See CX-0448 (EAG OP Report) at 3. Given the known sample to sample variations that exist on these surfaces, as discussed above, and given Dr. Wang's admission that surface

⁸¹ While Fujifilm refers to "Dr. Wang's testing," the report the Fujifilm cites, CX-0448C, was prepared by Dr. Sara Ostrowski of EAG Laboratories. See, e.g., CX-0448 at 1. The relationship between Dr. Wang and EAG is not clear. Fujifilm also contends that Dr. Wang "mounted the samples himself." Fujifilm Br. at 253.

PUBLIC VERSION

roughness is a “random distribution of surface features” (*see* Tr. at 336:25-337:1), attempting to characterize an *entire* surface based on measurements that capture just several billionth of the total surface area does not establish that it is more likely than not that infringement exists.

Further, as discussed below, given that testing results vary—indeed, greatly—depending on the particular parameters, settings, and instruments utilized, given that Dr. Wang states that one having ordinary skill in the art “could also further use other applicable steps, other optical profilometers, and other suitable scan areas” to measure magnetic layer PSD, and given that such additional testing would have been straightforward, Fujifilm and Dr. Wang should at least have provided measurements at different magnification settings, different directionality, and/or on a different optical profilometer, for the reasons explained by Dr. Talke. *See* RX-0370C at Q&A 104-107, 132-136; *see also* RX-0005C at Q&A 168; JX-0172 (Wyko Manual) at 244 of 456; CX-0357C at Q&A 230. Fujifilm and Dr. Wang failed to do so. Thus, Fujifilm provides insufficient evidence to carry its burden of proving infringement.

Sony Br. at 272-73 (emphasis added by Sony).

Sony also contends that testing directed by its expert, Dr. Talke, [

] Sony Br. at 260 [

]; RX-0370C (Talke RWS) at Q&A 151-

152; RX-0309 (MVA roughness Report, Sony) at 4.⁸²

Dr. Talke’s testing, RX-0336C, shows that all of the backcoat samples tested have a PSD at a pitch of 10 micrometers below the claimed range. [

⁸² Sony further argues that testing the tapes in the Y-direction, as opposed to the longitudinal direction (*i.e.*, the X-direction), shows that the tapes do not satisfy the claimed range for the magnetic layer. Sony Br. at 264-68. Sony has not persuaded the administrative law judge that measuring the tape in the Y-direction is appropriate within the context of the ‘434 Patent and the understanding that one of ordinary skill in the art would bring to the analysis.

J. *See also* RX-0370C (Talke RWS) at Q&A 151-152.

The Staff submits that Sony's LTO-7 products satisfy this limitation and that Sony's criticisms are unfounded. Staff Br. at 89. The Staff does not address Sony's testing or Fujifilm's criticisms of Sony's testing: *See id.*

(1) The backcoat layer PSD

Fujifilm has not shown that it is more likely than not that Sony's LTO-7 products satisfy the backcoat limitation (a power spectrum density at a pitch of 10 micrometers ranges from 20,000 to 80,000 nm³ on the backcoat layer surface).

Fujifilm's testing indicates that Sony's LTO-7 products have a backcoat layer with a power spectrum density at a pitch of 10 micrometers [J. *See* CX-0448 at 3. Fujifilm's post-hearing brief, however, barely cites Dr. Wang's direct testimony on infringement. For example, with regard to both the backcoat and magnetic layer limitations, Fujifilm's post-hearing brief only cites CX-0004C (Wang WS) at Q/A 807 for the proposition that Dr. Wang "mounted the samples himself." *See* Fujifilm Br. at 251-53; Fujifilm Pre-Hr'g Br. at 240-245.⁸³ Further, Sony presents a weakness in Fujifilm's testing insofar as the testing is of such a small sample in comparison to a tape that it is insufficient to justify finding a violation of Section 337. *See* Sony Br. at 272.⁸⁴

Sony's testing indicates that Sony's LTO-7 products have a backcoat layer with a power spectrum density at a pitch of 10 micrometers below 20,000 nm³. *See* RX-0370C (Talke RWS)

⁸³ Fujifilm's Reply cites to Dr. Wang's witness statement just once for the PSD limitations, as follows: "The complete infringement analysis is detailed on an element-by-element basis in Fujifilm's Initial Post-Hearing Brief. CPostHBr. at 249-254; CX-0004C (Wang DWS) Q:770-837." Fujifilm Reply at 89.

⁸⁴ Sony, however, did not present rebuttal data for larger sections of the tape.

PUBLIC VERSION

at Q&A 151-152; []. Fujifilm also presents criticisms of Sony's data. *See, e.g.*, Fujifilm Br. at 253 (citing CX-0357C (Wang RWS) at Q/A 196).⁸⁵ However, other portions of the testimony that Fujifilm cites are directed to Sony's DDS-3 tapes and the '106 Patent. *See, e.g.*, Fujifilm Br. at 252 (citing CX-0357C (Wang RWS) at Q/A 202, which discusses the DDS-3 tapes).

Taken on the whole, there is not sufficient evidence to conclude that it is more likely than not that Sony's LTO-7 products include the claimed backcoat. Accordingly, the administrative law judge has determined Sony's LTO-7 products do not satisfy this aspect of the limitation, and thus do not infringe claim 1.

(2) The magnetic layer PSD

Fujifilm's testing indicates that Sony's LTO-7 products have a magnetic layer with a power spectrum density at a pitch of 10 micrometers of []. *See* CX-0448 at 3. As with the backcoat layer, Fujifilm's post-hearing brief barely cites Dr. Wang's testimony on infringement.

Sony relies on testing performed on the tapes in the Y-direction. *See* Sony Br. at (citing RX-0370C (Talke RWS) at Q/A 110). Sony also cites to:

- [];
- RX-0370C (Talke RWS) at Q/A 104-107, 132-136, which, in general, are critiques of Dr. Wang's testing (Sony Br. at 273); and
- RX-0370C (Talke RWS) at Q/A 170-74, which relates to claim construction (Sony Br. at 274).

⁸⁵ While Fujifilm faults Dr. Talke for using a third-party lab, Dr. Talke's explanation of why he or his graduate students did not do the testing—because their time is better used in research rather than sample evaluation—is sufficient. Talke Tr. 596. *See also* Sinclair Tr. 218-219 (Dr. Sinclair, one of Fujifilm's experts, testified that outside labs have a "wealth of experience" in sample prep and analysis and have "no conflicts of interest").

PUBLIC VERSION

The Y-direction testing and the other evidence Sony cites does not rebut Fujifilm's testing of the magnetic layer PSD (CX-0448). The administrative law judge finds that Y-direction testing, as opposed to longitudinal-direction testing (*i.e.*, in the X-direction), is not probative because one of ordinary skill in the art would not measure the tapes in this manner, based upon the reasons and evidence offered in Fujifilm's briefs.

The evidence that Fujifilm cites shows that it is more likely than not that Sony's LTO-7 products include a magnetic layer that satisfies the PSD limitation. Accordingly, the administrative law judge has determined Sony's LTO-7 products satisfy this aspect of the limitation.

- d) the magnetic layer has a center surface average surface roughness R_a , as measured by an atomic force microscope, ranging from 0.5 to 2.5 nm, and*

Fujifilm argues:

Sony do not dispute that this limitation is met. [

].

Lastly, Dr. Wang's testing confirmed this limitation is met. CX-0004C Q:824-25. The center surface average surface roughness R_a measurement results at the three locations, each with a scan area of 40 μm x 40 μm at a scan rate of 2 Hz, were []—all within the claimed range. See JX-0214C (Exs. to Wang Initial Rep.) at 76.

Fujifilm Br. at 253.

PUBLIC VERSION

The Staff argues that this limitation is met and that notes that Sony “does not appear” to dispute this limitation. Staff Br. at 89; *see generally* Sony Br., § VII(D) (the limitation is not contested); Sony Reply, § V(A)(4) (the limitation is not contested).

The evidence shows that the magnetic layer in Sony’s LTO-7 products has a center surface average roughness between [] nm, which is less than or equal to 6.0 nm. *See* CX-0004C (Wang WS) at Q/A 820-25; []; JX-0052C (LTO-7 Format Specification) at 71; []

[]. Accordingly, the administrative law judge has determined Sony’s LTO-7 products satisfy this limitation.

e) the hexagonal ferrite powder has an average plate diameter ranging from 10 to 40 nm.

Fujifilm argues:

Sony does not dispute that this limitation is met. First, []

[].
Lastly, testing conducted under Dr. Sinclair’s direction establishes that the average plate diameter of the ferromagnetic hexagonal system ferrite particles in Sony’s representative product is 22 nm. CX-0002C (Sinclair DWS) Q:61-75. Sony’s Accused Products meet this limitation, and infringe claim 1 of the ‘434 Patent.

Fujifilm Br. at 253-54.

The Staff argues that this limitation is met and that notes that Sony “does not appear” to dispute this limitation. Staff Br. at 89; *see generally* Sony Br., § VII(D) (the limitation is not contested); Sony Reply, § V(A)(4) (the limitation is not contested).

PUBLIC VERSION

The evidence shows that Sony's LTO-7 products include barium ferrite, which is a hexagonal ferrite powder. The hexagonal ferrite plates have an average diameter of [] nm. []; CX-0004C (Wang DWS) at Q/A 185-186. Accordingly, the administrative law judge has determined Sony's LTO-7 products satisfy this limitation.

In conclusion, the administrative law judge has determined that Sony's products do not infringe claim 1 because there is not sufficient evidence to conclude that it is more likely than not that Sony's LTO-7 products include the claimed backcoat (*i.e.*, a backcoat exhibiting "a power spectrum density at a pitch of 10 micrometers ranges from 20,000 to 80,000 nm³ on the backcoat layer surface").

D. Domestic Industry (Technical Prong)

Fujifilm argues that its LTO-7 products practice claim 1 of the '434 Patent. Fujifilm Br. at 254. Fujifilm does not assert its LTO-6 Products practice claim 1. *See id.*

The Staff's entire opening argument is:

Complainants contend that FUJIFILM's LTO-7 data cartridges practice claim 1 of the '434 Patent. Compls. P.H. Br. at 247-252; CX-0004C (Wang WS) at Q/A 838-881. While Sony does not dispute most of Dr. Wang's domestic industry analysis, it raises the same criticisms of Dr. Wang's analysis as it did with respect to infringement. *See* Resps. P.H. Br. at 234-236. As discussed above with respect to infringement, the evidence shows that Sony's criticisms should be rejected. *See* Compls. P.H. Br. at 217-265.

Sony does not appear to contest that the remaining limitations of claim 1 of the '434 Patent are satisfied by FUJIFILM's LTO-7 data cartridges. *See* Resps. P.H. Br. at 234-236. The evidence thus shows that those products satisfy each limitation of claim 1 of the '434 Patent. *See* Compls. P.H. Br. at 247-252; CX-0004C (Wang WS) at Q/A 838-881.

Staff Br. at 90.⁸⁶

Sony, in general, argues that Fujifilm's LTO-7 products do not practice claim 1 because they do not satisfy the magnetic layer and backcoat layer PSD limitations. Sony Br. at 275-78.

1. Claim 1

a) *A magnetic recording medium comprising*

Fujifilm argues:

It is not disputed that Fujifilm's LTO-7 products include a magnetic recording medium. First, Fujifilm's LTO-7 products comply with the LTO-7 Format Specification, JX-0052C (LTO7 Format Specification), which specifies a magnetic recording medium. This is supported by Fujifilm's documents, *e.g.*, CX-0027 (Fujifilm LTO-7 Sell Sheet), and [

] . Second, because Fujifilm's LTO-7 products comply with the LTO-7 Specification, they must also conform to certain characteristics of magnetic tape, described by the LTO-7 Specification.

Fujifilm Br. at 254.

The evidence that Fujifilm cites shows that Fujifilm's LTO-7 products include a magnetic recording medium. Accordingly, the administrative law judge has determined Fujifilm's LTO-7 products satisfy this limitation.

b) *a magnetic layer comprising a hexagonal ferrite powder and a binder on one surface of a nonmagnetic support and a backcoat layer on the other surface of the nonmagnetic support*

Fujifilm argues, in part:

Sony does not dispute that Fujifilm's LTO-7 products meet this limitation, at least under the Fujifilm's and the Staff's proposed construction of "backcoat layer."

Dr. Wang confirms that the Fujifilm's LTO-7 products meet this

⁸⁶ The Staff later argues that Fujifilm has not satisfied the economic prong for the LTO-7 products. *See* Staff Br. at 112.

PUBLIC VERSION

limitation. CX-0004C (Wang DWS) Q:848-58. More specifically, as the Fujifilm's LTO-7 products are compliant with the LTO-7 Specification, their structure necessarily meets this claim limitation. See [

]; see also JX-0045C (Fujifilm LTO Application) at 19 (translation at 61); JX-0228C (Fujifilm LTO-6/7 Structure); CX-0005C (Ejiri DWS) Q:31-35. Furthermore, this basic layer structure is consistent with testing conducted by Dr. Sinclair. See, e.g. CX-0450C (Sinclair Disk 1) at Layer thickness\S6_Fuji-Ultrium7-MagLayerThicknes\S14(S6)_XTEM_Cut1-2.3k1; CX-0450C (Sinclair Disk 1) at Layer thickness\V1GTP085-S13_and_S14_XTEM-EDS, at slide 5; CX-0002C (Sinclair DWS). Accordingly, Fujifilm's LTO-7 products meet this limitation of claim 1.

Fujifilm Br. at 254-55. Fujifilm then also argues that its products practice claim 1 under an alternative construction where only one of the "special means" described in the specification. *Id.*

The evidence that Fujifilm cites shows that Fujifilm's LTO-7 products include the claimed magnetic, nonmagnetic, and backcoat layers specified by this limitation. Accordingly, the administrative law judge has determined Fujifilm's LTO-7 products satisfy this limitation.

c) *wherein a power spectrum density at a pitch of 10 micrometers ranges from 800 to 10,000 nm³ on the magnetic layer surface, a power spectrum density at a pitch of 10 micrometers ranges from 20,000 to 80,000 nm³ on the backcoat layer surface*

Fujifilm argues, in part:

Dr. Wang's testing unequivocally shows Fujifilm's LTO-7 Products meet this claim limitation. Specifically, the PSD measurement results obtained through that testing, CX-0448C (EAG OP analysis Rep.), [

] — all within the claimed range.

Sony does not dispute the accuracy of this testing.

Fujifilm Br. at 255-56. Fujifilm then critiques Sony's arguments, which are based on Y-direction testing and [

]. *Id.* at 256.

PUBLIC VERSION

Sony argues that (1) the Y-direction measurements, (2) testing performed Mary Miller of MVA Scientific Consultants (“MVA”), and (3) [] demonstrate that the Fujifilm LTO-7 products do not satisfy this limitation. *See* Sony Br. at 275-76 (citing RX-0370C (Talke WS) at Q/A 222-24, 226-27, 233-36; RX-0283 (MVA Roughness Report, Fuji, Revised) at 4; []).

Fujifilm’s entire reply is:

As supported by Dr. Wang’s analysis, Fujifilm’s Initial Post-Hearing Brief includes an element-by-element discussion establishing that Fujifilm’s LTO-7 Products satisfy claim 1 of the ‘434 Patent. CPostHBr. at 254-257; CX-0004C (Wang DWS) Q:839-881. As with infringement, Sony does not dispute most of Dr. Wang’s domestic industry analysis but raises the same three issues, involving PSD testing, claim construction, and invalidity. OUII does not credit Sony’s arguments and finds that Fujifilm’s LTO-7 Products practice claim 1 of the ‘434 Patent. SPostHBr. at 90. For the same reasons provided above with respect to Sony’s non-infringement positions, Sony’s arguments regarding the domestic industry technical prong are unfounded. *See* CPostHBr. at 256.

Fujifilm Reply at 95-96.

(1) The backcoat layer PSD

Fujifilm’s testing suggests that Fujifilm’s LTO-7 products satisfy this limitation. *See*, e.g., CX-0448 at 3. Fujifilm’s post-hearing brief, however, does not cite Dr. Wang’s direct testimony on domestic industry at all. *See* Fujifilm Br. at 255-56; Fujifilm Pre-Hr’g Br. at 247-52. Sony again presents a weakness in Fujifilm’s testing insofar as the testing is of such a small sample in comparison to a tape that it is insufficient to justify finding a violation of Section 337. *See* Sony Br. at 276.⁸⁷

Sony argues, in part:

⁸⁷ As with infringement, Sony did not present rebuttal data for larger sections of the tape.

PUBLIC VERSION

... The first set of testing, Dr. Wang's own Y-direction measurements, as highlighted in RDX-0185C, shows that [(See RX-0222C-RX0227C (Wang Y-direction PSD data for Fujifilm LTO-7 tape); RX-0370C at Q&A 222-224, 233-234; RDX-0185C. Dr. Wang's Y-direction measurements are relevant and within the scope of claim 1 for the same reasons discussed above. See Section VII.D.1.b.

Sony Br. at 275-76 (emphasis omitted). Sony later cites to RDX-0292C. See Sony Br. at 276; see also RX-0370C (Talke RWS) at Q/A 236.

Dr. Talke, Sony's expert, addresses the backcoat limitation in his rebuttal witness statement. See, e.g., RX-0370C (Talke RWS) at Q/A 232-41.⁸⁸ Q/A 233-34 of Dr. Talke's witness statement relates to Y-direction testing, which is not probative. Next, Dr. Talke cites RDX-0292C in RX-0370C (Talke RWS) at Q/A 236. [

] [] and RX-0370C (Talke RWS) at Q/A 233 (which critiques the y-direction testing). []

Taken on the whole, there is not sufficient evidence (or substantial evidence) to conclude that it is more likely than not that Fujifilm's LTO-7 products include the claimed backcoat. If it is later determined that CX-0448 alone is sufficient, then the administrative law judge would find that Fujifilm's LTO-7 products still satisfy this limitation, because the testing conducted at a third-party facility (CX-0448) appears slightly more reliable than [

] (the Y-direction testing should always be afforded no weight). Accordingly, for the above reasons, the administrative law judge has determined Fujifilm's LTO-7 products do not satisfy this aspect of the limitation, and thus do not practice

⁸⁸ Dr. Talke does not cite the MVA testing—RX-0283—in this portion of his witness statement.

PUBLIC VERSION

claim 1.

(2) The magnetic layer PSD

Fujifilm's testing suggests that Fujifilm's LTO-7 products satisfy this limitation. *See, e.g.,* CX-0448 at 3. Fujifilm's post-hearing briefs, however, does not cite Dr. Wang's direct testimony on domestic industry at all. *See* Fujifilm Br. at 255-56; Fujifilm Pre-Hr'g Br. at 247-52. Further, Sony presents a weakness in Fujifilm's testing insofar as the testing is of such a small sample in comparison to a tape that it is insufficient to justify finding a violation of Section 337. *See* Sony Br. at 276.⁸⁹

Sony argues, in part:

The next set of testing, directed by Dr. Talke, as shown in RDX-0290 to RDX-0292C, [

]. *See* RX-0283 (MVA Roughness Report, Fuji, Revised) at 4; RX-0370C at Q&A 226-227, 235-236. Fujifilm and Dr. Wang do not dispute this testing data. In fact, Dr. Wang does not address this specific testing at all. Rather, Dr. Wang again questions the accuracy and reliability of certain of Dr. Talke's testing data simply because the data, according to Dr. Wang, is "inconsistent." Again, the fact that PSD measurement results vary is attributable to the nature of these measurements, as evident in Dr. Wang's own data.

Sony Br. at 276 (emphasis omitted); *see also* Sony Reply, § V (domestic industry technical prong is not addressed).

The testing that Sony relies on—illustrated in RDX-0291—shows that Fujifilm's LTO-7 products have [

]. *See* RDX-0291 (RDX-0291

summarizes data from the MVA testing report, RX-0283).

Taken on the whole, there is not sufficient evidence to conclude that it is more likely than

⁸⁹ As with infringement, Sony did not present rebuttal data for larger sections of the tape.

PUBLIC VERSION

not that Fujifilm's LTO-7 products include the claimed magnetic layer. If it is later determined that CX-0448 alone is sufficient, then the administrative law judge would find that Fujifilm's LTO-7 products still do not satisfy this limitation, because the testing conducted at a third-party facilities suggests it is as likely as not that Fujifilm's LTO-7 products include the claimed magnetic layer. Accordingly, for the above reasons, the administrative law judge has determined Fujifilm's LTO-7 products do not satisfy this aspect of the limitation, and thus do not practice claim 1.

- d) the magnetic layer has a center surface average surface roughness Ra, as measured by an atomic force microscope, ranging from 0.5 to 2.5 nm, and*

Fujifilm argues:

As an initial matter, it is undisputed that Fujifilm LTO-7 Products meet this limitation. Dr. Wang's test results, reported in JX-0214C (Exs. to Wang Initial Rep.) at 76, [

]all within the claimed range. [

].

Fujifilm Br. at 257.

The evidence that Fujifilm cites shows that Fujifilm's LTO-7 products include a magnetic layer having the claimed center surface roughness. Accordingly, the administrative law judge has determined Fujifilm's LTO-7 products satisfy this limitation.

- e) the hexagonal ferrite powder has an average plate diameter ranging from 10 to 40 nm.*

Fujifilm argues:

Sony does not dispute that the Fujifilm LTO-7 Products meet this limitation. Testing conducted by Dr. Sinclair establishes that the [

PUBLIC VERSION

J. CX-0002C (Sinclair DWS) Q:61-75; CX-0450C (Sinclair Disk 1) at \plate diameter\FUJIFILM LTO Ultrium 7\S36-S24-Plate Length FF Ultrium 7. Accordingly, this limitation is met, and Fujifilm LTO-7 Products practice claim 1 of the '434 Patent.

Fujifilm Br. at 257.

The evidence that Fujifilm cites shows that Fujifilm's LTO-7 products include a magnetic layer having the claimed center surface roughness. *See, e.g.*, CX-0002C (Sinclair WS) at Q/A 75. Accordingly, the administrative law judge has determined Fujifilm's LTO-7 products satisfy this limitation.

In conclusion, the administrative law judge has determined that Fujifilm's products do not practice claim 1.

E. Obviousness

1. Sony's DDS-3 Tapes in View of Hayakawa and/or Naoe '598

Sony argues that its DDS-3 tapes (RPX-0001 and RPX-0012) are magnetic recording media that include magnetic and backcoat layers that satisfy the PSD limitations, and thus satisfy limitations 1a and 1c (*i.e.*, the preamble and the PSD limitations). Sony Br. at 291-99. Sony further relies on Hayakawa (RX-0098) and Naoe (RX-0048).⁹⁰ Sony contends Hayakawa discloses magnetic layers including hexagonal ferrite having a mean particle size from 15 to 36 nm and a center surface roughness between 1 and 4 nm, thus satisfying limitations 1b, 1d, and 1e. *See* Sony Br. at 291-93, 295-99. Sony contends Naoe teaches measuring surface roughness with an atomic force microscopy (AFM). *Id.* at 297.

Fujifilm, in general, argues that:

⁹⁰ Hayakawa is U.S. Patent App. Pub. No. 2006/0019123, and Naoe is U.S. Patent No. 6,475,598.

PUBLIC VERSION

- The Sony DDS-3 tapes are fundamentally incompatible with linear tapes because they employ metallic particles, rather than barium ferrite, and metal-in-gap (MIG) heads, rather than MR heads. *See* Fujifilm Br. at 258-59.
- The DDS-3 tapes do not disclose a hexagonal ferrite powder (limitation 1b). *See* Fujifilm Br. at 259-61. (Sony does not contest this, though; Sony relies on Hayakawa as disclosing barium ferrite.)
- The DDS-3 tapes that were tested are too old and worn to provide reliable, probative evidence. *See* Fujifilm Br. at 261-62.
- Sony's tests results are too inconsistent to provide reliable, probative evidence. *See* Fujifilm Br. at 262.
- The DDS-3 tapes do not disclose a backcoat layer or a magnetic layer that satisfies the PSD limitation (limitation 1c). *See* Fujifilm Br. at 262-63.
- The DDS-3 tapes, Hayakawa, and Naoe do not disclose a center surface roughness from 0.5 to 2.5 nm, as measured by AFM (limitation 1d). *See* Fujifilm Br. at 264-66
- A person would not combine the Sony DDS-3 tapes with Hayakawa. *See* Fujifilm Br. at 266-67.
- Dr. Talke cannot offer a reliable opinion on obviousness regarding media issues. *See* Fujifilm Br. at 257.

The Staff argues that a person of ordinary skill would not look to combine Hayakawa or Naoe with the DDS-3 tapes. Staff Br. at 91-92. The Staff also argues that Dr. Talke's data does not demonstrate that the DDS-3 tapes satisfy the PSD limitations. *Id.* at 92 (citing Fujifilm Pre-Hr'g Br. at 257-58, which argues that invalidity is not shown because some of Dr. Talke's data does not fall within the claimed ranges). The Staff also harbors doubt about the reliability of the DDS-3 tapes. *Id.* at 91.

Each limitation from claim 1 and Sony's arguments about modifying the DDS-3 tapes is addressed below.

a) A magnetic recording medium comprising

Sony argues:

PUBLIC VERSION

The undisputed evidence shows that the prior art Sony DDS3 tapes are each a “magnetic recording medium.” See RX-0005C (Talke OWS) at Q&A 415; RX-0036 (Sony Data Media).

Sony Br. at 291.

Fujifilm does not contest this limitation. See generally Fujifilm Br., § VI(G)(2)(a)(i); Fujifilm Reply, § VI(F).

The evidence that Sony cites shows that the DDS-3 tapes include a magnetic recording medium. Accordingly, the administrative law judge finds that Sony has shown, through clear and convincing evidence, that the prior art (the DDS-3 tapes) discloses magnetic recording medium that satisfies the preamble.

b) a magnetic layer comprising a hexagonal ferrite powder and a binder on one surface of a nonmagnetic support and a backcoat layer on the other surface of the nonmagnetic support

Sony argues that while the DDS-3 tapes do not explicitly disclose a magnetic layer comprising a hexagonal ferrite powder, Hayakawa does. Sony Br. at 291-92 (citing RX-0005C (Talke WS) at Q/A 419-20; RX-0098 (Hayakawa), ¶ 89). Hayakawa states:

As the ferromagnetic powder to be contained in the magnetic layer in the invention, any of a ferromagnetic metal powder and a ferromagnetic hexagonal ferrite powder can be used.

RX-0098, ¶ 89.

