

*In the Matter of*

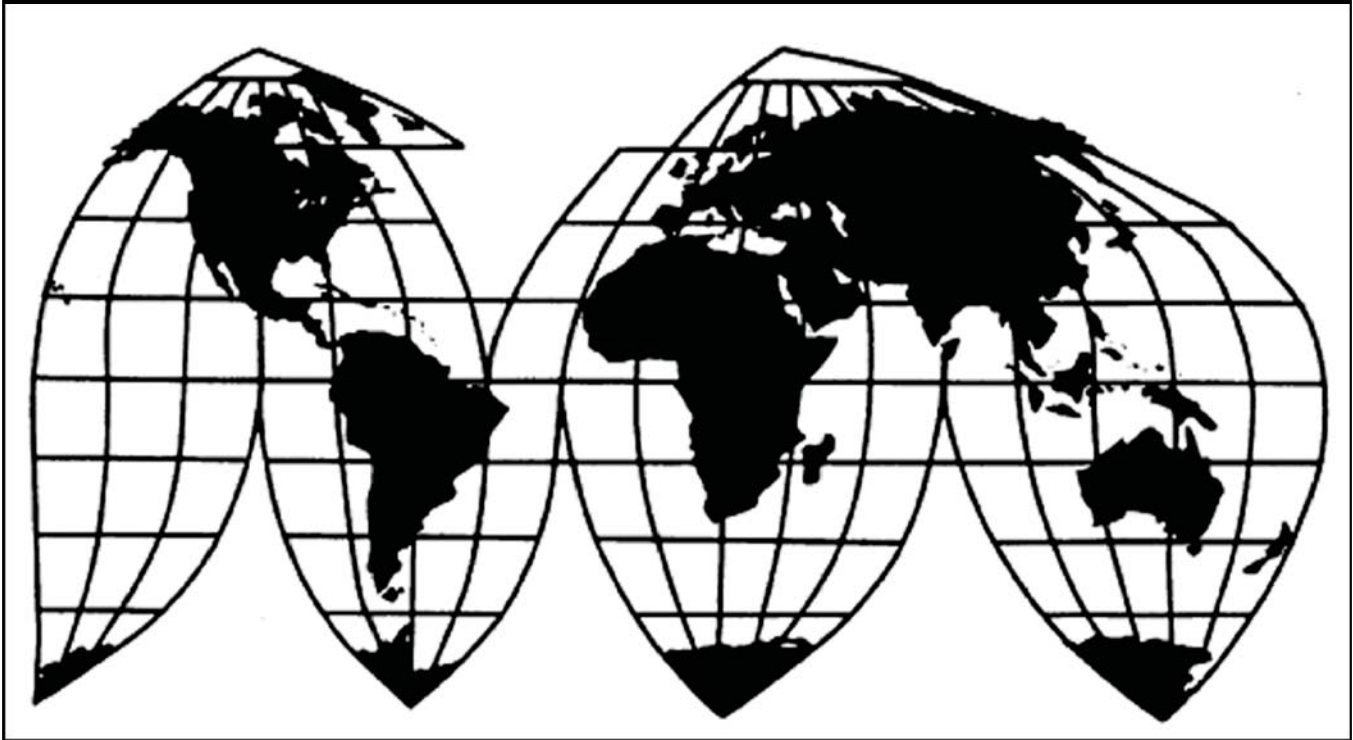
**Certain Semiconductor Chips Having  
Synchronous Dynamic Random Access  
Memory Controllers and Products  
Containing Same**

Investigation No. 337-TA-661

Publication 4266

October 2011

**U.S. International Trade Commission**



Washington, DC 20436

# **U.S. International Trade Commission**

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**United States International Trade Commission**  
**Washington, DC 20436**

# U.S. International Trade Commission

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*In the Matter of*

**Certain Semiconductor Chips Having  
Synchronous Dynamic Random Access  
Memory Controllers and Products  
Containing Same**

Investigation No. 337-TA-661







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

**In the Matter of**

**CERTAIN SEMICONDUCTOR CHIPS  
HAVING SYNCHRONOUS DYNAMIC  
RANDOM ACCESS MEMORY  
CONTROLLERS AND PRODUCTS  
CONTAINING SAME**

**Investigation No. 337-TA-661**

**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 determined that there is a violation of 19 U.S.C. § 1337 in the above-captioned investigation by the respondents in the investigation. To remedy the violation it has found, the Commission has determined to issue a limited exclusion order and to issue cease and desist orders to certain respondents. The investigation is terminated.

**FOR FURTHER INFORMATION CONTACT:** Paul M. Bartkowski, Office of the General Counsel, U.S. International Trade Commission, 500 E Street, S.W., Washington, D.C. 20436, telephone (202) 708-5432. 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 <http://www.usitc.gov>. The public record for this investigation may be viewed on the Commission's electronic docket (EDIS) at <http://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 Inv. No. 337-TA-661 on December 10, 2008, based on a complaint filed by Rambus, Inc. of Los Altos, California ("Rambus"). 73 *Fed. Reg.* 75131-2. The complaint, as amended and supplemented, alleged violations of section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337 ("section

337”), in the importation into the United States, the sale for importation, and the sale within the United States after importation of certain semiconductor chips having synchronous dynamic random access memory controllers and product containing the same by reason of infringement of certain claims of U.S. Patent Nos. 6,470,405 (“the ‘405 patent”); 6,591,353 (“the ‘353 patent”); 7,287,109 (“the ‘109 patent”); 7,117,998 (“the ‘998 patent”); 7,210,016 (“the ‘016 patent”); 7,287,119 (“the ‘119 patent”); 7,330,952 (“the ‘952 patent”); 7,330,953 (“the ‘953 patent”); and 7,360,050 (“the ‘050 patent”). The Commission’s notice of investigation named the following respondents: NVIDIA Corporation of Santa Clara, California; Asustek Computer, Inc. of Taipei, Taiwan; ASUS Computer International, Inc. of Fremont, California; BFG Technologies, Inc. of Lake Forest, Illinois; Biostar Microtech (USA) Corp. of City of Industry, California; Biostar Microtech International Corp. of Hsin Ten, Taiwan; Diablotek Inc. of Alhambra, California; EVGA Corp. of Brea, California; G.B.T. Inc. of City of Industry, California; Gigabyte Technology Co., Ltd. of Taipei, Taiwan; Hewlett-Packard Co. of Palo Alto, California; MSI Computer Corp. of City of Industry, California; Micro-star International Co., Ltd. of Taipei, Taiwan; Palit Multimedia Inc. of San Jose, California; Palit Microsystems Ltd. of Taipei, Taiwan; Pine Technology Holdings, Ltd. of Hong Kong; and Sparkle Computer Co. of Taipei, Taiwan (referred to collectively as “Respondents”).

On July 13, 2009, the Commission issued a notice terminating the ‘119, ‘952, ‘953, and ‘050 patents and certain claims of the ‘109 patent from the investigation.

On January 22, 2010, the ALJ issued his Initial Determination on Violation of Section 337 and Recommended Determination on Remedy and Bond (“ID”). The ALJ found that Respondents violated section 337 by importing certain semiconductor chips having synchronous dynamic random access memory controllers and products containing same with respect to various claims of the ‘405, ‘353, and ‘109 patents (“the Barth I patents”). The ALJ determined that there was no violation of section 337 with respect to the asserted claims of the ‘016 and ‘998 patents (“the Ware patents”).

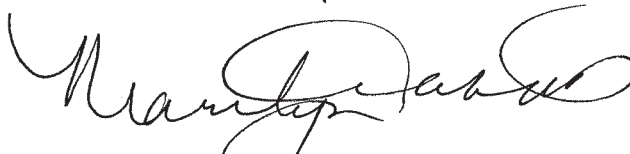
On March 25, 2010, the Commission determined to review (1) the ID’s anticipation and obviousness findings with respect to the Ware patents; (2) the ID’s obviousness-type double patenting analysis regarding the asserted Barth I patents; and (3) the ID’s analysis of the alleged obviousness of the asserted Barth I patents. The Commission invited briefing on the issues under review and on the issues of remedy, the public interest, and bonding. On May 26, 2010, the Commission requested further briefing on the impact of a license between Rambus and Samsung Electronics Co. on the ALJ’s findings and conclusions. On June 22, 2010, the Commission requested further briefing regarding patent exhaustion in light of *Fujifilm Corp. v. Benun*, which was issued by the United States Court of Appeals for the Federal Circuit on May 27, 2010.

Having examined the record of this investigation and the submissions filed, the Commission has determined to affirm the ALJ’s ID, with certain modifications that are set forth in the Commission’s opinion. Accordingly, the Commission has determined that a violation of section 337 has occurred in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain synchronous dynamic random access

memory controllers and products containing the same by Respondents with respect to the Barth I patents. To remedy this violation, the Commission has determined to issue a limited exclusion order and cease-and-desist orders against respondents NVIDIA Corp.; Hewlett-Packard Co.; ASUS Computer International, Inc.; Palit Multimedia Inc.; Palit Microsystems Ltd.; MSI Computer Corp.; Micro-Star International; EVGA Corp.; DiabloTek, Inc.; Biostar Microtech Corp.; and BFG Technologies, Inc. The Commission has determined that this relief is not precluded by consideration of the factors set forth in 19 U.S.C. § 1337(d), (f). The Commission has determined that the amount of the bond to permit importation during the Presidential review period under 19 U.S.C § 1337(j) is 2.65 percent of the entered value of the subject imports. The investigation is terminated.

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.

A handwritten signature in black ink, appearing to read 'Marilyn R. Abbott', written in a cursive style.

Marilyn R. Abbott  
Secretary to the Commission

Issued: July 26, 2010

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

**In the Matter of**

**CERTAIN SEMICONDUCTOR CHIPS  
HAVING SYNCHRONOUS DYNAMIC  
RANDOM ACCESS MEMORY  
CONTROLLERS AND PRODUCTS  
CONTAINING SAME**

**Inv. No. 337-TA-661**

**LIMITED EXCLUSION ORDER**

The 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 and sale by Respondents NVIDIA Corporation; Asustek Computer, Inc.; ASUS Computer International, Inc.; BFG Technologies, Inc.; Biostar Microtech (U.S.A.) Corp.; Diablotek Inc.; EVGA Corp.; G.B.T. Inc.; Giga-byte Technology Co., Ltd.; Hewlett-Packard Co.; MSI Computer Corp.; Micro-Star International Co., Ltd.; Palit Multimedia Inc.; Palit Microsystems Ltd.; Pine Technology (Macao Commercial Offshore) Ltd.; and Sparkle Computer Co., Ltd. (collectively, the "Respondents") by reason of infringement of: (1) claims 11-13, 15, and 18 of U.S. Patent No. 6,470,405 (the "405 patent"); (2) claims 11-13 of U.S. Patent No. 6,591,353 (the "353 patent"); and (3) claims 1, 2, 4, 5, 12, 13, 20, 21, and 24 of U.S. Patent No. 7,287,109 (the "109 patent"). Having reviewed the record of this investigation, including the written submissions of the parties, the Commission has made its determination on the issues of remedy, the public interest, and bonding. The Commission has determined that the appropriate form of relief is a limited exclusion order prohibiting the unlicensed entry of infringing memory controller products and products incorporating a memory controller, manufactured for or on behalf of Respondents or any of their affiliated companies, parents, subsidiaries, licensees, or other related business entities, or their successors or assigns.

The Commission has determined that the public interest factors enumerated in 19 U.S.C. § 1337 do not preclude issuance of the limited exclusion order. Finally, the Commission has determined that the bond during the Presidential review period shall be in the amount of 2.65% of entered value of imported products that are subject to this order.

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

1. Memory controller products and products incorporating a memory controller that are covered by one or more of claims 11-13, 15, and 18 of U.S. Patent No. 6,470,405 and that are manufactured abroad or imported by or on behalf of Respondents, or any of their affiliated companies, parents, subsidiaries, 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 term of the patent, except under license of the patent owner or as provided by law.
2. Memory controller products and products incorporating a memory controller that are covered by one or more of claims 11-13 of U.S. Patent No. 6,591,353 and that are manufactured abroad or imported by or on behalf of Respondents, or any of their affiliated companies, parents, subsidiaries, 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 term of the patent, except under license of the patent owner or as provided by law.
3. Memory controller products and products incorporating a memory controller that are covered by one or more of claims 1, 2, 4, 5, 12, 13, 20, 21, and 24 of U.S. Patent No. 7,287,109 and that are manufactured abroad or imported by or on behalf of Respondents, or any of their affiliated companies, parents, subsidiaries, 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 term of the patent, except under license of the patent owner or as provided by law.



4. Products that are excluded by paragraphs 1, 2, or 3 of this Order are entitled to entry for consumption into the United States, entry for consumption from a foreign trade zone, or withdrawal from a warehouse for consumption, under bond in the amount of 2.65% of entered value of imported product pursuant to subsection (j) of Section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337(j), from the day after this Order is received by the United States Trade Representative as delegated by the President, 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 date of receipt of this action.

5. At the discretion of U.S. Customs and Border Protection (“CBP”) and pursuant to procedures it establishes, persons seeking to import products 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 paragraphs 1, 2, or 3 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 the certification.

6. In accordance with 19 U.S.C. § 1337(l), the provisions of this Order shall not apply to products that are imported by and 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.

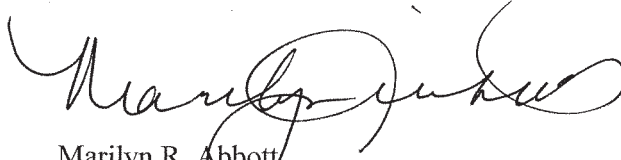
7. The Commission may modify this Order in accordance with the procedures described in Rule 210.76 of the Commission’s Rules of Practice and Procedure, 19 C.F.R. § 210.76.

8. The Commission Secretary shall serve copies of this Order upon each party of record in this investigation and upon the Department of Health and Human Services, the Department of Justice, the Federal Trade Commission, and Customs and Border Protection.

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

By Order of the Commission.

Issued: July 26, 2010

A handwritten signature in black ink, appearing to read "Marilyn R. Abbott". The signature is fluid and cursive, with a large loop at the end.

Marilyn R. Abbott  
Secretary to the Commission

UNITED STATES INTERNATIONAL TRADE COMMISSION  
Washington, D.C.

**In the Matter of**

**CERTAIN SEMICONDUCTOR CHIPS  
HAVING SYNCHRONOUS DYNAMIC  
RANDOM ACCESS MEMORY  
CONTROLLERS AND PRODUCTS  
CONTAINING SAME**

**Inv. No. 337-TA-661**

**CEASE AND DESIST ORDER**

IT IS HEREBY ORDERED THAT Hewlett-Packard Co. ("HP") of 3000 Hanover Street, Palo Alto, California 94304-1185 cease and desist from conducting any of the following activities in the United States: importing, selling, marketing, advertising, distributing, offering for sale, transferring (except for exportation), and soliciting U.S. agents or distributors for, memory controller products and products incorporating a memory controller that are covered by one or more of claims 11-13, 15, and 18 of U.S. Patent No. 6,470,405, claims 11-13 of U.S. Patent No. 6,591,353, and claims 1, 2, 4, 5, 12, 13, 20, 21, and 24 of U.S. Patent No. 7,287,109, 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 Rambus Inc. of Los Altos, California.
- (C) "Respondent" shall mean Hewlett-Packard Co. ("HP") of Palo Alto, California.
- (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 memory controller products and products that incorporate a memory controller and that infringe one or more of claims 11-13, 15, and 18 of U.S. Patent No. 6,470,405, claims 11-13 of U.S. Patent No. 6,591,353, and claims 1, 2, 4, 5, 12, 13, 20, 21, and 24 of U.S. Patent No. 7,287,109.

## 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 engaged 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 term of the relevant one or more of U.S. Patent No. 6,470,405, U.S. Patent No. 6,591,353, and U.S. Patent No. 7,287,109, Respondent shall not:

- (A) import or sell for importation into the United States covered products;
- (B) market, distribute, offer for sale, sell, or otherwise transfer (except for exportation), in the United States 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, in a written instrument, the owner of the relevant one or more of U.S. Patent No. 6,470,405, U.S. Patent No. 6,591,353, and U.S. Patent No. 7,287,109 licenses or authorizes such specific conduct, or such specific conduct is related to the importation or sale of covered products by or for the United States.

**V.****Reporting**

For purposes of this reporting requirement, the reporting periods shall commence on the first day of June of each year and shall end on the subsequent last day of May. However, the first report required under this section shall cover the period from the date of issuance of this Order through May 31, 2011. This reporting requirement shall continue in force until such time as Respondent will have 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 the quantity in units and the value in dollars of covered products that Respondent has (i) imported and (ii) sold in the United States after importation during the reporting period, and the quantity in units and value in dollars of covered products that remain in inventory in the United States at the end of the reporting period.

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 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 purpose of determining or securing compliance with this Order and for no other purpose, and subject to any privilege recognized by the federal courts of the United States, duly authorized representatives of the Commission, upon reasonable written notice by the Commission or its staff, 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, both in detail and in summary form as are required to be retained by 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 date of expiration of all of U.S. Patent No. 6,470,405, U.S. Patent No. 6,591,353, and U.S. Patent No. 7,287,109.

### **VIII.**

#### **Confidentiality**

Any request for confidential treatment of information obtained by the Commission pursuant to Sections V and VI of this Order should be in accordance with Commission Rule 201.6, 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 in accordance with section 337(f) of the Tariff Act of 1930, 19 U.S.C. § 1337(f), and any other actions as the Commission may deem appropriate. In determining whether Respondent is in violation of this Order, the Commission may infer facts adverse to Respondent if Respondent 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 (60) day period in which this Order is under review by the United States Trade Representative as delegated by the President, subject to Respondent posting a bond in the amount of 2.65% of entered value of the covered

products. 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 as set forth in the limited 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 in connection by complainants in connection with the issuance of temporary exclusion orders. *See* Commission Rule 210.68, 19 C.F.R. § 210.68. The bond and any accompanying documentation is to be provided to and approved by the Commission prior to the commencement of conduct which is otherwise prohibited by Section III of this Order.

The bond is to be forfeited in the event that the United States Trade Representative approves, or does not disapprove within the review period, this Order, unless 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 unless Respondent exports the products subject to this bond or destroys them and provides certification to that effect satisfactory to the Commission.

The 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 therefor made by Respondent to the Commission.

By Order of the Commission

Issued: July 26, 2010

A handwritten signature in black ink, appearing to read 'Marilyn R. Abbott', written in a cursive style.

Marilyn R. Abbott  
Secretary to the Commission

UNITED STATES INTERNATIONAL TRADE COMMISSION  
Washington, D.C.

In the Matter of

CERTAIN SEMICONDUCTOR CHIPS  
HAVING SYNCHRONOUS DYNAMIC  
RANDOM ACCESS MEMORY  
CONTROLLERS AND PRODUCTS  
CONTAINING SAME

Inv. No. 337-TA-661

**CEASE AND DESIST ORDER**

IT IS HEREBY ORDERED THAT Micro-Star International Co., Ltd. ("Micro-Star") of No. 69, Li-De Street, Jung-He City, Taipei Hsien, Taiwan 235 cease and desist from conducting any of the following activities in the United States: importing, selling, marketing, advertising, distributing, offering for sale, transferring (except for exportation), and soliciting U.S. agents or distributors for, memory controller products and products incorporating a memory controller that are covered by one or more of claims 11-13, 15, and 18 of U.S. Patent No. 6,470,405, claims 11-13 of U.S. Patent No. 6,591,353, and claims 1, 2, 4, 5, 12, 13, 20, 21, and 24 of U.S. Patent No. 7,287,109, 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 Rambus Inc. of Los Altos, California.
- (C) "Respondent" shall mean Micro-Star International Co., Ltd. ("Micro-Star") of Jung-He City, Taipei Hsien, Taiwan.

(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 memory controller products and products that incorporate a memory controller and that infringe one or more of claims 11-13, 15, and 18 of U.S. Patent No. 6,470,405, claims 11-13 of U.S. Patent No. 6,591,353, and claims 1, 2, 4, 5, 12, 13, 20, 21, and 24 of U.S. Patent No. 7,287,109.

## 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 engaged 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 term of the relevant one or more of U.S. Patent No. 6,470,405, U.S. Patent No. 6,591,353, and U.S. Patent No. 7,287,109, Respondent shall not:

- (A) import or sell for importation into the United States covered products;
- (B) market, distribute, offer for sale, sell, or otherwise transfer (except for exportation), in the United States 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, in a written instrument, the owner of the relevant one or more of U.S. Patent No. 6,470,405, U.S. Patent No. 6,591,353, and U.S. Patent No. 7,287,109 licenses or authorizes such specific conduct, or such specific conduct is related to the importation or sale of covered products by or for the United States.

#### V.

##### **Reporting**

For purposes of this reporting requirement, the reporting periods shall commence on the first day of June of each year and shall end on the subsequent last day of May. However, the first report required under this section shall cover the period from the date of issuance of this Order through May 31, 2011. This reporting requirement shall continue in force until such time as Respondent will have 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 the quantity in units and the value in dollars of covered products that Respondent has (i) imported and (ii) sold in the United States after importation during the reporting period, and the quantity in units and value in dollars of covered products that remain in inventory in the United States at the end of the reporting period.

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 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 purpose of determining or securing compliance with this Order and for no other purpose, and subject to any privilege recognized by the federal courts of the United States, duly authorized representatives of the Commission, upon reasonable written notice by the Commission or its staff, 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, both in detail and in summary form as are required to be retained by 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 date of expiration of all of U.S. Patent No. 6,470,405, U.S. Patent No. 6,591,353, and U.S. Patent No. 7,287,109.

### **VIII.**

#### **Confidentiality**

Any request for confidential treatment of information obtained by the Commission pursuant to Sections V and VI of this Order should be in accordance with Commission Rule 201.6, 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 in accordance with section 337(f) of the Tariff Act of 1930, 19 U.S.C. § 1337(f), and any other actions as the Commission may deem appropriate. In determining whether Respondent is in violation of this Order, the Commission may infer facts adverse to Respondent if Respondent 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 (60) day period in which this Order is under review by the United States Trade Representative as delegated by the President, subject to Respondent posting a bond in the amount of 2.65% of entered value of the covered

products. 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 as set forth in the limited exclusion order issued by the Commission, and are not subject to this bond provision.

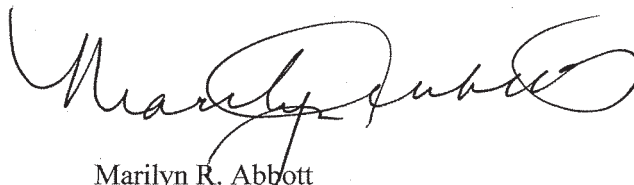
The bond is to be posted in accordance with the procedures established by the Commission for the posting of bonds in connection by complainants in connection with the issuance of temporary exclusion orders. *See* Commission Rule 210.68, 19 C.F.R. § 210.68. The bond and any accompanying documentation is to be provided to and approved by the Commission prior to the commencement of conduct which is otherwise prohibited by Section III of this Order.