The evidence that Sony cites shows that Hayakawa discloses a magnetic recording medium with a magnetic layer that includes a hexagonal ferrite powder. While Fujifilm has contested this limitation, its arguments are directed to metal particle and barium ferrite issues. See Fujifilm Br. at 259-61. The nonmagnetic support and backcoat layer aspects of this limitation are generally not addressed by any party. Accordingly, the administrative law judge finds that Sony has shown, through clear and convincing evidence, that the prior art (Hayakawa)

PUBLIC VERSION

discloses a magnetic layer with hexagonal ferrite powder and a binder as well as the claimed nonmagnetic support and backcoat.

- c) *wherein a power spectrum density at a pitch of 10 micrometers ranges from 800 to 10,000 nm³ on the magnetic layer surface, a power spectrum density at a pitch of 10 micrometers ranges from 20,000 to 80,000 nm³ on the backcoat layer surface*

- (1) The backcoat layer PSD

Sony argues, in part:

As shown in RDX-0190C and RDX-0191, two separate sets of testing of the Sony DDS3 1998 tape show that this tape contains a backcoat layer with a PSD at a pitch of 10 micrometers within the claimed range. See RX-0005C at Q&A 423-424; RX-0336C at 3; RX-0340 at 4.

Sony Br. at 293.

Fujifilm argues:

Similarly, the Sony DDS-3 tapes do not disclose “a power spectrum density at a pitch of 10 micrometers ranges from 20,000 to 80,000 nm³ on the backcoat layer surface.” Dr. Talke does not contend the Sony DDS-3 2000 tape (SNY-ITC_S0000016-1) discloses the above feature but asserts “two sets of testing of the Sony DDS-3 1998 tape confirms that this tape contains a backcoat layer with a PSD at a pitch of 10 micrometers within the claimed range.” RX-0005C Q:423. Again, Dr. Talke cherry-picked his data, ignoring most of the relevant results. Dr. Talke’s evidence is woefully insufficient. See CX-0357C (Wang RWS) Q:275.

Fujifilm Br. at 263.

Sony replies, in part:

... **Fourth**, Fujifilm contends that “Dr. Talke ignored his own standard, when he asserted ‘three sets of testing of the Sony Product Prior Art Tapes confirms that these tapes contain magnetic layers with a PSD at a pitch of 10 micrometers within the claimed range.’” Fujifilm IPHB at 263. To the contrary, Dr. Talke did not “ignore” his own standard; he instead assessed claim 1 under an alternative standard where it is sufficient for Fujifilm and Sony to show at least one (or only one) measurement result within the claimed ranges to show that a product practices claim 1. See Sony

PUBLIC VERSION

IPHB at 293 n.52. *To be clear*, if the ALJ agrees with Fujifilm and Sony that to practice claim 1, all testing results for the magnetic and backcoat layers must be within the claim range, then Sony submits that its prior art DDS3 tapes do not practice claim 1.

Sony Reply at 96 (emphasis added by Sony).

The evidence that Sony cites suggests that one of the DDS-3 tapes may exhibit a power spectrum density at a pitch of 10 micrometers ranges from 20,000 to 80,000 nm³ on the backcoat layer surface. *See* RDX-0190; RDX-0191C. Dr. Talke does not explain why the second DDS-3 tape was not tested or why test results for his lab for either sample were not included. *See* RX-0005C (Talke WS) at Q/A 423-24; CX-0357C (Wang RWS) at Q/A 275. Accordingly, the administrative law judge finds that Sony has not shown, through clear and convincing evidence, that the prior art (the DDS-3 tapes) disclose a tape that satisfies the backcoat layer PSD limitation.

(2) The magnetic layer PSD

Sony argues, in part:

As highlighted in RDX-187C to RDX-0189, three separate sets of testing of the prior art Sony DDS3 tapes directed by Dr. Talke show that these tapes contain magnetic layers with a PSD at a pitch of 10 micrometers within the claimed range. *See* RX-0005C at Q&A 421-422; RX-0336C (Sony PSD Measurements) at 3; RX-0340 (MVA Roughness Report) at 4-5; RX-0293 (UCSD Results) at 2.

Sony Br. at 293. Sony then argues that the DDS-3 tapes can provide reliable, probative evidence despite their age and use. Sony Br. at 293-95.

Fujifilm argues:

The Sony DDS-3 tapes do not disclose “a power spectrum density at a pitch of 10 micrometers ranges from 800 to 10,000 nm³ on the magnetic layer surface.” Dr. Talke opined in his non-infringement analysis that “a person of ordinary skill in the art would understand that tapes with magnetic layer surface PSD measurements falling

PUBLIC VERSION

outside that claimed range are outside the scope of claim 1—even if one or more results also fall within the claimed range.” RX-0370C Q:113. However, Dr. Talke ignored his own standard, when he asserted “three sets of testing of the Sony Product Prior Art Tapes confirms that these tapes contain magnetic layers with a PSD at a pitch of 10 micrometers within the claimed range.” RX-0005C (Talke DWS) Q:421.

Dr. Talke prepared three demonstratives, RDX-0187C, RDX-0188, and RDX-0189 to prove that the Sony DDS-3 tapes disclose the claimed range. However, these demonstratives merely include a subset of Dr. Talke’s relevant PSD measurements. In fact, a majority of the testing data are outside of the claimed range, directly contradicting his assertion that “three sets of testing of the Sony Product Prior Art Tapes confirms that these tapes contain magnetic layers with a PSD at a pitch of 10 micrometers within the claimed range,” under his own standard. CX-0357C (Wang RWS) Q:274.

Fujifilm Br. at 262-63.

The evidence that Sony cites suggests that the DDS-3 tapes may exhibit a power spectrum density at a pitch of 10 micrometers ranges from 800 to 10,000 nm³ on the magnetic layer surface. *See* RDX-0187C (citing RX-0336C); RDX-0188C (citing RX-0340; *but see* CX-0357C (Wang RWS) at Q/A 274 (critiquing RDX-0188 and arguing that certain data points do not support Dr. Talke’s opinion). Testing performed at Dr. Talke’s lab, however, suggests that one of the DDS-3 tapes (RPX-0012) may not satisfy the claimed range. *See* RDX-0189C. Sony has not offered a sufficient explanation as to whether Dr. Talke’s test of the second DDS-3 tape, RPX-0012, or certain results in RX-0340 should be discounted (*e.g.*, if it is due to random error or some other systemic fault). Accordingly, the administrative law judge finds that Sony has not shown, through clear and convincing evidence, that the prior art (the DDS-3 tapes) disclose a tape that satisfies the magnetic layer PSD limitation.

- d) *the magnetic layer has a center surface average surface roughness Ra, as measured by an atomic force microscope, ranging from 0.5 to 2.5 nm, and*

Sony argues, in part:

While the prior art Sony DDS3 tapes do not explicitly disclose this limitation, it would have been obvious to combine these tapes with the prior art, including, for example, Hayakawa and/or Naoe '598, to achieve a magnetic layer with a center surface average surface roughness Ra ranging from 0.5 to 2.5 nm, as measured by an AFM. See RX-0005C at Q&A 425-433.

As Dr. Talke explains, using an AFM to measure surface roughness of a magnetic layer was well known in the art at the time of the '434 Patent, and it would have been obvious to a POSA to combine the prior art Sony DDS3 tapes with references disclosing the use of an AFM to measure surface roughness. *Id.* at Q&A 426. . . .

Sony Br. at 295. Sony cites ¶ 123 of Hayakawa, which follows:

It is desired that the magnetic layer in the invention preferably has a central surface average surface roughness (SRa) of from 1 to 4 nm, and more preferably from 1.5 to 2.5 nm. When the central surface average surface roughness of the magnetic layer is from 1 to 4 nm, there gives rise to an effect for obtaining excellent electromagnetic conversion character.

RX-0098, ¶ 123. Sony argues that this paragraph shows the claimed range is obvious and that Fujifilm has not shown the claimed range is critical or unexpected. Sony Br. at 295-96. Sony then argues that Hayakawa's "tracer type three-dimensional surface roughness meter" is a contact device, such as an AFM. *Id.* at 296-97 (citing RX-0005C (Talke WS) at Q/A 430-431). Sony also argues that Naoe "teaches measuring surface roughness of a magnetic layer using an AFM." *Id.* at 297 (citing RX-0048 (Naoe) at 2:34-48, 3:31-38, Table 3).

Fujifilm argues that Hayakawa does not disclose the claimed range because "Hayakawa mentions that 'the surface roughness SRa is a value as measured by WYKO's HD-2000,' without limiting to the characterization of a support." Fujifilm Br. at 265. Fujifilm also argues

that “[e]ven if Hayakawa can be combined with some other references to measure the average surface roughness Ra by an atomic force microscope, it is not clear what those surface roughness Ra values would have been since an atomic force microscope would yield a different surface roughness Ra value from an optical profilometer.” *Id.* (citing CX-0357C (Wang RWS) Q/A 279). Fujifilm also argues that Naoe does not disclose the claimed roughness range. *Id.*

In reply, Sony argues that Fujifilm testing confirms the two measurements are “within the same ballpark.” Sony Reply at 96.

The evidence does not show that the prior art (the DDS-3 tapes, Hayakawa, or Naoe) discloses the claimed limitation. Dr. Talke conceded that the DDS-3 tapes do not disclose the claimed limitation. *See* RX-0005C (Talke WS) at Q/A 425. Additionally, when asked about Hayakawa and Naoe, Dr. Talke testified as follows:

Q433: What, if anything, do you conclude based on the teachings of Hayakawa and Naoe ‘598?

A: Given the foregoing disclosures, a person skilled in the art would have known (and have been motivated to) to use an AFM to measure surface roughness of the magnetic layer of the Sony Product Prior Art Tapes. An AFM was a known device for measuring surface roughness and would have yielded predictable results for the purpose of analyzing and controlling surface roughness of the magnetic layer. For example, a person of ordinary skill in the art would have expected the center surface average surface roughness Ra measurements, as measured by an AFM, to be generally within the ballpark of those same measurements, as measured instead by a non-contact optical device as disclosed in Hayakawa. This statement is supported by my own experience that optical and stylus contact methods give similar results in terms of “ball park figures” for Ra measurements.

Dr. Talke’s “ballpark” assertion is not clear and convincing evidence that the prior art discloses the claimed range, and Sony’s comparison to Fujifilm testing does not rehabilitate the deficiency. Accordingly, the administrative law judge finds that Sony has not shown, through clear and convincing evidence, that the prior art (the DDS-3 tapes, Hayakawa, or Naoe) disclose a tape

PUBLIC VERSION

with the claimed center surface roughness.

- e) *the hexagonal ferrite powder has an average plate diameter ranging from 10 to 40 nm.*

Sony argues:

While the prior art Sony DDS3 tapes do not explicitly disclose this limitation, it would have been obvious to combine these tapes with the prior art, including, for example, Hayakawa, which discloses “[a] mean particle size of the ferromagnetic hexagonal ferrite ferromagnetic powder is in the range of from 5 to 40 nm, preferably from 10 to 38 nm, and more preferably from 15 to 36 nm.” RX-0098 at ¶ 99; RX-0005C at Q&A 434-435. Since the claimed range is completely encompassed by the prior art, the presumptive conclusion of obviousness is even more compelling than in cases of mere overlap. *See In re Peterson*, 315 F.3d at 1329-30.

Sony Br. at 298.⁹¹

Hayakawa states:

A mean particle size of the ferromagnetic hexagonal ferrite ferromagnetic powder is in the range of from 5 to 40 nm, preferably from 10 to 38 nm, and more preferably from 15 to 36 nm. In order to increase a tack density, in the case of regenerating a magneto-resistance head (MR head), a low noise is required, and a tabular size is preferably not more than 40 nm. Furthermore, when an average tabular size is not more than 5 nm, stable magnetization is expected without being influenced by thermal fluctuation.

RX-0098, ¶ 98.

Fujifilm does not contest this limitation. *See generally* Fujifilm Br., § VI(G)(2)(a)(i);

Fujifilm Reply, § VI(F).

The evidence that Sony cites shows that Hayakawa discloses a hexagonal ferrite powder

⁹¹ Sony then argues that the claimed range is not critical and that a person of ordinary skill in the art would have been motivated to combine the DDS-3 tapes and Hayakawa. Sony Br. at 298-99. To the extent that Fujifilm argues the ‘434 Patent discloses critical (or unexpected) results, CX-0357C (Wang RWS) at Q/A is insufficient to demonstrate those results because it refers to the specification without any persuasive or didactic explanation.

PUBLIC VERSION

with a mean particle size in the range of 5 to 40 nm, which encompasses the claimed range and is sufficient to show it is obvious. Accordingly, the administrative law judge finds that Sony has shown, through clear and convincing evidence, that the prior art (Hayakawa) discloses a hexagonal ferrite powder rendering the claimed range obvious.

f) Rationale for modifying the DDS-3 tapes or combining them with Hayakawa

Sony has argued, *inter alia*, a person of ordinary skill in the art would modify the DDS-3 tapes (or combine the DDS-3 tapes) because hexagonal ferrite was known in the art and understood to have desirable properties. *See* Sony Br. at 292, 298 (citing RX-0005C (Talke WS) at Q/A 420, 436-37). Sony also argues that a person of ordinary skill in the art would incorporate the center surface roughness from Hayakawa “because controlling surface roughness was a known way of attaining ‘a high-density magnetic recording medium which is high in output and excellent in durability,’ as taught by the prior art.” *Id.* at 297 (citing RX-0098 (Hayakawa), ¶ 1; RX-0005C (Talke WS) at Q/A 431-32

As with the ‘891 and ‘612 Patents, the administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that its DDS-3 tapes provide reliable data or that a person of ordinary skill in the art would (successfully) modify the tapes in view of Hayakawa and/or Naoe. The evidence shows that modifying (*e.g.*, substituting) the metal particles in the DDS-3 tape with hexagonal ferrite particles from Hayakawa could render the Sony DDS-3 tape inoperable in its helical scan system. *See* CX-0357C (Wang RWS) at Q/A 280 (*see also* Q/A 162, 177, 525); *Plas-Pak Indus.*, 600 F. App’x at 758. Further, Dr. Talke’s qualified answers about the chemistry aspects of the media reduces the persuasiveness of Sony’s modification and combination arguments. *See* Talke Tr. 622-623. Accordingly, the administrative law judge finds that claim 1 is not obvious over either DDS-3 tape in view of

Hayakawa and/or Naoe.

2. Yamazaki '101 in View of Greczyna and Hayakawa and/or Naoe '598

Sony argues that U.S. Patent No. 6,703,101 (“Yamazaki '101”), which was previously asserted in this Investigation, discloses subject matter that satisfies limitations 1a, 1b, and the magnetic layer PSD aspect of 1c, 1d, and 1e. Sony Br. at 299-302.

Fujifilm argues that the prior art does not disclose the backcoat PSD aspect of limitation 1c or the center surface roughness range of limitation 1d. Fujifilm Br. at 267-71.

The Staff, like Fujifilm, submits that the prior art does not disclose the backcoat PSD aspect of limitation 1c or the center surface roughness range of limitation 1d. Staff Br. at 92.

The administrative law judge finds that Yamazaki discloses, through clear and convincing evidence, subject matter that satisfies limitations 1a, 1b, the magnetic layer PSD aspect of 1c, 1d, and 1e, based on the reasons and evidence presented in Sony’s brief. The backcoat PSD aspect of limitation 1c or the center surface roughness range of limitation 1d are discussed below.

- a) a power spectrum density at a pitch of 10 micrometers ranges from 20,000 to 80,000 nm³ on the backcoat layer surface*

Sony argues, in part:

While Yamazaki '101 does not explicitly disclose this limitation, it would have been obvious to combine this reference with prior art teaching means for controlling backcoat surface roughness. See RX-0005C at Q&A at 444-449. Greczyna, for example, teaches controlling backcoat roughness to reduce embossment of the magnetic layer of one winding by the backcoat layer of an adjacent winding during storage—the same problem that the '434 Patent purports to solve. See RX-0005C at Q&A 445; RX-0078 (Greczyna) at 1:7-12, 1:38-46. Given that Yamazaki '101 discloses a backcoat layer (JX-0003 at 12:50-65), a POSA would have been motivated to “create a magnetic recording medium having a backside configured to improve the durability and frictional characteristics of the magnetic recording medium while

PUBLIC VERSION

decreasing embossment of the recording surfaces of the magnetic recording medium.” RX-0078 at 2:24-28.

Sony Br. at 299-300. Sony argues “in light of Greczyna’s teachings, and Yamazaki 101’s teaching of controlling the PSD of the magnetic layer at 10 micrometers, it would have been obvious to modify Yamazaki ‘101 to control the PSD of the backcoat layer at the same pitch.” *Id.* at 300 (citing RX-0005C (Talke WS) at Q/A 446; RX-0078 at 2:24-28).

Fujifilm argues that Dr. Talke conceded that Yamazaki ‘101 does not disclose the PSD range and that Hayakawa does not address the backcoat layer. Fujifilm Br. at 271-73.

Sony has not shown that Yamazaki ‘101, Greczyna, Hayakawa, or Naoe disclose a backcoat with a power spectrum density at a pitch of 10 micrometers ranges from 20,000 to 80,000 nm³. Dr. Talke’s testimony offers that one of skill in the art would control backcoat roughness based on the prior art. *See* RX-0005C (Talke WS) at Q/A 460-61. However, he does not point to any text suggesting the claimed range, which weighs against an obviousness conclusion. Accordingly, the administrative law judge finds that the prior art (Yamazaki ‘101, Greczyna, Hayakawa, and/or Naoe), in view of the abilities of a person of ordinary skill in the art to optimize a variable, does not disclose this limitation.

b) the magnetic layer has a center surface average surface roughness Ra, as measured by an atomic force microscope, ranging from 0.5 to 2.5 nm, and

Sony argues:

Yamazaki ‘101 discloses “the magnetic layer has a center surface average surface roughness Ra ... ranging from 0.5 to 2.5 nm”. RX-0005C (Talke OWS) at Q&A 450-455. In particular, Yamazaki ‘101 discloses that “[t]he central-plane average surface roughness Ra of the magnetic layer as measured with TOPO-3D, manufactured by WYKO Corp., over an area of about 250 µm x 250 µm is generally 4.0 nm or lower, preferably 3.8 nm or lower, more preferably 3.5 nm or lower.” JX-0003 at 18:51-55. Yamazaki ‘101 also teaches that “[t]he surface projections present

PUBLIC VERSION

on the magnetic layer are preferably regulated so as to meet those surface properties to thereby optimize the electromagnetic characteristics and coefficient of friction of the layer” and that “these surface projections can be easily controlled[.]” JX-0003 at 18:65-19:3 (describing means for controlling the surface roughness).

...

While Yamazaki ‘101 does not explicitly disclose the claimed Ra range “as measured by an atomic force microscope,” using an AFM to measure surface roughness of a magnetic layer was well known in the art at the time of the ‘434 Patent, as discussed above, and it would have been obvious to combine Yamazaki with references disclosing the use of an AFM to measure surface roughness. For the reasons discussed above, it would have been obvious to a POSA to combine Yamazaki with references disclosing the use of an AFM to measure surface roughness, *i.e.*, Hayakawa and/or Naoe ‘598. *See* Section VII.F.2.a.v; RX-0005C at Q&A 450-451.

Sony Br. at 301-02.

Fujifilm argues that Yamazaki ‘101 does not disclose this limitation because it does not specify AFM. *See* Fujifilm Br. at 270-71. Fujifilm also argues that Hayakawa does not disclose this limitation because it too does not specify AFM. *Id.* at 271, 264-66.

The evidence does not show that the prior art (Yamazaki ‘101, Greczyna, Hayakawa and/or Naoe) discloses the claimed limitation. Dr. Talke conceded that Yamazaki ‘101 does not disclose the claimed limitation. *See* RX-0005C (Talke WS) at Q/A 451. Dr. Talke also opined that one would combine Yamazaki ‘101 “[f]or the reasons discussed earlier” in relation to the DDS-3 tapes, Hayakawa, and Naoe. *Id.* The administrative law judge previously found that it would not have been obvious to modify the DDS-3 tapes in view of Hayakawa or Naoe. *See* Part VII(E)(1)(d), *supra*. Accordingly, for the reasons provided in relation to the DDS-3 tapes in view of Hayakawa or Naoe, the administrative law judge finds that Sony has not shown, through clear and convincing evidence, that the prior art (Yamazaki ‘101, Greczyna, Hayakawa and/or

PUBLIC VERSION

Naoe) discloses a tape with the claimed center surface roughness.

Thus, the administrative law judge finds that claim 1 would not have been obvious over Yamazaki '101, Greczyna, Hayakawa and/or Naoe.

3. Yamazaki '101 in View of Hayakawa and/or Naoe '598

Sony argues that "Claim 1 of the '434 Patent is invalid under 35 U.S.C. § 103 for being obvious over Yamazaki '101 in view of Hayakawa and/or Naoe '598." Sony Br. at 302. This combination of prior art simply drops Greczyna from an argument Sony previously presented.

Compare id. at 299 *with id.* at 302.

Fujifilm argues:

As discussed above, claim 1 of the '434 Patent is not obvious over Yamazaki '101 in view of Greczyna and Hayakawa and/or Naoe '598. Sony's third prior art combination merely took a subset of the previous prior art combination, and raises no new arguments. *See* CX-0357 Q:296. For at least the reasons disclosed in connection with the prior combination, claim 1 of the '434 Patent is not obvious over Yamazaki '101 in view of Hayakawa and/or Naoe '598.

Fujifilm Br. at 271-72.

The Staff submits that none of the references disclose the backcoat layer PSD limitation. Staff Br. at 92-93.

The evidence does not show that the prior art (Yamazaki '101, Hayakawa and/or Naoe) discloses the backcoat layer PSD limitation or the center surface roughness limitation, as discussed above. *See* Part VII(E)(2), *supra*. Accordingly, for the reasons provided in relation to Yamazaki '101, Greczyna, Hayakawa and/or Naoe, the administrative law judge finds that Sony has not shown, through clear and convincing evidence, that the prior art (Yamazaki '101, Hayakawa and/or Naoe) discloses a tape with the claimed backcoat layer PSD or the claimed center surface roughness.

PUBLIC VERSION

Thus, the administrative law judge finds that claim 1 would not have been obvious over Yamazaki '101, Hayakawa and/or Naoe.

4. Secondary Considerations⁹²

Fujifilm's entire argument is:

Sony's failure to establish a prima facie case of obviousness ends the inquiry. Even if such a case existed, however, overwhelming objective evidence in the form of praise by others, failure of others, long-felt but unmet need, and commercial success of the inventions in the Asserted Patents overcomes any such claim of obviousness, as discussed in Section III.F.2.b.

Fujifilm Br. at 273. As described above, Fujifilm has repeated its secondary consideration arguments for the '434 Patent. *See generally* Fujifilm Br., §§ (IV)(G)(b), (V)(G)(e), (VI)(G)(b).

Sony argues, in part:

Fujifilm's alleged secondary considerations of non-obviousness concerning the '434 Patent find no support in the evidence. Indeed, they are legally immaterial for the reasons discussed above in Section III.B. Fujifilm does not proffer a single piece of credible evidence that demonstrates a nexus between any of Fujifilm's purported secondary considerations and the limitations claimed in the '434 Patent itself. Because Fujifilm cannot show that the merits of the claimed invention produced the alleged secondary considerations, Fujifilm's purported evidence of such secondary considerations is not relevant and otherwise inadequate to rebut a finding that claim 1 is not obvious over the prior art. RX-0005C (Talke OWS) at Q&A 464-475.

Sony Br. at 304-05.

⁹² Fujifilm has argued that all of the tape media patents exhibit joint criticality and includes "joint criticality" as a secondary consideration. *See, e.g.*, Joint Outline at 4. With regard to the secondary considerations analysis, the administrative law judge has determined that Fujifilm has not shown the tape media patents capture jointly critical subject matter. Similarly, the administrative law judge has determined that Fujifilm has not shown that the claims confer synergistic or unexpected results. Additionally, Sony has argued that there is no nexus between secondary consideration evidence and the asserted claims and includes "nexus" as a separate secondary consideration issue. *Id.* The administrative law judge has considered Sony's nexus arguments within the context of each secondary consideration topic.

PUBLIC VERSION

The Staff argues:

As with the '891 Patent above, FUJIFILM contends that objective indicia of nonobviousness, including industry praise, licensing, long-felt but unresolved need, commercial success, and evidence of copying by others confirm the validity of the claims. Compls. P.H. Br. at 71-103. For the reasons set forth above, the Staff believes that the evidence shows long-felt need and commercial success as objective indicia of nonobviousness. See *supra* at Section IV.F.2. These factors weigh against a finding of obviousness.

Staff Br. at 93.

Fujifilm's reply does not present any secondary consideration argument that is specific to the '434 Patent. *See generally* Fujifilm Reply.

a) Industry Praise

The evidence of industry praise the Fujifilm cites relates to magnetic tapes having barium ferrite, in general. The evidence does not pertain to the attributes of the asserted claim (*e.g.*, power spectrum density and surface roughness). Accordingly, the administrative law judge has determined that Fujifilm has not shown that this secondary consideration supports a non-obviousness finding.

b) Licensing

As with the '891 and '612 Patents, the evidence shows that Sony attempted to license multiple Fujifilm patents, but it does not show that Sony attempted to license the '434 Patent. *See* CX-0023C at 9 (listing patents Sony wished to license); JX-0067C at 4; CX-0006C (Imai WS) at Q/A 19-24, 28 [

]. Accordingly, the administrative law judge has determined that Fujifilm has not shown that this secondary consideration supports a non-obviousness finding.

c) *Long-Felt Need*

Fujifilm argues that its barium ferrite tapes resolved the long-felt need for a high-capacity magnetic tape. Fujifilm Br. at 95-96. Fujifilm argues that:

The inventions of the Asserted Claims, however, allowed magnetic tapes to continue to meet and exceed the projected trajectory for storage density and overall capacity, as illustrated below and as explained by Dr. Wang. *See* CX-0357C (Wang RWS) Q:77. Fujifilm was successful in developing and commercializing its magnetic tapes using BaFe particles that surpassed the storage capacity needs of the market—a feat that no one else matched. *See id.*

Id.

Sony argues:

Fujifilm's evidence of long-felt need is, again, directed entirely to the benefits of BaFe. Though Fujifilm seems to suggest that evidence that Sony was working towards reducing the "overall thickness" of the magnetic tape supports a finding of non-obviousness, there is no link between this and the specific limitations of the Asserted Claims of the '612 Patent (*i.e.*, pits or surface roughness). Fujifilm makes vague generalizations about "roughness of the magnetic layer" but as already discussed, reducing the roughness of the magnetic layer was a goal that was well known in the prior art as of the invention date of the '612 Patent. RX-0001C at Q&A 376. Moreover, Fujifilm has provided no evidence of a long-felt need or failure of others with respect specifically to the particular limitations recited in the Asserted Claims of the '612 Patent, such as 100 or less pits of a depth that is $\frac{1}{3}$ the minimum recording bit length in an area of $10,000 \mu\text{m}^2$, or a surface roughness that is specifically equal to or less than 6.0 nm. *Id.*

Sony Br. at 175.

The '434 Patent was concerned with long-term storage and storage at elevated temperatures. *See* JX-0004 at 2:31-34 ("it is an object of the present invention to provide a magnetic recording medium having excellent electromagnetic characteristics that do not change following long-term storage or storage at elevated temperatures.").

PUBLIC VERSION

The long-felt need that Fujifilm identifies, high-capacity storage, is not reasonably related to long-term storage and storage at elevated temperatures. It has not been shown that the alleged benefits offered by the '434 Patent increased storage capacity of tapes. *See* RX-0005C (Talke WS) at Q/A 473 ("Fujifilm's evidence appears to relate entirely to the benefits of barium ferrite"). Accordingly, the administrative law judge has determined that the evidence does not support a finding that the '434 Patent satisfied a long-felt need.

d) Failure of Others

Fujifilm argues that the industry's failure "to develop the inventions in the Asserted Claims" is evident because "no company had ever commercialized a magnetic tape using BaFe." Fujifilm Br. at 97. Fujifilm equates the success of LTO-7 with the "Asserted Patents." *See* Fujifilm Br., § (III)(F)(2)(b)(v)(3)(ii).

Sony argues that "alleged long-felt but unresolved need and failure of others, Fujifilm's evidence turns exclusively on Dr. Wang's assertion that the '434 Patent 'allowed for the use of MR heads with high density media by controlling the power spectral density of the magnet layer and the backcoat surfaces, surface roughness and size of the particles[.]'" Sony Br. at 305. Sony also argues, "Fujifilm provided no evidence of a long-felt need or failure of others tied specifically to the alleged invention of claim 1, including having a backcoat layer with PSD at a particular pitch within a particular range." *Id.* The evidence does not show that others tried, but failed to develop, tapes described by the asserted claim. *See* RX-0005C (Talke WS) at Q/A 473 ("Fujifilm's evidence appears to relate entirely to the benefits of barium ferrite"). Accordingly, the administrative law judge has determined that Fujifilm has not shown that this secondary consideration supports a non-obviousness finding.

e) Commercial Success

For all of the asserted patents, Fujifilm argues that with “its pioneering inventions in barium ferrite tape media technology and advanced servo writing techniques, it [has] achieved overwhelming success.” Fujifilm Br. at 100. Fujifilm relies on sales of its LTO-6 cartridges, [], and its LTO-7 tapes, []

[].⁹³ *Id.* at 101 (citing CX-0026C (Vander Veen RWS) at Q/A 93).

Fujifilm then points to its dominant market share and relationships with prominent customers.

Id. Fujifilm then presents argument that echoes its long-felt need and failure-of-others arguments. *Id.* at 102-03.

Sony argues:

Fujifilm’s arguments concerning commercial success turn on similarly vague and dubious assertions by Dr. Wang. None of Fujifilm’s cited evidence supports a conclusion that the alleged commercial success of Fujifilm’s LTO-6 and LTO-7 tapes are due to any elements in claim 1, let alone any features that were absent from the prior art—including Fujifilm’s own ‘101 patent, which Dr. Wang likewise had touted as allegedly important to Fujifilm’s purported commercial success. See CX-0357C at Q&A 94-95.

Sony Br. at 306.

The evidence that Fujifilm cites shows that []

[]. CX-0026C (Vander Veen

RWS) at Q/A 92-93. The evidence, however, does not show that Fujifilm practices the ‘434

Patent. See Part VII(D) (Domestic Industry), *supra*. Additionally, the evidence does not support

a strong nexus between the ‘434 Patent and Fujifilm’s success. In particular, the prior art

discloses many aspects of the claims asserted from the ‘434 Patent, including the barium ferrite

particles that Fujifilm heavily relies on. See Part V(G)(1)-(4), *supra*; see also *Tokai*, 632 F.3d at

⁹³ [] See CX-0026C (Vander Veen RWS) at Q/A 92-93.

PUBLIC VERSION

1369; *J.T. Eaton & Co. v. Atl. Paste & Glue Co.*, 106 F.3d 1563, 1571 (Fed. Cir. 1997) (“the asserted commercial success of the product must be due to the merits of the claimed invention beyond what was readily available in the prior art.”). Further, given that Fujifilm’s products also practice other claims, it is impossible to attribute Fujifilm’s success to any one claim from the ‘434 Patent versus other claims, thus weakening the nexus between the “Asserted Claims” (as Fujifilm has identified them) and Fujifilm’s LTO products. *See* Parts IV(D) and V(F), *supra*; *see, e.g., Apple*, 839 F.3d at 1055 (upholding jury finding of commercial success and a nexus between a single claim and a product feature based on survey evidence, the prominent role of the feature in Apple advertising, and a video of a crowd bursting into cheers when the feature was first demonstrated). Accordingly, the administrative law judge has determined that Fujifilm’s showing of commercial success does not provide support for finding that ‘434 Patent is not obvious, because Fujifilm does not practice the ‘434 Patent and because the nexus between the commercial success and the ‘434 Patent is weak.

f) Copying

Fujifilm argues “it is highly probable (if not undeniable) that Sony copied the concepts claimed in the Asserted Claims.” Fujifilm Br. at 105. Fujifilm notes that [

].⁹⁴

Fujifilm then argues “an inference of copying is reasonable” under the facts of the investigation. *Id.* at 105 (citing *WBIP*, 829 F.3d at 1336-37).

Sony argues that Fujifilm’s copying allegations are immaterial for the ‘434 Patent. Sony Br. at 305.

⁹⁴ [

].

PUBLIC VERSION

The evidence does not support a finding of copying. Fujifilm does not even present an argument that pertains to particular attributes (*e.g.*, power spectrum density and surface roughness) claimed in the '434 Patent. Accordingly, the administrative law judge has determined that the evidence does not show that Sony copied Fujifilm's products.

g) Weighing the Secondary Considerations

On the whole, the administrative law judge has determined that none of the secondary considerations supports a non-obviousness finding.

F. Indefiniteness⁹⁵

Sony argues that the intrinsic record fails to provide guidance on how to measure power spectrum density because the record "does not recite any particular parameters, settings, or instruments by which to measure PSD." Sony Br. at 280. Sony acknowledges that the specification discloses one method but adds "there remain critical questions about various parameters which could be adjusted in the course of testing any magnetic recording medium, including, for example, different illumination sources, different magnification settings, and different processing tools. If these (and other) parameters are not exactly specified, measurements of the same exact tape sample using different instruments and instrument settings will vary." *Id.* at 280-81. Sony further contends the record does not address what direction to test the tapes in, what magnification to use, what instrument to use, or how to process testing data. *Id.* at 281-84. In general, Sony's arguments identify several variables or parameters and then fault the '434 Patent for not resolving every difference. As an example, for "instrumentality" Sony argues, in part:

Claim 1 also fails to specify the instrument with which to measure

⁹⁵ Sony has argued that all of the tape media patents (*i.e.*, the '891, '106, '612, and '434 Patents) are indefinite. *See* Sony Br., §§ IV(E), V(D)(2), VI(D), VII(F)(1).

PUBLIC VERSION

PSD at a particular pitch. While the '434 Patent specification discloses the use of an optical measuring device, *i.e.*, "a non-contact optical roughness meter (device: HD2000 made by Wyko)" ('434 Patent at 3:56-57), that is only one example of a device capable of measuring PSD. ***Neither the claims nor the specification, however, indicate that this is the only device permissible to measure PSD of a given magnetic recording medium;*** and there are in fact multiple other optical measuring devices available to a POSA to measure PSD. *See, e.g.*, RX-0174 (Bruker Microscopes); RX-0005C (Talke OWS) at Q&A 354. As Dr. Talke explains, the use of these different instruments, even those made by the same manufacturer, may yield different results; and, depending on which device is used to measure PSD, a tape may sometimes fall within the claimed range and may sometimes fall outside the claimed range. RX-0005C at Q&A 354-356. . . .

Sony Br. at 282-83.

Fujifilm argues that the specification provides sufficient guidance, particularly in light of the knowledge of a person of ordinary skill.⁹⁶ *See* Fujifilm Br. at 242-47.

The Staff argues:

Sony contends that the asserted claim of the '434 Patent is invalid under 35 U.S.C. § 112 as indefinite. Resps. P.H. Br. at 237-247. In particular, Sony contends that one skilled in the art of the '434 Patent cannot determine if the power spectral density of a product at issue falls within the scope of the claimed ranges with reasonable certainty. *See id.* The Staff disagrees.

Dr. Wang explains that one skilled in the art would know how to perform power spectral density calculations based on a given surface roughness profile data. CX-0004C (Wang WS) at Q/A 759-769. Indeed, it is routine practice to do so. Compls. P.H. Br. at 230. Accordingly, one skilled in the art can determine the metes and bounds of the claimed invention with reasonable certainty. Compls. P.H. Br. at 229-238; CX-0004C (Wang WS). Sony has

⁹⁶ Sony has argued that a person of ordinary skill in the art would have at least: (1) a bachelor's degree in electrical engineering, mechanical engineering, physics, materials science (or a related field) plus two years of experience working with magnetic storage systems or media; (2) an advanced degree in one of the disciplines identified above (or a related field), either with an emphasis in magnetic storage technology or equivalent experience working with magnetic storage systems or media; or (3) work experience equivalent to the prior qualifications. *See* RX-0005C (Talke WS) at Q/A 64; *see also* RX-0004C (Ross WS) at Q/A 51.

PUBLIC VERSION

thus failed to show by clear and convincing evidence that claim 1 of the '434 Patent is invalid under 35 U.S.C. § 112 as indefinite. Compls. P.H. Br. at 229-238.

Staff Br. at 93.

Sony's reply argues that the guidance provided by the specification "is merely exemplary" and "yields variable data" when followed. Sony Reply at 87-93.

The administrative law judge finds that Sony has not shown that claim 1 is invalid for failing to delineate the scope of the invention with reasonable certainty. *See Nautilus*, 134 S. Ct. at 2124. The evidence shows that one of ordinary skill in the art would PSD in the longitudinal direction. *See CX-0357C (Wang RWS) at Q/A 321; JX-0005 at 22:17-40; Talke Tr. 617.* Sony's Y-direction arguments (and testing) lack support that shows one of ordinary skill in the art would actually conduct a test in the Y-direction. *See id.* Likewise, the evidence shows that a person of ordinary skill in the art would know what instrument to use (at least the Wyko device identified in the specification), how to operate the instrument, and how to interpret the data. *See CX-0357C (Wang RWS) at Q/A 222, 319-30.*⁹⁷ Further, although Sony points to variance in data measurement, it has not shown the measurements themselves are sufficiently reliable (in terms of accuracy and the number of data points) to justify invalidating the patent. *See CX-0357C (Wang RWS) Q/A 332.* Accordingly, the administrative law judge finds that Sony has not shown that claim 1 is indefinite.

VIII. U.S. PATENT NO. 7,355,805

A. Overview of the '805 Patent

The '805 Patent (JX-0006), entitled "Magnetic tape and method of manufacturing

⁹⁷ This finding is particularly true for Sony's second proposed level of ordinary skill, where the hypothetical person has an advanced degree science, technology, or engineering degree with an emphasis in magnetic storage technology or equivalent experience working with magnetic storage systems or media.

magnetic tape, servo writer, and method of and apparatus for specifying servo band,” issued on April 8, 2008. The application that would issue as the ‘805 Patent, Application No. 10/823,675, was filed on April 14, 2004, and claims priority to JP 2003-110504 (filed April 15, 2003). The ‘805 Patent discloses servo bands and servo signals, which are used for tracking control of a magnetic head. *See* JX-0006 at 1:59-64; *see also* CX-0001C (Messner DWS) Q:38-54.

B. Claim Construction

1. Level of Ordinary Skill in the Art

Fujifilm argues, in part:

Fujifilm and Dr. Messner contend that person of ordinary skill in the art of the ‘805 Patent would be an individual who had earned a Bachelor’s degree in electrical engineering, mechanical engineering, or physics, or an equivalent education or level of knowledge, and one year of industrial experience relating to magnetic information storage and retrieval. Alternatively, a person of ordinary skill in the art of the ‘805 Patent can be an individual who had earned a Master’s degree in electrical engineering, mechanical engineering, or physics, or an equivalent level of knowledge based on education and/or industrial experience relating to magnetic information storage and retrieval. *See* CX-0001C (Messner DWS) at 9.

Fujifilm Br. at 276.

Sony argues:

As Dr. Bhushan explains, a POSA would have at least one of the following qualifications: (1) a bachelor’s degree in electrical engineering, mechanical engineering, physics, materials science (or a related field) plus two years of experience working with magnetic storage systems or media; (2) an advanced degree in one of the disciplines identified earlier (or a related field), either with an emphasis in magnetic storage technology or equivalent experience working with magnetic storage systems or media; or (3) work experience equivalent to the prior qualifications. RX-0001C (Bhushan OWS) at Q&A 41. Although Fujifilm disagrees (CX-0004C (Wang OWS) at Q&A 58), Dr. Bhushan’s opinions would not change if Fujifilm’s level were used. RX-0001C (Bhushan OWS) at Q&A 43.

Sony Br. at

The Staff argues:

As noted by FUJIFILM, the technology of the '805 Patent differs from that of the other Asserted Patents. Nonetheless, Sony proposes the same level of ordinary skill in the art as it does for the other patents. Compls. P.H. Br. at 273. The Staff is of the view that field of material science is not as relevant to servo technology as it is to the technology of the other patents. *See* CX-3C (Messner) at Q/A 9. The Staff thus agrees with FUJIFILM and Dr. Messner. Nonetheless, it does not appear that the chosen level of ordinary skill in the art is dispositive of any issue in this investigation. *See* Compls. P.H. Br. at 273; Resps. P.H. Br. at 36.

Staff Br. at 95-96.

The administrative law judge has determined that a person of ordinary skill in the art would have a bachelor's degree in electrical engineering, mechanical engineering, or physics, or an equivalent education or level of knowledge, and one year of industrial experience relating to magnetic information storage and retrieval. *See* CX-0003C (Messner) at Q/A 9. Alternatively, a person of ordinary skill in the art of the '805 Patent can be an individual who had earned a Master's degree in electrical engineering, mechanical engineering, or physics, or an equivalent level of knowledge based on education and/or industrial experience relating to magnetic information storage and retrieval. *See id.* Sony's proposed level of ordinary skill does not reflect the differences between material science and servo technology.

2. Claim Construction

The parties have not proposed any claim constructions for the '805 Patent. *See* Fujifilm Br. at 277; Sony Br. at 310; Staff Br. at 96. Accordingly, all claim terms are afforded their plain and ordinary meaning.

C. Infringement

Fujifilm asserts claims 3 and 10; claim 3 depends from claims 2 and 1, and claim 10

PUBLIC VERSION

depends from claim 1.⁹⁸ *See* Fujifilm Br. at 277-97. Claims 1 and 2 are product claims, while claims 3 and 10 are method claims.

Sony, in general, argues it does not infringe because “Fujifilm has not established” that Sony encodes data identifying the servo band or that Sony converts the encoded data. *See* Sony Br. at 313, 319.

The Staff submits that Fujifilm cannot demonstrate infringement because it is not clear whether Fujifilm’s expert reviewed the appropriate source code. Staff Br. at 97 (“Because it is not clear that FUJIFILM’s expert reviewed portions of the source code necessary to determine whether claims 3 and 10 of the ‘805 Patent are infringed, the Staff is of the view that FUJIFILM has not met its burden.”).

1. Claim 1

Claim 1 follows:

1. A magnetic tape comprising:
 - a plurality of servo bands on each of which is written a different servo signal for tracking control of a magnetic head, and
 - data is embedded in each servo signal for specifying the servo band corresponding to the data,
 - wherein reading the data enables a servo read head of the magnetic head to specify on which servo band the servo read head is currently positioned without referring to other servo bands.

JX-0006 at 9:27-36.

Fujifilm divides the claim into four limitations, which are shown as follows:

- [a] 1. A magnetic tape comprising:

⁹⁸ Fujifilm has argued that Sony literally infringes the asserted claims. It has not presented any doctrine of equivalents arguments.

PUBLIC VERSION

- [b] a plurality of servo bands on each of which is written a different servo signal for tracking control of a magnetic head, and
- [c] data is embedded in each servo signal for specifying the servo band corresponding to the data,
- [d] wherein reading the data enables a servo read head of the magnetic head to specify on which servo band the servo read head is currently positioned without referring to other servo bands.

See Fujifilm Br. at 280. Each limitation is addressed below.

a) A magnetic tape

Fujifilm argues:

Sony agrees that the Accused Products conform to the LTO-7 Specification. The LTO-7 Specification requires “a magnetic tape,” as recited in claim 1. *See, e.g.,* JX-0052C (LTO-7 Spec.) at 20 (“This LTO Document specifies the physical and magnetic characteristics of magnetic tape cartridges . . .”) (emphasis added); CX-0001C (Messner DWS) Q:76; *see also* CX-0182 (Sony LTO Ultrium Spec. Sheet) at 1.

Fujifilm Br. at 281.

Sony and the Staff do not address claim 1 specifically. *See generally* Sony Br., § VIII(D); Sony Reply, § VI(A); Staff Br., § VIII(D); Staff Reply, § VII(B).

The evidence that Fujifilm cites, in conjunction with Sony’s failure to offer a rebuttal, is sufficient to show that Sony’s LTO-7 products satisfy this limitation.

b) a plurality of servo bands on each of which is written a different servo signal for tracking control of a magnetic head

Fujifilm argues that Sony’s LTO-7 products satisfy this limitation because they comply with the LTO-7 standard. Fujifilm Br. at 281-82. To prove infringement, Fujifilm relies on the LTO-7 standard (JX-0052C), [], and testimony from its technical expert, Dr. Messner (CX-0001C (Messner DWS) at Q/A 80).

PUBLIC VERSION

Sony and the Staff do not address claim 1 specifically. *See generally* Sony Br., § VIII(D); Sony Reply, § VI(A); Staff Br., § VIII(D); Staff Reply, § VII(B).

The evidence that Fujifilm cites, in conjunction with Sony's failure to offer a rebuttal, is sufficient to show that Sony's LTO-7 products satisfy this limitation.

c) *data is embedded in each servo signal for specifying the servo band corresponding to the data*

Fujifilm argues that Sony's LTO-7 products satisfy this limitation because they comply with the LTO-7 standard. Fujifilm Br. at 282-83. To prove infringement, Fujifilm relies on the LTO-7 standard (JX-0052C), testimony from its technical expert, Dr. Messner (CX-0001C (Messner DWS) at Q/A 84), and testimony from Toru Nakao (CX-0007C (Nakao WS) at Q/A 40-41). Mr. Nakao is a Fujifilm engineer who is a named inventor on the '805 Patent.

Sony and the Staff do not address claim 1 specifically. *See generally* Sony Br., § VIII(D); Sony Reply, § VI(A); Staff Br., § VIII(D); Staff Reply, § VII(B).

The evidence that Fujifilm cites (JX-0052C and CX-0001C (Messner DWS) at Q/A 84), in conjunction with Sony's failure to offer a rebuttal, is sufficient to show that Sony's LTO-7 products satisfy this limitation.

d) *wherein reading the data enables a servo read head of the magnetic head to specify on which servo band the servo read head is currently positioned without referring to other servo bands.*

Fujifilm argues that Sony's LTO-7 products satisfy this limitation because they comply with the LTO-7 standard. Fujifilm Br. at 283. To prove infringement, Fujifilm relies on the LTO-7 standard (JX-0052C), [], and testimony from its technical expert, Dr. Messner (CX-0001C (Messner DWS) at Q/A 85).

Sony and the Staff do not address claim 1 specifically. *See generally* Sony Br.,

PUBLIC VERSION

§ VIII(D); Sony Reply, § VI(A); Staff Br., § VIII(D); Staff Reply, § VII(B).

The evidence that Fujifilm cites, in conjunction with Sony's failure to offer a rebuttal, is sufficient to show that Sony's LTO-7 products satisfy this limitation.

2. Claim 2

Claim 2 follows:

2. A magnetic tape according to claim 1, wherein the servo signal consists of a plurality of continuous patterns sets each of which pattern is nonparallel stripes, and the data is embedded in the servo signal by shifting a pair of nonparallel stripes along the longitudinal direction of the magnetic tape.

JX-0006 at 9:38-43.

Fujifilm divides the claim into two limitations, which are shown as follows:

2. A magnetic tape according to claim 1, wherein

[a] the servo signal consists of a plurality of continuous patterns sets each of which pattern is nonparallel stripes, and

[b] the data is embedded in the servo signal by shifting a pair of nonparallel stripes along the longitudinal direction of the magnetic tape.

See Fujifilm Br. at 284. Each limitation is addressed below.

a) the servo signal consists of a plurality of continuous patterns sets each of which pattern is nonparallel stripes, and

Fujifilm argues:

The LTO-7 Specification requires a servo signal having continuous patterns of non-parallel (or oppositely slanted) stripes. See CX-0001C (Messner DWS) Q:89-90; JX-0052C (LTO-7 Spec.) at 81 (depicting Figure 26, which shows servo signals having patterns of non-parallel stripes). Sony's LTO-7 compliant Accused Products therefore meet this limitation.

Fujifilm Br. at 284.

Sony and the Staff do not address claim 2 specifically. See generally Sony Br.,

PUBLIC VERSION

§ VIII(D); Sony Reply, § VI(A); Staff Br., § VIII(D); Staff Reply, § VII(B).

The evidence that Fujifilm cites, in conjunction with Sony's failure to offer a rebuttal, is sufficient to show that Sony's LTO-7 products satisfy this limitation.

- b) *the data is embedded in the servo signal by shifting a pair of nonparallel stripes along the longitudinal direction of the magnetic tape.*

Fujifilm argues:

Sony admits that its LTO-7 tapes meet this limitation. [

]. Again, because Sony admits the Accused Products comply with the LTO-7 Specification, the Accused Products meet the limitation of "the data is embedded in the servo signal by shifting a pair of nonparallel stripes along the longitudinal direction of the magnetic tape."

Fujifilm Br. at 284-85.

Sony and the Staff do not address claim 2 specifically. *See generally* Sony Br., § VIII(D); Sony Reply, § VI(A); Staff Br., § VIII(D); Staff Reply, § VII(B).

The evidence that Fujifilm cites, in conjunction with Sony's failure to offer a rebuttal, is sufficient to show that Sony's LTO-7 products satisfy this limitation.

3. Claims 3 and 10

Claim 3 follows:

3. A method of manufacturing a magnetic tape of claim 2 comprising:

PUBLIC VERSION

- a first step of encoding data for specifying a servo band where the servo signal positions:
- a second step of converting the data that is encoded in the first step into a recording pulse current; and
- a third step of supplying the recording pulse current to the servo write head and writing on the servo band of the magnetic tape a servo signal in which is embedded the encoded data.

JX-0006 at 9:44-53. Claim 10 includes the same three steps, in identical wording. *See id.* at 10:40-47 (claim 10 differs from claim 3 in that claim 10 depends from claim 1).

Fujifilm divides claim 3 into three limitations, which are shown as follows:

- 3. A method of manufacturing a magnetic tape of claim 2 comprising:
 - [a] a first step of encoding data for specifying a servo band where the servo signal positions:
 - [b] a second step of converting the data that is encoded in the first step into a recording pulse current; and
 - [c] a third step of supplying the recording pulse current to the servo write head and writing on the servo band of the magnetic tape a servo signal in which is embedded the encoded data.

See Fujifilm Br. at 285. Each limitation is addressed below.

- a) a first step of encoding data for specifying a servo band where the servo signal positions:*

Fujifilm argues that the LTO-7 specification requires Sony to encode the servo band identification (UDIM) data, that Sony encodes the UDIM data with a servo writer, that Sony's source code "confirms" the servo writer encodes the UDIM data, and that Mr. Jennings's opinions on non-infringement were impeached at the Hearing. Sony Br. at 286-91. To prove infringement, Fujifilm relies on:

- the LTO-7 standard (JX-0052C);

PUBLIC VERSION

- [];
- [];
- the witness statements from the technical experts, Dr. Messner (CX-0001C (Messner DWS) at Q/A 98-99 (discussing the LTO-7 standard) and Mr. Jennings(RX-0003C (Jennings WS) at Q/A 26, 64 (opining that claims 3 and 10 are essential to the LTO-7 standard and explaining that); RX-0368C (Jennings RWS) Q/A 37-39, 41 []).
- Mr. Jennings's and Dr. Messner's hearing testimony about the LTO-7 standard;
- [].

Fujifilm Br. at 286-91.

Sony argues that Sony's source code does not show that Sony practices this step and that Fujifilm's expert did not understand []. See Sony Br. at 313-16; *see also* CX-0001C (Messner WS) at Q/A 99 []

[]. At his deposition Dr. Messner admitted that []

[]. Sony further argues it does not infringe because "it is the LTO-7 standard that performs the encoding of the servo band numbers into a final bit pattern" and that []

[]." Sony Br. at 318.

The Staff argues, for steps one and two, as follows:

For purposes of these limitations, FUJIFILM's expert reviewed certain source code. But it is not clear whether FUJIFILM reviewed the correct and complete source code. *See* RX-0368C (Jennings RWS) at Q/A 7-10; Resps. P.H. Br. at 37-49. For example, it does not appear that the claimed data encoding is performed by the source code module identified by FUJIFILM. *See id.*

Staff Br. at 97.

PUBLIC VERSION

Fujifilm replies that Sony “now admits” infringement, that Dr. Jennings’s new theory has no evidentiary support, and that Sony must be encoding data (*e.g.*, Fujifilm argues “the data in the tables of the LTO-7 Specification cannot jump off the page and into Sony’s servo writer”). Sony Br. at 99-102.

Sony replies, in part:

Dr. Messner testified that prior generations of LTO, such as LTO-6, also require encoded data, such as the manufacturer’s data, or “SMW,” but what sets the ‘805 Patent apart is the requirement to encode data for specifying a servo band—the UDIM according to the LTO-7 standard. Tr. at 409:6-410:1; *see also* RX-0313 (LTO-1 Standard) at 67. Thus, [

].