The bond is to be forfeited in the event that the United States Trade Representative approves, or does not disapprove within the review period, this Order, unless 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 unless Respondent exports the products subject to this bond or destroys them and provides certification to that effect satisfactory to the Commission.

The 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 therefor made by Respondent to the Commission.

By Order of the Commission

Issued: July 26, 2010



Marilyn R. Abbott  
Secretary to the Commission

UNITED STATES INTERNATIONAL TRADE COMMISSION  
Washington, D.C.

**In the Matter of**

**CERTAIN SEMICONDUCTOR CHIPS  
HAVING SYNCHRONOUS DYNAMIC  
RANDOM ACCESS MEMORY  
CONTROLLERS AND PRODUCTS  
CONTAINING SAME**

**Inv. No. 337-TA-661**

**CEASE AND DESIST ORDER**

IT IS HEREBY ORDERED THAT MSI Computer Corp. ("MSI") of 901 Canada Court, City of Industry, California 91748 cease and desist from conducting any of the following activities in the United States: importing, selling, marketing, advertising, distributing, offering for sale, transferring (except for exportation), and soliciting U.S. agents or distributors for, memory controller products and products incorporating a memory controller that are covered by one or more of claims 11-13, 15, and 18 of U.S. Patent No. 6,470,405, claims 11-13 of U.S. Patent No. 6,591,353, and claims 1, 2, 4, 5, 12, 13, 20, 21, and 24 of U.S. Patent No. 7,287,109, 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 Rambus Inc. of Los Altos, California.
- (C) "Respondent" shall mean MSI Computer Corp. ("MSI") of City of Industry, California.
- (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 memory controller products and products that incorporate a memory controller and that infringe one or more of claims 11-13, 15, and 18 of U.S. Patent No. 6,470,405, claims 11-13 of U.S. Patent No. 6,591,353, and claims 1, 2, 4, 5, 12, 13, 20, 21, and 24 of U.S. Patent No. 7,287,109.

## 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 engaged 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 term of the relevant one or more of U.S. Patent No. 6,470,405, U.S. Patent No. 6,591,353, and U.S. Patent No. 7,287,109, Respondent shall not:

- (A) import or sell for importation into the United States covered products;
- (B) market, distribute, offer for sale, sell, or otherwise transfer (except for exportation), in the United States 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, in a written instrument, the owner of the relevant one or more of U.S. Patent No. 6,470,405, U.S. Patent No. 6,591,353, and U.S. Patent No. 7,287,109 licenses or authorizes such specific conduct, or such specific conduct is related to the importation or sale of covered products by or for the United States.

**V.****Reporting**

For purposes of this reporting requirement, the reporting periods shall commence on the first day of June of each year and shall end on the subsequent last day of May. However, the first report required under this section shall cover the period from the date of issuance of this Order through May 31, 2011. This reporting requirement shall continue in force until such time as Respondent will have 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 the quantity in units and the value in dollars of covered products that Respondent has (i) imported and (ii) sold in the United States after importation during the reporting period, and the quantity in units and value in dollars of covered products that remain in inventory in the United States at the end of the reporting period.

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 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 purpose of determining or securing compliance with this Order and for no other purpose, and subject to any privilege recognized by the federal courts of the United States, duly authorized representatives of the Commission, upon reasonable written notice by the Commission or its staff, 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, both in detail and in summary form as are required to be retained by 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 date of expiration of all of U.S. Patent No. 6,470,405, U.S. Patent No. 6,591,353, and U.S. Patent No. 7,287,109.

### **VIII.**

#### **Confidentiality**

Any request for confidential treatment of information obtained by the Commission pursuant to Sections V and VI of this Order should be in accordance with Commission Rule 201.6, 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 in accordance with section 337(f) of the Tariff Act of 1930, 19 U.S.C. § 1337(f), and any other actions as the Commission may deem appropriate. In determining whether Respondent is in violation of this Order, the Commission may infer facts adverse to Respondent if Respondent 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 (60) day period in which this Order is under review by the United States Trade Representative as delegated by the President, subject to Respondent posting a bond in the amount of 2.65% of entered value of the covered



products. 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 as set forth in the limited 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 in connection by complainants in connection with the issuance of temporary exclusion orders. *See* Commission Rule 210.68, 19 C.F.R. § 210.68. The bond and any accompanying documentation is to be provided to and approved by the Commission prior to the commencement of conduct which is otherwise prohibited by Section III of this Order.

The bond is to be forfeited in the event that the United States Trade Representative approves, or does not disapprove within the review period, this Order, unless 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 unless Respondent exports the products subject to this bond or destroys them and provides certification to that effect satisfactory to the Commission.

The 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 therefor made by Respondent to the Commission.

By Order of the Commission

Issued: July 26, 2010

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

Marilyn R. Abbott  
Secretary to the Commission

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

**In the Matter of**

**CERTAIN SEMICONDUCTOR CHIPS  
HAVING SYNCHRONOUS DYNAMIC  
RANDOM ACCESS MEMORY  
CONTROLLERS AND PRODUCTS  
CONTAINING SAME**

**Inv. No. 337-TA-661**

**CEASE AND DESIST ORDER**

IT IS HEREBY ORDERED THAT NVIDIA Corp. ("NVIDIA") of 2701 San Tomas Expressway, Santa Clara, California 95050 cease and desist from conducting any of the following activities in the United States: importing, selling, marketing, advertising, distributing, offering for sale, transferring (except for exportation), and soliciting U.S. agents or distributors for, memory controller products and products incorporating a memory controller that are covered by one or more of claims 11-13, 15, and 18 of U.S. Patent No. 6,470,405, claims 11-13 of U.S. Patent No. 6,591,353, and claims 1, 2, 4, 5, 12, 13, 20, 21, and 24 of U.S. Patent No. 7,287,109, 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 Rambus Inc. of Los Altos, California.
- (C) "Respondent" shall mean NVIDIA Corp. ("NVIDIA") of Santa Clara, California.
- (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 memory controller products and products that incorporate a memory controller and that infringe one or more of claims 11-13, 15, and 18 of U.S. Patent No. 6,470,405, claims 11-13 of U.S. Patent No. 6,591,353, and claims 1, 2, 4, 5, 12, 13, 20, 21, and 24 of U.S. Patent No. 7,287,109.

## 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 engaged 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 term of the relevant one or more of U.S. Patent No. 6,470,405, U.S. Patent No. 6,591,353, and U.S. Patent No. 7,287,109, Respondent shall not:

- (A) import or sell for importation into the United States covered products;
- (B) market, distribute, offer for sale, sell, or otherwise transfer (except for exportation), in the United States 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, in a written instrument, the owner of the relevant one or more of U.S. Patent No. 6,470,405, U.S. Patent No. 6,591,353, and U.S. Patent No. 7,287,109 licenses or authorizes such specific conduct, or such specific conduct is related to the importation or sale of covered products by or for the United States.

**V.****Reporting**

For purposes of this reporting requirement, the reporting periods shall commence on the first day of June of each year and shall end on the subsequent last day of May. However, the first report required under this section shall cover the period from the date of issuance of this Order through May 31, 2011. This reporting requirement shall continue in force until such time as Respondent will have 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 the quantity in units and the value in dollars of covered products that Respondent has (i) imported and (ii) sold in the United States after importation during the reporting period, and the quantity in units and value in dollars of covered products that remain in inventory in the United States at the end of the reporting period.

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 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 purpose of determining or securing compliance with this Order and for no other purpose, and subject to any privilege recognized by the federal courts of the United States, duly authorized representatives of the Commission, upon reasonable written notice by the Commission or its staff, 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, both in detail and in summary form as are required to be retained by 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 date of expiration of all of U.S. Patent No. 6,470,405, U.S. Patent No. 6,591,353, and U.S. Patent No. 7,287,109.

### **VIII.**

#### **Confidentiality**

Any request for confidential treatment of information obtained by the Commission pursuant to Sections V and VI of this Order should be in accordance with Commission Rule 201.6, 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 in accordance with section 337(f) of the Tariff Act of 1930, 19 U.S.C. § 1337(f), and any other actions as the Commission may deem appropriate. In determining whether Respondent is in violation of this Order, the Commission may infer facts adverse to Respondent if Respondent 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 (60) day period in which this Order is under review by the United States Trade Representative as delegated by the President, subject to Respondent posting a bond in the amount of 2.65% of entered value of the covered

products. 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 as set forth in the limited 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 in connection by complainants in connection with the issuance of temporary exclusion orders. *See* Commission Rule 210.68, 19 C.F.R. § 210.68. The bond and any accompanying documentation is to be provided to and approved by the Commission prior to the commencement of conduct which is otherwise prohibited by Section III of this Order.

The bond is to be forfeited in the event that the United States Trade Representative approves, or does not disapprove within the review period, this Order, unless 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 unless Respondent exports the products subject to this bond or destroys them and provides certification to that effect satisfactory to the Commission.

The 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 therefor made by Respondent to the Commission.

By Order of the Commission

Issued: July 26, 2010

A handwritten signature in black ink, appearing to read 'Marilyn R. Abbott', written in a cursive style.

Marilyn R. Abbott  
Secretary to the Commission

UNITED STATES INTERNATIONAL TRADE COMMISSION  
Washington, D.C.

In the Matter of

CERTAIN SEMICONDUCTOR CHIPS  
HAVING SYNCHRONOUS DYNAMIC  
RANDOM ACCESS MEMORY  
CONTROLLERS AND PRODUCTS  
CONTAINING SAME

Inv. No. 337-TA-661

**CEASE AND DESIST ORDER**

IT IS HEREBY ORDERED THAT Palit Microsystems, Ltd. ("Palit Microsystems") of 21F, 88, Sec. 2, Chung Hsiao E. Road, Taipei, Taiwan, ROC cease and desist from conducting any of the following activities in the United States: importing, selling, marketing, advertising, distributing, offering for sale, transferring (except for exportation), and soliciting U.S. agents or distributors for, memory controller products and products incorporating a memory controller that are covered by one or more of claims 11-13, 15, and 18 of U.S. Patent No. 6,470,405, claims 11-13 of U.S. Patent No. 6,591,353, and claims 1, 2, 4, 5, 12, 13, 20, 21, and 24 of U.S. Patent No. 7,287,109, 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 Rambus Inc. of Los Altos, California.
- (C) "Respondent" shall mean Palit Microsystems, Ltd. ("Palit Microsystems") of Taipei,

Taiwan, ROC.



(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 memory controller products and products that incorporate a memory controller and that infringe one or more of claims 11-13, 15, and 18 of U.S. Patent No. 6,470,405, claims 11-13 of U.S. Patent No. 6,591,353, and claims 1, 2, 4, 5, 12, 13, 20, 21, and 24 of U.S. Patent No. 7,287,109.

## 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 engaged 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 term of the relevant one or more of U.S. Patent No. 6,470,405, U.S. Patent No. 6,591,353, and U.S. Patent No. 7,287,109, Respondent shall not:

- (A) import or sell for importation into the United States covered products;
- (B) market, distribute, offer for sale, sell, or otherwise transfer (except for exportation), in the United States 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, in a written instrument, the owner of the relevant one or more of U.S. Patent No. 6,470,405, U.S. Patent No. 6,591,353, and U.S. Patent No. 7,287,109 licenses or authorizes such specific conduct, or such specific conduct is related to the importation or sale of covered products by or for the United States.

#### V.

##### **Reporting**

For purposes of this reporting requirement, the reporting periods shall commence on the first day of June of each year and shall end on the subsequent last day of May. However, the first report required under this section shall cover the period from the date of issuance of this Order through May 31, 2011. This reporting requirement shall continue in force until such time as Respondent will have 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 the quantity in units and the value in dollars of covered products that Respondent has (i) imported and (ii) sold in the United States after importation during the reporting period, and the quantity in units and value in dollars of covered products that remain in inventory in the United States at the end of the reporting period.

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 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 purpose of determining or securing compliance with this Order and for no other purpose, and subject to any privilege recognized by the federal courts of the United States, duly authorized representatives of the Commission, upon reasonable written notice by the Commission or its staff, 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, both in detail and in summary form as are required to be retained by 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 date of expiration of all of U.S. Patent No. 6,470,405, U.S. Patent No. 6,591,353, and U.S. Patent No. 7,287,109.

### **VIII.**

#### **Confidentiality**

Any request for confidential treatment of information obtained by the Commission pursuant to Sections V and VI of this Order should be in accordance with Commission Rule 201.6, 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 in accordance with section 337(f) of the Tariff Act of 1930, 19 U.S.C. § 1337(f), and any other actions as the Commission may deem appropriate. In determining whether Respondent is in violation of this Order, the Commission may infer facts adverse to Respondent if Respondent 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 (60) day period in which this Order is under review by the United States Trade Representative as delegated by the President, subject to Respondent posting a bond in the amount of 2.65% of entered value of the covered

products. 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 as set forth in the limited exclusion order issued by the Commission, and are not subject to this bond provision.

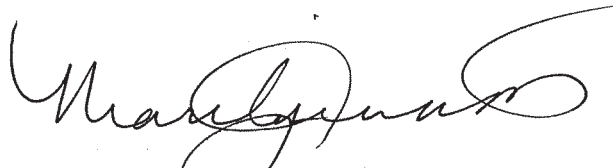
The bond is to be posted in accordance with the procedures established by the Commission for the posting of bonds in connection by complainants in connection with the issuance of temporary exclusion orders. *See* Commission Rule 210.68, 19 C.F.R. § 210.68. The bond and any accompanying documentation is to be provided to and approved by the Commission prior to the commencement of conduct which is otherwise prohibited by Section III of this Order.

The bond is to be forfeited in the event that the United States Trade Representative approves, or does not disapprove within the review period, this Order, unless 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 unless Respondent exports the products subject to this bond or destroys them and provides certification to that effect satisfactory to the Commission.

The 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 therefor made by Respondent to the Commission.

By Order of the Commission

Issued: July 26, 2010



Marilyn R. Abbott  
Secretary to the Commission

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

**In the Matter of**

**CERTAIN SEMICONDUCTOR CHIPS  
HAVING SYNCHRONOUS DYNAMIC  
RANDOM ACCESS MEMORY  
CONTROLLERS AND PRODUCTS  
CONTAINING SAME**

**Inv. No. 337-TA-661**

**CEASE AND DESIST ORDER**

IT IS HEREBY ORDERED THAT Palit Multimedia Inc. ("Palit Multimedia") of 1920 O'Toole Way, San Jose, California 95131 cease and desist from conducting any of the following activities in the United States: importing, selling, marketing, advertising, distributing, offering for sale, transferring (except for exportation), and soliciting U.S. agents or distributors for, memory controller products and products incorporating a memory controller that are covered by one or more of claims 11-13, 15, and 18 of U.S. Patent No. 6,470,405, claims 11-13 of U.S. Patent No. 6,591,353, and claims 1, 2, 4, 5, 12, 13, 20, 21, and 24 of U.S. Patent No. 7,287,109, 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 Rambus Inc. of Los Altos, California.
- (C) "Respondent" shall mean Palit Multimedia, Inc. ("Palit Multimedia") of San Jose, California.

(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 memory controller products and products that incorporate a memory controller and that infringe one or more of claims 11-13, 15, and 18 of U.S. Patent No. 6,470,405, claims 11-13 of U.S. Patent No. 6,591,353, and claims 1, 2, 4, 5, 12, 13, 20, 21, and 24 of U.S. Patent No. 7,287,109.

## 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 engaged 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 term of the relevant one or more of U.S. Patent No. 6,470,405, U.S. Patent No. 6,591,353, and U.S. Patent No. 7,287,109, Respondent shall not:

- (A) import or sell for importation into the United States covered products;
- (B) market, distribute, offer for sale, sell, or otherwise transfer (except for exportation), in the United States 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, in a written instrument, the owner of the relevant one or more of U.S. Patent No. 6,470,405, U.S. Patent No. 6,591,353, and U.S. Patent No. 7,287,109 licenses or authorizes such specific conduct, or such specific conduct is related to the importation or sale of covered products by or for the United States.

#### V.

##### **Reporting**

For purposes of this reporting requirement, the reporting periods shall commence on the first day of June of each year and shall end on the subsequent last day of May. However, the first report required under this section shall cover the period from the date of issuance of this Order through May 31, 2011. This reporting requirement shall continue in force until such time as Respondent will have 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 the quantity in units and the value in dollars of covered products that Respondent has (i) imported and (ii) sold in the United States after importation during the reporting period, and the quantity in units and value in dollars of covered products that remain in inventory in the United States at the end of the reporting period.

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 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 purpose of determining or securing compliance with this Order and for no other purpose, and subject to any privilege recognized by the federal courts of the United States, duly authorized representatives of the Commission, upon reasonable written notice by the Commission or its staff, 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, both in detail and in summary form as are required to be retained by 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 date of expiration of all of U.S. Patent No. 6,470,405, U.S. Patent No. 6,591,353, and U.S. Patent No. 7,287,109.

### **VIII.**

#### **Confidentiality**

Any request for confidential treatment of information obtained by the Commission pursuant to Sections V and VI of this Order should be in accordance with Commission Rule 201.6, 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 in accordance with section 337(f) of the Tariff Act of 1930, 19 U.S.C. § 1337(f), and any other actions as the Commission may deem appropriate. In determining whether Respondent is in violation of this Order, the Commission may infer facts adverse to Respondent if Respondent 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 (60) day period in which this Order is under review by the United States Trade Representative as delegated by the President, subject to Respondent posting a bond in the amount of 2.65% of entered value of the covered

products. 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 as set forth in the limited exclusion order issued by the Commission, and are not subject to this bond provision.

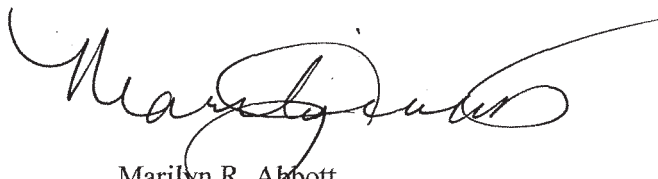
The bond is to be posted in accordance with the procedures established by the Commission for the posting of bonds in connection by complainants in connection with the issuance of temporary exclusion orders. *See* Commission Rule 210.68, 19 C.F.R. § 210.68. The bond and any accompanying documentation is to be provided to and approved by the Commission prior to the commencement of conduct which is otherwise prohibited by Section III of this Order.

The bond is to be forfeited in the event that the United States Trade Representative approves, or does not disapprove within the review period, this Order, unless 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 unless Respondent exports the products subject to this bond or destroys them and provides certification to that effect satisfactory to the Commission.

The 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 therefor made by Respondent to the Commission.

*By Order of the Commission*

Issued: July 26, 2010

A handwritten signature in black ink, appearing to read 'Marilyn R. Abbott', with a large, sweeping flourish extending to the right.

Marilyn R. Abbott  
Secretary to the Commission

UNITED STATES INTERNATIONAL TRADE COMMISSION  
Washington, D.C.

**In the Matter of**

**CERTAIN SEMICONDUCTOR CHIPS  
HAVING SYNCHRONOUS DYNAMIC  
RANDOM ACCESS MEMORY  
CONTROLLERS AND PRODUCTS  
CONTAINING SAME**

**Inv. No. 337-TA-661**

**CEASE AND DESIST ORDER**

IT IS HEREBY ORDERED THAT ASUS Computer International, Inc. ("ACI") of 4F, No. 15, Li-Te Road, Peitou, Taipei, Taiwan 112 cease and desist from conducting any of the following activities in the United States: importing, selling, marketing, advertising, distributing, offering for sale, transferring (except for exportation), and soliciting U.S. agents or distributors for, memory controller products and products incorporating a memory controller that are covered by one or more of claims 11-13, 15, and 18 of U.S. Patent No. 6,470,405, claims 11-13 of U.S. Patent No. 6,591,353, and claims 1, 2, 4, 5, 12, 13, 20, 21, and 24 of U.S. Patent No. 7,287,109, 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 Rambus Inc. of Los Altos, California.
- (C) "Respondent" shall mean ASUS Computer International, Inc. ("ACI") of Peitou, Taipei,

Taiwan.

(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 memory controller products and products that incorporate a memory controller and that infringe one or more of claims 11-13, 15, and 18 of U.S. Patent No. 6,470,405, claims 11-13 of U.S. Patent No. 6,591,353, and claims 1, 2, 4, 5, 12, 13, 20, 21, and 24 of U.S. Patent No. 7,287,109.

## 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 engaged 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 term of the relevant one or more of U.S. Patent No. 6,470,405, U.S. Patent No. 6,591,353, and U.S. Patent No. 7,287,109, Respondent shall not:

- (A) import or sell for importation into the United States covered products;
- (B) market, distribute, offer for sale, sell, or otherwise transfer (except for exportation), in the United States 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, in a written instrument, the owner of the relevant one or more of U.S. Patent No. 6,470,405, U.S. Patent No. 6,591,353, and U.S. Patent No. 7,287,109 licenses or authorizes such specific conduct, or such specific conduct is related to the importation or sale of covered products by or for the United States.

#### V.

##### **Reporting**

For purposes of this reporting requirement, the reporting periods shall commence on the first day of June of each year and shall end on the subsequent last day of May. However, the first report required under this section shall cover the period from the date of issuance of this Order through May 31, 2011. This reporting requirement shall continue in force until such time as Respondent will have 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 the quantity in units and the value in dollars of covered products that Respondent has (i) imported and (ii) sold in the United States after importation during the reporting period, and the quantity in units and value in dollars of covered products that remain in inventory in the United States at the end of the reporting period.

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 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 purpose of determining or securing compliance with this Order and for no other purpose, and subject to any privilege recognized by the federal courts of the United States, duly authorized representatives of the Commission, upon reasonable written notice by the Commission or its staff, 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, both in detail and in summary form as are required to be retained by 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 date of expiration of all of U.S. Patent No. 6,470,405, U.S. Patent No. 6,591,353, and U.S. Patent No. 7,287,109.

### **VIII.**

#### **Confidentiality**

Any request for confidential treatment of information obtained by the Commission pursuant to Sections V and VI of this Order should be in accordance with Commission Rule 201.6, 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 in accordance with section 337(f) of the Tariff Act of 1930, 19 U.S.C. § 1337(f), and any other actions as the Commission may deem appropriate. In determining whether Respondent is in violation of this Order, the Commission may infer facts adverse to Respondent if Respondent 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 (60) day period in which this Order is under review by the United States Trade Representative as delegated by the President, subject to Respondent posting a bond in the amount of 2.65% of entered value of the covered



products. 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 as set forth in the limited exclusion order issued by the Commission, and are not subject to this bond provision.

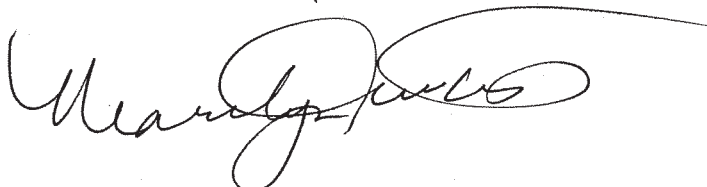
The bond is to be posted in accordance with the procedures established by the Commission for the posting of bonds in connection by complainants in connection with the issuance of temporary exclusion orders. *See* Commission Rule 210.68, 19 C.F.R. § 210.68. The bond and any accompanying documentation is to be provided to and approved by the Commission prior to the commencement of conduct which is otherwise prohibited by Section III of this Order.

The bond is to be forfeited in the event that the United States Trade Representative approves, or does not disapprove within the review period, this Order, unless 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 unless Respondent exports the products subject to this bond or destroys them and provides certification to that effect satisfactory to the Commission.

The 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 therefor made by Respondent to the Commission.

By Order of the Commission

Issued: July 26, 2010

A handwritten signature in black ink, appearing to read 'Marilyn R. Abbott', with a large, sweeping flourish extending to the right.

Marilyn R. Abbott  
Secretary to the Commission

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

**In the Matter of**

**CERTAIN SEMICONDUCTOR CHIPS  
HAVING SYNCHRONOUS DYNAMIC  
RANDOM ACCESS MEMORY  
CONTROLLERS AND PRODUCTS  
CONTAINING SAME**

**Inv. No. 337-TA-661**

**CEASE AND DESIST ORDER**

IT IS HEREBY ORDERED THAT BFG Technologies, Inc. ("BFG") of 28690 Ballard Drive, Lake Forest, Illinois 60045 cease and desist from conducting any of the following activities in the United States: importing, selling, marketing, advertising, distributing, offering for sale, transferring (except for exportation), and soliciting U.S. agents or distributors for, memory controller products and products incorporating a memory controller that are covered by one or more of claims 11-13, 15, and 18 of U.S. Patent No. 6,470,405, claims 11-13 of U.S. Patent No. 6,591,353, and claims 1, 2, 4, 5, 12, 13, 20, 21, and 24 of U.S. Patent No. 7,287,109, 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 Rambus Inc. of Los Altos, California.
- (C) "Respondent" shall mean BFG Technologies, Inc. ("BFG") of Lake Forest, Illinois.

(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 memory controller products and products that incorporate a memory controller and that infringe one or more of claims 11-13, 15, and 18 of U.S. Patent No. 6,470,405, claims 11-13 of U.S. Patent No. 6,591,353, and claims 1, 2, 4, 5, 12, 13, 20, 21, and 24 of U.S. Patent No. 7,287,109.

## 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 engaged 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 term of the relevant one or more of U.S. Patent No. 6,470,405, U.S. Patent No. 6,591,353, and U.S. Patent No. 7,287,109, Respondent shall not:

- (A) import or sell for importation into the United States covered products;
- (B) market, distribute, offer for sale, sell, or otherwise transfer (except for exportation), in the United States 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, in a written instrument, the owner of the relevant one or more of U.S. Patent No. 6,470,405, U.S. Patent No. 6,591,353, and U.S. Patent No. 7,287,109 licenses or authorizes such specific conduct, or such specific conduct is related to the importation or sale of covered products by or for the United States.

#### V.

##### **Reporting**

For purposes of this reporting requirement, the reporting periods shall commence on the first day of June of each year and shall end on the subsequent last day of May. However, the first report required under this section shall cover the period from the date of issuance of this Order through May 31, 2011. This reporting requirement shall continue in force until such time as Respondent will have 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 the quantity in units and the value in dollars of covered products that Respondent has (i) imported and (ii) sold in the United States after importation during the reporting period, and the quantity in units and value in dollars of covered products that remain in inventory in the United States at the end of the reporting period.

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 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 purpose of determining or securing compliance with this Order and for no other purpose, and subject to any privilege recognized by the federal courts of the United States, duly authorized representatives of the Commission, upon reasonable written notice by the Commission or its staff, 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, both in detail and in summary form as are required to be retained by 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 date of expiration of all of U.S. Patent No. 6,470,405, U.S. Patent No. 6,591,353, and U.S. Patent No. 7,287,109.

## **VIII.**

### **Confidentiality**

Any request for confidential treatment of information obtained by the Commission pursuant to Sections V and VI of this Order should be in accordance with Commission Rule 201.6, 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 in accordance with section 337(f) of the Tariff Act of 1930, 19 U.S.C. § 1337(f), and any other actions as the Commission may deem appropriate. In determining whether Respondent is in violation of this Order, the Commission may infer facts adverse to Respondent if Respondent 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 (60) day period in which this Order is under review by the United States Trade Representative as delegated by the President, subject to Respondent posting a bond in the amount of 2.65% of entered value of the covered

products. 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 as set forth in the limited 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 in connection by complainants in connection with the issuance of temporary exclusion orders. *See* Commission Rule 210.68, 19 C.F.R. § 210.68. The bond and any accompanying documentation is to be provided to and approved by the Commission prior to the commencement of conduct which is otherwise prohibited by Section III of this Order.

The bond is to be forfeited in the event that the United States Trade Representative approves, or does not disapprove within the review period, this Order, unless 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 unless Respondent exports the products subject to this bond or destroys them and provides certification to that effect satisfactory to the Commission.

The 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 therefor made by Respondent to the Commission.

By Order of the Commission

Issued: July 26, 2010

A handwritten signature in black ink, appearing to read 'Marilyn R. Abbott', written in a cursive style.

Marilyn R. Abbott  
Secretary to the Commission

UNITED STATES INTERNATIONAL TRADE COMMISSION  
Washington, D.C.

**In the Matter of**

**CERTAIN SEMICONDUCTOR CHIPS  
HAVING SYNCHRONOUS DYNAMIC  
RANDOM ACCESS MEMORY  
CONTROLLERS AND PRODUCTS  
CONTAINING SAME**

**Inv. No. 337-TA-661**

**CEASE AND DESIST ORDER**

IT IS HEREBY ORDERED THAT Diablotek Inc. ("Diablotek") of 1421 Pedley Drive, Alhambra, California 92821 cease and desist from conducting any of the following activities in the United States: importing, selling, marketing, advertising, distributing, offering for sale, transferring (except for exportation), and soliciting U.S. agents or distributors for, memory controller products and products incorporating a memory controller that are covered by one or more of claims 11-13, 15, and 18 of U.S. Patent No. 6,470,405, claims 11-13 of U.S. Patent No. 6,591,353, and claims 1, 2, 4, 5, 12, 13, 20, 21, and 24 of U.S. Patent No. 7,287,109, 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 Rambus Inc. of Los Altos, California.
- (C) "Respondent" shall mean Diablotek, Inc. ("Diablotek") of Alhambra, California.
- (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 memory controller products and products that incorporate a memory controller and that infringe one or more of claims 11-13, 15, and 18 of U.S. Patent No. 6,470,405, claims 11-13 of U.S. Patent No. 6,591,353, and claims 1, 2, 4, 5, 12, 13, 20, 21, and 24 of U.S. Patent No. 7,287,109.

## **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 engaged 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 term of the relevant one or more of U.S. Patent No. 6,470,405, U.S. Patent No. 6,591,353, and U.S. Patent No. 7,287,109, Respondent shall not:

- (A) import or sell for importation into the United States covered products;
- (B) market, distribute, offer for sale, sell, or otherwise transfer (except for exportation), in the United States 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, in a written instrument, the owner of the relevant one or more of U.S. Patent No. 6,470,405, U.S. Patent No. 6,591,353, and U.S. Patent No. 7,287,109 licenses or authorizes such specific conduct, or such specific conduct is related to the importation or sale of covered products by or for the United States.

**V.****Reporting**

For purposes of this reporting requirement, the reporting periods shall commence on the first day of June of each year and shall end on the subsequent last day of May. However, the first report required under this section shall cover the period from the date of issuance of this Order through May 31, 2011. This reporting requirement shall continue in force until such time as Respondent will have 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 the quantity in units and the value in dollars of covered products that Respondent has (i) imported and (ii) sold in the United States after importation during the reporting period, and the quantity in units and value in dollars of covered products that remain in inventory in the United States at the end of the reporting period.

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 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 purpose of determining or securing compliance with this Order and for no other purpose, and subject to any privilege recognized by the federal courts of the United States, duly authorized representatives of the Commission, upon reasonable written notice by the Commission or its staff, 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, both in detail and in summary form as are required to be retained by 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 date of expiration of all of U.S. Patent No. 6,470,405, U.S. Patent No. 6,591,353, and U.S. Patent No. 7,287,109.

### **VIII.**

#### **Confidentiality**

Any request for confidential treatment of information obtained by the Commission pursuant to Sections V and VI of this Order should be in accordance with Commission Rule 201.6, 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 in accordance with section 337(f) of the Tariff Act of 1930, 19 U.S.C. § 1337(f), and any other actions as the Commission may deem appropriate. In determining whether Respondent is in violation of this Order, the Commission may infer facts adverse to Respondent if Respondent 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 (60) day period in which this Order is under review by the United States Trade Representative as delegated by the President, subject to Respondent posting a bond in the amount of 2.65% of entered value of the covered

products. 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 as set forth in the limited 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 in connection by complainants in connection with the issuance of temporary exclusion orders. *See* Commission Rule 210.68, 19 C.F.R. § 210.68. The bond and any accompanying documentation is to be provided to and approved by the Commission prior to the commencement of conduct which is otherwise prohibited by Section III of this Order.

The bond is to be forfeited in the event that the United States Trade Representative approves, or does not disapprove within the review period, this Order, unless 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 unless Respondent exports the products subject to this bond or destroys them and provides certification to that effect satisfactory to the Commission.

The 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 therefor made by Respondent to the Commission.

By Order of the Commission

Issued: July 26, 2010



Marilyn R. Abbott  
Secretary to the Commission

UNITED STATES INTERNATIONAL TRADE COMMISSION  
Washington, D.C.

**In the Matter of**

**CERTAIN SEMICONDUCTOR CHIPS  
HAVING SYNCHRONOUS DYNAMIC  
RANDOM ACCESS MEMORY  
CONTROLLERS AND PRODUCTS  
CONTAINING SAME**

**Inv. No. 337-TA-661**

**CEASE AND DESIST ORDER**

IT IS HEREBY ORDERED THAT Biostar Microtech (U.S.A.) Corp. ("Biostar") of 18551 East Gale Avenue, City of Industry, California 91748 cease and desist from conducting any of the following activities in the United States: importing, selling, marketing, advertising, distributing, offering for sale, transferring (except for exportation), and soliciting U.S. agents or distributors for, memory controller products and products incorporating a memory controller that are covered by one or more of claims 11-13, 15, and 18 of U.S. Patent No. 6,470,405, claims 11-13 of U.S. Patent No. 6,591,353, and claims 1, 2, 4, 5, 12, 13, 20, 21, and 24 of U.S. Patent No. 7,287,109, 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 Rambus Inc. of Los Altos, California.
- (C) "Respondent" shall mean Biostar Microtech (U.S.A.) Corp. ("Biostar") of City of Industry, California.

(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 memory controller products and products that incorporate a memory controller and that infringe one or more of claims 11-13, 15, and 18 of U.S. Patent No. 6,470,405, claims 11-13 of U.S. Patent No. 6,591,353, and claims 1, 2, 4, 5, 12, 13, 20, 21, and 24 of U.S. Patent No. 7,287,109.

## **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 engaged 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 term of the relevant one or more of U.S. Patent No. 6,470,405, U.S. Patent No. 6,591,353, and U.S. Patent No. 7,287,109, Respondent shall not:

- (A) import or sell for importation into the United States covered products;
- (B) market, distribute, offer for sale, sell, or otherwise transfer (except for exportation), in the United States 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, in a written instrument, the owner of the relevant one or more of U.S. Patent No. 6,470,405, U.S. Patent No. 6,591,353, and U.S. Patent No. 7,287,109 licenses or authorizes such specific conduct, or such specific conduct is related to the importation or sale of covered products by or for the United States.

#### V.

##### **Reporting**

For purposes of this reporting requirement, the reporting periods shall commence on the first day of June of each year and shall end on the subsequent last day of May. However, the first report required under this section shall cover the period from the date of issuance of this Order through May 31, 2011. This reporting requirement shall continue in force until such time as Respondent will have 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 the quantity in units and the value in dollars of covered products that Respondent has (i) imported and (ii) sold in the United States after importation during the reporting period, and the quantity in units and value in dollars of covered products that remain in inventory in the United States at the end of the reporting period.

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 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 purpose of determining or securing compliance with this Order and for no other purpose, and subject to any privilege recognized by the federal courts of the United States, duly authorized representatives of the Commission, upon reasonable written notice by the Commission or its staff, 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, both in detail and in summary form as are required to be retained by 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 date of expiration of all of U.S. Patent No. 6,470,405, U.S. Patent No. 6,591,353, and U.S. Patent No. 7,287,109.

### **VIII.**

#### **Confidentiality**

Any request for confidential treatment of information obtained by the Commission pursuant to Sections V and VI of this Order should be in accordance with Commission Rule 201.6, 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 in accordance with section 337(f) of the Tariff Act of 1930, 19 U.S.C. § 1337(f), and any other actions as the Commission may deem appropriate. In determining whether Respondent is in violation of this Order, the Commission may infer facts adverse to Respondent if Respondent 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 (60) day period in which this Order is under review by the United States Trade Representative as delegated by the President, subject to Respondent posting a bond in the amount of 2.65% of entered value of the covered

products. 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 as set forth in the limited 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 in connection by complainants in connection with the issuance of temporary exclusion orders. *See* Commission Rule 210.68, 19 C.F.R. § 210.68. The bond and any accompanying documentation is to be provided to and approved by the Commission prior to the commencement of conduct which is otherwise prohibited by Section III of this Order.

The bond is to be forfeited in the event that the United States Trade Representative approves, or does not disapprove within the review period, this Order, unless 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 unless Respondent exports the products subject to this bond or destroys them and provides certification to that effect satisfactory to the Commission.

The 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 therefor made by Respondent to the Commission.

By Order of the Commission

Issued: July 26, 2010



Marilyn R. Abbott  
Secretary to the Commission

UNITED STATES INTERNATIONAL TRADE COMMISSION  
Washington, D.C.

In the Matter of

CERTAIN SEMICONDUCTOR CHIPS  
HAVING SYNCHRONOUS DYNAMIC  
RANDOM ACCESS MEMORY  
CONTROLLERS AND PRODUCTS  
CONTAINING SAME

Inv. No. 337-TA-661

**CEASE AND DESIST ORDER**

IT IS HEREBY ORDERED THAT EVGA Corp. ("EVGA") of 2900 Saturn Street, Suite B, Brea, California 92821 cease and desist from conducting any of the following activities in the United States: importing, selling, marketing, advertising, distributing, offering for sale, transferring (except for exportation), and soliciting U.S. agents or distributors for, memory controller products and products incorporating a memory controller that are covered by one or more of claims 11-13, 15, and 18 of U.S. Patent No. 6,470,405, claims 11-13 of U.S. Patent No. 6,591,353, and claims 1, 2, 4, 5, 12, 13, 20, 21, and 24 of U.S. Patent No. 7,287,109, 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 Rambus Inc. of Los Altos, California.
- (C) "Respondent" shall mean EVGA Corp. ("EVGA") of Brea, California.
- (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 memory controller products and products that incorporate a memory controller and that infringe one or more of claims 11-13, 15, and 18 of U.S. Patent No. 6,470,405, claims 11-13 of U.S. Patent No. 6,591,353, and claims 1, 2, 4, 5, 12, 13, 20, 21, and 24 of U.S. Patent No. 7,287,109.

## 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 engaged 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 term of the relevant one or more of U.S. Patent No. 6,470,405, U.S. Patent No. 6,591,353, and U.S. Patent No. 7,287,109, Respondent shall not:

- (A) import or sell for importation into the United States covered products;
- (B) market, distribute, offer for sale, sell, or otherwise transfer (except for exportation), in the United States 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, in a written instrument, the owner of the relevant one or more of U.S. Patent No. 6,470,405, U.S. Patent No. 6,591,353, and U.S. Patent No. 7,287,109 licenses or authorizes such specific conduct, or such specific conduct is related to the importation or sale of covered products by or for the United States.

**V.****Reporting**

For purposes of this reporting requirement, the reporting periods shall commence on the first day of June of each year and shall end on the subsequent last day of May. However, the first report required under this section shall cover the period from the date of issuance of this Order through May 31, 2011. This reporting requirement shall continue in force until such time as Respondent will have 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 the quantity in units and the value in dollars of covered products that Respondent has (i) imported and (ii) sold in the United States after importation during the reporting period, and the quantity in units and value in dollars of covered products that remain in inventory in the United States at the end of the reporting period.

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 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 purpose of determining or securing compliance with this Order and for no other purpose, and subject to any privilege recognized by the federal courts of the United States, duly authorized representatives of the Commission, upon reasonable written notice by the Commission or its staff, 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, both in detail and in summary form as are required to be retained by 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 date of expiration of all of U.S. Patent No. 6,470,405, U.S. Patent No. 6,591,353, and U.S. Patent No. 7,287,109.

### **VIII.**

#### **Confidentiality**

Any request for confidential treatment of information obtained by the Commission pursuant to Sections V and VI of this Order should be in accordance with Commission Rule 201.6, 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 in accordance with section 337(f) of the Tariff Act of 1930, 19 U.S.C. § 1337(f), and any other actions as the Commission may deem appropriate. In determining whether Respondent is in violation of this Order, the Commission may infer facts adverse to Respondent if Respondent 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 (60) day period in which this Order is under review by the United States Trade Representative as delegated by the President, subject to Respondent posting a bond in the amount of 2.65% of entered value of the covered



products. 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 as set forth in the limited 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 in connection by complainants in connection with the issuance of temporary exclusion orders. *See* Commission Rule 210.68, 19 C.F.R. § 210.68. The bond and any accompanying documentation is to be provided to and approved by the Commission prior to the commencement of conduct which is otherwise prohibited by Section III of this Order.

The bond is to be forfeited in the event that the United States Trade Representative approves, or does not disapprove within the review period, this Order, unless 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 unless Respondent exports the products subject to this bond or destroys them and provides certification to that effect satisfactory to the Commission.

The 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 therefor made by Respondent to the Commission.

By Order of the Commission

Issued: July 26, 2010



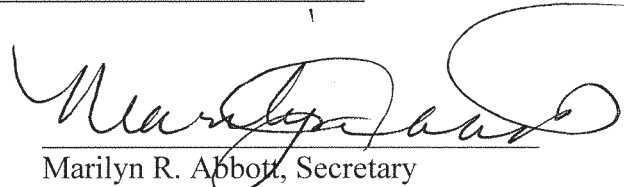
Marilyn R. Abbott  
Secretary to the Commission

**CERTAIN SEMICONDUCTOR CHIPS HAVING SYNCH-  
RONOUS DYNAMIC RANDOM ACCESS MEMORY  
CONTROLLERS AND PRODUCTS CONTAINING SAME,  
INCLUDING GRAPHICS CARDS AND MOTHERBOARDS**

337-TA-661

**CERTIFICATE OF SERVICE**

I, Marilyn R. Abbott, hereby certify that the attached NOTICE OF COMMISSION FINAL DETERMINATION OF VIOLATION OF SECTION 337; TERMINATION OF INVESTIGATION; ISSUANCE OF LIMITED EXCLUSION ORDER AND CEASE AND DESIST ORDERS has been served by hand upon the Commission Investigative Attorney, Daniel L. Girdwood, Esq., and the following parties as indicated, on  
July 26, 2010



Marilyn R. Abbott, Secretary  
U.S. International Trade Commission  
500 E Street, SW  
Washington, DC 20436

**On Behalf of Complainant Rambus Incorporated:**

J. Michael Jakes, Esq.  
**FINNEGAN HENDERSON FARABOW  
GARRETT & DUNNER LLP**  
901 New York Avenue, NW  
Washington, DC 20001-4413

Via Hand Delivery  
 Via Overnight Mail  
 Via First Class Mail  
 Other: \_\_\_\_\_

**On Behalf of Respondents NVIDIA Corporation;  
Asustek Computer, Inc.; ASUS Computer International,  
Inc.; BFG Technologies, Inc.; Biostar Medical (USA),  
Corporation; Biostar Microtech International  
Corporation; DiabloTek Inc.; EVGA Corporation,  
G.B.T. Inc.; Giga-Byte Technology Co., Ltd.; Hewlett-  
Packard Co.; MSI Computer Co.; Micro-Star  
International Co., Ltd.; Palit Multimedia Inc.; Palit  
Microsystems Ltd.; Pine Technology Holdings, Ltd.;  
and, Sparkle Computer Co., Ltd.:**

Andrew R. Kopsidas, Esq.  
**FISH & RICHARDSON P.C.**  
1425 K Street, NW  
Washington, DC 20005

Via Hand Delivery  
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UNITED STATES INTERNATIONAL TRADE COMMISSION  
Washington, DC 20436

**In the Matter of**

**CERTAIN SEMICONDUCTOR CHIPS  
HAVING SYNCHRONOUS DYNAMIC  
RANDOM ACCESS MEMORY  
CONTROLLERS AND PRODUCTS  
CONTAINING SAME**

**Investigation No. 337-TA-661**

**COMMISSION OPINION**

**Background**

This opinion is issued on review of the final initial determination (“ID”) of the presiding administrative law judge (“ALJ”) (Judge Essex) in this investigation, which issued on January 22, 2010, finding that a violation of section 337 of the Tariff Act of 1930, 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 semiconductor chips having synchronous dynamic random access memory controllers and products containing same by reason of infringement of one or more of claims 11-13, 15, and 18 of U.S. Patent No. 6,470,405 (“the ‘405 patent”), claims 11-13 of U.S. Patent No. 6,591,353 (“the ‘353 patent”), and claims 1, 2, 4, 5, 12, 13, 20, 21, and 24 of U.S. Patent No. 7,287,109 (“the ‘109 patent”).<sup>1</sup> The ALJ further found that no violation of section 337 has occurred with respect to asserted claims 7, 13, 21, and 22 of U.S. Patent No. 7,177,998 (“the ‘998 patent”) and claims 7, 13, 21, and 22 of U.S. Patent No. 7,210,016 (“the

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<sup>1</sup> These three patents, because they share a common inventor, are referred to collectively as the “Barth I patents.”

'016 patent").<sup>2</sup> The ALJ's ID included a recommended determination ("RD") on remedy and bonding, in which he recommended that a limited exclusion order be issued for the accused products that violate section 337, that the Commission issue a cease and desist order against eleven respondents, and further recommended that the Commission set a bond "at a reasonable royalty rate" during the Presidential review period.