Sony Reply at 102.

The administrative law judge has determined that Fujifilm has not shown, by a preponderance of the evidence, that Sony performs the “first step of encoding data” in connection with its LTO-7 products. In particular, although Fujifilm discusses the LTO-7 standard exhaustively, Fujifilm has not met its burden of showing that the accused method is performed by Sony, on its products. Fujifilm’s expert could not identify the source code responsible for the encoding step (and also admitted had limited experience with the relevant programming language). *See* RX-0368C (Jennings RWS) at Q/A 7-10, 31-39; *see also* Jennings Tr. 533-535, 580-585; Messner Tr. 354-362 [], 409 (discussing the LTO-7 standard).

PUBLIC VERSION

- b) *a second step of converting the data that is encoded in the first step into a recording pulse current; and*

Fujifilm argues that Sony performs the second step of converting data into a recording pulse current. Fujifilm Br. at 291. Fujifilm relies on, amongst other things, the LTO-7 specification, Mr. Jennings's witness statement (RX-0003C (Jennings WS) at Q/A 76, 82) and hearing testimony, [

]. *Id.* at 291-93.

Sony argues that Fujifilm has not established that Sony practices the second step. Sony Br. at 319 ("Fujifilm never provides any evidence that converting encoded data into a pulse current and then subsequently amplifying it for recording (two discrete and unclaimed steps) is the same as the single second step of the claims."). Sony then argues that [

]. *Id.* at 319-20. Sony then argues that Fujifilm must prove that Sony is not using any other methods to avoid the second step. *Id.* at 320 ("If there are so many different possible alternatives, Fujifilm needs to show that Sony has not taken advantage of them."). Sony concludes with an argument against Dr. Messner's analysis of Sony's source code. *Id.* at 321.

At the hearing, Mr. Jennings testified as follows:

Q Sir, do you believe that it is more likely than not that Sony is indeed practicing the second step of claim 3?

A That would be fair.

Jennings Tr. 526. Mr. Jennings did not exhibit any confusion or other misunderstanding in answering the question. This testimony, along with the evidence that Fujifilm cites, is sufficient to show it is more likely than not that Sony practices the second step of claim 3. Accordingly, the administrative law judge has determined that Sony performs the second step of claims 3 and

PUBLIC VERSION

10 in conjunction with its LTO-7 products.

- c) *a third step of supplying the recording pulse current to the servo write head and writing on the servo band of the magnetic tape a servo signal in which is embedded the encoded data.*

Fujifilm argues that Sony performs the third step of claim 3. Fujifilm Br. at 296.

Fujifilm relies on Mr. Jennings's witness statement (RX-0003C (Jennings WS) at Q/A97) and hearing testimony, Dr. Messner's witness statement (CX-0001C (Messner WS) Q/A 73-74, 107-13), [

1.

Sony and the Staff do not address this limitation specifically. *See generally* Sony Br., § VIII(D); Sony Reply, § VI(A); Staff Br., § VIII(D); Staff Reply, § VII(B).

At the hearing, Mr. Jennings testified that it is “more likely than not” that Sony performs the third step of the claim 3. Jennings Tr. 526-527. Mr. Jennings did not exhibit any confusion or other misunderstanding in answering the question. This testimony, along with the evidence that Fujifilm cites, is sufficient to show it is more likely than not that Sony practices the third step of claim 3. Accordingly, the administrative law judge has determined that Sony performs the third step of claims 3 and 10 in conjunction with its LTO-7 products.

In conclusion, the administrative law judge has determined that Sony's LTO-7 products do not infringe claims 3 or 10.

D. Domestic Industry (Technical Prong)

Fujifilm argues that its LTO-7 products practice “claims 1 and 2 and are manufactured using claims 3 and 10 of the ‘805 Patent.” Fujifilm Br. at 297.

Sony reports it “does not contest the technical prong of domestic industry for the ‘805

PUBLIC VERSION

Patent.” Sony Br. at 321.

The Staff submits:

Complainants contend that FUJIFILM’s LTO-7 data cartridges practice claims 3 and 10 of the ‘805 Patent. Compls. P.H. Br. at 290-296; CX-0001C (Messner) at Q/A 118-175. Sony does not contest that FUJIFILM’s LTO-7 data cartridges satisfy the technical prong of the domestic industry requirement with respect to the ‘805 Patent. Resps. P.H. Br. at 49.

Accordingly, the evidence shows that those products satisfy each limitation of claims 3 and 10 of the ‘805 Patent. Compls. P.H. Br. at 290-296; CX-0001C (Messner) at Q/A 118-175.

Staff Br. at 97.

Accordingly, the administrative law judge has determined that Fujifilm’s LTO-7 products practice claims 1, 2, 3, and 10.

E. Essentiality

Sony argues that claims 3 and 10 are essential to the LTO-7 standard.⁹⁹ Sony Br. at 321. Sony argues that claims 3 and 10 cover the only known method to write LTO-7 compliant bands and that Dr. Messner’s proposed alternatives are “academic musings” and not commercially feasible. *Id.* at 324-28.

Fujifilm argues that Sony’s witnesses have admitted claims 3 and 10 are not essential, that the LTO-7 specification does not require a particular servo writing technique, and that there are alternatives to the claimed methods. Fujifilm Br. at 303-08.

The Staff agrees with Fujifilm. Staff Br. at 97-98 (citing CX-0355C (Messner RWS) at Q/A 149-73, []).

The administrative law judge has determined that Sony has not shown, by a

⁹⁹ Sony notes that Fujifilm has admitted claims 1 and 2 are essential to the LTO-7 specification. JX-0196C at 26 (Fujifilm’s responses to Sony requests for admission).

PUBLIC VERSION

preponderance of the evidence, that claims 3 and 10 are essential to the LTO-7 standard. In particular, Sony (and Mr. Jennings) has not shown that the LTO-7 standard requires a tape that meets limitation 3[b] of claim 3. *See* CX-0355C (Messner RWS) at Q/A 152-53. Further,

[

]. Additionally, the alternative techniques Dr. Messner proposes also show that the claims are not essential. *See* CX-0355C (Messner RWS) at Q/A 153, 156-59.

Accordingly, Sony has not shown that claims 3 and 10 are essential to the LTO-7 standard.

F. Anticipation

Sony argues that Hennecken (RX-0073), Trabert (RX-0065), and Tran (RX-0083) each anticipate claims 1-3 and 10.¹⁰⁰ Sony Br., § VIII(G)(1).

1. Hennecken

a) Claim 1

(1) A magnetic tape comprising:

The parties do not devote analysis to the preamble. Nonetheless, if the preamble is considered to be limiting, the evidence shows that Hennecken discloses a magnetic tape. *See* RX-0003C (Jennings WS) at Q/A 265 (“To the extent that the preamble is limiting in any way Hennecken discloses a magnetic tape because Hennecken states that “[t]he present invention relates to servo tracks written on magnetic tape.”). Accordingly, the administrative law judge has determined that Hennecken discloses subject matter that satisfies the preamble.

¹⁰⁰ Hennecken is U.S. Patent No. 6,710,967. Trabert is U.S. Patent Publication No. 2004/0032685. Tran is U.S. Patent No. 6,134,070.

PUBLIC VERSION

- (2) a plurality of servo bands on each of which is written a different servo signal for tracking control of a magnetic head, and

Sony argues, in part:

Hennecken states explicitly that “a servo stripe number may be encoded in the servo track for coarse transverse location.” RX-0073 (Hennecken) at 1:61-62. Mr. Jennings explained that a POSA would understand this to mean each servo stripe number is different. Tr. at 547:4-8, 548:17-24, 550:6-551:6, 565:7-566:13; *see also* RX-0003C at Q&A 267. Mr. Jennings explained that, per the prior art, “servo stripe number” has a clear and indisputable meaning: the numbers 0 through 4, each assigned to a different servo stripe. Going all the way back to the first generation of LTO, namely LTO-1, there were five servo bands numbered “0,” “1,” “2,” “3,” and “4”. Tr. 565:18-20. Each servo band number, also known as a servo stripe number, Tr. at 563:20-564:2; RX-0003C at Q&A 266, is different, and creates a different servo signal when embedded as disclosed by Hennecken. Tr. 566:3-10. Thus, when Hennecken describes encoding “a servo stripe number ... in the servo track,” it is unquestionably talking about a 0, 1, 2, 3, or 4 (*i.e.*, a different, unique servo signal in each band) consistent with all of the prior art, including LTO-1. Tr. 565:10-567:12.

Sony Br. at 331 (emphasis omitted). Sony then argues that Dr. Messner’s testimony applies the wrong legal standards, and therefore, should not be accepted. *Id.* at 332.

Fujifilm argues, in part:

Claim 1 of the ‘805 Patent requires that each servo band has written thereon a unique servo signal for tracking control. *See* JX-0006 at 9:28-30. Hennecken, however, does not disclose that the servo signals for tracking control (*i.e.*, the low frequency transitions) are different from one another across different servo bands. CX-0355C (Messner RWS) Q:48. To the contrary, the point of Hennecken’s invention is that only the **high** frequency signals differ from one servo band to the next because of the many problems associated with changing the low frequency transitions. *Id.*; RX-0073 (Hennecken) at 2:5-23.

Fujifilm Br. at 311 (bolding added). Fujifilm then addresses Sony’s arguments. *Id.* at 311-13.

The Staff argues that “Hennecken does not disclose the use of embedded data to uniquely

PUBLIC VERSION

identify servo band.” Staff Br. at 100. The Staff (as well as Sony) notes that Hennecken was considered during prosecution. *Id.*

Sony replies that Hennecken’s “servo stripe number” is equivalent to the claim’s servo band number. Sony Reply at 112-14. Sony then clarifies that it is not arguing inherency. *Id.* at 115 (“The inherency doctrine is irrelevant.”).

Sony has not shown, through clear and convincing evidence, that Hennecken discloses a plurality of servo bands with a different servo signal for tracking control of a magnetic head. As Dr. Messner explained, there is no disclosure in Hennecken that indicates each of the servo bands “has a signal of low frequency transitions that differ from one another.” CX-0355C (Messner RWS) at Q/A 48. Further, none of Hennecken’s embodiments embed a servo stripe number in the servo signal, and the high frequency transitions in Hennecken do not play a role in tracking control. *Id.* Accordingly, the administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Hennecken discloses subject matter that satisfies this limitation.

- (3) data is embedded in each servo signal for specifying the servo band corresponding to the data,

Sony argues:

A POSA would understand Hennecken’s disclosure that “a servo stripe number may be encoded in the servo track for coarse transverse location” to mean that data is embedded in each servo signal for specifying the servo band corresponding to the data. RX-0003C (Jennings OWS) at Q&A 272. Even Dr. Messner admits that Hennecken’s disclosure of a “coarse transverse location” means that the servo read head could identify the servo band. Tr. at 373:20-24, 374:14-22. Despite this admission, he continues to apply an impermissible *ipsissimis verbis* test by alleging that Hennecken does not disclose “data” being embedded in the servo signal. CX-0355C at Q&A 53. A servo stripe number is data. In Hennecken the servo track number is additional “information.” RX-0073 at 1:60-63. And a POSA would

PUBLIC VERSION

understand that the servo track number is indeed “data” embedded into the servo signal. RX-0003C (Jennings OWS) at Q&A 272.

Sony Br. at 332-33.

Fujifilm argues:

In this limitation, the recited “servo signal” is the “servo signal for tracking control” recited in the prior limitation. *See* CX-0355C (Messner RWS) Q:53; JX-0006 (‘805 Patent) at 9:28-32. Thus, the claim limitation requires that data for specifying a servo band is embedded in the servo signal for tracking control (*i.e.*, Hennecken’s low frequency transitions).

Sony’s and Mr. Jennings’ allegations of anticipation of this limitation again cite the “Background of the Art” section of Hennecken, which discloses that a “servo stripe number” may be embedded in the servo track for coarse transverse location. RX-0003C (Jennings DWS) Q:272. However, as discussed in the prior section, there is no disclosure whatsoever that this data is embedded in *each* servo signal for tracking control. Mr. Jennings therefore cites a later portion of Hennecken, outside of the Background section, which discloses that “gross transverse positional information” can be embedded in the *high* frequency transitions of Hennecken’s invention. *Id.*; *see also* RDX-106 (‘805 Invalidity Slide 14). Regardless of whether “gross transverse positional information” pertains to data for specifying a servo band, the high frequency transitions are *not* a servo signal for tracking control. CX-0355C (Messner RWS) Q:49, 53. Furthermore, in order to show anticipation, it is improper to combine features from unrelated embodiments that are disclosed in the prior art. *See Net MoneyIn*, 545 F.3d at 1369 (“prior art reference . . . must not only disclose all elements of the claim . . . , but must also disclose those elements arranged as in the claim”) (internal quotation marks omitted).

Therefore, for this additional reason, Hennecken fails to meet this limitation of claim 1 and, as a result, fails to anticipate dependent claims 3 and 10.

Fujifilm Br. at 313-14.

The Staff submits that this limitation is not met. Staff Br. at 99.

Sony has not shown, through clear and convincing evidence, that Hennecken discloses embedding data in each servo signal for specifying the servo band corresponding to the data. As

PUBLIC VERSION

Dr. Messner explained, the servo signal is for tracking control. CX-0355C (Messner RWS) at Q/A 53. Hennecken does not explain “that data is embedded in each servo signal for specifying the servo band.” *Id.* Accordingly, the administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Hennecken discloses subject matter that satisfies this limitation.

- (4) wherein reading the data enables a servo read head of the magnetic head to specify on which servo band the servo read head is currently positioned without referring to other servo bands.

Sony argues:

Claim 1 lastly requires that “reading the data enables a servo read head of the magnetic head to specify on which servo band the servo read head is currently positioned without referring to other servo bands.” Dr. Messner testified that Hennecken’s disclosure of “coarse transverse location” means that servo stripe number “would be used for identifying the data band over which the servo head . . . is positioned.” Tr. at 373:20-24. Dr. Messner previously testified that “[u]niqueness of the servo band ID is critical to identifying the servo band.” CX-0001C at Q&A 85, 142. Because Hennecken discloses embedding a unique servo band number in each servo band, reading the data enables a servo read head of the magnetic head to specify on which servo band the servo read head is currently positioned without referring to other servo bands. RX-0003C (Jennings OWS) at Q&A 273. Mr. Jennings explains that a different servo stripe number being embedded in the servo signal alone would enable a servo read head to specify on which servo band the head is currently positioned without referring to other servo bands. *Id.*

Sony Br. at 333.

Fujifilm argues:

Sony’s allegations that Hennecken discloses this limitation are without merit. First, the limitation of “reading the data” refers specifically to reading *the data that was embedded in each servo signal for tracking control*. See JX-0006 at 9:31-36. Sony’s allegations regarding this limitation include reference to embodiments in Hennecken in which “gross positioning”

PUBLIC VERSION

information is embedded in the *high* frequency transitions which are not a servo signal for tracking control. *See* RX-0003C (Jennings DWS) Q:273 (relying on the Background of the Invention and “one other embodiment where the servo ID is embedded in the high frequency transitions”). Sony’s citations to the embedding of data in the high frequency transitions is inapposite, and, again, improperly mixes and matches features from different embodiments.

Furthermore, Sony’s reliance on the Background of the Invention section of Hennecken for this limitation is also misplaced. The background section merely mentions the embedding of “additional information,” including *a* servo stripe number, in a servo track by varying the spacing between low frequency transitions. RX-0073 (Hennecken) at 1:65-67. As discussed above, Hennecken’s disclosure of embedding “a servo stripe number” is not a disclosure of different servo stripe numbers embedded in each band, which Mr. Jennings admitted. *E.g.*, Hg. Tr. 550:14-16 (agreeing that “not every one of the servo ID band numbers need to be different”). Sony’s and Mr. Jennings’ attempt to combine this background disclosure with the embodiments of Hennecken’s actual invention combines disparate and unrelated embodiments, and is therefore improper to show anticipation. *See Net MoneyIn*, 545 F.3d at 1369.

Fujifilm Br. at 314-15.

The Staff submits that this limitation is not met. Staff Br. at 100.

Sony has not shown, through clear and convincing evidence, that Hennecken discloses reading data to enable a servo read head to specify the servo band that the servo read head is currently positioned, without referring to other servo bands. As Dr. Messner explained, “gross positioning information embedded in the high frequency transitions is not embedded in a servo signal for tracking control[,]” so the embedding discussed in Hennecken does not meet the limitation of the claim. CX-0355C (Messner RWS) at Q/A 55; *see also id.* at Q/A 54-57. Further, Hennecken does not disclose “enabling a servo read head to specify on which servo band it is positioned without referring to other servo bands.” *Id.* at Q/A 57. Accordingly, the administrative law judge has determined that Sony has not shown, through clear and convincing

PUBLIC VERSION

evidence, that Hennecken discloses subject matter that satisfies this limitation.

b) Claim 2

- (1) the servo signal consists of a plurality of continuous patterns sets each of which pattern is nonparallel stripes, and

Sony argues, in part:

Claim 2 further requires that “the servo signal consists of a plurality of continuous patterns sets each of which pattern is nonparallel stripes.” The passage in Hennecken’s background section discloses a classic timing based servo signal, meeting this limitation. RX-0003C (Jennings OWS) at Q&A 277. Even Dr. Messner agreed—at the hearing. Tr. at 373:3-11. The other portions of Hennecken cited by Mr. Jennings merely confirm how a POSA would understand the disclosure of the background section. *Telemac Cellular Corp. v. Topp Telecom, Inc.*, 247 F.3d 1316, 1329–30 (Fed. Cir. 2001) (using evidence extrinsic to a prior art reference to show the knowledge of a POSA in an anticipation analysis); *Arthrocare Corp. v. Smith & Nephew, Inc.*, 406 F.3d 1365, 1373–74 (Fed. Cir. 2005) (using the knowledge of a POSA in combination with a prior art’s description in an anticipation analysis).

Sony Br. at 334. Sony further cites Hennecken (RX-0073) at 1:51-2:4 and then attacks Dr.

Messner’s opinion. Sony Br. at 334-35.

Fujifilm argues:

Rather than the shifting of pairs of nonparallel servo stripes, Hennecken’s data embedding technique requires moving only one stripe, which Hennecken calls a transition. In the only example of “shifting” disclosed by Hennecken, “the second transition in each set may be moved closer to the first transition to indicate a binary one and may be spaced equally between the first and third transitions to indicate a binary zero.” RX-0073 (Hennecken) at 2:1-4. Thus, Hennecken discloses moving only the “second” transition, not a pair of nonparallel transitions, *see* CX-0355C (Messner RWS) Q:59, and fails to anticipate claim 2 and dependent claim 3.

Fujifilm Br. at 315. Fujifilm also argues that Mr. Jennings’s testimony, which relies on supplemental references to show technological facts known in the servo art, “improperly

PUBLIC VERSION

import[s] the teachings of these references into Hennecken.” *Id.*

The Staff is silent on this limitation. Staff Br. at 99-100.

Mr. Jennings testified as follows:

Q277: Would it matter to a person of ordinary skill in the art that Hennecken does not depict the specific embodiment that anticipates the claims of the ‘805 Patent?

A: No. Once again, timing based patterns were well known at this point. Hennecken’s disclosure in the background section describing the stripes that were recorded at a relative angle to each other would be sufficient description to indicate a timing based servo using nonparallel stripes.

Q280: Does Hennecken show a picture of embedding data by shifting a pair of nonparallel stripes along the longitudinal direction of the magnetic tape?

A: No, but it would not matter. This method of servo writing has been a known method of embedding data since the late 1990s. For example, if you look at RX-0066 (Albrecht II) at 3 and 4, Albrecht II shows how to embed binary data by shifting a pair of nonparallel stripes along the longitudinal direction of the magnetic tape. If you look at RX-0088 (Koski) at 5, Koski shows how to embed binary data by shifting a pair of nonparallel stripes along the longitudinal direction of the magnetic tape. If you look at RX-0087 (Bui) at 6, Bui shows how to embed binary data by shifting a pair of nonparallel stripes along the longitudinal direction of the magnetic tape. And if you look at RX-0313 (LTO1 Standard) at 66, ECMA-319 shows how to embed binary data by shifting a pair of nonparallel stripes along the longitudinal direction of the magnetic tape. I’m not suggesting that a person of ordinary skill would read those prior art references into Hennecken or would need to do so, my point is that this method of encoding was so common by the time Hennecken was filed, that a person of ordinary skill would have well known that Hennecken too was disclosing embedding data by shifting a pair of nonparallel stripes along the longitudinal direction of the magnetic tape.

RX-0003C (Jennings WS) at Q/A 277, 280.

Sony has not shown, through clear and convincing evidence, that Hennecken discloses a servo signal consisting of a plurality of continuous patterns sets, each of which pattern is nonparallel stripes. Mr. Jennings relies on Albrecht II (RX-0066), which was filed on May 16, 1997. Koski (RX-0088) was filed in June 2001 (and published in December 2002), Bui (RX-0087) was filed in July 2001 (and published in January 2003), and the LTO-1 Standard (RX-

PUBLIC VERSION

0313) is dated June 2001. Hennecken was filed on December 28, 2001.¹⁰¹ The close temporal proximity of these references does not suggest that the claimed method of encoding was so common, and so well known, that Hennecken would omit these details or that a person of ordinary skill would “have well known that Hennecken too was disclosing embedding data by shifting a pair of nonparallel stripes[.]” RX-0003C (Jennings WS) at Q/A 280. Further, the passage that Dr. Jennings relies on, RX-0073 at 1:51-2:4, does not disclose, either expressly or inherently, embedding data by shifting a pair of nonparallel stripes. *See* CX-0355C (Messner RWS) at Q/A 59. Accordingly, the administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Hennecken discloses subject matter that satisfies this limitation.

- (2) the data is embedded in the servo signal by shifting a pair of nonparallel stripes along the longitudinal direction of the magnetic tape.

Sony argues, in part:

Claim 2 lastly requires that “the data is embedded in the servo signal by shifting a pair of nonparallel stripes along the longitudinal direction of the magnetic tape.” Hennecken states that:

One method for encoding such additional information is to vary the spacing between one or more low frequency transitions in each set of transitions. For example the second transition in each set may be moved closer to the first transition to indicate a binary one and may be spaced equally between the first and third transitions to indicate a binary zero.

RX-0073 at 1:51-2:4. Mr. Jennings explains that varying the

¹⁰¹ Sony cites Dr. Messner’s hearing testimony. *See, e.g.*, Sony Br. at 335 (citing Messner Tr. 364-365 (*see also* 362-366 for additional context)). At the hearing, Dr. Messner acknowledged that the LTO-1 standard predated the ‘805 Patent and that certain servo concepts were well known prior to the ‘805 Patent. This testimony, however, does not show that the concepts were so well known that they would be omitted from Hennecken.

PUBLIC VERSION

spacing would require shifting pairs of transitions in the longitudinal direction. RX-0003C at Q&A 277.

Sony Br. at 334. As with the preceding limitation, Sony then attacks Dr. Messner's opinion.

Sony Br. at 334-35.

Fujifilm argues:

Rather than the shifting of pairs of nonparallel servo stripes, Hennecken's data embedding technique requires moving only one stripe, which Hennecken calls a transition. In the only example of "shifting" disclosed by Hennecken, "the second transition in each set may be moved closer to the first transition to indicate a binary one and may be spaced equally between the first and third transitions to indicate a binary zero." RX-0073 (Hennecken) at 2:1-4. Thus, Hennecken discloses moving only the "second" transition, not a pair of nonparallel transitions, *see* CX-0355C (Messner RWS) Q:59, and fails to anticipate claim 2 and dependent claim 3.

Fujifilm Br. at 315.

The Staff submits that this limitation is not met. Staff Br. at 100.

Sony has not shown, through clear and convincing evidence, that Hennecken discloses embedding data in the servo signal by shifting a pair of nonparallel stripes along the longitudinal direction of the magnetic tape. As Dr. Messner explained, RX-0073 at 1:51-2:4:

does not disclose, either expressly or inherently, embedding data by shifting a pair of nonparallel stripes. Hennecken's embedding technique requires moving only one stripe, which he calls a transition. In the only example of "shifting" that Hennecken provides, at column 1, line 67 to column 2, line 4, Hennecken explains "the second transition in each set may be moved closer to the first transition to indicate a binary one and may be spaced equally between the first and third transitions to indicate a binary zero." In other words, he suggests moving only the second transition, not a pair of transitions. Contrary to Mr. Jennings' assertion, this passage does not anticipate claim 2.

CX-0355C (Messner RWS) at Q/A 59.

Accordingly, the administrative law judge has determined that Sony has not shown,

PUBLIC VERSION

through clear and convincing evidence, that Hennecken discloses subject matter that satisfies this limitation.

c) *Claims 3 and 10*

- (1) a first step of encoding data for specifying a servo band where the servo signal positions:

Sony argues, in part:

Claims 3 and 10 are each directed to a method of writing the servo bands claimed in claims 2 and 1, respectively. Dr. Messner testified that he was not aware of any company “in the history of the earth” that had ever written servo bands in any way other than “converting encoded data into a recording pulse current.” Tr. at 370:1-13. The method of claims 3 and 10 are thus the only possible method to write the servo bands of claims 1 and 2. RX-0003C (Jennings OWS) at Q&A 257-58. So when Hennecken discloses the servo bands according to claims 1 and 2, the servo writing method of claims 3 and 10 was the method of writing the servo bands necessarily used; Hennecken *inherently* anticipates claims 3 and 10. *Id.*

...

Hennecken discloses the first step of encoding. RX-0003C at Q&A 289. Even if Hennecken did not expressly disclose this step by expressly using the word “encoded” in reference to the servo track number, RX-0073 (Hennecken) at 1:62, Hennecken inherently discloses this limitation because it shows data that is embedded into the servo signal and “it is not possible to simply embed the servo track number without first encoding it.” *Id.* at Q&A 289. Even Dr. Messner testified that “every manufacturer of tape must [perform the encoding step] and do it repeatedly, many, many times.” Tr. at 408:8-9, 409:22-23. Binary servo stripe numbers are not a natural phenomenon. CX-0355C at Q&A 61-62. Even if Hennecken’s servo writer did not itself perform the encoding step, something must have. RX-0003C at Q&A 289.

Sony Br. at 335-36 (emphasis added by Sony), 336-37.

Fujifilm argues:

To attempt to establish that the “encoding” step is disclosed in Hennecken, Mr. Jennings relies on the statements in Hennecken that “a servo stripe number may be encoded in the servo track for

PUBLIC VERSION

coarse transverse location” and “servo data may encode longitudinal position along the length of the tape, transverse position across the width of the tape, tape identification, and the like.” RX-003C (Jennings DWS) Q:289. However, Hennecken’s usage of the word “encoding” corresponds to the “embedding” that is performed in the ‘805 Patent. That is, “encoding” as described in Hennecken is different from “encoding” as recited in claims 3 and 10. *See* CX-0355C (Messner RWS) Q:60, 61. Encoding, as described and claimed in the ‘805 Patent involves translating (or transforming) data (such as an ASCII symbol or a binary sequence) into another form, such as a different binary sequence. *See* Hg. Tr. at 377:22-378:1, 407:17-408:13; JX-0006 (‘805 Patent) at 8:11-17. Sony’s expert, Mr. Jennings, agrees. RX-0003C (Jennings DWS) Q:64, 65 (explaining the difference between “encode” and “embed” as those words are used in the ‘805 Patent); *see also* CX-0355C (Messner RWS) Q:61. Mr. Jennings has therefore failed to identify a disclosure in Hennecken of “encoding,” as that term is used in the ‘805 Patent, anywhere in Hennecken.

Fujifilm Br. at 316.

The Staff submits that this limitation is not met. Staff Br. at 100.

Sony has not shown, through clear and convincing evidence, that Hennecken discloses the first step of encoding data for specifying a servo band where the servo signal positions. As Dr. Messner explained, Hennecken’s “encoding” is different from the ‘805 Patent’s encoding, because Hennecken’s “encoding” corresponds to the “embedding” that is performed in the ‘805 Patent. CX-0355C (Messner RWS) at Q/A 60-62. Accordingly, the administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Hennecken discloses subject matter that satisfies this limitation, as recited in claims 3 and 10.

- (2) a second step of converting the data that is encoded in the first step into a recording pulse current; and

Sony argues, in part:

Hennecken also discloses the second step of converting the encoded data into a recording pulse current. RX-0003C (Jennings OWS) at Q&A 290. Hennecken states that “[c]ontrol logic 190 receives timing read signals 188 and generates control signals for

PUBLIC VERSION

high frequency drivers 192.” RX-0073 (Hennecken) at 9:19-23. The control signals are the encoded data which are then sent to the high frequency drivers. RX-0003C at Q&A 290. The high frequency drivers then necessarily convert that encoded data into a recording pulse current that is supplied to the servo write head. *Id.* Although Dr. Messner’s witness statement questions whether the control signals represent binary data, CX-0355C at Q&A 61-62, Dr. Messner’s testimony at the hearing undermines that position. Tr. at 372:17-22. Mr. Jennings’s testimony confirms Dr. Messner’s hearing testimony that Hennecken discloses the encoding step. RX-0003C at Q&A 244-46.

Sony Br. at 3337.

Fujifilm argues:

Because Hennecken fails to teach the encoding of data in the first step, Hennecken is incapable of disclosing a second step of converting encoded data into a recording pulse current. *See* CX-0355C (Messner RWS) Q:64. Hennecken also fails to disclose the conversion of any data into a recording pulse current. In his witness statement, Mr. Jennings cites to column 9, lines 11 through 28 of Hennecken as allegedly disclosing this feature. RX-0003C (Jennings DWS) Q: 290. The cited passage describes Fig. 9 of Hennecken. Mr. Jennings points out that “timing read signals” are received by a “control logic” module, which generates “control signals” for high frequency drivers. *Id.* Mr. Jennings takes the position that the control signals are “encoded data.” *Id.* Mr. Jennings’ analysis is wrong for several reasons. First, Mr. Jennings again improperly combines disclosures from unrelated embodiments disclosed in Hennecken. *See Net MoneyIn*, 545 F.3d at 1369. Second, this testimony is also inconsistent with Mr. Jennings’ testimony Q:64 where he takes the position that encoded data is binary data. *See* RX-0003C (Jennings DWS) Q:64. Nothing in Hennecken suggests that the control signals are binary encoded data. CX-0355C (Messner RWS) Q:64.

Fujifilm Br. at 316-17. Fujifilm then argues that “there are a number of different ways that the (undisclosed) servo writer of Hennecken’s background disclosure or that of the later-described embodiments could write data to a servo band without converting encoded data into a recording pulse current” and concludes that Mr. Jennings’s testimony about alternative methods is not applicable. *Id.* at 317.

PUBLIC VERSION

The Staff submits that this limitation is not met. Staff Br. at 100.

Sony has not shown, through clear and convincing evidence, that Hennecken discloses the second step of converting encoded data into a recording pulse current. In particular, because Hennecken does not disclose the first step, it also does not disclose the second step. *See* CX-0355C (Messner RWS) at Q/A 63-64. Dr. Messner's testimony provides additional reasons for finding that Hennecken does not disclose the second step. *Id.* Accordingly, the administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Hennecken discloses subject matter that satisfies this limitation, as recited in claims 3 and 10.

- (3) a third step of supplying the recording pulse current to the servo write head and writing on the servo band of the magnetic tape a servo signal in which is embedded the encoded data.

Sony argues:

Mr. Jennings explains how Hennecken's disclosure of Fig 10 & 11 and its written description at 9:29-39 and 10:29-31 discloses to a POSA that when a recording pulse current is applied to the servo write heads, the write heads impart a magnetic flux to the magnetic tape. RX-0003C at Q&A 291. Even Dr. Messner admits that a recording pulse current needs to be supplied to a servo write head to write a servo pattern. CX-0355C at Q&A 154 ("there must be a recording pulse current provided to a write head"); Tr. at 372:17-22. Dr. Messner's rebuttal merely re-hashes why he disagrees with Mr. Jennings regarding steps 1 and 2. *Id.* at Q&A 65. Mr. Jennings's opinion on the third step is thus un rebutted.

Sony Br. at 337.

Fujifilm argues:

Because Hennecken does not teach any encoded data, Hennecken is incapable of disclosing the writing on a servo band of a servo signal in which is embedded encoded data. Moreover, the passages of Hennecken that actually describe a servo writer and writing a servo signal do not embed data for specifying a servo band, or any data at all, in the low frequency transitions (*i.e.*, the servo signal for tracking control). Rather, the only embodiments

PUBLIC VERSION

disclosed by Hennecken write both low frequency and high frequency transitions, where additional data is embedded in the high frequency transitions. *See* RX-003C (Jennings DWS) Q:291; CX-0355C (Messner RWS) Q:64. The sentence in the Background of the Invention that mentions embedding data in the low frequency transitions is not a part of any embodiment of Hennecken's invention. Again, it is improper to combine the background disclosure of Hennecken, which is what Sony is purportedly relying on for anticipation, with the embodiments of the actual invention disclosed by Hennecken in order to prove anticipation. Hennecken could not have been more clear that the background disclosure is distinct from the invention, and they operate on completely different principles. *E.g.*, RX-0073 (Hennecken) at 2:5-23. Therefore, for these additional reasons, Hennecken fails to anticipate claims 3 and 10 of the '805 Patent.

Fujifilm Br. at 318.

The Staff submits that this limitation is not met. Staff Br. at 100.

Sony has not shown, through clear and convincing evidence, that Hennecken discloses the third step of supplying the recording pulse current to the servo write head and writing on the servo band of the magnetic tape a servo signal in which is embedded the encoded data.¹⁰² In particular, inasmuch as Hennecken does not disclose the first step, it also does not disclose the third step. *See* CX-0355C (Messner RWS) at Q/A 65. Dr. Messner's testimony provides additional reasons for finding that Hennecken does not disclose the third step. *Id.* Accordingly, the administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Hennecken discloses subject matter that satisfies this limitation, as recited in claims 3 and 10.

In conclusion, the administrative law judge has determined that Hennecken does not anticipate claims 1, 2, 3, and 10.

¹⁰² The hearing testimony that Sony cites (Messner Tr. 372) relates to the second step of the process, not the third step.

2. Trabert

a) *Claim 1*

- (1) A magnetic tape

The parties do not devote analysis to the preamble. Nonetheless, if the preamble is considered to be limiting, the evidence shows that Trabert discloses a magnetic tape. *See* RX-0003C (Jennings WS) at Q/A 312 (“Trabert undoubtedly discloses the preamble of claim 1.”). Accordingly, the administrative law judge has determined that Trabert discloses subject matter that satisfies the preamble.

- (2) a plurality of servo bands on each of which is written a different servo signal for tracking control of a magnetic head, and

Sony argues:

Fujifilm does not dispute Trabert discloses a plurality of servo bands on each of which is written a servo signal for tracking control of a magnetic head. RX-0003C at Q&A 313-16; RX-0065 at ¶¶ 7, 17.

Sony Br. at 338. Sony then argues against Dr. Messner’s opinion that Trabert does not disclose this limitation, which is the same limitation that Sony reported “Fujifilm does not dispute[.]” *Id.* at 338-39. Sony argues:

In disputing that the data for identifying the servo band is in the servo signal for tracking control, Dr. Messner artificially divides the servo pattern into parts, arguing that the part of the servo signal used to identify the servo bands is different than the part of the servo signal used for tracking control. CX-0355C at Q&A 81. A POSA would not have made such an artificial distinction. Trabert’s servo writer has “a single-coil, multi-gap write element, capable of writing all servo tracks on a tape in one pass.” RX-0065 (Trabert) at ¶ 10. Hence when the recording pulse current is supplied to the write element, all parts of the servo band are written. A POSA would have read Trabert as disclosing a single unified servo signal for tracking control. Dr. Messner’s contrived distinction does not relate to how a POSA would have understood Trabert.

PUBLIC VERSION

Dr. Messner also questions whether Trabert discloses a different signal for each servo band. CX-0355C at Q&A 82. As Mr. Jennings explains, not only does Trabert use the word “different” in his description of the servo patterns used to identify the servo bands, but it expressly states that “any number or combination of servo patterns can be utilized.” RX-0065 (Trabert) at ¶ 45; RX-0003C at Q&A 314. A POSA would understand the combination of the use of the word “different” with “any number... of servo patterns can be utilized” to expressly intend a different servo pattern for each servo band. RX-0003C (Jennings OWS) at Q&A 314.

Id.

Fujifilm argues, in part:

Claim 1 of the ‘805 Patent requires a different servo signal for tracking control written on *each* of the servo bands. JX-0006 (‘805 Patent) at 9:29-31. This is required because, as recited later in the claim, reading the servo signal must enable a servo read head to specify over which servo band it is positioned without referring to other servo bands. *Id.* at 9:34-37. Sony alleges that this limitation is met by Trabert because Fig. 11 of Trabert depicts “two different servo signals among the five servo bands.” RX-0003C (Jennings DWS) Q:315. First, as Dr. Messner has pointed out, any difference between the servo bands of Trabert are due to the extra symbols written thereon, which are *not* a part of the servo signal for tracking control. CX-0355C (Messner RWS) Q:79-81. Further, Sony’s position is contrary to the plain language of what the claim requires and with what is described in the specification of the ‘805 Patent, that is, that a different servo signal is written on *each* servo band. *See id.* Q:82.

Fujifilm Br. at 319-20.

The Staff submits that this limitation is not met. Staff Br. at 101.

Sony has not shown, through clear and convincing evidence, that Trabert discloses a plurality of servo bands with a different servo signal for tracking control of a magnetic head. As Dr. Messner explained, Trabert uses extra symbols on the servo bands, which are not a part of a servo signal for tracking control. CX-0355C (Messner RWS) at Q/A 79-81. Further, Trabert focuses on comparing adjacent servo tracks, which is somewhat inconsistent with using unique

PUBLIC VERSION

servo track identifiers. *Id.* at Q/A 82. Accordingly, the administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Trabert discloses subject matter that satisfies this limitation.

- (3) data is embedded in each servo signal for specifying the servo band corresponding to the data,

Sony argues:

Whether Trabert anticipates the remaining limitations of claim 1 rises and falls on Trabert disclosing embedding different data into the servo signal for tracking control. Trabert discloses “data is embedded in each servo signal for specifying the servo band corresponding to the data” by stating that “information for the servo mechanisms, can be encoded to carry additional useful information, such as identifying the individual servo tracks.” RX-0065 (Trabert) at ¶¶ 7, 17. A POSA would understand “information” as synonymous with “data.” RX-0003C at Q&A 317-19. Although Dr. Messner disagrees, his opinion rises and falls with the prior term, *i.e.*, his position that the servo signal used for tracking control is different than the one used to identify the servo band. CX-0355C at Q&A 83-84.

Sony Br. at 339.

Fujifilm argues:

In every one of the embodiments described in Trabert, including the ones depicted in Figs. 5A-5I, 6A-6I, 7A-7C, 8A-8C, 9A-9C, and 10A-10C, the transitions that identify the servo track are written *separately* from the servo signal for tracking control. *See* CX-0355C (Messner RWS) Q:84; *see also* CDX-0008C at 5, 6, 8, 9 (RX-0065). Therefore, these transitions are not embedded in the servo signal for tracking control, as required by the claims. Claim 19 of Trabert is illuminating on this point. The claim requires “n occurrences” of oppositely inclined symbols (which are used to position the read/write head) and an unspecified number of “remaining occurrences” of either type of inclined symbol, which are used to identify the servo tracks. The “remaining occurrences” are independent of the servo signal for tracking control. *See* CX-0355C (Messner RWS) Q:84. For this additional reason, Trabert fails to anticipate claim 1, or dependent claims 3 and 10, of the ‘805 Patent.

PUBLIC VERSION

Fujifilm Br. at 321.

The Staff submits that this limitation is not met. Staff Br. at 101.

Sony has not shown, through clear and convincing evidence, that Trabert discloses embedding data in each servo signal for specifying the servo band corresponding to the data. As Dr. Messner explained, the transitions described in Trabert are not embedded in the servo signal for tracking control, as required by the claim. CX-0355C (Messner RWS) at Q/A 84. Accordingly, the administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Trabert discloses subject matter that satisfies this limitation.

- (4) wherein reading the data enables a servo read head of the magnetic head to specify on which servo band the servo read head is currently positioned without referring to other servo bands.

Sony argues:

Trabert also discloses that reading the data enables a servo read head of the magnetic head to specify on which servo band the servo read head is currently positioned without referring to other servo bands. Mr. Jennings explains that when each servo band has a different pattern that is different from any of the other servo patterns, that would enable a servo read head to specify on which servo band the servo read head is currently positioned without referring to other servo bands. RX-0003C (Jennings OWS) at Q&A 320. The '805 limitation is not concerned with what a tape drive actually does, but what the servo pattern enables any drive to perform. RX-0003C at Q&A 320. Different patterns means you do not need other servo bands in order to uniquely identify the servo band. *Id.*

Sony Br. at 339-40.

Fujifilm argues:

This claim limitation requires reading of "the data," which refers to the data for specifying a servo band which has been embedded in each servo signal for tracking control. JX-0006 ('805 Patent) at 9:34-37. Thus, Trabert cannot disclose this limitation because, as explained above, Trabert does not embed any data in a servo signal

PUBLIC VERSION

for tracking control.

Moreover, nothing in Trabert suggests enabling a servo read head to specify the servo band over which it is currently positioned without referring to other servo bands. Quite the contrary. As Dr. Messner points out, the invention of Trabert is directed to enabling a read/write head to be positioned over a data band by referring to *adjacent* servo bands. *Id.* Q:87. Paragraph [0040] of Trabert explains that the read/write head is positioned laterally across a tape by reading *any two adjacent servo tracks*. See CDX-0008C at 12 (RX-0083). Table 2 depicts one example of how two different servo patterns (out of five servo bands) can be used to identify four data bands. Nothing in Trabert suggests a servo read head being able to read a single servo band to determine its current position without referring to other servo bands.

Nevertheless, Mr. Jennings states that “[d]ifferent patterns means [sic] you do not need other servo bands in order to uniquely identify the servo band.” RX-0003C (Jennings DWS) Q:320. However, as explained above, Trabert does not disclose *unique* servo signals for tracking control. Trabert, therefore, cannot teach enabling a servo read head to specify on which servo band the read head is currently positioned without referring to other servo bands.

Fujifilm Br. at 321-22.

The Staff submits that this limitation is not met. Staff Br. at 101.

Sony has not shown, through clear and convincing evidence, that Trabert discloses reading data to enable a servo read head to specify the servo band that the servo read head is currently positioned, without referring to other servo bands. As Dr. Messner explained, Trabert operates with reference to adjacent servo bands. CX-0355C (Messner RWS) at Q/A 87. It does not disclose determining a position without referring to adjacent bands, as the claim requires. *Id.* Accordingly, the administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Trabert discloses subject matter that satisfies this limitation.

PUBLIC VERSION

b) *Claim 2*

- (1) the servo signal consists of a plurality of continuous patterns sets each of which pattern is nonparallel stripes, and

Sony's entire argument for claim 2 follows:

As to claim 2, Fujifilm primarily disputes whether Trabert discloses embedding the data for specifying the servo bands by shifting pairs of nonparallel stripes. Fujifilm does not dispute that Trabert discloses the other limitation of claim 2, that "the servo signal consists of a plurality of continuous patterns sets each of which pattern is nonparallel stripes" as depicted in Figs. 2, 3, 4A-I, 5A-I, 6A-I, 7A-C, 8A-C, 9A-C, 10A-C, 11 and 15. RX-0003C at Q&A 323.

As to embedding data by shifting pairs of nonparallel stripes, Trabert states that "the coding of a track lies not in the number of symbols in each group, but in how closely the transitions are spaced" and that "the second track contains a much higher frequency of symbols in some portions than does the first track." RX-0065 (Trabert) at ¶ 39. As Mr. Jennings explains, differences in spacing would result from shifting a pair of nonparallel stripes along the longitudinal direction of the magnetic tape. RX-0003C at Q&A 324. One can see this by overlaying Figs. 9C and 10C. *See* RDX-0123. Dr. Messner opening witness statement admits that the stripes of 10C are shifted to the right. RX-0003C at Q&A 325. Although his rebuttal statement contends the shifting is an "unintentional artifact of the way the figures were drawn," CX-0355C at Q&A 91, he does not explain why the dots at the top of the figures that represent pulse timing line up with such precision. RX-0003C (Jennings OWS) at Q&A 324. That Trabert does not shift its servo stripes in the same way that the '805 Patent depicts is irrelevant, as the claims are not so limited. *Altiris, Inc. v. Symantec Corp.*, 318 F.3d 1363, 1374 (Fed. Cir. 2003).

Sony Br. at 340.

Fujifilm and the Staff do not address this limitation specifically. *See generally* Fujifilm Br., § VII(G)(1)(b)(v); Fujifilm Reply, § VII(B)(2); Staff Br., § VIII(G)(2); Staff Reply, § VII(D).

The evidence shows that Trabert discloses a magnetic tape and a servo signal consisting

PUBLIC VERSION

of a plurality of continuous patterns sets, each of which pattern is nonparallel stripes. *See* RX-0003C(Jennings WS) at Q/A 323. Further, Fujifilm does not appear to dispute that Trabert discloses this limitation. *See generally* Fujifilm Br., § VII(G)(1)(b)(v); Fujifilm Reply, § VII(B)(2). Accordingly, the administrative law judge has determined that Trabert discloses subject matter that satisfies this limitation.

- (2) the data is embedded in the servo signal by shifting a pair of nonparallel stripes along the longitudinal direction of the magnetic tape.

Sony's entire argument for claim 2 is provided immediately above. *See* Part VIII(F)(2)(b)(1), *supra*.

Fujifilm argues:

As explained above, Trabert does not disclose any data that is embedded in the servo signal for tracking control. Rather, servo stripes are *added* to the servo track separate from the servo signal for tracking control. *See* CX-0355C (Messner RWS) Q:90; RX-0087 (Trabert at Abstract, ¶ [0017]. Furthermore, there is no disclosure in Trabert of the claim 2 limitation of shifting of pairs of nonparallel stripes along the longitudinal direction of the magnetic tape. Mr. Jennings' only purported disclosure of this relies on comparing patent figures depicting *two* separate bands that are written independently of each other. CX-0355C (Messner RWS) Q:90 As Dr. Messner has explained, this has nothing to do with the type of shifting of servo stripes claimed by the '805 Patent. *Id.* Sony also chooses to ignore the plain language of claim 2 in that Mr. Jennings fails to identify a single *pair of nonparallel* stripes that is shifted. *Id.* *See also* RX-0003C (Jennings DWS) Q:323-325 (citing RDX-0121, 0122, 0123). None of the limitations of claim 2 are disclosed by Trabert, and Trabert therefore cannot anticipate claim 2 or claim 3.

Fujifilm Br. at 322-23.

The Staff submits that this limitation is not met. Staff Br. at 101.

Sony has not shown, through clear and convincing evidence, that Trabert discloses embedding data in the servo signal by shifting a pair of nonparallel stripes along the longitudinal

direction of the magnetic tape. As discussed above, Trabert does not disclose data that is embedded in the servo signal for tracking control. *See also* CX-0355C (Messner RWS) at Q/A 89. Further, Trabert does not disclose shifting pairs of nonparallel stripes along the longitudinal direction. *See id.* at Q/A 90. Accordingly, the administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Trabert discloses subject matter that satisfies this limitation.

c) Claims 3 and 10

Sony's entire argument follows:

For claims 3 and 10, Fujifilm argues that Trabert does not disclose the first, encoding step, despite the fact that Trabert expressly uses the word "encoding," RX-0065 ¶ 7. Fujifilm does not dispute Trabert discloses the last two steps of the claims. RX-0003C at Q&A 333-34.

As to the first step, Trabert discloses that "[t]he servo tracks . . . can be encoded to carry additional useful information, such as identifying the individual servo tracks." RX-0065 (Trabert) ¶ 7. As Mr. Jennings explains, Trabert has numbered each servo band "1101", "1102", "1103", "1104", and "1105" in Fig. 11. RX-0003C at Q&A 332; RX-0065 at Fig. 11. Those servo band numbers cannot be embedded directly into the servo signal and need to be encoded first. RX-0003C at Q&A 332. "[O]ne must by necessity encode the identity of the servo track before it is embedded into the servo signal." *Id.* Trabert also discloses that "on the hardware side, pattern generator 1212 processes the given pattern and controls the pulse generator 1210 so that the write head 1214 is driven to create the desired pattern." RX-0065 (Trabert) ¶ 41. A POSA would understand the pattern generator processes the pattern, *i.e.*, encodes the data specifying the servo band. RX-0003C at Q&A 331.

Thus, even if Mr. Trabert did not mean "encoding" when he used that word, encoding nonetheless must have occurred before embedding would be possible. All of Trabert cannot be a drafting error. CX-0355C at Q&A 90.

Sony Br. at 341.

Fujifilm's entire argument is:

PUBLIC VERSION

In alleging that Trabert meets this limitation of claims 3 and 10, Sony cites paragraphs [0007] and [0041] of Trabert to support its position. *See, e.g.*, RX-0003C (Jennings DWS) Q: 331. However, paragraph [0007] of Trabert refers to servo tracks that can be “encoded” to carry additional useful information. This, however, is not the “encoding” recited in the Asserted Claims. *See* CX-0355C (Messner RWS) Q:93. Rather, Trabert’s use of the word “encoding” corresponds to what the ‘805 Patent refers to and claims as “embedding” data on the servo track. *Id.* This is a difference that Mr. Jennings has admitted to in his testimony. *See* RX-0003C (Jennings DWS) Q: 64. Therefore, Sony’s allegation that Trabert discloses a “first step of encoding data for specifying a servo band where the servo signal positions” is incorrect. Mr. Jennings’ reliance on reference numerals from Figure 11 (1101, 1102, 1103, etc.) as the data that is allegedly encoded is misplaced. *Id.* Trabert does not encode these reference numerals. *See* CX-0355C (Messner RWS) Q:94. Trabert’s addition of servo stripes in non-unique patterns to differentiate combinations of servo bands does not disclose “encoding” of data.

Fujifilm Br. at 323.

The Staff submits that Trabert does not disclose the first step and is silent on steps two and three. Staff Br. at 101.

Sony has not shown, through clear and convincing evidence, that Trabert discloses the first step of encoding data for specifying a servo band where the servo signal positions. As Dr. Messner explained, Trabert’s use of the word “encoding” corresponds to what the ‘805 Patent refers to, and claims, as “embedding” data on the servo track. CX-0355C (Messner RWS) at Q/A 93. Accordingly, the administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Trabert discloses subject matter that satisfies this limitation, as recited in claims 3 and 10.

With regard to the second and third steps, the evidence shows that Trabert discloses converting the data and supplying the recording pulse current as described in the claims. *See* RX-0003C(Jennings WS) at Q/A 333-34. Further, Fujifilm does not appear to dispute that

PUBLIC VERSION

Trabert discloses these limitations. *See generally* Fujifilm Br., § VII(G)(1)(b)(vi); Fujifilm Reply, § VII(B)(2). Accordingly, the administrative law judge has determined that Trabert discloses subject matter that satisfies these limitations.

In conclusion, the administrative law judge has determined that Trabert does not anticipate claims 1, 2, 3, and 10.

3. Tran

At the outset, Sony argues:

Fujifilm's dispute on Tran anticipating claim 1 focuses on Tran's disclosure of an amplitude based servo pattern, as opposed to a timing based one. *Id.* at Q&A 342. Amplitude based servos use a checkerboard-like pattern of magnetic transitions for tracking control. *Id.* at Q&A 62, 343; RDX-0129. Even though Tran discloses a different type of servo than the embodiments of the '805 Patent depict, claim 1 is *not* limited to timing based servos. *Altiris*, 318 F.3d at 1374 (claims are not limited to the patent's preferred embodiments).

Sony Br. at 342 (emphasis added by Sony).

Fujifilm responds:

Tran relates to a tracking control technology using so-called amplitude-based servo patterns, which, as Dr. Messner explains, operate on a very different principle than the timing-based servo patterns of the '805 Patent. *See* CX-0355C Q:99. Instead of using inclined servo stripes for tracking control for a servo read head, amplitude-based servo patterns use signal erasures in the servo band for the tracking control function. *Id.*; RX-0066 (Tran) at 7:20-22. Because the claims of the '805 Patent relate to the *writing* of servo signals, not to the *erasing* of servo signals, Tran cannot anticipate claim 10 of the '805 Patent.

Fujifilm Br. at 324.

Claims 1 and 10 are discussed below.

PUBLIC VERSION

a) *Claim 1*

(1) A magnetic tape

The parties do not devote analysis to the preamble. Nonetheless, if the preamble is considered to be limiting, the evidence shows that Tran discloses a magnetic tape. *See* RX-0003C (Jennings WS) at Q/A 360 (“Tran indeed discloses a method of manufacturing a magnetic tape.”). Accordingly, the administrative law judge has determined that Tran discloses subject matter that satisfies the preamble.