The Commission determined to review issues of anticipation and obviousness with respect to the asserted claims of the Ware patents and issues of obviousness-type double patenting and obviousness of the asserted claims of the Barth I patents, and accepted briefing on the issues under review, as well as on the issues of remedy, the public interest, and bonding.<sup>3</sup> *See 75 Fed. Reg.* 15607-09. The remainder of the ID was thereby adopted, and is incorporated by reference here. Accordingly, we do not repeat the ID's description of, *inter alia*, the procedural history, accused products, or technological background. On May 26, 2010, the Commission requested further briefing on the issue of patent exhaustion in light of a license between complainant Rambus, Inc. ("Rambus") and non-party Samsung Electronics Corp. entered into shortly before issuance of the ID (hereinafter referred to as the "Samsung License"). After receiving that briefing, the Commission, on June 22, 2010, requested limited briefing addressing a recent case discussing patent exhaustion that was not addressed in any party's briefing, *Fujifilm Corp. v. Benun*, 605 F.3d 1366 (Fed. Cir. 2010).

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<sup>2</sup> These two patents, because they share a common inventor, are referred to collectively as the "Ware patents."

<sup>3</sup> This opinion will use shorthand for the briefing submitted on review of the ID; the parties' briefs will be referred to as Rambus Review Brief, Respondents Review Brief, IA Review Brief and the responses as Rambus Review Response, Respondents Review Response, and IA Review Response, respectively.

## Analysis

### A. The Ware Patents

While the ALJ found that the asserted claims of the Ware patents were infringed by the accused products, the ALJ found no violation with respect to the Ware patents because he found that Respondents<sup>4</sup> demonstrated, by clear and convincing evidence, that the asserted claims of the Ware patents are anticipated and rendered obvious by U.S. Patent No. 6,292,903 (“Coteus” or “the Coteus patent”). The Commission affirms the ALJ’s anticipation analysis, but provides further analysis of obviousness in which it is assumed that certain limitations of asserted claims of the Ware patents are not disclosed by the Coteus patent. Based on this analysis, the Commission affirms the ALJ’s conclusion regarding obviousness.

#### 1. The Differences Between the Scope and Content of the Coteus Patent and the Asserted Claims

Under the alternative scenario, the differences between the Coteus patent and asserted claims of the Ware patents urged by Rambus are assumed to exist.

#### 2. The Appropriate Skill Level of One of Ordinary Skill in the Art

Because both opposing experts testified that their invalidity opinions were unchanged even under the opposing expert’s definition as to the level of ordinary skill in the art, the anticipation or obviousness findings as to Coteus do not depend on the particular level of

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<sup>4</sup> The full names of all the respondents (referred to collectively herein as “Respondents”) are: NVIDIA Corporation of Santa Clara, California (“NVIDIA”); Asustek Computer, Inc. of Taipei, Taiwan; ASUS Computer International, Inc. of Fremont, California; BFG Technologies, Inc. of Lake Forest, Illinois; Biostar Microtech (USA) Corp. of City of Industry, California; Biostar Microtech International Corp. of Hsin Ten, Taiwan; Diablotek Inc. of Alhambra, California; EVGA Corp. of Brea, California; G.B.T. Inc. of City of Industry, California; Giga-byte Technology Co., Ltd. of Taipei, Taiwan; Hewlett-Packard Co. of Palo Alto, California; MSI Computer Corp. of City of Industry, California; Micro-star International Co., Ltd. of Taipei, Taiwan; Palit Multimedia Inc. of San Jose, California; Palit Microsystems Ltd. of Taipei, Taiwan; Pine Technology Holdings, Ltd. of Hong Kong and Sparkle Computer Co. of Taipei, Taiwan.

ordinary skill in the art. *See* IA Review Br. at 32-33. Even though it is not outcome-determinative, we set forth the level of skill of one of ordinary skill in the relevant art. We find that one having ordinary skill in the art possesses at least a bachelor's degree in electrical engineering or a related field with approximately three to five years post-baccalaureate experience working with memory systems, memory controllers, and/or memory devices.

### 3. Obviousness of the Asserted Ware Claims

Under an alternative scenario in which Coteus does not explicitly disclose the disputed limitations of the asserted Ware claims, we agree with Respondents that it would have been obvious to one of ordinary skill in the art to implement the system and method of the asserted Ware claims. *See* Respondents Review Br. at 26. We agree that one of ordinary skill in the art would have understood the need to compensate for device-to-device propagation delays on fly-by paths as depicted in Coteus's Figure 2, and agree that one of ordinary skill in the art would have understood that Coteus discloses a method to compensate for such delays. *See id.* We therefore find that, even if Coteus does not explicitly disclose the disputed limitations of the asserted Ware claims, its disclosure would render those limitations obvious to one of ordinary skill in the art.

### 4. Secondary Considerations of Non-Obviousness

We agree with the ALJ that Rambus failed to meet its burden of establishing secondary considerations and failed to establish a nexus between the evidence and the merits of the claimed invention, and therefore find no secondary considerations of non-obviousness.

### **B. The Barth I Patents**

The ALJ found a violation with respect to all the asserted claims of the Barth I patents, finding, *inter alia*, that Respondents failed to prove that the asserted claims of the Barth I patents



were invalid for anticipation or that those claims would have been obvious to one of ordinary skill in the art. The Commission did not review, and thereby adopted, the ALJ's conclusion that the Respondents failed to prove that the asserted claims of the Barth I patents were anticipated because Respondents failed to prove that the prior art they relied on in their anticipation arguments disclosed the "strobe signal" or "signal" limitations. The Commission reviewed the ID, however, to more fully analyze the obviousness of the asserted Barth I claims in light of the differences between the asserted prior art and those claims. Specifically, because the ALJ's analysis focused largely on Respondents' anticipation arguments and because the ALJ made obviousness and obviousness-type double-patenting conclusions without making the requisite factual findings required under *Graham v. John Deere Co.*, 383 U.S. 1 (1966), the Commission reviewed to make the appropriate findings and draw the appropriate legal conclusions regarding obviousness and obviousness-type double patenting of the Barth I patents.

### **Obviousness**

1. Differences Between the Scope and Content of the Asserted Prior Art and the Asserted Claims

Rambus argues that the U.S. Patent No. 5,319,755 ("Farmwald '755" or "the Farmwald '755 patent") does not teach or suggest the "strobe signal" or "signal" limitations of the asserted Barth I claims. Rambus argues further that the TrncvrRW signal of the Farmwald '755 is not equivalent to the "strobe signal"/"signal" limitations, and that Farmwald '755 does not disclose or suggest modifying its disclosure to use the TrncvrRW signal in the way that Respondents proposed. Rambus focuses its argument on the TrncvrRW signal, noting that it is not provided to initiate sampling, but rather is only provided to a transceiver device to allow it to make "forwarding decisions." Rambus Review Br. at 83. Rambus notes that the Commission investigative attorney ("IA") agrees with its position regarding the TrncvrRW signal, as does the

United States Patent & Trademark Office, which considered the signal during prosecution of the Barth I patents. *Id.*

Rambus similarly argues that the U.S. Patent No. 6,748,507 (“Kawasaki”) does not teach or suggest the “strobe signal” or “signal” limitations of the asserted Barth I claims. Rambus notes that Respondents’ post-hearing brief provided virtually no discussion of Kawasaki, and provides detailed argument as to why the reference does not disclose the “strobe signal”/“signal” limitations. Specifically, Rambus argues that Kawasaki does not disclose other features of certain Barth I claims, such as delay before issuance of the signal that Respondents allege meets the “strobe signal”/“signal” limitations. *See id.* at 89-91. Rambus contends that the secondary references cited by Respondents also fail to disclose the limitations missing from Farmwald ‘755 or Kawasaki and that, even if they did, Respondents failed to show why one of ordinary skill in the art would have combined the references.

The IA states that “there is at least one significant difference between the scope and content of the asserted prior art and the asserted Barth I claims” and that the difference is that “strobe signal”/“signal” limitations “were not taught or suggested by *any* of the prior art references relied on by Respondents . . . .” IA Review Br. at 44.

Respondents, in addition to rearguing anticipation of the asserted Barth I claims by the Farmwald ‘755 patent, argue that the “strobe signal”/“signal” limitations would have been obvious to one of ordinary skill in the art in light of Farmwald ‘755’s disclosure of the aforementioned TrncvrRW signal. *See id.* at 41-43.<sup>5</sup> Regarding the “strobe signal”/“signal” limitations, Respondents contend that the limitations would have been obvious to one of ordinary skill in the art in light of the TrncvrRW signal “as detailed above,” which quoted phrase appears

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<sup>5</sup> Respondents also argue that Farmwald ‘755 discloses limitations of the Barth I claims not in dispute, which will not be summarized herein.

to refer to the argument at pages 41-43 of their review brief. *See e.g.*, Respondents Review Br. at 46-47, 53, 59.

Regarding the Kawasaki reference, Respondents contend that the “strobe signal”/“signal” limitations are disclosed by the reference, effectively rearguing the ALJ’s substantive conclusion that Kawasaki does not anticipate because it fails to disclose the “strobe signal” limitation. Respondents Review Br. at 80-84; *see also* ID at 57. Indeed, despite the fact that the issue is not on review, Respondents conclude their argument with respect to claim 11 of the ‘353 patent by stating that the claim is “invalid as anticipated by Kawasaki.” Respondents Review Br. at 86. Respondents do not argue that the “strobe signal”/“signal” limitations are present in any other reference, such as those that they attempt to combine with Kawasaki, but rather point to the discussion of Kawasaki in their argument that it anticipates claim 11 of the ‘353 patent. *See e.g., id.*, 100-101.

Under the facts as found by the ALJ and adopted by the Commission, *no asserted prior art reference* discloses the “strobe signal”/“signal” limitations of the asserted Barth I claims. We therefore find that the difference between the asserted prior art and the asserted Barth I claims is that no asserted prior art reference discloses the “strobe signal”/“signal” limitations.

## 2. The Level of Ordinary Skill in the Art

The parties largely repeat their arguments made with respect to the Ware patents as to the appropriate skill level of one of ordinary skill in the art with respect to the Barth I patents. We agree that the record indicates that the level of ordinary skill in the art should be the same for the two sets of patents. We therefore find that, as with the Ware patents, the appropriate skill level of one of ordinary skill in the art would possess at least a bachelor’s degree in electrical

engineering or a related field with approximately three to five years post-baccalaureate experience working with memory systems, memory controllers, and/or memory devices.

3. Obviousness of the Asserted Barth I Claims

In light of the fact that no asserted prior art explicitly discloses “strobe signal”/“signal” limitations of the asserted Barth I claims, the remaining question is whether Respondents have demonstrated by clear and convincing evidence that the asserted prior art references, alone or in combination, would have rendered the claimed invention obvious to one of ordinary skill in the art. We find that Respondents have failed to meet their burden on this question.

Specifically, Respondents fail to demonstrate that it would have been obvious to one of ordinary skill in the art to modify the Farmwald ‘755 disclosure to use the TrncvrRW signal to initiate sampling of the memory device. We agree with Rambus and the IA that so modifying the device is not suggested by Farmwald ‘755, and that one of ordinary skill in the art would not find the asserted Barth I claims obvious in light of the differences between them and Farmwald ‘755’s disclosure.

Similarly, we agree with Rambus and the IA that Kawasaki, either alone or in combination with other references, does not render the asserted claims obvious because Respondents have failed to show that it would have been obvious to one of ordinary skill in the art to modify the Kawasaki reference to add the claimed “strobe signal”/“signal” limitations of the asserted Barth I claims. As pointed out by Rambus and the IA, the signal in Kawasaki that Respondents allege explicitly meets these limitations, the BS signal, is not provided to the memory devices, and Respondents have failed to demonstrate that it would have been obvious to one of ordinary skill in the art to modify the signal. *See e.g.*, IA Review Resp. at 38-39. Respondents do not contend that any secondary references supply the missing “strobe

signal”/“signal” limitations of the asserted Barth I claims, instead repeatedly relying on Kawasaki’s alleged disclosure of the limitations.

We therefore find that Respondents have failed to prove that the asserted Barth I claims would have been obvious to one of ordinary skill in the art at the time of invention.

#### 4. Secondary Considerations of Non-Obviousness

We agree with the ALJ that Rambus failed to meet its burden of establishing secondary considerations and failed to establish a nexus between the evidence and the merits of the claimed invention.

#### **Obviousness-Type Double-Patenting**

Because the Farmwald ‘037 patent and the Farmwald ‘755 patent share an identical disclosure, for the reasons detailed above, the Farmwald ‘037 patent specification fails to disclose the “strobe signal”/“signal” limitations of the asserted Barth I claims. Similarly, the claims of the Farmwald ‘037 patent fail to disclose these limitations. Accordingly, the inquiry into obviousness-type double patenting is similar to the question posed in the obviousness analysis above. *See In re Metoprolol Succinate Patent Litigation*, 494 F.3d 1011, 1016 (Fed. Cir. 2007) (quoting *Eli Lilly & Co. v. Barr Labs, Inc.*, 251 F.3d 955, 968 (Fed. Cir. 2001)) (a later patent claim that is not patentably distinct from an earlier claim in a commonly owned patent is invalid for obviousness-type double patenting). For the reasons discussed above in the obviousness analysis, i.e., that no reference discloses the “strobe signal”/“signal” limitations, we agree with Rambus and the IA that Respondents have failed to meet their burden of proving that the asserted Barth I claims are not patentably distinct from the claims of the Farmwald ‘037 patent. In other words, the asserted Barth I claims’ inclusion of the “strobe signal”/“signal” limitations renders them patentably distinct from the claims of Farmwald ‘037.

## C. Remedy, The Public Interest, and Bonding

### 1. Remedy; Type of Exclusion Order

Rambus argues that a General Exclusion Order (“GEO”) is necessary to prevent widespread infringement. Rambus bases its argument on the notion that third parties can easily purchase graphics cards containing Respondents’ infringing controllers overseas, then list them for sale online. Rambus Review Resp. at 79. Additionally, Rambus argues that it is difficult to identify the source of infringing goods, as “policing the vast network of [Respondents’] distributors and customers is all but impossible.” *Id.* at 80. Rambus alleges that Respondents could easily circumvent a Limited Exclusion Order (“LEO”) that bars NVIDIA controllers by having other entities not named in this investigation import the same. Rambus argues that circumvention is likely in this instance because the products containing NVIDIA controllers are “widely available,” not only from Respondents, but also from various third party entities via the internet. *Id.* at 82. Alternatively, Rambus requests that any LEO not be limited to named Respondents, but rather to “all of the products that incorporate NVIDIA’s infringing memory controllers.” Rambus Review Br. at 119.

Respondents argue that there is no basis for a GEO because Rambus offers only a hypothetical scenario for circumvention via the internet. Respondents contend that an LEO offers Rambus sufficient protection as it is directed toward specific NVIDIA products, regardless of how the products are ordered. Respondents Review Resp. at 48. Respondents also argue that the number of respondents in an investigation does not automatically indicate a widespread pattern of violation. *Id.* at 49. Respondents assert that because NVIDIA is the only manufacturer of the accused products, any potential violation stems from NVIDIA products. *Id.* Respondents argue that identification of the accused products at issue is straightforward because



NVIDIA is the only manufacturer and Rambus selected sixteen of NVIDIA's customers to name in this investigation. *Id.* at 50; Respondents Review Br. at 150.

Respondents also argue that a GEO is not justified because NVIDIA has and will continue to comply with Commission directives. Respondents assert that a GEO is warranted when based on a "substantial volume of evidence of deceptive activity by the respondents." Respondents Review Resp. at 52. Because Rambus fails to provide evidence of nefarious conduct or a willingness to engage in illegal behavior, Respondents argue that a GEO is inappropriate. *Id.* at 51. On the contrary, Respondents argue for a provision within any exclusion order that certifies that their products do not contain products that have been found to infringe. *Id.* at 54.

The IA argues that an LEO is appropriate and should encompass the downstream products of the named Respondents. IA Review Resp. at 39-40. The IA argues that section 337(d)(2)(A) requires proof, not mere possibilities, that "general exclusion from entry of articles is *necessary to prevent circumvention* of an exclusion order limited to products of named persons." *Id.* at 41 (citing 35 U.S.C. § 1337(d)(2)(A)) (emphasis added). The IA argues that because Rambus has only offered possibilities of third party internet sales, a GEO is inappropriate. *Id.* at 42-43.

### Analysis

The Commission has determined that an LEO is the appropriate type of exclusion order to remedy the violation found. Under section 337, there are only two exceptional circumstances where the Commission will issue a GEO: (1) when "necessary to prevent circumvention of an exclusion order limited to products of named persons" or (2) where "there is a pattern of violation of this section and it is difficult to identify the source of the infringing products." *See*

35 U.S.C. § 1337(d)(2)(A) & (B). Here, we find no evidence that Respondents have circumvented, or aim to circumvent, an LEO.

Regarding Rambus's argument that it is difficult to identify the source of infringing products, Rambus has named NVIDIA, along with sixteen downstream purchasers, as the only named respondents and sources of infringing goods in this case. Therefore, identifying the source of infringing goods in this case appears straightforward. Additionally, Rambus has not demonstrated that the five websites identified in its response as international third party distributors/resellers do in fact sell products to U.S. customers via the internet. *See Rambus Review Resp.* at 82.

In our view, therefore, Rambus has failed to demonstrate that a GEO is necessary or appropriate in this case. Accordingly, we determine to issue an LEO against the goods of those respondents found to infringe the Barth I patents. We decline Rambus's request to direct the LEO to all products incorporating NVIDIA controllers, even products of non-respondents, because such relief is precluded by *Kyocera Wireless Corp. v. ITC*, 545 F.3d 1340 (Fed. Cir. 2008).

#### Cease and Desist Orders

Rambus argues that the Commission should issue cease and desist orders against certain named Respondents, citing evidence demonstrating that a commercially significant inventory of products containing NVIDIA controllers exists. *Rambus Review Br.* at 126-28. Respondents argue that Rambus has made no distinction between accused and non-accused products in inventory, and has offered no evidence of commercially significant inventory. *Respondents Review Br.* at 154. The IA argues that cease and desist orders are appropriate against certain



named Respondents that maintain commercially significant inventories of accused products in the United States. IA Review Resp. at 45-46.

We determine to issue cease and desist orders against those respondents found by the ALJ to maintain a commercially significant inventory of infringing products in the United States, the sale of which could undermine an exclusion order. *See Certain Abrasive Products Made Using a Process for Powder Preforms, and Products Containing Same*, Inv. No. 337-TA-449, Comm'n Op. at 7 (Aug. 2002). The ALJ found that the following respondents maintain commercially significant inventories: NVIDIA, Hewlett-Packard, ASUS Computer International, Palit Multimedia, Palit Microsystems, MSI Computer Corp., Micro-Star International, EVGA Corp., DiabloTek, Inc., Biostar Microtech, and BFG Technologies. In his ID, the ALJ relied on testimony from numerous witnesses as to accused product inventories of Respondents. ID at 129-30. Respondents have offered no evidence to rebut the ALJ's findings.

## 2. Public Interest

Respondents argue that, because Rambus does not manufacture any memory products, there is no "production of like or directly competitive articles in the United States" to be protected. Respondents Review Br. at 155. Respondents argue that SDRAM memory controllers (or at least the licensing thereof) is the relevant industry in this investigation and one that this Commission's actions would seek to protect. *Id.* at 155-56. Respondents argue that issuing remedial orders would harm "competitive conditions in the United States economy" and United States consumers because, Respondents argue, Rambus has not demonstrated that its licensees compete in the same markets as NVIDIA and its customers. Moreover, in response to Rambus's arguments, which are summarized below, Respondents argue that any harm that Rambus's licensees suffer is a private, not public, interest. Respondents Review Resp. at 55.

Rambus argues that the statutory factors enumerated in section 337(d)(1) do not preclude issuance of the contemplated orders. Rambus argues there can be no dispute that there are multiple, licensed sources for memory controllers as Rambus licenses memory controllers to ATI, a direct competitor to NVIDIA. *Id.* Rambus asserts that many of the Respondents, like Hewlett-Packard, use memory controllers from both NVIDIA and ATI in their products. *Id.*

Rambus also argues that Respondents have not provided any evidence that Rambus's licensees would be unable to adequately supply the United States market if Respondents' products were excluded. Rambus Review Br. at 129. Rambus asserts that one of NVIDIA's witnesses acknowledged that "a large fraction of PCs that are sold use non-NVIDIA chipsets or have the memory controller on the CPU." RX-1171C, Q&A 12. Additionally, Rambus argues that ATI, one of Rambus's licensees, sells licensed graphics cards and motherboards that can utilize licensed AMD and Intel chipsets. Rambus Review Br. at 129.

The IA argues that there are no public interest concerns that would preclude issuance of an LEO and cease and desist orders in this investigation. IA Review Response at 46. The IA argues that a complainant need not be in the same domestic industry as the infringing products nor manufacture competing products in that industry for the Commission to issue an exclusion order or a cease and desist order. *Id.* The IA argues that evidence points to Rambus receiving significant revenues from its licenses, suggesting that Rambus's licensees actually manufacture or sell licensed products. *Id.* at 47.

We find that this case does not present the rare instance where the statutory public interest factors preclude issuance of remedial orders. We disagree with Respondents that issuance of remedial orders would cause significant harm to "competitive conditions in the United States economy" or to United States consumers. Indeed, it appears that, as the IA points

out, Rambus's licensees sell licensed products that compete with the accused products, which would prevent any harm to U.S. consumers. Moreover, in our view, enforcement of valid United State intellectual property rights advances, rather than harms, competitive conditions in the United States economy.

### 3. Bonding

Rambus argues that a bond based on a "reasonable royalty," as recommended by the ALJ, is not adequate to compensate Rambus. Rambus Review Resp. at 85. Rambus argues that its Memory Controller License is based on the licensee paying set rates on all *world-wide* sales of the covered products. *Id.* (emphasis in original). Rambus argues that because NVIDIA ships less than ten percent of the accused products into the United States, a higher bond rate is warranted to protect Rambus's world-wide sales. *Id.* at 86. Rambus asserts that a 100-percent bond rate is therefore appropriate. *Id.*

Respondents argue that a 100-percent bond rate is not an automatic default when no meaningful price differential exists between a complainant's and respondent's products. Respondents Review Resp. at 55. Respondents argue that the Commission must still look for evidence of a reasonable royalty to determine the bond amount. *See* Respondents Review Br. at 161 (citing, *inter alia*, *Certain Two-Handle Centerset Faucets and Escutcheons, and Components Thereof*, Inv. No. 337-TA-422, Comm'n Op. at 9-10 (July 2002)).

Respondents argue that because there is reliable evidence that Rambus charges all of its memory controller licensees a flat rate of two percent, the Commission should set a bond no higher than two percent. *See* Respondents Review Br. at 161-62. Respondents argue that any higher bond rate violates section 337(e)(1) by serving as a deterrent. 19 U.S.C. § 1337(e)(1) (bond should be set at an amount "sufficient to protect the complainant from any injury").

The IA argues that the Commission should set a bond rate of 2.65 percent of entered value on all covered products if the Commission issues an exclusion or cease and desist order. IA Review Resp. at 49. The IA argues that Rambus cites no precedent justifying a 100-percent bond rate during the Presidential review period despite the known royalty rates in its existing licensing agreements. *Id.* The IA asserts that Rambus likewise fails to cite precedent justifying a 100-percent bond to deter the stockpiling of products that fall within the scope of an issued exclusion order. *Id.* The IA argues that a royalty rate of 2.65 percent is consistent with license agreements for products sold through March 31, 2010. *Id.* at 50.

We find that a bond of 2.65 percent of the entered value of accused products is appropriate. Section 337 provides that the bond must be “in an amount determined by the Commission to be sufficient to protect the complainant from any injury.” 19 U.S.C. § 1337(e)(1). As the complainant, Rambus bears the burden of establishing the need for a bond amount. *Certain Rubber Antidegradants, Components Thereof, and Products Containing Same*, Inv. No. 337-TA-533, Comm’n Op. at 39-40 (July 21, 2006). We conclude that the 2.65-percent bond is consistent with Rambus’s past licensing practice regarding the asserted patents, that the evidence of record supports this royalty rate, [ ], and that Rambus has not demonstrated that a higher bond rate is necessary to protect Rambus from injury.

#### 4. Samsung License/Exhaustion

Respondents argue that any exclusion order that issues should exempt products “using licensed memory” sold by non-respondent Samsung. Respondents Review Br. at 150. Specifically, Respondents note that Rambus and Samsung entered into a license on January 19, 2010, three days before the ALJ issued his ID. *Id.* at 151 n.10. Respondents argue that, under this license, all Samsung memory is now licensed, which provides a defense to any exclusion

order that Rambus has exhausted its patent rights in products containing Samsung memory. *Id.* at 152. Respondents argue that any exclusion order should specifically exempt downstream products if those products use licensed Samsung memory devices. Respondents Review Resp. at 53.

As detailed above, the Commission twice requested supplemental briefing to consider this late-arising argument. Having considered that briefing, we find that Respondents have failed to demonstrate that Rambus has exhausted its patent rights with respect to accused products that incorporate Samsung memory. Specifically, Respondents have failed to demonstrate that the relevant sales of Samsung memory take place in the United States. To the contrary, the record evidence demonstrates that the sales take place outside the United States. Rambus cites record evidence that supports the conclusion that the sales take place abroad, while Respondents point to no evidence, nor do they even allege, that the sales take place in the United States. *See, e.g.*, JX-108C at 64-66, 168-69 (Young Dep.). We also agree with Rambus that the fact that the investigation concerns imported goods constitutes circumstantial evidence that Respondents' purchases of the Samsung memory take place abroad. Respondents have not made any demonstration that the sales take place in the United States, even though they would be expected to have such knowledge.

In our view, such a showing is necessary to demonstrate patent exhaustion, and we reject Respondents' arguments to the contrary. In short, we disagree with Respondents that this case is indistinguishable from *Quanta Computer, Inc. v. LG Electronics, Inc.*, 553 U.S. 617 (2008) and we instead find that this case presents the exact distinction drawn by the Federal Circuit in *Fujifilm Corp. v. Benun*, 605 F.3d 1366 (Fed. Cir. 2010) – *Quanta* “did not involve foreign sales.” *Fujifilm*, 605 F.3d at 1371. *Fujifilm* indicates that the territoriality requirement applies to

all exhaustion cases by referring to the requirement as “the exhaustion doctrine’s territoriality requirement.” *Id.* Because Respondents have not demonstrated, or even alleged, that Samsung’s relevant memory sales take place in the United States, we conclude that Respondents have failed to demonstrate that the territoriality requirement has been met.<sup>6</sup>

#### Respondents’ Request To Stay any Remedial Orders

Respondents argue that, due to the atypical nature of the facts in this case, the Commission should deny or stay any remedial order issued in this investigation because Respondents, “with almost complete certainty[,]” foresee “changes to, or outright cancellation, of [the] asserted Barth I and Ware claims” after an ongoing reexamination proceeding regarding the Barth I claims by the United States Patent & Trademark Office (“PTO”). Respondents Review Br. at 158. Respondents offer “as an example” that all of the claims of the ‘109 patent — including the asserted claims — have been rejected. *Id.* at 158 (Ex. H.). Respondents also argue that claim 11 of the ‘353 patent has been rejected. *Id.* (Ex. I.). Respondents contend that a stay will conserve judicial resources until reexaminations are complete, by eliminating the need for Respondents to request and the Commission to conduct proceedings to modify the exclusion and cease and desist orders soon after they issue. *Id.*

Rambus argues that Respondents lack any basis for requesting a stay in this investigation. Rambus Review Resp. at 91. Rambus argues that Respondents have mischaracterized the reexamination proceedings, and point to the fact that the Examiner confirmed the patentability of ‘353 patent claims 12 and 13, and all of the asserted ‘405 patent claims. *See id.*; SRN, Exhibit 1 at 2, Exhibit 2 at 2. Rambus acknowledges that the Examiner’s decision is subject to appeal, but

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<sup>6</sup> Having found that one element of a finding of patent exhaustion has not been established, we do not decide whether other elements have been shown, such as that the licensed product substantially embodies the asserted patent claims.

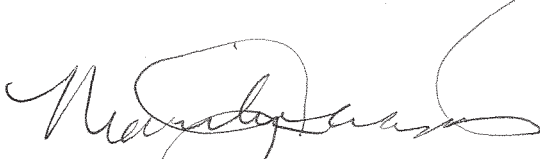


argues that it is far from certain that the asserted claims will be amended or canceled as Respondents contend. *Id.* at 92.

The IA agrees with Rambus, and argues that the Commission should not stay its orders. The IA argues that the pending reexamination proceedings involving the asserted '405 patent claims and claims 12 and 13 of the '353 patent resulted in those patents being confirmed as patentable. IA Review Resp. at 48-49. The IA argues that the asserted '405 patent claims and claims 12 and 13 of the '353 patent collectively cover each and every one of the accused products. *Id.* Because it is unlikely that the reexamination proceedings will materially impact the near term scope of the Commission's exclusion and cease and desist orders regardless of whether the claims are eventually cancelled or amended to overcome the prior art, the IA argues that a stay should not issue. *Id.* at 49.

We find that Respondents have failed to demonstrate that staying its remedial orders is appropriate. First, the PTO's reexamination proceedings are not yet final. Furthermore, as the IA points out, the ongoing reexamination proceedings have not resulted in a preliminary rejection by the examiner of all of the asserted Barth I claims, only of some of them. In other words, the Commission's conclusions regarding validity of the Barth I claims are consistent with the PTO's preliminary conclusions as to at least some of the asserted Barth I claims. This agreement between the Commission and PTO seems to be a compelling reason *not* to issue a stay of any order with respect to those claims. Moreover, as noted by the IA, staying the exclusion order with respect to those claims that the PTO has preliminarily determined are invalid would still result in exclusion of an identical set of accused products, because all accused products were found to infringe all the asserted Barth I claims. We therefore conclude that there is no reason to stay the remedial orders that we have determined to issue in this investigation.

By Order of the Commission.



Marilyn R. Abbott  
Secretary

Issued: August 10, 2010

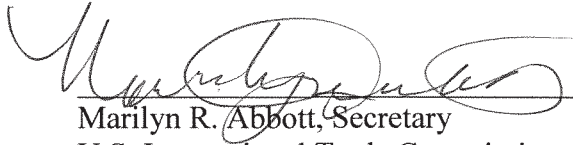


**CERTAIN SEMICONDUCTOR CHIPS HAVING SYNCH-  
RONOUS DYNAMIC RANDOM ACCESS MEMORY  
CONTROLLERS AND PRODUCTS CONTAINING SAME,  
INCLUDING GRAPHICS CARDS AND MOTHERBOARDS**

**337-TA-661**

**CERTIFICATE OF SERVICE**

I, Marilyn R. Abbott, hereby certify that the attached **COMMISSION OPINION** has been served by hand upon the Commission Investigative Attorney, Daniel L. Girdwood, Esq., and the following parties as indicated, on August 10, 2010.



Marilyn R. Abbott, Secretary  
U.S. International Trade Commission  
500 E Street, SW  
Washington, DC 20436

**On Behalf of Complainant Rambus Incorporated:**

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**On Behalf of Respondents NVIDIA Corporation;  
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International, Inc.; BFG Technologies, Inc.; Biostar  
Medical (USA), Corporation; Biostar Microtech  
International Corporation; DiabloTek Inc.; EVGA  
Corporation, G.B.T. Inc.; Giga-Byte Technology Co.,  
Ltd.; Hewlett-Packard Co.; MSI Computer Co.; Micro-  
Star International Co., Ltd.; Palit Multimedia Inc.; Palit  
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**UNITED STATES INTERNATIONAL TRADE COMMISSION**  
**Washington, D.C. 20436**

**In the Matter of**

**CERTAIN SEMICONDUCTOR CHIPS  
HAVING SYNCHRONOUS DYNAMIC  
RANDOM ACCESS MEMORY  
CONTROLLERS AND PRODUCTS  
CONTAINING SAME**

**Investigation No. 337-TA-661**

**ORDER**

In Order No. 33, the presiding administrative law judge (“ALJ”) (Judge Essex) found that complainant Rambus, Inc.’s (“Rambus”) had failed to show cause why the ALJ should not issue his proposed public version of the final initial determination (“ID”) on violation of section 337 and recommended determination on remedy and bonding. The ALJ stated that he would release his proposed public version on March 9, 2010 “unless Rambus seeks to appeal the ALJ’s ruling under Commission Rule 210.24(b)(2) by Monday, March 8, 2010.” On March 8, 2010, Rambus filed an Application for Review of the Denial of Confidential Treatment in the Initial Determination. On March 9, 2010, the ALJ issued Order No. 34, granting “Rambus’ request for interlocutory appeal of the ALJ’s confidentiality determinations in the public version of the ID.” The Commission investigative attorney filed an opposition to Rambus’s application for review on March 15, 2010. On March 22, 2010, Respondents filed a motion for extension of time to respond to Complainant’s application for review along with an opposition to Rambus’s application for review.

application for review with the Commission. Rule 210.24(b)(3) provides that, if the ALJ determines to grant such a request, a written application shall be filed within 5 days of the ALJ's determination, and further provides time periods for responses to such an application for review. Rule 210.24(b)(3) provides further that, upon receipt of such an application, the Commission may permit an interlocutory appeal, whereupon the Commission could affirm or reverse the subject ruling by the ALJ.

Here, Rambus filed an application for review with the ALJ, who granted the request for interlocutory appeal. The parties filed responses to the application for review, but after the date of Order No. 34, effectively treating the application for review filed with the ALJ as the application contemplated in Rule 210.24(b)(3), which provides that such an application should be filed with the Commission. The Commission has determined to treat the ALJ's Order No. 34 as granting permission to file an application for review with the Commission, and to treat the application filed with the ALJ as properly filed with the Commission under Rule 210.24(b)(3). Having considered Rambus's application for review, and the responses thereto, it is hereby ORDERED that:

- (1) The Commission has determined to permit Rambus's appeal;
- (2) Respondents' motion for extension of time to respond to Complainant's application for review is granted;
- (3) The ALJ's confidentiality determinations set forth in Order No. 33 are affirmed;
- (4) This order will become effective 10 days after service thereof;
- (5) The Secretary shall serve copies of this order on all parties to this investigation.

By order of the Commission.

(5) The Secretary shall serve copies of this order on all parties to this investigation.

By order of the Commission.

A handwritten signature in black ink, appearing to read "Marilyn R. Abbott". The signature is fluid and cursive, with a large initial "M" and a long, sweeping underline.

Marilyn R. Abbott  
Secretary to the Commission

Issued: April 23, 2010

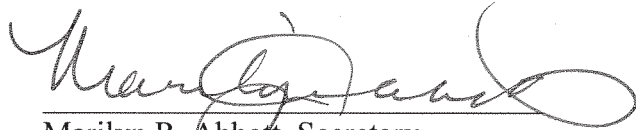
**CERTAIN SEMICONDUCTOR CHIPS HAVING SYNCH-  
RONOUS DYNAMIC RANDOM ACCESS MEMORY  
CONTROLLERS AND PRODUCTS CONTAINING SAME,  
INCLUDING GRAPHICS CARDS AND MOTHERBOARDS**

**337-TA-661**

**CERTIFICATE OF SERVICE**

I, Marilyn R. Abbott, hereby certify that the attached **ORDER** has been served by hand upon the Commission Investigative Attorney, Daniel L. Girdwood, Esq., and the following parties as indicated, on

April 23, 2010



Marilyn R. Abbott, Secretary  
U.S. International Trade Commission  
500 E Street, SW  
Washington, DC 20436

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**On Behalf of Respondents Nvidia Corporation; Asustek  
Computer, Inc.; Asus Computer International, Inc.;  
BFG Technologies, Inc.; Biostar Medical (USA),  
Corporation; Biostar Microtech International  
Corporation; Diablotek Inc.; Evga Corporation, G.B.T.  
Inc.; Giga-Byte Technology Co., Ltd.; Hewlett-Packard  
Co.; MSI Computer Co.; Micro-Star International Co.,  
Ltd.; Palit Multimedia Inc.; Palit Microsystems Ltd.;  
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**UNITED STATES INTERNATIONAL TRADE COMMISSION**  
**Washington, D.C. 20436**

**In the Matter of**

**CERTAIN SEMICONDUCTOR CHIPS  
HAVING SYNCHRONOUS DYNAMIC  
RANDOM ACCESS MEMORY  
CONTROLLERS AND PRODUCTS  
CONTAINING SAME**

**Investigation No. 337-TA-661**

**NOTICE OF COMMISSION DETERMINATION TO REVIEW IN PART AN INITIAL  
DETERMINATION FINDING RESPONDENTS IN VIOLATION OF SECTION 337;  
DENIAL OF RESPONDENTS' JOINT MOTION TO EXTEND TARGET DATE;  
SCHEDULE FOR BRIEFING ON THE ISSUES ON REVIEW AND ON REMEDY,  
PUBLIC INTEREST, AND BONDING**

**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") Initial Determination on Violation of Section 337 ("ID") and Recommended Determination on Remedy and Bond finding that Respondents violated section 337 of the Tariff Act of 1930 by importation into the United States, the sale for importation, or the sale within the United States after importation, of certain semiconductor chips having synchronous dynamic random access memory controllers and products containing same by reason of infringement of one or more claims of U.S. Patent Nos. 6,470,405 ("the '405 patent"), 6,591,353 ("the '353 patent"), and 7,287,109 ("the '109 patent").

**FOR FURTHER INFORMATION CONTACT:** Paul M. Bartkowski, Office of the General Counsel, U.S. International Trade Commission, 500 E Street, S.W., Washington, D.C. 20436, telephone (202) 708-5432. 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 <http://www.usitc.gov>. The public record for this investigation may be viewed on the Commission's electronic docket (EDIS) at <http://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 Inv. No. 337-TA-661 on December 10, 2008, based on a complaint filed by Rambus, Inc. of Los Altos, California (“Rambus”). 73 *Fed. Reg.* 75131-2. The complaint, as amended and supplemented, alleges violations of section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337 (“section 337”), in the importation into the United States, the sale for importation, and the sale within the United States after importation of certain electronic devices by reason of infringement of certain claims of the ‘353 patent, the ‘405 patent, the ‘109 patent, as well as certain claims of U.S. Patent Nos. 7,117,998 (“the ‘998 patent”); 7,210,016 (“the ‘016 patent”); 7,287,119 (“the ‘119 patent”); 7,330,952 (“the ‘952 patent”); 7,330,953 (“the ‘953 patent”); and 7,360,050 (“the ‘050 patent”). The Commission’s notice of investigation named the following respondents: NVIDIA Corporation of Santa Clara, California; Asustek Computer, Inc. of Taipei, Taiwan; ASUS Computer International, Inc. of Fremont, California; BFG Technologies, Inc. of Lake Forest, Illinois; Biostar Microtech (USA) Corp. of City of Industry, California; Biostar Microtech International Corp. of Hsin Ten, Taiwan; Diablotek Inc. of Alhambra, California; EVGA Corp. of Brea, California; G.B.T. Inc. of City of Industry, California; Giga-byte Technology Co., Ltd. of Taipei, Taiwan; Hewlett-Packard Co. of Palo Alto, California; MSI Computer Corp. of City of Industry, California; Micro-star International Co., Ltd. of Taipei, Taiwan; Palit Multimedia Inc. of San Jose, California; Palit Microsystems Ltd. of Taipei, Taiwan; Pine Technology Holdings, Ltd. of Hong Kong and Sparkle Computer Co. of Taipei, Taiwan (referred to collectively as “Respondents”).

On July 13, 2009, the Commission issued a notice terminating the ‘119, ‘952, ‘953, and ‘050 patents and certain claims of the ‘109 patent from the investigation.

On January 22, 2010, the ALJ issued his ID on Violation of Section 337 and Recommended Determination on Remedy and Bond. The ALJ found that Respondents violated section 337 by importing certain semiconductor chips having synchronous dynamic random access memory controllers and products containing same with respect to various claims of the ‘405, ‘353, and ‘109 patents. The ALJ determined that there was no violation of section 337 with respect to the asserted ‘016 and ‘998 patent claims.

Having examined the record of this investigation, including the ALJ’s final ID and the submissions of the parties, the Commission has determined to review the final ID in part, to reject Rambus’s petition to vacate Order No. 15, and to deny Respondents’ motion to extend the target date. Specifically, the Commission has determined to review (1) the ID’s anticipation and obviousness findings with respect to the Ware patents; (2) the ID’s obviousness-type double patenting analysis regarding the asserted Barth I claims; and (3) the ID’s analysis of the alleged obviousness of the asserted Barth I claims. The Commission requests briefing based on the evidentiary record on these issues. The Commission is particularly interested in concise responses to the following questions:



Regarding the Ware patents:

- (1) What are the differences between the scope and content of the Coteus patent and the asserted Ware claims?
- (2) What is the appropriate skill level of one of ordinary skill in the art?
- (3) In light of the underlying facts, would the asserted claims of the Ware patents have been obvious to one of ordinary skill in the art at the time of invention? In your answer, please identify which claim element(s), if any, are not disclosed in the Coteus reference but would have been obvious to one of ordinary skill in the art.

Regarding the issue of obviousness-type double patenting of the Barth I claims:

Under the facts as found by the ALJ, do the differences in scope of the asserted Barth I patent claims and the claims of the Farmwald '037 patent render the asserted Barth I claims patentably distinct?

Regarding obviousness with respect to the asserted Barth I claims:

- (1) What are the differences between the scope and content of the asserted prior art and the asserted Barth I claims?
- (2) What is the appropriate skill level of one of ordinary skill in the art?
- (3) In light of the underlying facts, would the asserted claims of the Barth I patents have been obvious to one of ordinary skill in the art at the time of invention?

Please address only those only those references and combinations of references that were properly preserved under the ALJ's Ground Rule 11.1.

Furthermore, 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 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 In the Matter of 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 *Fed. Reg.* 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 are requested to file written submissions on the issues under review. The submissions should be *concise and thoroughly referenced to the record in this investigation, including references to exhibits and testimony*. Additionally, parties to the investigation, 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. Further, regarding the potential issuance of a general exclusion order, the Commission requests briefing specific to whether the statutory criteria set forth in section 337(d)(2) are met in this investigation. Complainants and the Commission investigative attorney are also requested to submit proposed remedial orders for the Commission's consideration. Complainants are also requested to state the dates that the patents expire and the HTSUS numbers under which the accused products are imported. The written submissions and proposed remedial orders must be filed no later than close of business on April 6, 2010. Reply submissions must be filed no later than the close of business on April 15, 2010. No further submissions on these issues will be permitted unless otherwise ordered by the Commission.

Persons filing written submissions must file the original document and 12 true copies thereof on or before the deadlines stated above with the Office of the Secretary. Any person desiring to submit a document to the Commission in confidence must request confidential treatment unless the information has already been granted such treatment during the proceedings. All such requests should be directed to the Secretary of the Commission and must include a full statement of the reasons why the Commission should grant such treatment. *See* 19 C.F.R. § 201.6. Documents for which confidential treatment by the Commission is sought will be treated accordingly. All nonconfidential written submissions will be available for public inspection at the Office of the Secretary.

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 section 210.42-43 of the Commission's Rules of Practice and Procedure (19 C.F.R. § 210.42-43).

By order of the Commission.

A handwritten signature in black ink, appearing to read "Marilyn R. Abbott". The signature is written in a cursive, flowing style with a large initial "M".

Marilyn R. Abbott  
Secretary to the Commission

Issued: March 25, 2010

**CERTAIN SEMICONDUCTOR CHIPS HAVING SYNCH-  
RONOUS DYNAMIC RANDOM ACCESS MEMORY  
CONTROLLERS AND PRODUCTS CONTAINING SAME,  
INCLUDING GRAPHICS CARDS AND MOTHERBOARDS**

337-TA-661

**CERTIFICATE OF SERVICE**

I, Marilyn R. Abbott, hereby certify that the attached **NOTICE OF COMMISSION DETERMINATION TO REVIEW IN PART AN INITIAL DETERMINATION FINDING RESPONDENTS IN VIOLATION OF SECTION 337; SCHEDULE FOR BRIEFING ON THE ISSUES ON REVIEW AND ON REMEDY, PUBLIC INTEREST, AND BONDING** has been served by hand upon the Commission Investigative Attorney, Esq., Vu Q. Bui, Esq., and the following parties as indicated, on  
March 25, 2010



Marilyn R. Abbott, Secretary  
U.S. International Trade Commission  
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**On Behalf of Respondents Nvidia Corporation; Asustek  
Computer, Inc.; Asus Computer International, Inc.;  
BFG Technologies, Inc.; Biostar Medical (USA),  
Corporation; Biostar Microtech International  
Corporation; Diablotek Inc.; Evga Corporation, G.B.T.  
Inc.; Giga-Byte Technology Co., Ltd.; Hewlett-Packard  
Co.; MSI Computer Co.; Micro-Star International Co.,  
Ltd.; Palit Multimedia Inc.; Palit Microsystems Ltd.;  
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PUBLIC VERSION

UNITED STATES INTERNATIONAL TRADE COMMISSION  
Washington, D.C.