(2) a plurality of servo bands on each of which is written a different servo signal for tracking control of a magnetic head, and

Sony argues:

Fujifilm also disputes whether Tran describes *writing* the servo signal for tracking control. RX-0003C (Jennings OWS) at Q&A 363-65. Dr. Messner alleges that Tran does not disclose a servo signal for tracking control because the tracking control is provided by erasures rather than a written signal. CX-0355C at Q&A 101. This argument is a distinction without a difference. Mr. Jennings explains that the carrier signal itself has no ability to perform any tracking control function; it is only the *combination* of the erased and non-erased portions of the servo band that together forms the servo signal for tracking control. RX-0003C at Q&A 364. The servo signal for tracking control does not exist until the so-called “erase” elements create it. *Id.* Because the ostensible “erase” elements create the servo signal for tracking control, they are in fact *writing* because they are *creating* the servo signal for tracking control. *Id.* Dr. Messner does not address this point.

Instead, Dr. Messner focuses on the word “erase” without looking how a POSA would understand Tran’s disclosure as a whole. CX-0355C at Q&A 101. Once again, Dr. Messner uses an impermissible *ipsissimis verbis* test. *In re Gleave*, 560 F.3d at 1334. Mr. Jennings specifically cautions “don’t let the differences in words fool you” in explaining the differences in words used by Tran and the ‘805 Patent. RX-0003C at Q&A 359. Indeed, a reference need not use the same words that the claim uses to anticipate the claim. *In re Gleave*, 560 F.3d 1334. In a typical servo writer of the type used in the ‘805 Patent, the tape first passes an AC erase unit before traveling to the servo write head.

PUBLIC VERSION

Id. at Q&A 363. A POSA would understand that Tran's use of the carrier signal is analogous to an AC erase unit—**removing** information. *Id.* at Q&A 364. And then when Tran describes **creating** the servo signal for tracking control by “erasing,” a POSA would understand that to actually be **writing** because it is **creating** a servo signal for tracking control. *Id.* Hence the data is embedded in the servo signal for specifying the servo band.

Sony Br. at 342-43 (emphasis added by Sony). Sony does not cite its expert's testimony that contends Tran anticipates claim 1, although RX-0003C (Jennings WS) at Q/A 359 generically refers to earlier testimony. *See generally id.* (RX-0003C (Jennings WS) at Q/A 354-58, which discuss claim 1, are not cited).

Fujifilm argues, in part:

Tran uses signal erasures, rather than a written servo signal, to provide tracking control of a servo read head. CX-0355C (Messner RWS) Q:101. This is illustrated in Fig. 3 of RX-0066 (Tran), which depicts a written servo carrier signal 63 that is the same along the entirety of each servo band, and various portions 62, which are regions of the servo track where the carrier signal has been erased. As Dr. Messner has explained, these erased portions 62 are what provide the tracking control. *Id.*

Fujifilm Br. at 324.

The Staff submits that this limitation is not met. Staff Br. at 102.

Sony has not shown, through clear and convincing evidence, that Tran discloses a plurality of servo bands with a different servo signal for tracking control of a magnetic head. As Dr. Messner explained, Tran “uses erasures, not a written signal, in order to provide tracking control.” CX-0355C (Messner RWS) at Q/A 101. Sony and Mr. Jennings's arguments that erasing is “in fact writing” conflates two opposite concepts—*i.e.*, writing and erasing.¹⁰³

¹⁰³ If Sony believed that writing and erasing were equivalent, it should have proposed a claim construction that encompassed these two opposite concepts. The plain and ordinary meaning of “write” does not encompass erasing. Further, Sony's assertion that “Dr. Messner does not

PUBLIC VERSION

Accordingly, the administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Tran discloses subject matter that satisfies this limitation.

- (3) data is embedded in each servo signal for specifying the servo band corresponding to the data,

For the third and fourth limitations, Sony argues:

As to the other limitations of claim 1, Fujifilm does not contest that Tran discloses magnetic tape (RX-0003C at Q&A 350), with “a plurality of servo bands on each of which is... a different servo signal for tracking control of a magnetic head” (*id.* at Q&A 351-53), where “data is embedded in each servo signal for specifying the servo band corresponding to the data” (*id.* at Q&A 354-57), or that that “reading the data enables a servo read head of the magnetic head to specify on which servo band the servo read head is currently positioned without referring to other servo bands” (*id.* at Q&A 358).

Sony Br. at 343.

Fujifilm and the Staff do not address these limitations specifically. *See generally* Fujifilm Br., § VII(G)(1)(c); Fujifilm Reply, § VII(B)(3); Staff Br., § VIII(G)(3); Staff Reply, § VII(D).

With regard to the third and fourth limitations, the evidence shows that Tran discloses data embedded for specifying a servo band and reading data to obtain a servo read head position without referring to other servo bands. *See* RX-0003C(Jennings WS) at Q/A 354-57. Further, Fujifilm does not appear to dispute that Tran discloses these limitations. *See generally* Fujifilm Br., § VII(G)(1)(c); Fujifilm Reply, § VII(B)(3). Accordingly, the administrative law judge has determined that Tran discloses subject matter that satisfies these limitations.

address this point”—when he clearly addresses Mr. Jennings’s erase/write conflation—lessens the persuasiveness of Sony’s brief.

PUBLIC VERSION

- (4) wherein reading the data enables a servo read head of the magnetic head to specify on which servo band the servo read head is currently positioned without referring to other servo bands.

As discussed in the section immediately above, the administrative law judge has determined that Tran discloses subject matter that satisfies this limitation.

b) Claims 2 and 3

The administrative law judge notes that Sony does not argue that Tran anticipates claims 2 and 3. *See* Sony Br., § VIII(G)(c).

c) Claim 10

- (1) a first step of encoding data for specifying a servo band where the servo signal positions:

Sony argues:

Fujifilm contests whether Tran discloses a first step of encoding, even though, like Trabert, Tran expressly uses the word “encode,” including in the title of the patent. CX-0355C at Q&A 103; RX-0083 (Tran) at 1 (“*Encoded* Servo Track Configurations, Servo Writer and Systems/Methods Regarding Same”). A POSA would have known that to have data embedded in the servo signal, it first must be encoded. RX-0003C at Q&A 362. Dr. Messner even testified that “every manufacturer of tape must [perform the encoding step] and do it repeatedly, many, many times.” Tr. at 408:8-9, 409:22-23. Tran states that “the encoded information is provided by varying the length of one or more erased portions.” RX-0083 (Tran) at 3:23-25. Trans describes taking the identification data and transforming it into a different form: the length of the erased portions. RX-0003C (Jennings OWS) at Q&A 362.

Sony Br. at 343-44 (emphasis added by Sony).

Fujifilm argues:

In its allegations that Tran meets this limitation of claim 10, Sony again cites to passages which, rather than disclosing “encoding” within the meaning of the claim limitation, instead disclose “embedding” as disclosed in the ‘805 Patent. *See, e.g.* RDX-0003C (Jennings DWS) Q:361. *See also* RDX-0136 (‘805

PUBLIC VERSION

Invalidity Slide 44) (citing passages from Tran that Mr. Jennings alleges show a first step of encoding). Yet Mr. Jennings also acknowledges the distinction between “encoding” and “embedding.” RDX-0003 (Jennings DWS) Q:64, 65, 362. Mr. Jennings therefore falls back to an inherency argument that Tran must be encoding some information because Tran varies the length of the erased portions in order to enable the identification of a servo band. *Id.* at 362. But Mr. Jennings fails to identify any *data* that is actually “encoded,” as required by claim 10. *See* RX-0003 (Jennings DWS) Q:362 (alleging “each servo band has some name, number, or positional order ascribed to it,” but failing to identify any such disclosure in Tran); *see also* CX-0355C (Messner) Q:103, 104. Tran does not disclose a first step of encoding data, as recited in claim 10.

Fujifilm Br. at 325.

The Staff submits that this limitation is not met. Staff Br. at 102.

Sony has not shown, through clear and convincing evidence, that Tran discloses the first step of encoding data for specifying a servo band where the servo signal positions. As Dr. Messner explained, Tran’s “encoding” is different from the ‘805 Patent’s encoding. CX-0355C (Messner RWS) at Q/A 102-04. For example, the passages of Tran that Mr. Jennings relies on relate to embedding, not encoding. *Id.* at Q/A 103-04. Accordingly, the administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Tran discloses subject matter that satisfies this limitation.

- (2) a second step of converting the data that is encoded in the first step into a recording pulse current; and

Sony argues:

Dr. Messner’s position on the second step merely reiterates his prior contention that Tran does not disclose writing a servo signal for tracking control. CX-0355C (Messner RWS) at Q&A 106. As explained above, Dr. Messner ignores the fundamentals of magnetic recording theory, and instead incorrectly focuses on the exact words used. *In re Gleave*, 560 F.3d at 1334. A POSA would understand the carrier signal as no different than the output of the AC erase unit, and then a separate core creates the signal for

PUBLIC VERSION

tracking control, in which the encoded data for specifying the servo band is embedded. RX-0003C at Q&A 363-65.

Sony Br. at 344.

Fujifilm argues:

Because Tran does not disclose the encoding of data in the first step, Tran cannot convert any encoded data. Even if Tran did encode data in the first step, Tran does not convert *any* data into a recording *pulse current*. In his witness statement, Mr. Jennings equates, without any explanation, Tran's high frequency signal used for erasing information with a recording pulse current. *See* RX-0003C (Jennings DWS) Q:366. A high frequency signal, however, is *not* a pulse current. *See* CX-0355C (Messner RWS) Q:106.

Furthermore, in his response to Question 366 of his witness statement, Mr. Jennings also conflates two opposite concepts, the concepts of writing to a magnetic tape and erasing from a magnetic tape. As Dr. Messner explains, writing stripes on a magnetic tape is not the same as erasing those stripes. *Id.* Moreover, Tran itself clearly discloses that writing and erasing *are* different. As discussed above, in Fig. 2 of Tran, element 154 is the element that writes a servo carrier signal across the entire width of a servo band. *See also* RX-0083 (Tran) at 9:11-15. By contrast, servo erase elements 152 erase portions of an already written servo carrier signal. *Id.* at 9:15-16. As Dr. Messner has testified, and as Tran teaches, writing and erasing are different. CX-0355C (Messner RWS) Q:101. The erase elements of Tran, which create the servo signal for tracking control on the magnetic tape, are not activated by a recording pulse current. *See id.* Q:106. Tran does not meet this limitation of claim 10.

Fujifilm Br. at 326-27.

The Staff submits that this limitation is not met. Staff Br. at 102.

Sony has not shown, through clear and convincing evidence, that Tran discloses the second step of converting encoded data into a recording pulse current. In particular, because Tran does not disclose the first step, it also does not disclose the second step. *See* CX-0355C (Messner RWS) at Q/A 106. Additionally, Tran's high frequency erase signal is not a recording

PUBLIC VERSION

pulse current. *Id.* Accordingly, the administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Tran discloses subject matter that satisfies this limitation.

- (3) a third step of supplying the recording pulse current to the servo write head and writing on the servo band of the magnetic tape a servo signal in which is embedded the encoded data.

Sony argues:

Dr. Messner's contentions regarding the final step do nothing more than reiterate his prior arguments. CX-0355C at Q&A 106. But for the above reasons, Dr. Messner is mistaken. RX-0003C at Q&A 341.

Sony Br. at 344.

Fujifilm argues:

As explained above, Tran does not disclose (1) any encoded data and, therefore, cannot disclose the writing of a servo signal on a servo band in which is embedded any encoded data, or (2) a recording pulse current that can be supplied to a write head to write a servo signal on the servo band of a magnetic tape. Moreover, even assuming the high frequency erase signal is a pulse current, the high frequency signal is *not* supplied to a servo *write* head and a servo signal in which is embedded encoded data is not *written*. See CX-0355C (Messner RWS) Q:106. Therefore, Tran does not disclose this limitation.

Fujifilm Br. at 327.

The Staff submits that this limitation is not met. Staff Br. at 100.

Sony has not shown, through clear and convincing evidence, that Tran discloses the third step of supplying the recording pulse current to the servo write head and writing on the servo band of the magnetic tape a servo signal in which is embedded the encoded data. In particular, because Tran does not disclose the first step, it also does not disclose the third step. See CX-0355C (Messner RWS) at Q/A 107. Additionally, as Dr. Messner explained, "the high frequency

PUBLIC VERSION

signal is not supplied to a servo write head and a servo signal in which is embedded encoded data is not written.” *Id.* Accordingly, the administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Tran discloses subject matter that satisfies this limitation.

In conclusion, the administrative law judge has determined that Tran does not anticipate claims 1, 2, 3, and 10.

G. Obviousness

1. Hennecken

Sony argues, in part:

Dr. Messner contends Hennecken does not disclose embedding data for specifying the servo band in the servo signal for tracking control, but even if that were the case (it is not), doing so would have been obvious because Hennecken discloses only two locations in which to embed data: the high frequency transitions, and the low frequency transitions that are used for tracking control. RX-0003C (Jennings OWS) at Q&A 297. Indeed, embedding data for specifying the servo band in the servo signal for tracking control would have been nothing more than simple substitution by using one location instead of other. *KSR*, 550 U.S. at 416. Hennecken discloses only two possible locations for embedding information in the servo band pattern: the high and low frequency transitions. RX-0003C at Q&A 297. As these are the only two possible locations, it would have been obvious to try using the low frequency transitions to embed the identity of the servo bands. *In re Kubin*, 561 F.3d at 1360. And a POSA would have had at least a reasonable expectation of successfully using either location. RX-0003C at Q&A 307-08.

Sony Br. at 344-45. Sony then argues that Hennecken does not teach away from embedding data for specifying the servo band in the servo signal for tracking control. *Id.*

Fujifilm argues that Hennecken does not teach this limitation (*see* Part VIII(F)(1), *supra*) and that Hennecken teaches away:

Hennecken, however, clearly teaches away from the very

PUBLIC VERSION

combination and modifications that Sony and Mr. Jennings propose to arrive at the claimed invention. *See* CX-0355C (Messner RWS) Q:68. "A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference..." *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994). Hennecken discourages varying the spacing between low frequency transitions in order to embed data therein for identifying a servo band by identifying *four* distinct problems associated with the technique, including that: (1) the rate of information transfer would be too low; (2) the technique would require complicated logic in the tape access system to correctly interpret transition spacings when reading the tape in either direction; (3) the problems with reading the servo waveforms using this technique would require additional electronics to correctly interpret the waveform; and (4) using typical servo writing techniques, the low frequency pattern **cannot** contain any information that varies between the servo tracks, such as a servo stripe number. RX-0073 (Hennecken) at 2:5-19. Indeed, as Dr. Messner points out, this last problem expressly disparages a key aspect of the '805 Patent. *See* CX-0355C (Messner RWS) Q:68.

Fujifilm Br. at 327-28.

The Staff argues that the claims of the '805 Patent would not have been obvious in light of Hennecken because Hennecken does not disclose multiple limitations from the claims. Staff Br. at 99-100.

At the hearing, Mr. Jennings testified as follows:

Q. And in the background section of Hennecken -- and we can pull up Hennecken and look at that, but the background section of Hennecken, you would agree, is telling one of ordinary skill in the art not to embed servo band IDs using a technique like Albrecht's; correct?

A. In his main invention, he is describing that he would -- he prefers not to, yes.

Q. He gives actually four reasons in the background as to why one of ordinary skill in the art would not want to do that; correct?

A. Correct.

Jennings Tr. 553.¹⁰⁴

The administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Hennecken discloses multiple limitations from the asserted claims.

See Part VIII(F)(1), *supra*. Sony's obviousness arguments do not provide a basis for finding that Hennecken discloses these elements.

Sony has not provided a sufficient rationale for why one of ordinary skill in the art would modify Hennecken as suggested. *See* CX-0355C (Messner RWS) at Q/A 68. Further, Hennecken teaches away from the modification, as shown by Mr. Jennings's hearing testimony and Dr. Messner's witness statement.¹⁰⁵ Jennings Tr. 553; *see also* CX-0355C (Messner RWS) at Q/A 68-70.

¹⁰⁴ Dr. Messner testified that:

Hennecken very clearly teaches away from embedding data—such as an identifier for a servo band—into the low frequency transitions. Turning to CDX-0008C (Messner Reb. Demos.), at page 4, as shown in the Background of the Invention, Hennecken identifies not one, but four distinct problems associated with varying the spacing between low frequency transitions in order to embed data therein. Hennecken states that the rate of information transfer would be low, and that the technique would require complicated logic in the tape access system to correctly interpret transition spacings when reading the tape in either direction. Hennecken also identifies problems with reading the servo waveforms using this technique, which would require additional electronics to correctly interpret the waveform. Finally, Hennecken stated that using typical servo writing techniques, the low frequency pattern cannot—Hennecken actually uses the word “cannot”—contain any information that varies between the servo tracks, such as a servo stripe number. Indeed, this last problem expressly teaches away from an important part of the very solution that Mr. Nakao came up with. Hennecken then concludes that a different solution is needed.

CX-0355C (Messner RWS) at Q/A 68 (Q/A 68-71 provided exposition).

¹⁰⁵ The administrative law judge has also determined that it would not have been obvious to try the modification, as Sony argues, in view of the teaching away determination.

PUBLIC VERSION

Accordingly, the administrative law judge finds that claims 1, 2, 3, and 10 would not have been obvious over Hennecken alone because Hennecken does not disclose all of the limitations of those claims and because Sony has not shown one of ordinary skill in the art would have modified Hennecken as Sony suggests.

2. Trabert

Sony's entire argument is:

As described above, Trabert anticipates claims 3 and 10 of the '805 Patent. It also renders claims 3 and 10 obvious. As Mr. Jennings explains, the whole purpose of Trabert is to disclose a method of identifying the servo band over which a servo read head is positioned. RX-0003C at Q&A 313. Dr. Messner argues that Trabert does not expressly teach using a different servo signal which would enable a servo read head of the magnetic head to specify on which servo band the servo read head is currently positioned without referring to other servo bands. But paragraph 45 of Trabert makes clear that it contemplated having uniquely different servo signal in each of the servo bands to embed the servo band's identity. RX-0003C (Jennings OWS) at Q&A 336. No additional changes would be required to use a uniquely different servo signal in each of the servo bands. *Id.* at Q&A 337. A POSA would have had at least a reasonable expectation that using a different servo signal for each servo band would have been successful to identify the servo bands without reference to the other servo bands. *Id.* at Q&A 339. *KSR*, 550 U.S. at 416; *In re Kubin*, 561 F.3d at 1360.

Sony Br. at 345-46.

Fujifilm argues, in part:

Mr. Jennings has failed to explain in any meaningful way how or why one of skill in the art would modify Trabert to cure the deficiencies of Trabert. *See id.* Q:96. Trabert lacks any teaching or suggestion of embedding in a servo signal for tracking control data for specifying a servo band as required by claim 1. *See id.* Q:83. Trabert also fails to teach or suggest writing a different servo signal for tracking control on each of a plurality of servo band and fails to teach or suggest enabling a servo read head to specify on which servo band the servo read head is positioned without referring to other servo bands, both of which are also

PUBLIC VERSION

required by claim 1. *See id.* Q:82. Trabert also fails to teach or suggest the shifting of nonparallel servo stripes as required by claim 2. *See id.* Q:88-91. Finally, Trabert fails to teach or suggest a first step of encoding data for specifying a servo band where the servo signal positions as required by both claims 3 and 10. *See id.* Q:92-94. The modifications that would be required to bring Trabert within the scope of the claims would completely change how Trabert works and, in several instances, make no sense in the context of Trabert, e.g., shifting pairs of nonparallel servo stripes. *See id.* Q:96. Mr. Jennings has not offered any credible reason why one of ordinary skill in the art would choose to make these modifications. “[S]ome kind of motivation must be shown from some source . . . why a person of ordinary skill would have thought of either combining two or more references or modifying one to achieve the patented method.” *I/P Engine, Inc. v. AOL Inc.*, 576 F. App’x 982, 999 (Fed. Cir. 2014) (*quoting N.V. v. Abbott Labs.*, 512 F.3d 1363, 1274 (Fed. Cir. 2008)). Again, Mr. Jennings is engaging in improper hindsight reconstruction of the claimed invention using the ‘805 Patent as a roadmap.

Fujifilm Br. at 330-31.

The Staff argues that the claims of the ‘805 Patent would not have been obvious in light of Trabert, because Trabert does not disclose multiple limitations from the claims. Staff Br. at 100-101.

The administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Trabert discloses multiple limitations from the asserted claims. *See* Part VIII(F)(2), *supra*. Sony’s obviousness arguments do not provide a basis for finding that Trabert discloses these elements.

Sony also has not provided a sufficient rationale for why one of ordinary skill in the art would modify Trabert as suggested. *See* CX-0355C (Messner RWS) at Q/A 96. Further, modifying Trabert would alter its principle of operation. *Id.* at 96.

Accordingly, the administrative law judge finds that claims 1, 2, 3, and 10 would not have been obvious over Trabert alone because Trabert does not disclose all of the limitations of

those claims and because Sony has not shown one of ordinary skill in the art would have modified Trabert as Sony suggests.

3. Tran

Sony's entire argument is:

As described above, Tran anticipates claim 10 of the '805 Patent. It also renders claim 10 obvious. As Mr. Jennings explains, the three step method of (1) encoding, (2) converting and (3) embedding were well known in the magnetic recording industry to be the preferred method of writing servo bands. RX-0003C at Q&A 368-69; RX-0082 (Jorgensen) (as evidence of the knowledge of a POSA). Even Dr. Messner is not aware of any company "in the history of the earth" that has ever written servo bands in any way other than "converting encoded data into a recording pulse current." Tr. at 370:1-13. To the extent Tran does not disclose this three step method, Mr. Jennings explains that a POSA would have used their knowledge of servo writing to write the servo pattern described by Tran in order to uniquely identify the servo band over which the servo read head is positioned. RX-0003C at Q&A 369.

Sony Br. at 346.

Fujifilm's entire argument is:

Sony's allegations regarding the obviousness of claim 10 in view of Tran are conclusory and lacking in any meaningful analysis. In particular, Mr. Jennings opines that, because servo writing was well known by the early 2000s (as taught in another reference, Jorgensen, that Mr. Jennings did not rely on as part of an invalidating combination), claim 10 would be obvious in view of Tran. See RX-0003C (Jennings DWS) Q: 368, 369. However, as explained above, because Tran discloses an amplitude-based servo writer, Tran provides for the identification of servo bands by *erasing* portions of a servo carrier signal, not by *writing* a servo signal having encoded data for identifying a servo band embedded therein. See CX-0355C (Messner RWS) Q: 108. Tran therefore teaches the *opposite* of what is claimed. When the teachings of the prior art are opposite to what is claimed, the invention at issue is not obvious. See *Daiichi Sankyo Co., Ltd. v. Mylan Pharm. Inc.*, 670 F. Supp. 2d 359, 379 (D.N.J. 2009). Far from rendering claim 10 obvious, there is, in fact, no modification to an amplitude-based servo writer like Tran's that could be made to arrive at the servo

PUBLIC VERSION

writing techniques of claim 10 of the '805 Patent. *See* CX-0355C (Messner RWS) Q:108.

Fujifilm Br. at 331.

The Staff argues that the claims of the '805 Patent would not have been obvious in light of Tran, because Tran does not disclose multiple limitations from the claims and because it operates on a different principle. Staff Br. at 101-02.

The administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Tran discloses multiple limitations from the asserted claims. *See* Part VIII(F)(3), *supra*. Sony's obviousness arguments do not provide a basis for finding that Tran discloses these elements.

Sony also has not provided a sufficient rationale for why one of ordinary skill in the art would modify Tran as suggested. *See* CX-0355C (Messner RWS) at Q/A 108. Further, modifying Tran would alter its principle of operation. *Id.* ("Tran is directed to an amplitude-based servo writer, while the '805 Patent is directed to a timing-based servo writer. The underlying theory of each is completely different from the other.").

Accordingly, the administrative law judge finds that claims 1, 2, 3, and 10 would not have been obvious over Tran alone because Tran does not disclose all of the limitations of those claims and because Sony has not shown one of ordinary skill in the art would have modified Tran as Sony suggests.

4. Hennecken and Albrecht II

Sony argues that the asserted claims would have been obvious over Hennecken in view of Albrecht II (RX-0066).¹⁰⁶ Sony Br., § VIII(G)(2)(d).

Sony argues that Albrecht II discloses "embedding encoded data within a timing based

¹⁰⁶ Albrecht II is U.S. Patent No. 5,930,065.

servo pattern by shifting the nonparallel pairs of servo stripes in the longitudinal direction.”

Sony Br. at 347. Sony then argues:

Although Albrecht II does not explicitly disclose that the different data encoded into the servo bands is used for identifying the servo band, Hennecken does. RX-0003C at Q&A 372. And both references disclose the three steps of servo writing that have been used for half a century. *Id.* at Q&A 388-396. Hence the combination of Albrecht II and Hennecken discloses each and every limitation of the claims. *Id.* at Q&A 374-97.

Id. In providing a rationale for combining the references, Sony argues:

As to a motivation to combine, Mr. Jennings explains that starting with Hennecken’s disclosure of embedding the servo track number in the low frequency transitions, it would have been a matter of simple substitution to use the use the method of shifting the non-parallel servo stripes in the longitudinal direction disclosed by Albrecht II by encoding the servo track number into the low frequency transitions of Hennecken. *Id.* at Q&A 398. And it would have been obvious to try. *Id.* at Q&A 399. Although Dr. Messner once again alleges that Hennecken teaches away from embedding data in the low frequency transitions, CX-0355C at Q&A 122-124, that fails to address why a POSA would have been dissuaded from using Albrecht II’s method of embedding encoded data when that method’s starting point already has that the data in the low frequency transitions. The passage that Dr. Messner cites has nothing to do with using Albrecht II’s method of embedding encoded data, and only where the data is encoded—something that **would not have changed**. Dr. Messner’s criticism misses its mark.

As to the motivation of starting with Albrecht II, which discloses the robust method of embedding a wide variety of encoded data, and then desiring to embed the servo band number in order to uniquely specify the servo band corresponding to the data, Mr. Jennings explains that making such a combination would have been a matter of simple substitution. RX-0003C at Q&A 393. A POSA would have been motivated to make the combination, to increase the off-track budget for the tape. *Id.* at Q&A 400-02. Dr. Messner never addresses this motivation.