In the Matter of

CERTAIN SEMICONDUCTOR CHIPS  
HAVING SYNCHRONOUS DYNAMIC  
RANDOM ACCESS MEMORY  
CONTROLLERS AND PRODUCTS  
CONTAINING SAME

Investigation No. 337-TA-661

INITIAL DETERMINATION ON VIOLATION OF SECTION 337 AND  
RECOMMENDED DETERMINATION ON REMEDY AND BOND

Administrative Law Judge Theodore R. Essex

(January 22, 2010)

**Appearances:**

For the Complainant Rambus, Inc.:

J. Michael Jakes, Esq.; Doris Johnson Hines, Esq.; Christine E. Lehman, Esq.; Naveen Modi, Esq.; Luke J. Mccammon, Esq.; James Sherwood, Esq.; Kathleen Daley, Esq. of Finnegan, Henderson, Farabow, Garrett & Dunner, LLP of Washington, D.C..

For the Respondents NVIDIA Corporation, Asustek Computer Inc., Asus Computer International, Inc., BFG Technologies, Inc., Biostar Microtech (U.S.A.) Corp., Biostar Microtech International Corp., Diablotek Inc., EVGA Corp., G.B.T. Inc., Giga-Byte Technology Co., Ltd., Hewlett-Packard Company, MSI Computer Corp., Micro-Star International Company, Ltd., Palit Multimedia Inc., Palit Microsystems Ltd., Pine Technology (Macao Commercial Offshore) Ltd., and Sparkle Computer Company, Ltd.:

Ruffin B. Cordell, Esq.; Andrew R. Kopsidas, Esq.; Kori Anne Bargrowski, Esq.; Peter J. Sawert, Esq. of Fish and Richardson, P.C. of Washington, D.C.

Anita E. Kadala, Esq. of Fish and Richardson, P.C. of Houston, Texas

Michael Chibib, Esq. of Fish and Richardson, P.C. of Austin, Texas

Leeron G. Kalay, Esq. of Fish and Richardson, P.C. of Redwood City, California

For the Commission Investigative Staff:

Lynn I. Levine, Esq., Director; T. Spence Chubb, Esq., Supervising Attorney; Daniel L. Girwood, Esq., Investigative Attorney of the Office of Unfair Import Investigations, U.S. International Trade Commission, of Washington, D.C.

PUBLIC VERSION

Pursuant to the Notice of Investigation, 73 Fed. Reg. 75131 (2008), this is the Initial Determination of the in the matter of *Certain Semiconductor Chips Having Synchronous Dynamic Random Access Memory Controllers And Products Containing Same*, United States International Trade Commission Investigation No. 337-TA-661. See 19 C.F.R. § 210.42(a).

It is held that a violation of section 337 of the Tariff Act of 1930, as amended, 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 semiconductor chips having synchronous dynamic random access memory controllers and products containing same by reason of infringement of one or more of claims 11-13, 15, and 18 of U.S. Patent No. 6,470,405, claims 11-13 of U.S. Patent No. 6,591,353, and claims 1, 2, 4, 5, 12, 13, 20, 21, and 24 of U.S. Patent No. 7,287,109. It is further held that no violation of section 337 of the Tariff Act of 1930, as amended, 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 semiconductor chips having synchronous dynamic random access memory controllers and products containing same by reason of infringement of one or more of claims 7, 13, 21, and 22 U.S. Patent No. 7,177,998, claims 7, 13, 21, and 22 of U.S Patent No. 7,210,016.



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PUBLIC VERSION

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PUBLIC VERSION

The following abbreviations may be used in this Initial Determination:

<b>CDX</b>	Complainants' demonstrative exhibit
<b>CFF</b>	Complainants' proposed findings of fact
<b>CIB</b>	Complainants' initial post-hearing brief
<b>CORFF</b>	Complainants' objections to Respondents' proposed findings of fact
<b>COSFF</b>	Complainants' objections to Staff's proposed findings of fact
<b>CPX</b>	Complainants' physical exhibit
<b>CRB</b>	Complainants' reply post-hearing brief
<b>CX</b>	Complainants' exhibit
<b>Dep.</b>	Deposition
<b>JSUF</b>	Joint Statement of Undisputed Facts
<b>JX</b>	Joint Exhibit
<b>RDX</b>	Respondents' demonstrative exhibit
<b>RFF</b>	Respondents' proposed findings of fact
<b>RIB</b>	Respondents' initial post-hearing brief
<b>ROCFF</b>	Respondents' objections to Complainants' proposed findings of fact
<b>ROSFF</b>	Respondents' objections to Staff's proposed findings of fact
<b>RPX</b>	Respondents' physical exhibit
<b>RRB</b>	Respondents' reply post-hearing brief
<b>RRX</b>	Respondents' rebuttal exhibit
<b>RX</b>	Respondents' exhibit
<b>SFF</b>	Staff's proposed findings of fact
<b>SIB</b>	Staff's initial post-hearing brief
<b>SOCFF</b>	Staff's objections to Complainants' proposed findings of fact
<b>SORFF</b>	Staff's objections to Respondents' proposed findings of fact
<b>SRB</b>	Staff's reply post-hearing brief
<b>Tr.</b>	Transcript

## I. BACKGROUND

### A. Institution and Procedural History of This Investigation

By publication of a notice in the *Federal Register* on December 10, 2008, pursuant to subsection (b) of section 337 of the Tariff Act of 1930, as amended, the Commission instituted Investigation No. 337-TA-661 with respect to U.S. Patent Nos. 7,177,998, 7,210,016, 6,470,405, 6,591,353, 7,287,109, 7,287,119, 7,330,952, 7,330,953 and 7,360,050;<sup>1</sup> to determine:

[W]hether 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 semiconductor chips having synchronous dynamic random access memory controllers and products containing same that infringe one or more of claims 7, 13, 21, and 22 of U.S. Patent No. 7,177,998; claims 7,13, 21, and 22 of U.S. Patent No. 7,210,016; claims 11–13, 15, and 18 of U.S. Patent No. 6,470,405; claims 11–13 of U.S. Patent No. 6,591,353; claims 1–6, 11–13, 20–22, and 24 of U.S. Patent No. 7,287,109; claims 21 and 22 of U.S. Patent No. 7,287,119; claims 21, 22, and 24 of U.S. Patent No. 7,330,952; claim 25 of U.S. Patent No. 7,330,953; and claims 29 and 31 of U.S. Patent No. 7,360,050, and whether an industry in the United States exists as required by subsection (a)(2) of section 337.

73 Fed. Reg. 75131 (2008).

Rambus, Inc. (“Rambus”) of Los Altos, California is the complainant. (*Id.*) The respondents named in the Notice of Investigation were: NVIDIA Corporation of Santa Clara, California; Asustek Computer, Inc. of Taipei, Taiwan; ASUS Computer International, Inc. of Fremont, California; BFG Technologies, Inc. of Lake Forest, Illinois; Biostar Microtech (USA) Corp. of City of Industry, California; Biostar Microtech International Corp. of Hsin Ten, Taiwan; Diablotek Inc. of Alhambra, California; EVGA Corp. of Brea, California; G.B.T. Inc. of City of Industry, California; Giga-byte Technology Co., Ltd. of Taipei, Taiwan; Hewlett-Packard Co. of Palo Alto, California; MSI Computer Corp. of City of Industry, California; Micro-star

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<sup>1</sup> U.S. Patent Nos. 6,470,405, 6,591,353, 7,287,109 are collectively referred to as “the Barth I Patents.” U.S. Patent Nos. 7,177,998 and 7,210,016 are collectively referred to as “the Ware Patents.”

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International Co., Ltd. of Taipei, Taiwan; Palit Multimedia Inc. of San Jose, California; Palit Microsystems Ltd. of Taipei, Taiwan; Pine Technology Holdings, Ltd. of Hong Kong and Sparkle Computer Co. of Taipei, Taiwan (collectively “Respondents”). (*Id.*) The Commission Investigative Staff (“Staff”) of the Commission’s Office of Unfair Import Investigations is also a party in this investigation. (*Id.*)

On March 24, 2009, the ALJ held a technology tutorial and *Markman* hearing. On June 22, 2009, the ALJ issued the *Markman* Order. (Order No. 12.)

On June 22, 2009, the ALJ issued an initial determination granting Rambus’s motion to terminate the investigation as to claims 21 and 22 of U.S. Patent No. 7,287,119; claims 21, 22 and 24 of U.S. Patent No. 7,330,952; claim 25 of U.S. Patent No. 7,330,953; claims 29 and 31 of U.S. Patent No. 7,360,050; and claims 3,6,11 and 22 of U.S. Patent No. 7,287,109. (Order No. 11.) On July 13, 2009, the Commission determined not to review the order. (*See* Notice of Commission Determination Not to Review an Initial Determination Terminating the Investigation as to Certain Claims) (July 13, 2009).

On July 23, 2009, the ALJ issued an initial determination extending the target date for this investigation. (Order No. 16.) On August 3, 2009, the Commission determined not to review the order. (*See* Notice of Commission Determination Not to Review an Initial Determination Extending the Target Date) (August 3, 2009).

On October 9, 2009, respondent Pine Technology Holdings, Ltd. (“PINE”) filed an unopposed motion replacing related entity Pine Technology (Macao Commercial Offshore) Ltd. (“PINE TECH”) for PINE and stipulating that PINE TECH has sold for importation, imported, and/or sold after importation the accused PINE products. (Motion Docket No. 661-055.) On October 13, 2009, the ALJ granted the motion. (Tr. at 29:20.)

The evidentiary hearing on the question of violation of section 337 commenced on October 13, 2009, and concluded on October 20, 2009. Rambus, Respondents, and Staff were represented at the hearing. (Tr., 5:18-3:13.)

**B. The Parties**

**1. Rambus**

Rambus is a Delaware corporation with a principal place of business in Los Altos, California. (Complaint, ¶18.)

**2. NVIDIA**

NVIDIA is a Delaware corporation with its principal place of business in Santa Clara, California and is the primary respondent in this investigation. (CX-508C at ¶24.)

**3. ASUS**

ASUS Computer International Inc. (“ACI”) is a public company registered in Taiwan with a principal place of business in Peitou Taipei, Taiwan. (CX-521C at ¶40.)

Asustek Computer Inc. (“ASUSTek”) is a California corporation and a wholly owned subsidiary of ACI with a principal place of business in Fremont, California. (CX-521C at ¶40.)

**4. BFG**

BFG Technologies, Inc. (“BFG”) is an Illinois corporation with a principal place of business in Lake Forest, Illinois. (CX-519C at ¶50.)

**5. Biostar**

Biostar Microtech (U.S.A.) Corp. is a California corporation with a principal place of business in City of Industry, California. (CX-520C at ¶60.)

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Biostar Microtech International Corp. is a Taiwanese corporation with a principal place of business in Hsin Tien, Taiwan. (CX-520C at ¶60.)

**6. Daiblotek**

Diablotek Inc. (“Diablotek”) is a California corporation with a principal place of business in Alhambra, California, and a headquarters located in Taiwan. (CX-516C at ¶70.)

**7. EVGA**

EVGA Corp. (“EVGA”) is a California corporation with a principal place of business in Brea, California. (CX-511C at ¶79.)

**8. GBT**

G.B.T. Inc. is a California corporation with a principal place of in City of Industry, California. (CX-515C at ¶89.)

Giga-Byte Technology Co., Ltd. is a Taiwanese corporation with a principal place of business in Taipei, Taiwan. (CX-515C at ¶89.)

**9. HP**

Hewlett-Packard Co. (“HP”) is a Delaware corporation with a principal place of business in Palo Alto, California. (CX-517C at ¶99.)

**10. Micro-Star**

Micro-Star International Co., Ltd. (“Micro-Star”) is a Taiwanese corporation with a principal place of business in Taipei, Taiwan. (CX-518C at ¶111.)

MSI Computer Corp. is a California corporation with a principal place of business in City of Industry, California. (CX-512C at ¶111.)

### **11. Palit**

Palit Microsystems Ltd. (“Palit Microsystems”) is a Taiwanese corporation with a principal place of business in Taipei, Taiwan. (CX-514C at ¶123.)

Palit Multimedia Inc. (“Palit Multimedia”) is a Canadian corporation with a principal place of business in Ontario, Canada. (CX-510C at ¶123.)

### **12. Pine Tech**

Pine Technology (Macao Commercial Offshore) Limited (“Pine Tech”) is a Chinese corporation with a principal place of business in Macao.

### **13. Sparkle**

Sparkle Computer Co., Ltd. (“Sparkle”) is a Taiwanese corporation with a principal place of business in Taipei, Taiwan. (CX-509C at ¶144.)

## **C. The Patents at Issue and Overview of the Technology**

The five Asserted Patents are generally directed at memory devices and their associated memory controllers as used, for example, in personal computers (PCs), gaming consoles, mobile devices, and the like. (Complaint, ¶14; CX-440C, Przybylski Q&A 25-26.) This investigation is particularly focused on the memory controllers of modern PCs and other consumer electronics that interface with memory devices compliant with industry standards promulgated by the Joint Electron Device Engineering Council (“JEDEC”). (CX-440C, Przybylski Q&A 36-39, 80, 96.) Implicated standards include JEDEC’s Double Data Rate (“DDR”) based memory technology standards, such as JEDEC’s DDR, DDR2, DDR3, Graphics DDR (“GDDR”), GDDR2, GDDR3, Low Power DDR (“LPDDR”) and LPDDR2 standards (collectively, the



“Accused JEDEC Standards”). (CX-440C, Przybylski Q&A 36-39, 80, 96; CX-161-166, 173, 181, 196, 197, 377, 378, 379, 961, 966, 967, 996 (JEDEC standards).)

**1. The ‘405 Patent (Barth I Patent)**

U.S. Patent No. 6,470,405 (“the ‘405 Patent”), entitled “Protocol for Communication With Dynamic Memory,” was filed on May 29, 2001, and issued on October 22, 2002. (*See* JX-3 (the ‘405 Patent)). Richard M. Barth, Fredrick A. Ware, John B. Dillon, Donald C. Stark, Craig E. Hampel, and Matthew M. Griffin are the named inventors of the ‘405 Patent, and complainant Rambus is the named assignee. (*Id.*)

The asserted claims of the ‘405 Patent are claims 11-13, 15, and 18. These claims read as follows:

11. A method of controlling a semiconductor memory device, wherein the memory device includes an array of memory cells, the method comprises: providing a plurality of control codes to the memory device wherein the plurality of control codes include a first code which specifies that a write operation be initiated in the memory device and a second code which specifies that a precharge operation be initiated automatically after initiation of the write operation; delaying for an amount of time after providing the plurality of control codes; and issuing an external strobe signal to the memory device after delaying for the amount of time, to signal the memory device to sample data, wherein the data is to be written to the array during the write operation.

12. The method of claim 11 further comprising issuing a first portion of the data and a second portion of the data to the memory device, wherein the first portion of the data is sampled during an odd phase of an external clock signal, and the second portion of the data is sampled during an even phase of the external clock signal.

13. The method of claim 12 wherein the first and second portions of the data are both issued during a first clock cycle of the external clock signal.

15. The method of claim 11 further comprising providing address information to the memory device.

18. The method of claim 11 wherein the plurality of control codes includes a third code which specifies that a row of sense amplifiers be activated.

The '405 patent generally discloses and claims a system and method for performing data transfers within a computer system. (*Id.*)

## 2. The '353 Patent (Barth I Patent)

U.S. Patent No. 6,591,353 ("the '353 Patent"), entitled "Protocol for Communication With Dynamic Memory," was filed on May 1, 2000, and issued on July 8, 2003. (*See* JX-4 (the '353 Patent)). Richard M. Barth, Fredrick A. Ware, John B. Dillon, Donald C. Stark, Craig E. Hampel, and Matthew M. Griffin are the named inventors of the '353 Patent, and complainant Rambus is the named assignee. (*Id.*)

The asserted claims of the '353 Patent are claims 11-13. These claims read as follows:

11. A method of controlling a memory device that includes a plurality of memory cells, the method comprising: issuing a first write command to the memory device, the memory device being configured to defer sampling data that corresponds to the first write command until a strobe signal is detected; delaying for a first time period after issuing the write command; and after delaying for the first time period, issuing the strobe signal to the memory device to initiate sampling of a first portion of the data by the memory device.

12. The method of claim 11, further comprising issuing the first portion of the data and a second portion of the data to the memory device, wherein the first portion of the data is sampled during an odd phase of an external clock signal, and the second portion of the data is sampled during an even phase of the external clock signal.

13. The method of claim 12, wherein the first and second portions of the data are both issued during a common clock cycle of the external clock signal.

The '353 Patent generally discloses and claims a method and apparatus for controlling data transfers to and from a dynamic random access memory. (*Id.*)

### 3. The '109 Patent (Barth I Patent)

U.S. Patent No. 7,287,109 (“the ‘109 Patent”), entitled “Method Of Controlling A Memory Device Having A Memory Core,” was filed on October 15, 2004, and issued on October 23, 2004. (*See* JX-5 (the ‘109 Patent)). Richard M. Barth, Fredrick A. Ware, John B. Dillon, Donald C. Stark, Craig E. Hampel, and Matthew M. Griffin are the named inventors of the ‘109 Patent, and complainant Rambus is the named assignee. (*Id.*)

The asserted claims of the ‘109 Patent are claims 1, 2, 4, 5, 12, 13, 20, 21 and 24. These claims read as follows:

1. A method of controlling a memory device having a memory core, wherein the method comprises: providing control information to the memory device, wherein the control information includes a first code which specifies that a write operation be initiated in the memory device; providing a signal to the memory device, wherein the signal indicates when the memory device is to begin sampling write data, wherein the write data is stored in the memory core during the write operation; providing a first bit of the write data to the memory device during an even phase of a clock signal; and providing a second bit of the write data to the memory device during an odd phase of the clock signal.
2. The method of claim 1, wherein the control information further includes: address information that specifies a location in the memory core for the write operation; a second code that specifies whether to perform a sense operation; and a third code that specifies whether to perform a precharge operation.
4. The method of claim 1, wherein the memory core includes a plurality of banks, wherein each bank of the plurality of banks includes a memory cell array, wherein the method further includes: transmitting bank selection information to the memory device, wherein the bank selection information identifies a bank of the plurality of banks, wherein the write operation is initiated in a subset of the memory cell array included in the bank identified by the bank selection information; and transmitting address information to the memory device, wherein the address information identifies the subset of the memory cell array.
5. The method of claim 4, wherein the control information further includes a second code which specifies that a precharge operation be initiated in the bank identified by the bank selection information after the write data is written to the subset of the memory cell array.

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12. A method of controlling a memory device, wherein the memory device includes a plurality of banks, wherein each bank of the plurality of banks includes a memory cell array, wherein the method comprises: providing a plurality of operation codes to the memory device, wherein the plurality of operation codes includes a first code which specifies that a write operation be initiated in the memory device; providing bank selection information to the memory device, wherein the bank selection information identifies a bank of the plurality of banks, wherein the write operation is initiated in the memory cell array included in the bank identified by the bank selection information; providing address information to the memory device, wherein the address information identifies where to initiate the write operation in the memory cell array included in the bank identified by the bank selection information; providing a signal to the memory device, wherein the signal indicates when the memory device is to begin receiving write data to be written during the write operation; providing a first bit of the write data to the memory device during an even phase of a clock signal; and providing a second bit of the write data to the memory device during an odd phase of the clock signal.

13. The method of claim 12, wherein the plurality of operation codes further includes a second code which specifies that a precharge operation be initiated in the bank identified by the bank selection information after the write data is written during the write operation.

20. A method of controlling a memory device having a memory core, wherein the method comprises: providing control information to the memory device, wherein the control information includes a first code which specifies that a transfer operation be initiated with the memory device; providing a signal to the memory device, wherein the signal indicates when the memory device is to begin the transfer operation; and during the transfer operation, transferring a first bit of data during an even phase of a clock signal, and transferring a second bit of data during an odd phase of the clock signal.

21. The method of claim 20, wherein the control information further includes: address information that specifies a memory location of the data; and a second code that specifies whether to perform a sense operation, wherein the data is transferred from a row of the memory core to a plurality of sense amplifiers when a sense operation is performed.

24. The method of claim 20, wherein the transfer operation is a write operation.

The '109 Patent generally discloses and claims a method and apparatus for controlling data transfers to and from a dynamic random access memory. (*Id.*)

#### 4. The '998 Patent (Ware Patent)

U.S. Patent No. 7,177,998 ("the '998 Patent"), entitled "Method, System And Memory Controller Utilizing Adjustable Read Data Delay Settings," was filed on January 18, 2006, and issued on February 13, 2007. (See JX-1 (the '998 Patent)). Fredrick A. Ware, Ely K. Tsern, Richard E. Perego, and Craig E. Hampel are the named inventors of the '998 Patent, and complainant Rambus is the named assignee. (*Id.*)

The asserted claims of the '998 Patent are claims 7, 13, 21 and 22. These claims read as follows:

7. A memory controller comprising: control transmit circuitry to transmit a control signal to a plurality of memory devices via a shared control signal path, the shared control signal path being coupled to each of the memory devices at a different point along its length such that respective times required for the control signal to propagate from the memory controller to the memory devices are different; data receive circuitry to receive data signals from the memory devices via respective data signal paths; and timing circuitry to delay reception of data signals on each of the data signal paths by a respective time interval that is based, at least in part, on the time required for the control signal to propagate on the control signal path from the memory controller to a respective memory device of the memory devices.

13. A method of controlling memory devices in a system that includes at least a first memory device and a second memory device, the method comprising: transmitting a control signal to the memory devices via a control signal path, wherein the control signal propagates past the first memory device and the second memory devices in sequence, and wherein a first propagation time required for the control signal to propagate on the control signal path to the first memory device is different from a second propagation time required for the control signal to propagate on the control signal path to the second memory device; receiving a first data signal from the first memory device via a first data signal path after delaying for a first time interval, wherein the first time interval is based, at least in part on the first propagation time; and receiving a second data signal from the second memory device via a second data signal path after delaying for a second time interval, wherein the second time interval is based, at least in part on the second propagation time.

21. A memory controller comprising: a first data reception circuit to receive first read data from a first memory device via a first dedicated data signal path after delaying for a first period of time that is based, at least in part, on a first

propagation time required for a timing signal to propagate on a clock line to the first memory device; and a second data reception circuit to receive second read data from a second memory device via a second dedicated data signal path after delaying for a second period of time that is based, at least in part, on a second propagation time required for the timing signal to propagate on the clock line to the second memory device, the second propagation time being different from the first propagation time.

22. The memory controller of claim 21, wherein the first period of time is selected to enable the first read data to be transmitted by the first memory device synchronously with respect to arrival of the timing signal at the first memory device, and wherein the second period of time is selected to enable the second read data to be transmitted by the second memory device synchronously with respect to arrival of the timing signal at the second memory device.

The '998 Patent is generally directed to and claims information storage and retrieval and, more specifically, to coordinating memory components. (*Id.*)

#### **5. The '016 Patent (Ware Patent)**

U.S. Patent No. 7,120,016 ("the '016 Patent"), entitled "Method, System And Memory Controller Utilizing Adjustable Write Data Delay Settings," was filed on November 15, 2005, and issued on April 24, 2007. (*See* JX-2 (the '016 Patent)). Fredrick A. Ware, Ely K. Tsern, Richard E. Perego, and Craig E. Hampel are the named inventors of the '016 Patent, and complainant Rambus is the named assignee. (*Id.*)

The asserted claims of the '016 Patent are claims 7, 13, 21 and 22. These claims read as follows:

7. A memory controller comprising: control transmit circuitry to transmit a control signal to a plurality of memory devices via a shared control signal path, the shared control signal path being coupled to each of the memory devices at a different point along its length such that respective times required for the control signal to propagate from the memory controller to the memory devices are different; data transmit circuitry to transmit data signals to the memory devices via respective data signal paths; and timing circuitry to delay transmission of data signals on each of the data signal paths by a respective time interval that is based, at least in part, on the time required for the control signal to propagate on the



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control signal path from the memory controller to a respective memory device of the memory devices.

13. A method of controlling memory devices in a system that includes at least a first memory device and a second memory device, the method comprising: transmitting a control signal to the memory devices via a control signal path, wherein the control signal propagates past the first memory device and the second memory devices in sequence, and wherein a first propagation time required for the control signal to propagate on the control signal path to the first memory device is different from a second propagation time required for the control signal to propagate on the control signal path to the second memory device; transmitting a first data signal to the first memory device via a first data signal path after delaying for a first time interval, wherein the first time interval is based, at least in part on the first propagation time; and transmitting a second data signal to the second memory device via a second data signal path after delaying for a second time interval, wherein the second time interval is based, at least in part on the second propagation time.

21. A memory controller comprising: a first data transmit circuit to transmit write data to a first memory device via a first dedicated data signal path after delaying for a first period of time that is based, at least in part, on a first propagation time required for a timing signal to propagate on a clock line to the first memory device; and a second data transmit circuit to transmit write data to a second memory device via a second dedicated data signal path after delaying for a second period of time that is based, at least in part, on a second propagation time required for the timing signal to propagate on the clock line to reach the second memory device, the second propagation time being different from the first propagation time.

22. The memory controller of claim 21, wherein the first period of time is selected to enable the write data transmitted via the first data signal path to arrive at the first memory device coincidentally with the timing signal, and wherein the second period of time is selected to enable the write data transmitted via the second data signal path to arrive at the second memory device coincidentally with the timing signal.

The '016 Patent is generally directed to and claims information storage and retrieval and, more specifically, to coordinating memory components. (*Id.*)

**D. The Products At Issue**

The accused products are, broadly, NVIDIA memory controllers that are designed to interface with JEDEC-compliant memory devices and products incorporating such a controller of



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directly and indirectly infringing the asserted claims. (Complaint, ¶¶7, 11; CX-440C, Przybylski Q&A 80-81, 90.) More specifically, Rambus accuses products incorporating NVIDIA memory controllers designed to interface with memory devices compliant with one or more of the DDR, DDR2, DDR3, GDDR2, GDDR3, LPDDR and LPDDR2 industry standards of infringing the asserted Barth I Patent claims. (CX-440C, Przybylski Q&A 80-81, 185-86; CX-3973C, Appendix 5.) Rambus also accuses products incorporating NVIDIA memory controllers that interface with DDR3 compliant memory devices using a “fly-by topology” of infringing the asserted Ware Patent claims. (CX-440C, Przybylski Q&A 80-81, 606-09; CX-3973C, Appendix 5.) The table below identifies those three classes, the claims asserted against them, and the products falling into each product class. (*Id.*)

Accused Product Class	Asserted Claims	Accused Products <sup>2</sup>
Products interfacing with DDR3 memory in a fly-by topology (the “Accused DDR3 Products”)	’998 claims 7, 13, 21, 22 ’016 claims 7, 13, 21, 22	C73, MCP79, MCP89
Products that issue write with autoprecharge commands (the “Accused Autoprecharge Products”)	’405 claims 11-13, 15, 18 ’109 claims 5, 13	G70, G71, G72, G73, G78, NV25, NV30, NV31, NV34, NV35, NV36, NV37, NV38, NV40, NV41, NV42, NV43, NV44, NV44A, NV45
All Accused Products	’353 claims 11-13 ’109 claims 1, 2, 4, 12, 20, 21, 24	The products identified in the previous two rows plus AP15, AP16, AP20, AG1011, nForce2, Crush11, Crush12, Crush17,

<sup>2</sup> The parties represented to the ALJ that they would enter into a stipulation regarding the scope of accused products. (Tr. 263:14-66:03.) However, as of the date of this ID, the private parties failed to reach agreement and enter into a stipulation. The parties still dispute whether the MCP89, AP15, and AP20 NVIDIA models and downstream products incorporating same are properly accused products. (*See* RRCPPF I.E.3-4, I.E.6, I.E.8-10.) The ALJ has determined to include these disputed products as accused products at this time as Respondents have not shown that the MCP89 and AP20 products have actually significantly changed or that the AP15 was actually discontinued. Indeed, these accused products were simply addressed in a footnote. Should these products have been significantly altered or discontinued, Respondents should bring forth evidence of such a change to Rambus, Staff and the Commission immediately.

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		Crush18, Crush19, Crush55, MCP73, NV11, NV12, NV17, NV18, NV20, NV28, NV2P, G80, G84, G86, G92, G94, G96, G98, GT200, GT215, GT216, GT218
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**II. IMPORTATION OR SALE**

The importation or sale requirement of section 337 has been satisfied. On August 21, 2009, the parties filed a Joint Stipulation Regarding Importation. (Joint Stipulation Regarding Importation; Motion Docket No. 661-055 (regarding Pine Tech).)

**III. JURISDICTION**

**A. Personal and Subject Matter Jurisdiction**

In order to have the power to decide a case, a court or agency must have both subject matter jurisdiction and jurisdiction over either the parties or the property involved. *See Certain Steel Rod Treating Apparatus and Components Thereof*, Inv. No. 337-TA-97, Commission Memorandum Opinion, 215 U.S.P.Q. 229, 231 (1981). For the reasons discussed below, the ALJ finds the Commission has jurisdiction over this investigation.

Section 337 declares unlawful the importation, the sale for importation, or the sale after importation into the United States of articles that infringe a valid and enforceable United States patent by the owner, importer, or consignee of the articles, if an industry relating to the articles protected by the patent exists or is in the process of being established in the United States. See 19 U.S.C. §§ 1337(a)(1)(B)(I) and (a)(2). Pursuant to Section 337, the Commission shall investigate alleged violations of the Section and hear and decide actions involving those alleged violations.

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As set forth *supra* in Section II, Rambus and Respondents have stipulated that Respondents have met the importation requirement. Furthermore, the parties do not dispute that the Commission has *in personam* and *in rem* jurisdiction. (CIB at 5; RIB 5; SIB at 9.) Respondents have fully participated in the investigation, including participating in discovery, participating in the hearing, and filing pre-hearing and post-hearing briefs. Accordingly, the ALJ finds that Respondents have submitted to the jurisdiction of the Commission. *See Certain Miniature Hacksaws*, Inv. No. 337-TA-237, Pub. No. 1948, Initial Determination at 4, 1986 WL 379287 (U.S.I.T.C., October 15, 1986) (unreviewed by Commission in relevant part).

#### IV. CLAIM CONSTRUCTION

On June 22, 2009, the ALJ issued *Order No. 12: Construing the Terms of the Asserted Claims of the Patent at Issue*. On June 25, 2009, the ALJ issued a Notice Regarding Order No., 12 where he corrected an error in the order. Order No. 12 and the Notice are incorporated herein in their entirety.

#### V. INFRINGEMENT DETERMINATION

##### A. Applicable Law

In a Section 337 investigation, the complainant 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, Commission Notice of Final Determination of No Violation of Section 337, 2002 WL 448690 at 59, (March 22, 2002); *Enercon GmbH v. Int'l Trade Comm'n*, 151 F.3d 1376 (Fed. Cir. 1998).

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). Literal infringement of a claim occurs when every limitation recited in the claim appears in the accused device, *i.e.*, when the

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properly construed claim reads on the accused device exactly. *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. The Supreme Court has described the essential inquiry of the doctrine of equivalents analysis in terms of whether the accused product or process contains elements identical or equivalent to each claimed element of the patented invention. *Warner-Jenkinson Co., Inc. v. Hilton Davis Chemical Co.*, 520 U.S. 17, 40 (1997).

Under the doctrine of equivalents, infringement may be found if the accused product or process performs substantially the same function in substantially the same way to obtain substantially the same result. *Valmont Indus., Inc. v. Reinke Mfg. Co.*, 983 F.2d 1039, 1043 (Fed. Cir. 1993). The doctrine of equivalents does not allow claim limitations to be ignored. Evidence must be presented on a limitation-by-limitation basis, and not for the invention as a whole. *Warner-Jenkinson*, 520 U.S. at 29; *Hughes Aircraft Co. v. U.S.*, 86 F.3d 1566 (Fed. Cir. 1996). Thus, if an element is missing or not satisfied, infringement cannot be found under the doctrine of equivalents as a matter of law. *See, e.g., Wright Medical*, 122 F.3d 1440, 1444 (Fed. Cir. 1997); *Dolly, Inc. v. Spalding & Evenflo Cos., Inc.*, 16 F.3d 394, 398 (Fed. Cir. 1994); *London v. Carson Pirie Scott & Co.*, 946 F.2d 1534, 1538-39 (Fed. Cir. 1991); *Becton Dickinson and Co. v. C.R. Bard, Inc.*, 922 F.2d 792, 798 (Fed. Cir. 1990).

The concept of equivalency cannot embrace a structure that is specifically excluded from the scope of the claims. *Athletic Alternatives v. Prince Mfg., Inc.*, 73 F.3d 1573, 1581 (Fed. Cir. 1996). In applying the doctrine of equivalents, the Commission must be informed by the fundamental principle that a patent's claims define the limits of its protection. *See Charles*

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*Greiner & Co. v. Mari-Med. Mfg., Inc.*, 92 F.2d 1031, 1036 (Fed. Cir. 1992). As the Supreme Court has affirmed:

Each element contained in a patent claim is deemed material to defining the scope of the patented invention, and thus the doctrine of equivalents must be applied to individual elements of the claim, not to the invention as a whole. It is important to ensure that the application of the doctrine, even as to an individual element, is not allowed such broad play as to effectively eliminate that element in its entirety.

*Warner-Jenkinson*, 520 U.S. at 29.

Prosecution history estoppel may bar the patentee from asserting equivalents if the scope of the claims has been narrowed by amendment during prosecution. A narrowing amendment may occur when either a preexisting claim limitation is narrowed by amendment, or a new claim limitation is added by amendment. These decisions make no distinction between the narrowing of a preexisting limitation and the addition of a new limitation. Either amendment will give rise to a presumptive estoppel if made for a reason related to patentability. *Honeywell Int'l Inc. v. Hamilton Sundstrand Corp.*, 370 F.3d 1131, 1139-41 (Fed. Cir. 2004), *cert. denied*, 545 U.S. 1127 (2005)(citing *Warner-Jenkinson*, 520 U.S. at 22, 33-34; and *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 733-34, 741 (2002)). The presumption of estoppel may be rebutted if the patentee can demonstrate that: (1) the alleged equivalent would have been unforeseeable at the time the narrowing amendment was made; (2) the rationale underlying the narrowing amendment bore no more than a tangential relation to the equivalent at issue; or (3) there was some other reason suggesting that the patentee could not reasonably have been expected to have described the alleged equivalent. *Honeywell*, 370 F.3d at 1140 (citing, *inter alia*, *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 344 F.3d 1359 (Fed. Cir. 2003)(*en banc*)). “Generalized testimony as to the overall similarity between the claims and the accused infringer’s product or process will not suffice [to prove infringement under the doctrine of

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equivalents].” *Tex. Instruments, Inc. v. Cypress Semiconductor Corp.*, 90 F.3d 1558, 1567 (Fed. Cir. 1996).

Section 271(b) of the Patent Act prohibits inducement: “[w]hoever actively induces infringement of a patent shall be liable as an infringer.” 35 U.S.C. § 271(b) (2008). As the Federal Circuit stated:

To establish liability under section 271(b), a patent holder must prove that once the defendants knew of the patent, they “actively and knowingly aid[ed] and abett[ed] another’s direct infringement.” However, “knowledge of the acts alleged to constitute infringement” is not enough. The “mere knowledge of possible infringement by others does not amount to inducement; specific intent and action to induce infringement must be proven.”

*DSU Med. Corp. v. JMS Co.*, 471 F.3d 1293, 1305 (Fed. Cir. 2006) (*en banc*) (citations omitted); *See also Cross Medical Products, Inc. v. Medtronic Sofamor Danek, Inc.*, 424 F.3d 1293, 1312 (Fed. Cir. 2005) (“In order to succeed on a claim inducement, the patentee must show, first that there has been direct infringement, and second, that the alleged infringer knowingly induced infringement and possessed specific intent to encourage another’s infringement.”). Mere knowledge of possible infringement by others does not amount to inducement. Specific intent and action to induce infringement must be proven. *Warner-Lambert Co. v. Apotex Corp.*, 316 F.3d 1348, 1363 (Fed. Cir. 2003). In *DSU*, the Federal Circuit clarified the intent requirement necessary to prove inducement. As the court recently explained:

In *DSU Med. Corp. v. JMS Co.*, this court clarified *en banc* that the specific intent necessary to induce infringement “requires more than just intent to cause the acts that produce direct infringement. Beyond that threshold knowledge, the inducer must have an affirmative intent to cause direct infringement.”

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*Kyocera Wireless Corp. v. Int'l Trade Comm'n*, 545 F.3d 1340, 1354, (Fed. Cir. 2008) (citation omitted). “Proof of inducing infringement requires the establishment of a high level of specific intent.” *Lucent Techs. Inc. v. Gateway, Inc.*, 2007 WL 925510, at \*2-3 (S.D. Cal. 2007)

Under 35 U.S.C. § 271(c), “[w]hoever 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 specifically made to or specially adapted for use in the infringement of the patent, and not a staple article or commodity suitable for substantial non-infringing use, shall be liable as a contributory infringer.”

A seller of a component of an infringing product can also be held liable for contributory infringement if: (1) there is an act of direct infringement by another person; (2) the accused contributory infringer knows its component is included in a combination that is both patented and infringing; and (3) there are no substantial non-infringing uses for the accused component, *i.e.*, the component is not a staple article of commerce. *Carborundum Co. v. Molten Equip. Innovations, Inc.*, 72 F.3d 872, 876 (Fed. Cir. 1995).

To prove direct infringement, Rambus must prove by a preponderance of the evidence that the accused products either literally infringe or infringe under the doctrine of equivalents the method of asserted claims of the ‘353, ‘405, ‘109, ‘998 and ‘016 Patents. *Advanced Cardiovascular Sys., Inc. v. Scimed Life Sys., Inc.*, 261 F.3d 1329, 1336 (Fed. Cir. 2001). Notably, method claims are only infringed when the claimed process is performed. *Ormco Corp. v. Align Technology, Inc.*, 463 F.3d 1299, 1311 (Fed. Cir. 2006).



## **B. The Barth I Patents**

Rambus asserts that all of the Accused Products infringe the asserted claims of the ‘353 Patent and claims 1, 2, 4, 12, 20, 21 and 24 of the ‘109 Patent. (CIB at 4.) Rambus asserts that NVIDIA’s products that issue the write command with autoprecharge commands (“the Accused Autoprecharge Products”)<sup>3</sup> infringe the asserted claims of the ‘405 Patent and claims 5 and 13 of the ‘109 Patent. (CIB at 4.)

The main point of contention for these patents centers on whether the Accused Products meet the “strobe signal” and “signal” limitation contained in the asserted independent claims of these patents. (See RIB at 40; CIB at 9, 16 and 20; SIB at 12, 54, and 58.) In addition, the parties also dispute whether the Accused Autoprecharge Products meet the limitation of requiring “the data to be written to the array during the write operation” in claim 11 of the ‘405 Patent and claims 5 and 13 of the ‘109 Patent. (RIB at 50-51; CIB at 16-20; SIB at 54-56.) The parties do not dispute that the Accused Products meet the other limitations of the asserted claims and did not address any of these other limitations in their respective briefs. (RIB at 40-51; CIB at 9-20; SIB at 10-20 and 53-59.)

### **1. The “strobe signal” limitation**

Rambus argues that all of NVIDIA’s Accused Products meet this claim limitation. (CIB at 4, 9.) As set forth in Order No. 12, the ALJ construed that “a strobe signal. . .to initiate sampling of a first portion of the data by the memory device” in claim 11 of the ‘353 Patent means a timing signal to initiate sampling of a first portion of the data by the memory device; that “an external strobe signal. . .to signal the memory device to sample data” in claim 11 of the ‘405 Patent means a timing signal to signal the memory device to sample data; that “a

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<sup>3</sup> The Accused Autoprecharge Products are NVIDIA’s G70, G71, G72, G73, G78, NV25, NV30, NV31, NV34, NV35, NV36, NV37, NV38, NV40, NV41, NV42, NV43, NV44, NV44A, NV45 products. (CIB at 4.)

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signal. . . wherein the signal indicates when the memory device is to begin sampling write data” in claim 1 of the ‘109 Patent means a signal that indicates when to begin sampling write data in the memory device; that “a signal wherein the signal indicates when the memory device is to begin receiving write data” in claim 12 of the ‘109 Patent means a signal that indicates when to begin receiving write data in the memory device; and “a signal. . . wherein the signal indicates when the memory device is to begin the transfer operation” in claim 20 of the ‘109 Patent means a signal that indicates when to begin a transfer operation in the memory device. (Order No. 12 at 14.) Thus, in order to find infringement, Rambus must prove by a preponderance of the evidence that the Accused Products have a timing signal or signal that initiates sampling and/or indicates when the memory device is to begin a specified operation, *e.g.* read, write or transfer.

Rambus and Staff argue that the timing signal in the Accused Products is the DQS signal. (CIB at 10-11; SIB at 12.) The DQS or WDQS signal “tells the memory device when valid data is on the data lines and the memory device uses that information to initiate the process of capturing data sent by the memory controller”, *i.e.* the DQS signal initiates “sampling.” (CIB at 10; *see also* SIB at 12.) According to Rambus and Staff, the DQS signal initiates the sampling of data on the rising and falling edges of the signal. (CIB at 10; SIB at 13.)

In response, Respondents argue that Rambus’s evidence of infringement fails because the evidence relied upon by Rambus fails to show whether the signal actually initiates data. (RIB at 41-42.) Specifically, Respondents argue that (1) the JEDEC memory standards fail to prove infringement because they fail to describe the internal circuitry of the Accused Products or the behavior of the memory device in sufficient detail;<sup>4</sup> (2) the memory device datasheets are

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<sup>4</sup> Respondents appear to dispute the sufficiency of the JEDEC documents in disclosing information necessary to prove infringement. Respondents do not appear to dispute Rambus’s methodology in proving infringement, namely a comparison of JEDEC standards to the Asserted Patents. *See generally Dynacore Holdings Corp. v. U.S. Philips Corp.*, 363 F.3d 1263 (Fed. Cir. 2004) (Federal Circuit discussing infringement analysis comparing patent to

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unreliable absent actual testing to support their accuracy; (3) the testimony of NVIDIA witnesses and NVIDIA documents are unreliable because NVIDIA does not, itself, manufacture the memory devices; (4) Dr. Przyblyski failed to test any of the Accused Products; and (5) Rambus failed to “turn to the massive information datastore” it had accumulated from previous litigation against memory manufacturers to reverse engineer the products to determine how the DQS signal is used in the accused systems. (RIB at 41-46.)

Respondents further argue that the DQS signal does not initiate sampling because sampling is constantly occurring while the “latch” is open and the DQS signal “ends” the sampling process by “closing” the outer “latch.” (RIB at 48-49.) In support of their argument, Respondents cite to the testimony of their expert, Dr. Subramanian. Respondents argue that in modern DRAM memory devices, sampling of the first data will start when the memory device opens the outer door or latch at a fixed time after the memory device receives the write command and will continue to sample of the data until the outer door is closed in response to a DQS signal.<sup>5</sup> (RIB at 48.) In other words, while the outer door is open, the memory device can be thought of as constantly checking the value on the wire and updating the stored value. (RIB at 48.) This sampling will not stop until a DQS signal is received and the outer door or latch is “closed.” (RIB at 48.)

The ALJ finds that the “strobe signal” in the Accused Products is the DQS strobe signal. As set forth in Order No. 12, the ALJ found that “a strobe signal. . .to initiate a sampling of a first portion of the data by the memory device” means a timing signal to initiate sampling of a first portion of the data by the memory device. (Order No. 12 at 14.) The evidence shows that

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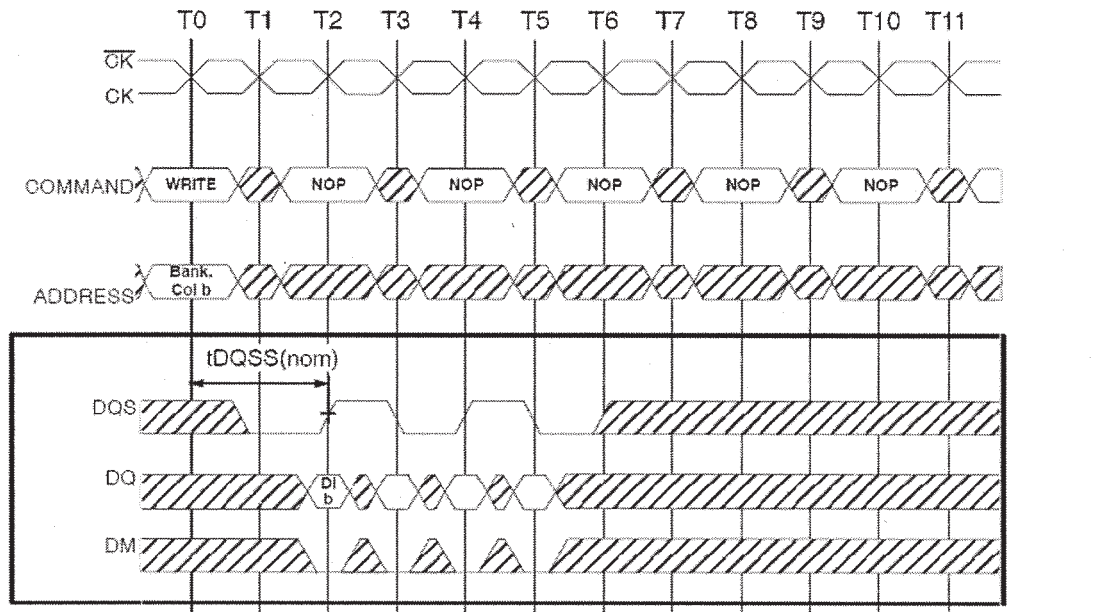
industry standards). Regardless, as set forth *infra*, Rambus also cites to Respondents’ own documents in support of their infringement analysis.