And as Mr. Jennings explains, a POSA would have had a reasonable expectation of success in making the combination: the proven track record that Albrecht II’s method of encoding had already achieved with the introduction of LTO-1. *Id.* at Q&A

PUBLIC VERSION

406. Dr. Messner's reference to Mr. Taylor once again misses the point, as there is no evidence of what Mr. Taylor was attempting to achieve, and no evidence he was evaluating the combination of Albrecht II and Hennecken. That the Patent Office had before it both Albrecht II and Hennecken is not relevant given the strong case of obviousness. The Federal Circuit routinely invalidates claims as obvious over art that was before the Patent Office. *See, e.g., Scanner Techs. Corp. v. ICOS Vision Sys. Corp. N.V.*, 528 F.3d 1365, 1380 (Fed. Cir. 2008); *PharmaStem Therapeutics, Inc. v. ViaCell, Inc.*, 491 F.3d 1342 (Fed. Cir. 2007).

Id. at 348-49.

Fujifilm argues "Albrecht II fails to teach or suggest a magnetic tape having a servo band written thereon that enables a servo read head to specify on which servo band the servo read head is currently positioned without referring to other servo bands." Fujifilm Br. at 332 (this is limitation 1[d]). Fujifilm argues that the passages Sony cites do not "have anything to do with the identification of a servo band." *Id.* Fujifilm also argues that Sony has not identified "in Albrecht II a first step of encoding data for specifying a servo band where the servo signal positions." *Id.* at 333. Fujifilm concludes by arguing that Hennecken teaches away from a combination with Albrecht II. *Id.* at 334.

Sony's reply clarifies that it relies on Hennecken for disclosing limitation 1d. Sony Reply at 118-19. Sony then argues that if Albrecht II does not explicitly disclose the first step of claim 3, then it implicitly discloses the limitation. *Id.* at 119.

The Staff argues:

Sony contends that claims 3 and 10 of the '805 Patent are obvious in view of Albrecht II and Hennecken. Resps. P.H. Br. at 82. However, as discussed above, Hennecken fails to disclose or suggest each limitation of claims 3 and 10 of the '805 Patent. Compls. P.H. Br. at 304-314; CX-355C (Messner) at Q/A 39-73. In addition, Sony concedes that Albrecht II fails to teach or suggest embedding a servo band identifier in the non-parallel chevrons. *See* RX-0003C (Jennings WS) at Q/A 372. But even if each limitation of claims 3 and 10 of the '805 Patent were found in

PUBLIC VERSION

those references, Sony has not shown that one skilled in the art would be motivated to combine the teachings of Albrecht II and Hennecken. Compls. P.H. Br. at 304-314; CX-355C (Messner) at Q/A 110-130. For example, Hennecken teaches away from the asserted combination, explaining why varying the spacing between low frequency channels should not be done. CX-355C (Messner) at Q/A 110-130; Compls. P.H. Br. at 327.

Staff Br. at 102-03.

The evidence does not show that the prior art (Hennecken and Albrecht II) discloses reading data to enable a servo read head to specify the servo band that the servo read head is currently positioned, without referring to other servo bands. As Dr. Messner explained, Albrecht II does not disclose the encoding of data, as required by claim 3 and 10. *See* CX-0355C (Messner RWS) at Q/A 117. *Id.* Accordingly, the administrative law judge has determined that Sony has not shown, through clear and convincing evidence, that Albrecht II (or Hennecken) discloses subject matter that satisfies this limitation.

Additionally, Sony has not shown that one of ordinary skill in the art would modify Hennecken in view of Albrecht II. Hennecken explains that low frequency transitions should not be modified. RX-0073 at 2:20-23; *see also* CX-0355C (Messner RWS) Q/A 122. Mr. Jennings also acknowledged that Hennecken teaches away from the proposed modification. Jennings Tr. 553.

Thus, the administrative law judge finds that claims 3 and 10 would not have been obvious over Hennecken and Albrecht II.

5. Secondary Considerations¹⁰⁷

Fujifilm argues “overwhelming objective evidence in the form of skepticism and failure

¹⁰⁷ Sony has argued that there is no nexus between secondary consideration evidence and the asserted claims and includes “nexus” as a separate secondary consideration issue. *See, e.g.*, Joint Outline at 4. The administrative law judge has considered Sony’s nexus arguments within the context of each secondary consideration topic.

PUBLIC VERSION

of others, commercial success of the inventions in the Asserted Claims, copying and attempts to license overcomes any such claim of obviousness.” Fujifilm Br. at 337.

Sony, in general, disputes Fujifilm’s allegations and argues that Sony has not shown a nexus between the evidence and the claims. Sony Br. at 349-51.

The Staff agrees with Sony. Staff Br. at 103 (the Staff does not discuss the secondary considerations individually).

a) Skepticism of Others

Fujifilm argues that Hennecken establishes skepticism of others. Fujifilm Br. at 337-39. Fujifilm also argues that Mr. Jennings’s argument that a half-century old method shows the invention would have been obvious actually supports Fujifilm. *Id.* at 339 (citing *Leo Pharmaceutical Products, Ltd. v. Rea*, 726 F.3d 1346 at 1356 (Fed. Cir. 2013) for the proposition that “The elapsed time between the prior art and the [] patent’s filing date evinces that the [] patent’s claimed invention was not obvious to try.”).

Sony argues, in part:

First, the passage Dr. Messner refers to relates to embedding encoded data into the timing based servo signal generally, and does not specifically address any difficulties in embedding encoded data to uniquely specify the servo band. Yet that is what Fujifilm claims it invented. CX-0001C at Q&A 56; ‘805 Patent at 5:57-62. Embedding encoded data in the servo signal for tracking control was already widely known. There simply is no nexus between Hennecken’s commentary on embedding encoded data generally and the claimed invention. Second, a POSA simply would not have viewed this passage as teaching away, much less as skepticism, given the earlier successful introduction of Hennecken’s method in LTO-1. RX-0003C at Q&A 298-306. There was no skepticism.

Sony Br. at 350.

The administrative law judge has determined that the argument that Fujifilm presents,

PUBLIC VERSION

and evidence it cites, is cumulative of its teaching away argument. The administrative law judge has already credited Fujifilm's arguments above. Further, Fujifilm has not shown skepticism from evidence apart from Hennecken. Accordingly, while Fujifilm's arguments show a teaching away, the administrative law judge finds that Fujifilm has not shown skepticism of others.

b) Failure of Others

Fujifilm argues:

Moreover, others besides Hennecken had worked on improving the two-read-head servo systems of the prior art without arriving at the claimed inventions of the '805 Patent. [

(Messner RWS) at 39-147. [

]. See CX-0355C
]. The evidence of skepticism and teaching away, coupled with the failure of others,

PUBLIC VERSION

strongly reinforces the non-obviousness of the inventions in the Asserted Claims of the '805 Patent.

Fujifilm Br. at 339-40.

Sony argues:

Dr. Messner alleges that [], but failed. CX-0355C at Q&A 135-36. Other than Dr. Messner's bare assertion, there is no evidence that []. By Dr. Messner's own admission, []. CX-0355C at Q&A 31. And Dr. Messner's explanation of []

[]. It does not take a flash of genius to simply embed the servo band number into the servo signal as Hennecken discloses.

Sony Br. at 350.

The evidence does not show that []

].

Accordingly, Fujifilm has not shown that this secondary consideration supports a finding of non-obviousness.

c) Commercial Success

Fujifilm argues:

The Asserted Claims of the '805 Patent also improve the functionality of magnetic tapes. As explained above, the inventions in the '805 Patent enable accurate tracking and more efficient use of servo signals and read heads with reduced manufacturing cost and improved reliability. *See also* CX-0355C (Messner RWS) Q:138-141; CX-0007C (Nakao DWS) Q:31-32. Prior to the inventions in the '805 Patent, the conventional methods for determining the servo band over which a servo read

PUBLIC VERSION

head was positioned required reading data from high density magnetic tapes on two adjacent servo bands and simultaneously comparing them. *See* CX-0355C (Messner RWS) Q:138-141; CX-0007C (Nakao DWS) Q:31-32; JX-0006 ('805 Patent) at 1:32-55. These comparisons necessarily involved computations of servo band positions at a high frequency, which required several signal processing elements in an already compact circuitry of a magnetic head. *See* JX-0006 ('805 Patent) at 1:32-40. The frequent comparisons were also subject to errors especially when one of the two servo read heads became blocked or clogged. *See id.* at 1:32-40; *see also* CX-0355C (Messner RWS) Q:138-141; CX-0007C (Nakao DWS) Q:31-32. The inventions of the '805 Patent simplified servo reading and the computations required by the drive head, resulting in a simplified manufacturing process with attendant cost savings for the drive manufacturers, as explained in the '805 Patent. *See* JX-0006 ('805 Patent) at 1:32-48, 6:55-7:2; *see also* CX-0355C (Messner RWS) Q:138-141; CX-0007C (Nakao DWS) Q:31-32. These benefits convinced drive manufacturers (*e.g.*, IBM and HPE) to require magnetic tapes practicing the inventions of claims 1 and 2 of the '805 Patent to be used with their drives, first in IBM's 3592 tapes and then in LTO-7 tapes. *See* CX-0355 (Messner RWS) Q:138; CX-0007C (Nakao DWS) Q:43, 44.

Fujifilm Br. at 340-41.

Sony argues:

In addition, Dr. Messner maintains that Fujifilm's alleged commercial success is connected to the claimed invention. CX-0355C at Q&A 138. But LTO-7 does not use the very benefit that he alleges provides the nexus with Fujifilm's alleged commercial success. LTO-7 requires that all servo bands be available for the drive to use all the time. RX-0003C (Jennings OWS) at Q&A 415-19. Thus, LTO-7 does not use the very feature the claims enable. What is more, Mr. Jennings explains that [

]. *Id.* at 412-13. And lastly, Mr. Jennings explains that based on his decades in the magnetic tape industry, "sales of a product such as LTO-7, which meet a particular widely used standard, are driven due to the compliance with the standard, not any particular claims that are essential to practice the standard such as the claims of the '805 Patent." *Id.* at 414. Dr. Messner never rebuts this observation.

Sony Br. at 351.

PUBLIC VERSION

The evidence presented for the '891, '612, '106, and '434 Patents shows that Fujifilm has sold many LTO-6 and LTO-7 cartridges and that these sales have brought Fujifilm much revenue. *See* Part IV(G)(5)(c), *supra*; CX-0026C (Vander Veen RWS) at Q/A 92-93. The evidence does not support a strong nexus between the '805 Patent and Fujifilm's success, however. For example, the evidence does not show that the '805 Patent drove sales of LTO products. Further, Dr. Messner's and Mr. Nakao's statements regarding the cost savings and error-avoidance conferred by the patent are conclusory and unsupported by underlying evidence. *See* CX-0355 (Messner RWS) Q/A 138-41; CX-0007C (Nakao WS) Q/A 31-32. Accordingly, the administrative law judge has determined that Fujifilm's showing of commercial success provides weak support for finding that '805 Patent is not obvious, because the nexus between the commercial success and the '805 Patent is weak.

d) Licensing

Fujifilm argues:

It is common sense that a licensee or a prospective licensee would not seek a license to a patented invention unless it is convinced of its value and novelty. As previously noted, Sony made numerous attempts to license a number of Fujifilm's patents, including all claims of the '805 Patent. *See also* CX-0355 (Messner RWS) Q:143. It is unlikely that Sony would have sought such a license unless it actually believed claims 3 and 10 of the '805 Patent were valid and commercially valuable.

Although Mr. Jennings disputes the relevance of Sony's licensing efforts to the obviousness inquiry, Mr. Jennings does not cite any factual support that negates this conclusion, particularly as to the non-essential claims. Mr. Jennings offers only speculation that Sony's efforts to obtain a license to the '805 Patent were, perhaps, a way for it to avoid litigation. RX-0003C (Jennings DWS) Q:420; *see also* CX-0335C (Messner RWS) Q:144. Moreover, Mr. Jennings does not point to any evidence that Sony believed any claims of the '805 Patent were obvious, or otherwise invalid, at the time Sony attempted to obtain a license. What is clear is Sony did seek a license for the '805 Patent, including the asserted claims

PUBLIC VERSION

here, which indicates that the patent has commercial value, even beyond inclusion in the LTO-7 Specification. *Id.*

Fujifilm Br. at 342.

Sony argues:

Lastly, Dr. Messner alleges that Sony's requests to license the '805 Patent are evidence that Sony saw value in the '805 Patent and believed it valid. But this is all speculation. Given that Fujifilm signed the AP-75 Agreement which [

], and that Fujifilm has admitted claims 1 and 2 are essential, Sony was merely trying to persuade Fujifilm to follow through on its obligations under AP-75, obligations that Fujifilm still refuses to honor. Sony's licensing requests are evidence of Fujifilm's bad behavior, not of non-obviousness.

Sony Br. at 351.

This is the only evidence that Fujifilm cites:

- CX-0355 (Messner RWS) at Q/A 143-44
- RX-0003C (Jennings WS) at Q/A 420

See Fujifilm Br. at 342. This testimony does not point to any documents that identify the '805 Patent. Additionally, a brief review of exhibits Fujifilm cited in connection with the tape media patents (*i.e.*, CX-0018, CX-0021, CX-0199, CX-0400C) shows that these documents do not identify the '805 Patent.

Accordingly, the administrative law judge has determined that Fujifilm has not made a sufficient showing that Sony attempted to license the '805 Patent. This factor does not support a finding of non-obviousness.

e) Copying

Fujifilm argues:

Sony learned of the '805 Patent at least as early as [], and the Accused Products embody the same servo writing techniques in

PUBLIC VERSION

exactly the same manner as disclosed in the Asserted Claims of the '805 Patent. *See* CX-0355C (Messner RWS) Q:145-147; *supra* at § VII.D.

Despite the fact that there are several other ways to make an LTO-7 compliant tape without practicing claims 3 and 10 of the '805 Patent, *see supra* at VII.F above, Sony has not even attempted to manufacture LTO-7 cartridges that avoid using the inventions in the Asserted Claims of the '805 Patent. An inference of copying here therefore is not unreasonable, *see WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1336-37 (Fed. Cir. 2016), particularly in the absence of any affirmative statement from Sony that it has not copied. *See* RX-0003C (Jennings WS) Q:424; CX-0355C (Messner RWS) Q:146. Even if Sony did not deliberately copy Fujifilm's patented inventions, Sony's decision to use precisely the same manufacturing process as taught by the '805 Patent to produce a magnetic tape demonstrates the value, importance, and non-obviousness of Fujifilm's innovations in the '805 Patent.

Fujifilm Br. at 341.

Sony argues:

Dr. Messner also alleges that Sony copied Fujifilm's servo writer. CX-0355C at Q&A 146-46. His only evidence, however, is that Sony knew of the patent in [], that Sony infringes the claims (according to him), and that Mr. Jennings never affirmatively stated that Sony did not copy. First, as explained above, Fujifilm has not established that Sony infringes the claims. Second, as Mr. Jennings explains, he took no affirmative position on alleged copying because Fujifilm never included the allegation in its interrogatory responses, and so he never knew it was an issue. RX-0003C at Q&A 410. In any event, Fujifilm bears the burden here.

Sony Br. at 350-51.

Fujifilm's entire reply on this secondary consideration is:

Regarding the remaining objective indicia of obviousness, Sony provides no contrary evidence to rebut the facts of Sony's copying, its attempts to license the non-essential claims of the '805 Patent and the commercial success of the LTO-7 products. RPostHBr. at 350-51. Sony seeks to downplay their significance, but, as explained in Fujifilm's Initial Post-Hearing Brief, each supports the non-obviousness of the claims of the '805 Patent. CPostHBr.

at 340-342.

Fujifilm Reply at 115.

The evidence does not show that Sony copied from Fujifilm's products or the '805 Patent. In particular, the evidence that Fujifilm cites, including Dr. Messner's testimony, is insufficient to conclude that Sony copied anything. Further, as an independent basis for finding that Sony has not copied, the administrative law judge notes that Fujifilm has not shown it included a copying allegation in its interrogatory responses; if Sony's representations are accurate, Fujifilm should not have presented this argument. Accordingly, the administrative law judge finds that this secondary consideration does not support a finding of non-obviousness.

f) Weighing the Secondary Considerations

The administrative law judge has determined that Fujifilm's weak showing of commercial success is negligible because there is a weak nexus between the commercial success and the '805 Patent. The remaining secondary considerations do not support a non-obviousness finding.

IX. SONY'S AFFIRMATIVE DEFENSES

At the outset, Sony argues:

As discussed above, in Sections V.G, VI.F, and VIII.F, Mr. C. Thomas Jennings, a 26 year veteran of the magnetic media industry and former Imation employee, with real-world experience in making LTO tape, explains that all of the asserted claims of the '805 Patent, the '106 Patent, and all but one of the claims of the '612 Patent are "essential" to the practice the LTO-7 standard. Sony need only "establish by a preponderance of the evidence" that "a patent claim is standard-essential." *Audiovisual Components*, Initial Det., 2013 WL 4406820, at *180; *Wireless Commc'ns Devices*, Comm'n Op. at 46; *Innovatio IP Ventures*, 956 F. Supp. 2d at 939. By refusing to license these "Essential Patent Claims" to Sony, and instead seeking to block Sony from importing its LTO-7 products into the U.S. market, Fujifilm is misusing its SEPs, in breach of its contractual obligations, in an

PUBLIC VERSION

effort to unfairly control the entire LTO-7 market.

Sony Br. at 352.

A. Breach of Contract

1. AP-75 Agreement

Sony introduces the Fujifilm AP-75 agreement (JX-0033C), as follows:

In order to participate in the marketplace for selling LTO-7 compliant tape, a company must first enter into a licensing agreement with the LTO Consortium—the AP-75 Agreement. []. Both Sony and Fujifilm market and sell LTO-7 tape products, and thus both are signatories to the AP-75 Agreement. JX-0033C (Fujifilm AP-75 Agreement); []. By executing the AP-75 Agreement, Fujifilm committed to grant to Sony (and all other LTO-7 participants) a “[

]” JX-0033C (Fujifilm AP-75 Agreement) at 9. At a minimum, this license covers [

]. *Id.* To date, Fujifilm has refused to grant Sony such a license as required by the AP-75 Agreement. [].

Sony Br. at 24-25. Sony is not a party to Fujifilm’s AP-75 agreement. *Compare* [

] *with* JX-0033C (Fujifilm’s AP-75 agreement); *see also*

Shoemake Tr. 155-156.

Fujifilm introduces AP-75 as follows:

[

]. Fujifilm's AP-75 was executed by Fujifilm, HPE, IBM and Quantum. *Id.* Sony was not a party to Fujifilm's AP-75, and Fujifilm did not negotiate with, and has not entered into any agreement with, Sony relating to AP-75 or LTO-7. *See id.* [

].

Fujifilm Br. at 18.

Sony argues that Fujifilm breached the nondiscriminatory licensing clause (§ 8.2) by refusing to license Sony and that Fujifilm breached the forum selection clause (§ 11.11) by filing a complaint with the Commission. Sony Br. at 352-57.

The administrative law judge previously determined that the claims asserted of the '612, '106, and '805 Patents were not essential. *See* Parts V(E), VI(E), VIII(E), *supra*.¹⁰⁸ Thus, Sony's breach-of-contract arguments do not apply, because Fujifilm was not obligated to license those patents.

2. Breach of Nondiscriminatory Licensing Clause (§ 8.2)

Section 8.2 of the AP-75 agreement provides:

[

¹⁰⁸ Sony did not allege that the '891 and '434 Patents are essential. Further, Sony argued, and the administrative law judge found, that Sony does not even practice the asserted claims of the '805 Patent

].

JX-0033C at 9-10 (emphasis added).

Sony argues:

[
], Sony is a willing licensee, yet Fujifilm has refused to grant to Sony a license to any of Fujifilm's patents, including claims 1 and 2 of the '805 Patent that Fujifilm admits are essential. See [

]. Fujifilm's refusal to grant to Sony to at least the essential patent claims discussed above is a material breach of the AP-75 Agreement.

This breach bar Fujifilm from its requested relief. See *Apple, Inc. v. Motorola Mobility, Inc.*, No. 11-178, 2011 WL 7324582, *7-11 (W.D. Wis. Jun. 7, 2011) (finding that accused infringer's claim based on breach of contract for failure to abide by RAND obligations was properly pled); David W. Long, Litigating Standard Essential Patents at the U.S. International Trade Commission, AIPLA Mid-Winter Institute (Jan. 2016), available at <http://www.essentialpatentblog.com/wp-content/uploads/sites/64/2012/12/2016.01.28-SEP-Litigation-in-ITC-D.-Long.pdf> ("The ITC has indicated that [a breach of] contract theory may be pursued if supported by underlying facts,

PUBLIC VERSION

... such as pleading breach of a contract between the patent owner and standard setting organization in which the alleged infringer is a third-party beneficiary”); *see also Audiovisual Components*, Initial Det., 2013 WL 4406820, at *180-185.

Sony Br. at 356-57.

Fujifilm argues that it [

J. Fujifilm further argues that Sony’s breach-of-contract defense fails because Sony has not proven damages suffered as a result of the breach. *Id.* at 387.

The Staff argues that Sony has not shown that a breach of contract is a defense to patent infringement.¹⁰⁹ Staff Br. at 104-05.

Sony replies that Fujifilm’s breach of contract bars Fujifilm’s request for an exclusion order. Sony Reply at 123. Sony also it has alleged and proven damages. *Id.* at 125-27. Sony claims nominal damages and attorneys’ fees and costs as damages, although it does not specify any value for either category of damages. *Id.* Sony also argues that Fujifilm’s offers to license its patents have not been reasonable. *Id.* at 130-32.

In any event, Mr. Imai testified about Fujifilm’s licensing efforts as follows:

31.Q. [

31.A.

J.

¹⁰⁹ The administrative law judge agrees with the Staff’s analysis of Sony’s arguments.

PUBLIC VERSION

[

]. [

].

The administrative law judge has determined that Sony has not shown that Fujifilm breached § 8.2 or that breach of contract is an appropriate defense in this investigation. In particular, [

]. [

]. *Id.* Thus, there is not

sufficient evidence to conclude that Fujifilm breached § 8.2.

3. Breach of Forum Section Clause (§ 11.11)

Section 11.11 of the AP-75 agreement provides:

[

].

JX-0033C at 12-13 (emphasis added).

Sony argues that filing a complaint with the Commission, rather than a New York court, violates § 11.11. Sony Br. at 357. Sony's entire argument is:

The mandatory forum selection clause of the AP-75 agreement,

[

].

Courts routinely enforce such forum selection clauses. For example, in *Microsoft Corp. v. Motorola, Inc.*, 696 F.3d 872 (9th Cir. 2012), the Ninth Circuit affirmed a preliminary injunction that a California court determine the correct RAND rate under a standard. *Id.* at 889. Similarly, the Federal Circuit held that enforcing a valid forum selection clause justifies a preliminary injunction barring continued participation by a complainant in an ITC investigation. *See Tex. Instruments Inc. v. Tessera, Inc.*, 231 F.3d 1325, 1331-32 (Fed. Cir. 2000). The Commission has similarly considered arguments that it should terminate an investigation under § 337(c) based on a license that contains a forum selection clause. *See, e.g., Certain Semiconductor Chips with Minimized Chip Package Size & Prods. Containing Same*, Inv. No. 337-TA-432, Order No. 5, 2000 WL 1269386, *16-*20 (Aug. 9, 2000).

Id.

Fujifilm argues that Sony does not have standing [

]” and because Sony is not a party to the agreement. Fujifilm Br. at 392.

Fujifilm also argues that [

]. *Id.* at 395. Fujifilm argues that

adopting Sony’s argument would work absurd and unreasonable results, such as requiring

Fujifilm “to bring a Japanese patent infringement action in New York” or potentially enjoining

Fujifilm’s manufacturing in Japan. *Id.* at 395-96. Fujifilm concludes by arguing that its claims

against Sony do not arise under or in connection with its AP-75. *Id.* at 396.

The administrative law judge has determined that Fujifilm has not breached § 11.11. To

PUBLIC VERSION

begin, Sony is not a party to Fujifilm's AP-75 agreement. *See* JX-0033C at 1 (HP, IBM, Quantum, and Fujifilm Corporation are the contracting parties). Further, Sony is not a third-party beneficiary for purposes of § 11.11, because § 8.2 limits the rights of third-party beneficiaries to obtain a license. *See id.* at 9 [

J. Likewise, Fujifilm's allegations against Sony do not arise out of AP-75, because the asserted claims are not essential.

Additionally, the administrative law judge has determined that Sony's arguments about the forum selection clause are not a defense to Fujifilm's patent infringement claims in the context of a section 337 investigation. In past investigations, the Commission has terminated investigations under Commission Rule 210.21 after a complainant moved to terminate the investigation and withdraw the complaint in light of a district court's injunction barring the Commission action due to a forum selection clause. *See, e.g., Certain Network Commc'ns Sys. For Optical Networks and Components Thereof*, Inv. No. 337-TA-535, Initial Determination (Order No. 6) (June 7, 2005) (unreviewed); *Certain Ground Fault Circuit Interrupters and Prods. Containing Same*, Inv. No. 337-TA-739, Initial Determination (Order 19) (Jan. 19, 2011) (unreviewed). Sony's arguments are breach-of-contract claims, which are not a defense the Commission's statutory directive to investigate unfair trade practices (or to patent infringement). *See* 19 U.S.C. § 1337(c); *General Protecht Group, Inc. v. Leviton Mfg. Co.*, 651 F.3d 1355, 1359 (Fed. Cir. 2011).

Whether or not Fujifilm has, in fact, breached AP-75 by filing a complaint with the Commission is ultimately for a court in New York to determine and to remedy, if needed.

Accordingly, the administrative law judge finds that Sony has not shown its contractual allegations bar Fujifilm's request for an exclusion order.

B. Patent Misuse

Sony argues that Fujifilm is misusing its essential patents "by failing to offer Sony a license" to them. Sony Br. at 359. Sony's entire argument is:

For the same reasons, Sony has the irrevocable right under AP-75 to license Fujifilm's essential patent rights on standard and non-discriminatory terms. Yet Fujifilm has denied that right, despite Sony's willingness to license, and instead pursued this ITC action and other court actions. Fujifilm thereby "impermissibly broadened the physical or temporal scope of the patent grant with anticompetitive effect." *B. Braun Med., Inc. v. Abbott Labs.*, 124 F.3d 1419, 1426 (Fed. Cir. 1997). See *Sanofi-Aventis v. Apotex Inc.*, 659 F.3d 1171 (Fed. Cir. 2011) (considering patent misuse defense regarding alleged disclosure violations to SSOs); *Certain Wireless Devices with 3G Capabilities & Components Thereof*, Inv. No. 337-TA-800, Initial Det., 2013 WL 3961230, *238-39 (Jun. 28, 2013).

For patent misuse, all Sony need show is "that the patent in suit must itself significantly contribute to the practice under attack." *Princo Corp. v. Int'l Trade Comm'n*, 616 F.3d 1318, 1331 (Fed. Cir. 2010) (*en banc*). Such is the case here: Fujifilm leveraged the license of its essential patent rights to have Sony join the AP-75 Agreement, but then used the very essentiality of those rights to try to force Sony's LTO-7 tapes from the market.

Id.

Fujifilm argues, in part:

Turning to the merits, there is no evidence to suggest that Fujifilm engaged in impermissible tying of patented and unpatented articles, impermissible broadening of the physical or temporal scope of its patent rights, or sought royalties on an expired patent. See e.g., *Princo Corp. v. Int'l Trade Comm'n*, 616 F.3d 1318 (Fed. Cir. 2010). Nor has Sony put forth any evidence of a "relevant market" in which Fujifilm allegedly has "monopoly power." See 35 U.S.C. § 271(d) ("No patent owner otherwise entitled to relief for infringement ... shall be denied relief or deemed guilty of patent misuse ... unless, in view of the circumstances, the patent

PUBLIC VERSION

owner has market power in the relevant market for the patent or patented product....”). To the extent Sony contends that Fujifilm has engaged in patent misuse by pursuing a patent infringement action on claims that “by necessity must be practiced in order for the product to be compliant with LTO-7” Format, Sony’s contentions lack merit for the reasons discussed above. Moreover, to the extent Sony argues that ‘Fujifilm engaged in patent misuse by failing to offer a license to Essential Patent Claims or that Fujifilm is seeking to control the LTO-7 format,’ such assertions are also without merit. Fujifilm is prepared to license its EPCs to Sony. *See* CX-0006C (Imai DWS) Q:31.

Fujifilm Br. at 388.

The Staff argues:

Sony’s patent misuse defense is without merit. Patent misuse must be proven by clear and convincing evidence. *C.R. Bard Inc. v. M3 Systems, Inc.*, 157 F.3d 1340, 1372 (Fed. Cir. 1998). To prevail on an affirmative defense of patent misuse, Sony must prove that “the patentee has impermissibly broadened the physical or temporal scope of the patent grant and has done so in a manner that has anticompetitive effects.” *Princo America Corp. v. Int’l Trade Comm’n*, 616 F.3d 1318, 1328 (Fed. Cir. 2010) (*en banc*). Sony, however, fails to set forth any factual basis that would support such a theory. *See* Resps. P.H. Br. at 338. Indeed, seeking to exclude others from using a patented invention during the term of such patent falls squarely within the physical and temporal scope of the patent grant. *See Princo America Corp. v. Int’l Trade Comm’n*, 616 F.3d 1318, 1328 (Fed. Cir. 2010) (*en banc*). The Staff thus submits that Sony’s patent misuse defense should be rejected.

Staff Br. at 106.

Sony replies, *inter alia*, that Fujifilm’s argument about a statutory requirement “‘that the patent owner has market power in the relevant market’ is incorrect.” Sony Reply at 134.

The administrative law judge has determined that Sony has not shown, through a preponderance of the evidence (or through clear and convincing evidence, as the Staff suggests), that Fujifilm impermissibly broadened the physical or temporal scope of its patents, in a manner that has anticompetitive effect. *See Princo America Corp. v. Int’l Trade Comm’n*, 616 F.3d

1318, 1328 (Fed. Cir. 2010) (*en banc*). Sony does not cite any evidence specific to its patent misuse defense, and the administrative law judge previously determined that Fujifilm had not breached § 8.2 of AP-75 (when Sony argued that it had an irrevocable right to license Fujifilm's patents). Accordingly, the administrative law judge has determined that Sony has not shown Fujifilm misused its patents.

C. Waiver

Sony's waiver argument is:

And again for the same reasons, Fujifilm knowingly waived its right to injunctive or other exclusionary relief against willing licensees, by failing to offer its standard-essential patent claims under standard and non-discriminatory terms, and to conclude a license on such terms. *See, e.g., Barnes & Noble, Inc. v. LSI Corp.*, 849 F. Supp. 2d 925, 942 (N.D. Cal. 2012) (finding waiver properly pled based on alleged failure by patentee to comply with standards-setting obligations); *Certain Wireless*, 2013 WL 3961230, *237-38 (discussing implied waiver affirmative defense). "A member of an open standard setting organization may be equitably estopped or may have impliedly waived its right to assert infringement claims against standard-compliant products." *Hynix Semiconductor Inc. v. Rambus Inc.*, 645 F.3d 1336, 1347-48 (Fed. Cir. 2011). LTO is an open standard, as even Fujifilm admits. RX-0044C (Ohki Email, Apr. 9, 2016) at 1; JX-0049C (Yahiro Letter) at 1-2. Fujifilm is a member, and Sony's LTO-7 tapes comply with the standard. Fujifilm thereby waived its rights.

Sony Br. at 360.

Fujifilm argues:

In its Pre-Hearing Brief, Sony relies on the Federal Circuit's opinion in *Hynix Semiconductor Inv. v. Rambus* for the proposition that "a member of an open standard setting organization ... may have impliedly waived its right to assert infringement claims against standard-compliant products." 645 F.3d 1336, 1347-48 (Fed. Cir. 2011). But the Federal Circuit in *Hynix* went on to explain that "to support a finding of implied waiver in the standard setting organization context, the accused must show by clear and convincing evidence that [the patentee's] conduct was so

PUBLIC VERSION

inconsistent with an intent to enforce its rights as to induce a reasonable belief that such right has been relinquished.” *Id.* There is no evidence that Fujifilm intentionally relinquished its patent rights against Sony or engaged in conduct inconsistent with an intent to enforce its rights or to otherwise induce a reasonable belief that Fujifilm relinquished its rights. The evidence produced in this Investigation reveals the exact opposite, as explained in Section XI.B.1 above. At every juncture in the negotiation between Fujifilm and Sony, and between the TPCs and Fujifilm, Fujifilm maintained its right to enforce its non-EPCs and specifically its refusal to license any of the Asserted Claims. *See* Section XI.B. *supra*. That Sony fails to identify any intentional relinquishment by Fujifilm at any point in any negotiation or agreement is telling. Sony’s affirmative defense of “waiver” is wholly meritless.

Fujifilm Br. at 389-90.

The Staff argues, in part:

In support of its position, [] – as a factual basis for its waiver defense. *See* Resps. P.H. Br. at 339. These exhibits, however, do not show that FUJIFILM intentionally relinquished or abandoned any known right. Accordingly, the Staff submits that Sony’s waiver defense should be rejected.

Staff Br. at 106-07.

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J. Sony has not shown that these two exhibits are clear and convincing evidence that Fujifilm relinquished its rights. Accordingly, the administrative law judge has determined that Fujifilm has not relinquished its rights.

D. Implied License and Exhaustion

With reference to implied license and exhaustion, Sony argues, in part:

By this same behavior, Fujifilm's claims are barred by the doctrines of implied license and patent exhaustion. To the extent that Sony infringes any Fujifilm patent claim that is essential under AP-75, Sony has the irrevocable right to license the claims on standard and non-discriminatory terms. Such licenses include express or implied licenses arising from Sony's status as an FSP and express third-party beneficiary to Fujifilm's signed version of AP-75, as well as from Fujifilm's participation as an LTO-7 FSP and its commitments to license other FSPs. Sony's products incorporating standard-essential technology are expressly or impliedly licensed under the AP-75 Agreement. In addition, Fujifilm exhausted its rights in all of the remaining claims. *See Barnes & Noble*, 849 F. Supp. 2d at 942-43 (denying motion to dismiss where accused infringer alleged that patents were essential and that patentee had licensed and exhausted its rights in those patents).

Sony Br. at 358. Sony then argues it has invoked the option to license Fujifilm's patents. *Id.*

[]. For exhaustion, Sony argues that because the license extends to essential patent claims, all rights in all of Fujifilm's other claims have been exhausted. *Id.* (citing *JVC Kenwood Corp. v. Nero, Inc.*, 797 F.3d 1039, 1046-47 (Fed. Cir. 2015); *Keurig, Inc. v. Sturm Foods, Inc.*, 732 F.3d 1370, 1374 (Fed. Cir. 2013)).

Fujifilm argues that LTO-7 offers only an option to license patents and that there is no express or implied license to consider. Fujifilm Br. at 390-91. Fujifilm also argues that Sony has not identified a license or an authorized sale of a patented article. *Id.* at 391.

The Staff argues:

Sony contends that FUJIFILM has expressly or impliedly licensed its rights, or exhausted its rights, in the Asserted Patents. *See* Resps. P.H. Br. at 340. Sony, however, has not met its burden to establish an express or implied license exists, nor has Sony set forth any cognizable theory regarding exhaustion. *Id.* The Staff thus submits that Sony's license/implied license/exhaustion defense should be rejected.

Staff Br. at 107.

The administrative law judge has determined that Sony has not shown it has an implied license to Fujifilm's patents (under either the preponderance-of-the-evidence or clear-and-convincing evidentiary standards). Section 8.2 of AP-75 provides third parties (such as Sony) only an option to license essential patents, not an implied license to them. Furthermore, Sony has not identified an authorized sale of a product that would give rise to exhaustion.

Accordingly, Sony has not shown that implied license or exhaustion bars Fujifilm's claims.

X. DOMESTIC INDUSTRY (ECONOMIC PRONG)

Fujifilm argues that its domestic expenditures satisfy the domestic industry requirement under prongs (A) and (B) of 19 U.S.C. § 1337(a)(3). Fujifilm Br. at 349. Fujifilm notes that its LTO-6 and LTO-7 products are the domestic industry products. *Id.* at 343.

Fujifilm introduces its argument by [

]. *Id.* at 345. Fujifilm further explains:

[

].

Fujifilm Br. at 345-46. Fujifilm explains its arguments present “[

].” *Id.* at

348 (citing *Certain Toner Cartridges and Components Thereof*, Inv. No. 337-TA-740, Order No. 26 at 14 (June 1, 2011)).

Sony notes that for LTO tapes:

[

]. JX-0147C (Faulhaber Dep.) at 60:12-62:14, 73:2-10, 76:11-21, 76:22-77:4.

Sony Br. at 367. Sony also argues that [

].

A. Plant and Equipment

Fujifilm argues, in part:

[

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PUBLIC VERSION

[

].

Fujifilm Br. at 354-55. Fujifilm explains that it [

]. *Id.* at 355-56. Fujifilm

further includes storage costs for its LTO products. *Id.* at 356-57. Fujifilm concludes that these expenses are qualitatively and quantitatively significant. *Id.* at 357.

Sony, in general, argues that:

- Fujifilm's depreciation expenses are not actual expenses (Sony Br. at 370);
- Fujifilm did not explain its depreciation methodology, and the data is not supported by documentation (Sony Br. at 370);
- Fujifilm's [] (Sony Br. at 371);
- Fujifilm's storage costs [] (Sony Br. at 372);
- Fujifilm did not "credibly allocate investments" to LTO-6 and LTO-7 (Sony Br. at 372-74);
- Documents containing the data underlying Fujifilm's allocated financial data were not produced (Sony Br. at 372-73); and
- Fujifilm financial documents contradict Fujifilm compilation documents (Sony Br. at 373-74).

The Staff agrees with Fujifilm with regard to the LTO-6 products, but not the LTO-7 products:

With respect to investments in plant and equipment, the Staff is of

the view [

].

Staff Br. at 110-11 (the Staff cites to CX-0003C (Vander Veen WS) at Q/A 63-72; CX-0500C (Errata to Vander Veen WS)).

The administrative law judge has determined that Fujifilm has shown its allocated domestic expenditures for the LTO-6 products, from 2013-2015, are relevant and significant. In particular, [

110

]. Further, Fujifilm

USA's fixed costs are significant —[

].¹¹¹ *Id.* at Q/A 42.

Fujifilm, however, has not shown that its expenditures with relation to its LTO-7 products are significant. In particular, [

¹¹⁰ The administrative does not rely on, or accept, Dr. Vander Veen's revised testimony for 2016, which is reflected in CX-0500C, because the testimony is a substantive change to certain portions of his witness statement. *See* Pre-Hr'g Tr. 35-38. If a witness feels compelled to make substantive changes to his or her testimony, there may be vehicles to facilitate such changes, but an erratum is not one of them.

¹¹¹ The administrative law judge does not accept Fujifilm's storage costs, because the evidence does not reliably delineate whether the storage was used for foreign (Japanese) products or domestic products. [

]. *See* CX-0003C (Vander Veen WS) at Q/A 42.

]. See CX-

0003C (Vander Veen WS) at Q/A 68.¹¹²

Accordingly, administrative law judge has determined that the plant and equipment expenses cited are significant under § 337(a)(3)(A).

B. Labor and Capital

Fujifilm argues, in part:

[

].

Fujifilm Br. at 357-58. [

].¹¹³ *Id.*

at 359-60 (citing CX-0003C (Vander Veen WS) at Q/A 74).

Sony, in general, argues that:

¹¹² Dr. Vander Veen's revised testimony about the LTO-7 products is not relied on or accepted.

¹¹³ Dr. Vander Veen's revised testimony about the LTO-7 products is not relied on or accepted.

PUBLIC VERSION

- Fujifilm did not produce data to corroborate the activities and salaries of its employees (Sony Br. at 375);
- Fujifilm's expenditures encompass non-domestic industry products (Sony Br. at 376-77);
- [] (Sony Br. at 377);
- [];
- [] (Sony Br. at 378); and
- Fujifilm has not allocated its expenses between LTO-6 and LTO-7 (Sony Br. at 378-79).

Sony Br. at 375.

The Staff argues that [

]. Staff Br. at 111 (citing CX-0003C (Vander Veen WS) at Q/A 52-61;

CX-0500C (Errata to Vander Veen WS)).

The administrative law judge has determined that Fujifilm has shown its allocated domestic expenditures for the LTO-6 products, from 2013-2015, are relevant and significant. In particular, Dr. Vander Veen testified that Fujifilm's labor expenditures for the LTO-6 products, from 2013-2015, totaled [] for 2013, [] for 2014, and [] for 2015.¹¹⁴ See CX-0003C (Vander Veen WS) at Q/A 74. Further, Fujifilm USA's labor costs for manufacturing engineering employees and manufacturing employees, for 2013-2015, are significant—these expenses total over [] for 2013, [] for 2014, and [] for 2015. *Id.* at Q/A 55, 57, 59 (these do not include SG&A expenses).

¹¹⁴ The administrative law judge does not rely on, or accept, Dr. Vander Veen's revised testimony for 2016, which is reflected in CX-0500C, because the testimony is a substantive change to certain portions of his witness statement. See Pre-Hr'g Tr. 35-38.

Fujifilm, however, has not shown that its expenditures with relation to its LTO-7 products are significant. In particular, [

].¹¹⁵

Accordingly, administrative law judge has determined that the labor expenses cited are significant under § 337(a)(3)(B).

C. Significance of the Investment and Context of the Marketplace

“[T]he magnitude of the investment cannot be assessed without consideration of the nature and importance of the complainant’s activities to the patented products in the context of the marketplace or industry in question.” *Certain Printing & Imaging Devices*, Inv. No. 337-TA-690, Comm’n Op. at 31-32, 2011 WL 1303160 (Feb. 17, 2011) (“*Printing & Imaging Devices*”); *see also Certain Soft-Edge Trampolines & Components Thereof*, Inv. No. 337-TA-908, Comm’n Op. at 56-57, 2015 WL 12515177 (May 1, 2015).

Sony argues that even if Fujifilm’s investments are considered, “Fujifilm failed to prove that its domestic investments are significant.” Sony Br. at 379. Sony argues, in general, that Fujifilm’s expenses are not significant because:

- [] (Sony Br. at 379);
- [] (Sony Br. at 380);
- Fujifilm has not shown any domestic industry for the ‘434 and ‘805 Patents (Sony Br. at 380); and

¹¹⁵ [

].

With respect to the LTO-7 products, the administrative law judge has determined that Fujifilm's investments (discussed in Parts X(A) and X(B), *supra*) were not significant within the context of the relevant marketplace, when the complaint was filed. See CX-0026C (Vander Veen RWS) at Q/A 92-93 [

]. Thus, Fujifilm has not met the domestic industry requirement, with respect to the LTO-7 products, for any of the asserted patents.

With respect to the LTO-6 products, the administrative law judge has determined that Fujifilm's investments (discussed in Parts X(A) and X(B), *supra*) are significant within the context of the relevant marketplace. See CX-0026C (Vander Veen RWS) at Q/A 92-93 (for FY2015, [

]. In particular, Fujifilm [], and it is partially responsible for over [] cartridges, while []. See CX-0456C ("Summary for LTO 6" work RX-0006C []. Furthermore, in 2 [], which is qualitatively and quantitatively significant. See CX-0026C (Vander Veen RWS) at Q/A 59. The domestic activity is significant because Fujifilm's LTO-6 products would not be saleable without the domestic contributions. *Id.* at 52. Thus, Fujifilm has met the economic aspect of the domestic industry requirement with respect to its LTO-6 products and the '891, '612, and '106 Patents.

In conclusion, the administrative law judge finds that Fujifilm has shown it has made a significant investment with respect to its LTO-6 products under prongs (A) and (B) of

¹¹⁶ Fujifilm has not argued that its LTO-6 products practice the '434 and '805 Patents. See generally Fujifilm Br., §§ VI(F) and VII(E).

- [] (Sony Br. at 380-81).

With regard to the '434 and '850 Patents, Sony further argues that:

- Fujifilm did not allocate its LTO-7 expenses in its pre-hearing brief (Sony Br. at 381);
- Fujifilm cannot show its LTO-7 expenses were significant at the time the complaint was filed (Sony Br. at 382);
- Fujifilm's [] (Sony Br. at 383);
- Fujifilm's [] (Sony Br. at 383); and
- Fujifilm's [] (Sony Br. at 384-85).

Fujifilm has argued that its investments are significant. See Fujifilm Br., § VIII(D)-(E).

Fujifilm further argues its investments are significant because "[] Fujifilm Br. at 360 (emphasis omitted).

Fujifilm adds:

- [] [] []
- [] [] [] and
- [] (Fujifilm Br. at 361).

The Staff has not addressed all of Sony or Fujifilm's many arguments, although it has argued that SG&A expenses should not qualify as domestic industry expenses, and it concluded that Fujifilm's expenses with respect to the LTO-6 products, but not the LTO-7 products, are significant. Staff Br. at 110-12; Staff Reply at 34.

PUBLIC VERSION

§ 337(a)(3). Fujifilm has not met its burden for the LTO-7 products.

* * *

XI. CONCLUSIONS OF FACT AND LAW

Jurisdiction and Importation

- 1) The Commission has personal jurisdiction in this investigation.
- 2) The Commission has subject matter jurisdiction in this investigation.
- 3) The Commission has *in rem* jurisdiction in this investigation.
- 4) Sony is an importer of the accused products.
- 5) Fujifilm possesses all substantial rights in the asserted patents and has standing to bring its complaint before the Commission.

Infringement

- 6) The Sony Ultrium 7 Data Cartridge Model No. LTX6000G is representative of the accused products.
- 7) The accused products infringe claims 1, 4-9, 11, and 14 of U.S. Patent No. 6,641,891.
- 8) The accused products infringe claims 1, 2, 4, 5, 7, and 8 of U.S. Patent No. 6,767,612 under 35 U.S.C. § 271(a).
- 9) Sony has not induced its customers to infringe claims 9-11 of U.S. Patent No. 6,767,612 under 35 U.S.C. § 271(b).
- 10) The accused products do not infringe any asserted claim of U.S. Patent No. 6,703,106 under 35 U.S.C. § 271(a).
- 11) If claim 1 of U.S. Patent No. 6,703,106 is found to be infringed, Sony has not induced its customers to infringe any asserted claim under 35 U.S.C. § 271(b).
- 12) The accused products do not infringe claim 1 of U.S. Patent No. 8,236,434.
- 13) The accused products do not infringe claims 3 and 10 of U.S. Patent 7,355,805.

Patent Validity

- 14) Sony has not shown, through clear and convincing evidence, that the asserted claims of U.S. Patent Nos. 6,641,891, 6,767,612, 8,236,434, and 7,355,805 are invalid under 35 U.S.C. §§ 102, 103, or 112.

PUBLIC VERSION

- 15) Sony has not shown, through clear and convincing evidence, that the asserted claims of U.S. Patent No. 6,703,106 are invalid under 35 U.S.C. §§ 102 or 103.
- 16) Sony has shown, through clear and convincing evidence, that the claims of U.S. Patent No. 6,703,106 are indefinite because the term “track width” is indefinite.

Domestic Industry

- 17) The domestic industry’s technical prong requirement has been satisfied with respect to the infringed patents, U.S. Patent Nos. 6,641,891 and 6,767,612.
- 18) The domestic industry’s technical prong requirement has not been satisfied with respect to U.S. Patent Nos. 6,703,106, 7,355,805, and 8,236,434.
- 19) The domestic industry’s economic prong requirement has been satisfied under § 337(a)(3)(A), as there is a significant employment of labor or capital with respect to the LTO-6 articles protected by U.S. Patent Nos. 6,641,891 and 6,767,612 (and U.S. Patent No. 6,703,106, if it is later found that Fujifilm’s products practice this patent).
- 20) The domestic industry’s economic prong requirement has been satisfied under § 337(a)(3)(B), as there is a significant employment of labor or capital with respect to the LTO-6 articles protected by U.S. Patent Nos. 6,641,891 and 6,767,612 (and U.S. Patent No. 6,703,106, if it is later found that Fujifilm’s products practice this patent).
- 21) The domestic industry’s economic prong requirement has not been satisfied with respect to the Fujifilm LTO-7 articles.

Licensing and Additional Defenses

- 22) Sony has not shown that U.S. Patent Nos. 6,641,891, 6,703,106, and 7,355,805 are essential to the LTO-7 standard.
- 23) Fujifilm has not breached §§ 8.2 or 11.11 of the Fujifilm AP-75 agreement (JX-0033C).
- 24) Sony has not shown that the AP-75 agreement warrants barring Fujifilm’s claims or terminating this investigation.
- 25) Fujifilm has not impermissibly broadened the physical or temporal scope of its patents, in a manner that has anticompetitive effect, such that patent misuse would apply.
- 26) Fujifilm has not waived its rights to enforce the asserted patents.
- 27) Sony does not have an implied license to the asserted patents.

PUBLIC VERSION

28) Sony has not shown that patent exhaustion applies.

XII. INITIAL DETERMINATION ON VIOLATION

Accordingly, it is the initial determination of the undersigned that a violation of section 337 (19 U.S.C. § 1337) has occurred in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain magnetic tapes and cartridges containing the same, with respect to U.S. Patent Nos. 6,641,891 and 6,767,612.

It is held that a violation has not occurred with respect to U.S. Patent Nos. 6,703,106, 8,236,434, and 7,355,805.

Further, this initial determination, together with the record of the hearing in this investigation consisting of (1) the transcript of the hearing, with appropriate corrections as may hereafter be ordered, and (2) the exhibits received into evidence in this investigation, is hereby certified to the Commission.

In accordance with 19 C.F.R. § 210.39(c), all material found to be confidential by the undersigned under 19 C.F.R. § 210.5 is to be given *in camera* treatment.

The Secretary shall serve a public version of this initial determination upon all parties of record and the confidential version upon counsel who are signatories to the Protective Order, as amended, issued in this investigation.

Pursuant to 19 C.F.R. § 210.42(h), this initial determination shall become the determination of the Commission unless a party files a petition for review pursuant to § 210.43(a) or the Commission, pursuant to § 210.44, orders on its own motion a review of the initial determination or certain issues herein.

XIII. ORDERS

A. Sony's Motion to Strike

On March 14, 2017, Sony filed a motion seeking to strike portions of Fujifilm's post-hearing brief and Staff's post-hearing brief and reply. Motion Docket No. 1012-042. Sony contends "Fujifilm shifted its allegations dramatically between its Pre-Hearing Brief and its Initial Post-Hearing Brief." Mem. at 1.

Fujifilm and the Staff each opposed Sony's motion. Fujifilm argues that there is no inconsistency between its pre-hearing and post-hearing briefs. *See, e.g.*, Fujifilm Opp'n at 9. Fujifilm further argues that Dr. Vander Veen's errata (CX-0500C) "was prepared during the evidentiary hearing in this Investigation in response to Order No. 27, and therefore could not have been cited in Fujifilm's pre-hearing brief." *Id.* at 9 n.6. The Staff argues that domestic industry numbers were revised due to "math errors" and that the corrections do "not introduce any new theory or evidence." Staff Opp'n at 3. The Staff (and Fujifilm) thus submit that Sony's motion should be denied.

The administrative law judge has determined to deny Motion Docket No. 1012-042. As noted above, Dr. Vander Veen's revised testimony about the LTO-7 products was not relied on or accepted.

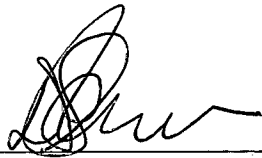
Furthermore, any remaining motions not previously ruled upon are denied as moot.

B. Proposed Redactions for Public Version

To expedite service of the public version, the parties are hereby ordered to file with the Commission Secretary no later than September 12, 2017, a jointly marked copy of this initial determination that includes bold, red brackets to show any portion considered by the parties (or their suppliers of information) to be confidential. The parties shall simultaneously file a joint list

PUBLIC VERSION

indicating each page on which such a bracket is to be found and which party contends the corresponding information is confidential. At least one copy of such a filing shall be served upon the office of the undersigned, and the brackets shall be formatted in bold, red text. If a party (including any supplier of information) considers nothing in the initial determination to be confidential, and thus makes no request that any portion be redacted from the public version, then a statement to that effect shall be filed.



David P. Shaw
Administrative Law Judge

Issued: September 1, 2017

**CERTAIN MAGNETIC DATA STORAGE TAPES AND CARTRIDGES CONTAINING
THE SAME**

INV. NO. 337-TA-1012

PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **INITIAL DETERMINATION** has been served by hand upon the Commission Investigative Attorney, **Whitney Winston, Esq.**, and the following parties as indicated, on

OCT 02 2017



Lisa R. Barton, Secretary
U.S. International Trade Commission
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Washington, DC 20436

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