<sup>5</sup> Dr. Subramanian explained that latching data is the process of opening a latch, sampling data into the latch, and then closing the latch to end the sampling and hold the sampled data. (RX-1170C at Q&A 53.)

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the Accused Products issue the DQS signal to their associated memory devices to initiate sampling of data during a write operation. (CX-162 at 1, 6, 31, 33, Figure 21; CX-440C at Q&A 240-244; Przybylski, Tr. 266:111-17.) Specifically, the JEDEC specification, memory data sheets for the Accused Products and NVIDIA's own documents and testimony of its employees confirm that the DQS signal is a timing signal that initiates sampling of data by the memory device.

The JEDEC specification shows that data precedes the DQS signal for some period of time and follows the DQS strobe signal for some period of time. The time period during which data appears in advance of the DQS signal is generally referred to as "setup" time ( $t_{DS}$ ). (CX-440C, Przybylski Q&A 240; CX-162 at R-ITC-30003035.) The setup time  $t_{DS}$  ensures that the memory device's sampling circuitry is given sufficient time to stabilize before the edge of the DQS signal initiates sampling of the data. (Przybylski, Tr. 271:08-274:07.) The time period during which data is held constant after the DQS strobe signal is generally referred to as "hold" time ( $t_{DH}$ ). (CX-440C, Przybylski Q&A 240.) The hold time  $t_{DH}$  ensures that the memory device's sampling circuitry has sufficient time to sample the data after the edge of the DQS signal initiates sampling. (CX-440C at Q&A 240; CX-162 at 50-58; Przybylski, Tr. 271:08-274:07.) As shown in Figure 21, the DQS signal tells the memory device that valid data is on the data lines and the data is sampled on the "rising edge" and the "falling edge" of the DQS signal. (CX-162 at R-ITC-30003004 (Figure 21); CX-440C at Q&A 240; at p. 235-239 and evidence cited therein.)



DI b = Data In for column b  
 Three elements of data are applied in the programmed order following DI  
 A noninterrupted burst of 4 is shown  
 A10 is low with the WRITE command (autoprecharge is disabled)  
 Example is for a x4 or x8 device where only one Data Mask and one  
 Data Strobe are used. For a X16, UDM and LDM would be required, as  
 well as UDQS and LDQS.

 Don't Care

**Figure 21**

(CX-162 at R-ITC-30003004.) Thus, the DQS signal initiates sampling of data by the memory devices. In addition to the timing diagrams, the JEDEC specification specifically states that “[a] bidirectional data strobe (DQS) is transmitted externally, along with data, for use in data capture at the receiver [memory device]. DQS is a strobe transmitted by the DDR SDRAM during Reads and by the memory controller during Writes.” (CX-162 at 1.)

The memory data sheets for the Accused Products also show that the memory devices wait for a strobe signal before sampling and that the memory devices of the Accused Products will not initiate sampling of data absent detecting the DQS strobe signal. (Przybylski, Tr. 266:18-21; Subramanian, Tr. 1028:05-17, 1144:06-21; CX-711 at R-ITC-10230558; CX-440C at

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258-260, 292, 324, at p. 235-239, 344-348, 466-471 and evidence cited therein.) For example, memory datasheets state that the DQS signal is used to sample data on the data lines DQ: “All of the inputs are sampled on the rising edge of the clock except DQ’s and DM’s that are sampled on both edges of the DQS.” (CX-772 at R-ITC-10233079; Przybylski Tr. at 183:12-184:20.) Datasheets further show that the DQS signal is used to sample or capture data and timing diagrams in the datasheets show that that the DQS signal sent by the memory controller initiates sampling of a first portion of the data by a memory device. (CX-722 at R-ITC-10233079; CX-711 at R-ITC-102320558; CX-720, Qimonda HYB25DC256163CE (DDR) at 3, 4, 20; CX-730, Elpida EDE1104ACSE/ EDE1108ACSA/EDE1116 ACSE (DDRR2) at 50; CX-865, Hynix H5TQ1G43BFR/H5TQ1G83BFR/H5Q1G63BFR (DDR3) at 5; CX-850, Hynix H5RS5223CFR (GDDR3) at 3, 5, 6, 31, 33-37, 49; CX-881, Hynix H5MS1G22MFP/H5MS1G32MFP (LPDDR) at 4; CX-440C at p. p.235-239, 344-348, 466-471 and evidence cited therein.) The memory datasheets also specify setup and hold times around the DQS edge, which is further evidence that the DQS signal is used to initiate sampling of data. (CX-440C at p.235-239, 344-348, 466-471 and evidence cited therein; CX-162 at R-ITC-30003004; Przybylski Tr. at 271-272; CX-720, Qimonda HYB25DC256163CE (DDR) at 4, 20; CX-730, Elpida EDE1104ACSE/ EDE1108ACSA/EDE1116 ACSE (DDRR2) at 52; CX-865, Hynix H5TQ1G43BFR/H5TQ1G83BFR/H5Q1G63BFR (DDR3) at 55; CX-850, Hynix H5RS5223CFR (GDDR3) at 3, 5, 6, 31, 33-37, 49; CX-881, Hynix H5MS1G22MFP/H5MS1G32MFP (LPDDR) at 39.) Similarly, Respondents’ own documents and the testimony of NVIDIA’s employees show that the DQS signal initiates the sampling of data. For example, one of NVIDIA’s engineers testified that [REDACTED] [REDACTED] Other NVIDIA engineers and

employees have confirmed this. (See CX-440C, Przybylski Direct Stmt. at Q&A 244; Cheng Tr. at 511-12; Treichler Tr. at 673-75; JX-13C, Bachman 05/15/09 Dep. Tr. at 94:19-95:12; Reed Tr. at 656; JX-66C, Krishnan 05/27/09 Dep. Tr. at 79:3-4; ; JX-16C, Bittel 05/22/09 Dep. Tr. at 42:12-14; Cartier 05/15/09 Dep. Tr. at 124:13-20; JX-88C, Simeral 05/27/09 Dep. Tr. at 35:13-15.) Respondents' documents, including nVidia's source code and data sheets, show that [REDACTED] [REDACTED] (CX-654C at NVID90052607-62; CX-665C at 93; CX-917C at 36, 52-53; CX-940C at 85; CX-952C at 54-55; CX-941C at 74; CX-993C at 21, 24-25; CX-950C at NVID60531523; CX-440C at Q&A 243, at p.235-239, 344-348, 466-471 and evidence cited therein.) For example, NVidia's NV18 datasheet states that [REDACTED]

[REDACTED] The datasheets from various memory device manufacturers that supply JEDEC-compliant memory devices used with the Accused Products show that the DQS strobe signal is used to "capture" or "sample" write data:

Data Strobe: Output with read data, input with write data. Edge aligned with read data, centered in write data. *Used to capture write data.* DQS0 corresponds to the data on DQ0-Q7; DQS1 corresponds to the data on DQ8-Q15; DQS2 corresponds to the data on DQ16-Q23; DQS3 corresponds to the data on DQ24-31.

(CX-711, R-ITC-10230558 (emphasis added); see also Przybylski, Tr. 174:08-20, 175:05-12; Subramanian, Tr. 1143:05-45:06.)

All of the inputs are sampled on the rising edge of the clock except *DQ's . . . are sampled on both edges of the DQS.*

(CX-722, R-ITC-10233099 (emphasis added); see also Przybylski, Tr. 183:18-84:10.) NVidia's source code states that [REDACTED]



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Respondents argue that the evidence cited above is insufficient to show infringement because the JEDEC standards and memory datasheets fail to show the internal workings of the memory devices with sufficient detail to show infringement.<sup>6</sup> However, as Rambus and Staff have pointed out, the asserted claims of the '353 Patent are method claims that lack a specific recitation of memory device sampling circuitry and are directed at the controller's functionality. As such, the particular mechanism and the internal workings of the memory devices and its detailed circuitry by which the memory devices sample data upon detection of the DQS strobe signal is unnecessary to establish infringement of this claim. (Przybylski, Tr. 123:13-24, 124:04-15; Subramanian, Tr. 1016:13-17:02; CX-440C at Q&A 245; 250; 252.) Furthermore, the ALJ finds Respondents' arguments relating to the unreliability of its memory sheets and its own employees are unpersuasive since the same "unreliable" NVIDIA employees rely on those same "unreliable" datasheets when designing the Accused Products.

As for Respondents' argument the DQS strobe signal actually stops the sampling of data rather than initiate it, the ALJ also finds that argument unpersuasive and contrary to the evidence. As set forth above, the evidence shows that the memory devices of the Accused Products will not initiate sampling of data absent detecting the DQS signal. The relationship between the DQS signal and the data shows that the DQS signal causes the sampling to occur before conclusion of the hold time  $t_{DH}$  and after the memory device's sampling circuitry has stabilized during the setup time  $t_{DS}$  as discussed above. (Przybylski, Tr. 132:02-14.) However, under Respondents'

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<sup>6</sup> Respondents spend much time arguing that Dr. Subramanian knows more based on his own personal knowledge and that, as such, his testimony is sufficient to rebut Dr. Przybylski's analysis. However, there is no additional evidence before the ALJ of latches or that the memory devices work that way. Respondents cite to no evidence to support Dr. Subramanian's contentions, which should and could be easily presented if DRAMS act "commonly" as Dr. Subramanian contends. While Rambus certainly carries the burden of infringement, the fact that Respondents have presented nothing other than Dr. Subramanian's testimony and "personal experience" to support his latches arguments is insufficient to overcome the infringement evidence, which consists not only of testimony of Dr. Przybylski but of memory datasheets and JEDEC standards and specifications. Respondents point to no additional evidence to support their arguments that Figure 21 should be read any differently.

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argument, sampling is actually occurring during the “Don’t Care” time period because the “latch” door is open. During this time period, however, the memory device cannot decipher whether the values on its data lines are merely noise in the system or are actually valid data in the “Don’t Care” state. It is the DQS signal that tells the memory device that the signal on the data line is not noise to be ignored, but is instead valid data for sampling. (CX-162 at R-ITC-30003004; CX-440C at Q&A 238-239; JX-98C at 86:7-19; 99:17-100:16; 110:5-111:12.)

Therefore, the ALJ finds that Rambus has shown by a preponderance of the evidence that the Accused Products meet the “strobe signal” limitation and/or “signal” limitation of the independent claim 11 of the ‘353 Patent, independent claim 11 of the ‘405 Patent and independent claims 1, 12 and 20 of the ‘109 Patent. (Subramanian, Tr. 1015:04-07; RX-1170C, Subramanian Q&A 39, 61 &76) (acknowledging that the arguments for these claims are analogous).

The ALJ further finds that Rambus has shown by a preponderance of the evidence that the Accused Products infringe dependent claims 12 and 13 of the ‘353 Patent, which related to issuing data on odd and even phases and during a common clock cycle. (CX-440C, Przybylski Q&A 262-71, 372, 374, 380, 382, 387, 389, 394, 396, 401, 403, 409, 411; Wagner, Tr. 524:07-27:08; RX-1170C, Subramanian Q&A 58-59.) Respondents do not dispute that the Accused Products meet these claim limitations. (RIB at 40-51.) Thus, Rambus has proven by a preponderance of the evidence that the Accused Products issue data on the even and odd phases of the clock signal and during a common clock cycle in order to properly interface with the memory device.

The ALJ finds that Rambus has shown by a preponderance of the evidence that the Accused Products infringe dependent claims 2, 4, 21 and 24 of the ‘109 Patent. (CX-440C,

Przybylski Q&A 322, 323-40, 343-45, 348-57, 485, 487, 489, 493, 497, 499, 501, 504, 506, 508, 512, 518, 523, 525, 527, 533, 539, 541, 543, 546, 548, 550, 554, 558, 560, 562, 565, 567, 569, 573, 577, 579, 581, 584, 586, 588, 593, 597, 601; RX-1170C, Subramanian Q&A 39, 76.) Respondents do not dispute that the Accused Products meet these claim limitations. (RIB at 40-51.) Thus, Rambus has proven by a preponderance of the evidence that the Accused Products meet the limitations of dependent claims 2, 4, 21 and 24 of the '109 Patent.

## 2. Precharge limitation

Rambus argues that the Accused Autoprecharge Products meet the write with precharge limitation of independent claim 11 of the '405 Patent and dependent claims 5 and 13 of the '109 Patent. (CIB at 16-20.) Rambus further argues that even if the Accused Autoprecharge Products do not literally infringe claim 11 of the '405 Patent and dependent claims 5 and 13 of the '109 Patent, they infringe under the doctrine of equivalents. (CIB at 19.) Staff agrees. (SIB at 54-56.)

Respondents argue that the Accused Autoprecharge Products do not infringe the asserted claims because they write data to the memory array during the *precharge* operation rather than during the *write* operation as required by the asserted claims. (RIB at 50-51.) Respondents argue that “[i]n modern memory device, new write data received by the memory device is written into the sense amplifiers, ending write operation.” (RIB at 51.) Thus, according to Respondents, the data is not written into the memory array during the write operation but occurs after the write operation during a precharge operation. (RIB at 51.)

Rambus argues that Respondents’ argument is essentially a claim construction argument and that their arguments are inconsistent with Respondents’ own admissions and the claim language. (CIB at 18.) Rambus further argues that even assuming Respondents’ arguments are correct, *i.e.*, that the data is not written to the memory array until after the completion of the

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write operation during the precharge operation, the Accused Autoprecharge Product still infringe under the doctrine of equivalents. (CIB at 19.) Rambus argues that the sequence of events is equivalent to and insubstantially different from writing data during the write operation and that Respondents have failed to set forth any arguments disputing that the Accused Autoprecharge Products infringe under the doctrine of equivalents. (CIB at 19.) Staff agrees arguing that a preponderance of the evidence supports a finding of infringement either literally or under the doctrine of equivalents. (SIB at 54-56.)

The ALJ finds Respondents' arguments unpersuasive. There is nothing in the language of the claims or in the specification that requires the write operation and precharge operation be completely separate and distinct or that the write operation must be complete before the precharge operation begins, and Respondents have pointed to no such evidence. (See RIB at 50-51.) Rather, the claim language states that after *initiation* of the write operation, the precharge operation automatically follows that *initiation*, *i.e.*, there is nothing that requires the write operation conclude before the initiation of the precharge operation nor is there anything in the language of the claims or in the specification that precludes the two operations from overlapping. (JX-3 ('405 Patent) at 41:60-65; '109 Patent at 43:26-30, 44:28-32; CX-440C at Q&A 295; Subramanian, Tr. 1155:6-1156:6.)

The evidence shows that in the Accused Autoprecharge Products, [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

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Respondents do not dispute that this is how the Accused Autoprecharge Products function. (RIB at 50-51.) Thus, the Accused Autoprecharge Products literally infringe claim 11 of the '405 Patent and claims 5 and 13 of the '109 Patent.

The ALJ further finds that Rambus has shown by a preponderance of the evidence that the Accused Autoprecharge Products infringe under the doctrine of equivalents. Even assuming that the write operation is completed before the precharge operation in the Accused Autoprecharge Products as Respondents contend, the data is still written to the memory array immediately after the completion of the write operation such that the difference is insubstantial from the method claimed in the '405 and '109 Patents. The data is written at essentially the same time. The evidence shows that the Accused Autoprecharge Products use the same circuitry to achieve the same result, namely writing data to the memory array, and the same function is served, namely completing write operations. (CX-440C at Q&A 297-299, at p. 337-341 and evidence cited therein.)

The parties do not dispute that the Accused Autoprecharge Products meet the limitations of dependent claims 12, 13, 15 and 18 of the '405 Patent. (See RIB at 41-51; CIB at 16-20; SIB at 56-57.) Furthermore, the evidence shows that the Accused Autoprecharge Products meet these limitations. (CX-440C at Q&A 278-419, 421, 423, 426, 428, 430, 432, 434, 437, 441, 443, 445, 447, 450, 452, 454, 456, 458, 461, 463, 465, 467, 469, 472, 474, 476, 478, 480; RX-1170C, Subramanian Q&A 39.) The ALJ further finds that the Accused Autocharge Products infringe dependent claims 12, 13, 15 and 18. Therefore, the ALJ finds that the Accused Autocharge Products infringe the asserted claims of the '405 Patent.

### C. The Ware Patents

Rambus argues that the Accused Products that interface with DDR3 memory in a fly-by topology (“the Accused DDR3 Products”) infringe claims 7, 13, 21 and 22 of the ‘998 Patent and the ‘016 Patent.<sup>7</sup> (CIB at 20, 22.) The main point of contention between the parties is whether the Accused DDR3 Products contain timing circuitry that delay reception of data as claimed in claim 7 of the ‘998 Patent. (RIB at 13-17; CIB at 22-25; SIB at 64-71.) The parties also dispute whether the Accused DDR3 Products contain the “shared control signal path” limitation in both the ‘998 Patent and the ‘016 Patent. (RIB at 17-19.) The parties do not dispute that the Accused DDR3 Products contain the other limitations of the asserted claims and did not address any of these other limitations in their respective briefs. (RIB at 12-19; CIB at 20-25; SIB at 64-71, 98-100; RRB at 1-6; SRB at 31; Subramanian, Tr. 888:19-889:13; 890:13-24.) The parties dispute proper interpretation of the claim elements and whether, under that interpretation, the Accused DDR3 Products meet the limitations.

#### 1. The “timing circuitry” limitation

Rambus and Staff argue that the Accused DDR3 Products infringe the asserted claims of the ‘998 Patent because they contain memory controllers that delay the reception of data from the memory devices based on the time it takes for a signal to propagate along a shared signal path the respective memory devices. (CIB at 22; SIB at 64-70.) Rambus and Staff argue that the timing circuitry that causes the delay is caused through the cascaded flip-flops, which are contained within the memory controller. (CIB at 22-23; SIB at 68-70.) Rambus and Staff further argue that Respondents do not dispute these facts, *i.e.*, how the Accused DDR3 Products

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<sup>7</sup> The asserted claims of the ‘016 Patent and the ‘998 Patent are substantially similar except that the asserted claims of the ‘016 Patent are directed to write operations and write-leveling while the ‘998 Patent are directed and read operations and read-leveling.

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work, but instead argue that the asserted claims require the delay to occur outside the memory controller. (CIB at 22; SIB at 68-69.) Rambus and Staff assert that this is an improper construction and that, under the proper construction, “reception” occurs when the data is received within the memory controller when the data is usable by the memory controller according to the ‘998 Patent. (CIB at 23; SIB at 69-70.) This construction is supported by the claim language, specification and with Respondents’ own prior positions. (CIB at 23-25; SIB 68-70.)

Respondents argue that the Accused DDR3 Products do not infringe claim 7 of the ‘998 Patent because they do not have the requisite timing circuitry to delay reception of the data traveling to the memory controller. (RIB at 13.) Respondents argue that the plain meaning of “delay[ing] reception” means delaying the time when the data signals would otherwise arrive at the memory controller, *i.e.*, the data is delayed on the memory devices before it is sent back to the memory controller and not, as Rambus claims, delaying use. (RIB at 13-14.) Respondents further argue that the claim requires that the circuitry that causes the delay be prior to the memory controller and this circuitry is *in* the memory controller of the Accused DDR3 Products and cannot cause delay of reception *to* the memory controller – the Accused DDR3 Products practice post-reception delay. (RIB at 14-15.) Respondents argue that the specification describes pre-reception delay embodiments and post-reception delay embodiments but that the asserted claims are only directed toward pre-reception delay and, as such, the Accused DDR3 Products do not infringe. (RIB at 15.) Respondents further argue that even if Rambus’s construction is correct, the Accused DDR3 Products still do not infringe because the timing circuitry identified by Rambus is downstream of the data receive circuitry such that the circuitry that delays reception is located after the circuitry that actually receives the data. (RIB at 16-17.)



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The ALJ finds that Respondents' interpretation that the "timing circuitry to delay reception of data signals" for claim 7 of the '998 Patent occur prior to the memory controller to be unsupported by the claim language, specification and prosecution history. Claim 7 states:

A memory controller comprising:

control transmit circuitry to transmit a control signal to a plurality of memory devices via a shared control signal path, the shared control signal path being coupled to each of the memory devices at a different point along its length such that respective times required for the control signal to propagate from the memory controller to the memory devices are different;

data receive circuitry to receive data signals from the memory devices via respective data signal paths; and

timing circuitry to delay reception of data signals on each of the data signal paths by a respective time interval that is based, at least in part, on the time required for the control signal to propagate on the control signal path from the memory controller to a respective memory device of the memory devices.

(the '998 Patent at claim 7.) Claim 7 clearly states that the memory controller is comprised of "timing circuitry to delay reception of data signals" and, further, there is nothing in the claim that dictates where the delaying function performed by the circuitry must take place, *i.e.*, prior to the memory controller as Respondents claim. (*Id.*; *see also* claims 13, 21 and 22, CX-440C, Przybylski Q&A 693-94.) In fact, the embodiment recited in dependent claim 9 suggests that the timing circuitry is internal to the memory controller and perform a delaying function within the memory controller:

9. The memory controller of claim 7, wherein the timing circuitry comprises a plurality of phase offset selection circuits, each phase offset selection circuit of the plurality of phase offset selection circuits to select a clock signal of a plurality of phase-distributed clock signals to be a timing reference for receiving data conveyed on a respective one of the data signal paths.

(the '998 Patent at claim 9.) The language of the claims clearly recites that the timing circuitry that delays reception is in the memory controller. There is nothing in the language of the claims

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that would support Respondents argument that such circuitry is prior to the memory controller. Indeed, neither Respondents nor its expert, Dr. Subramanian explain how claim 7, which claims a memory controller comprising of certain circuitries, claims circuitry that is outside of the memory controller and, instead, make conclusory statements. (See RIB at 13-15; RX- 1170C at Q&A 105 (“The section of the specification that is shown in RDX-74 describes an embodiment, *such as the embodiment of claim 7*, where the claimed timing circuitry is located on the memory controller but the actual delaying circuitry is located on the memory devices.”) (emphasis added).) Similarly, there is nothing in the plain reading of the claim language that would support Respondents’ interpretation of “delay reception” to mean “delaying the time when the data signals would otherwise arrive at the memory controller.”

The specification also supports this interpretation of claim 7. Figure 12 of the ‘998 patent shows an embodiment that includes circuitry (Data Receive Block 203) within the memory controller 102 for delaying the reception of data post arrival from the memory device but before use within internal portions of the memory controller (Controller Logic Block 1234):

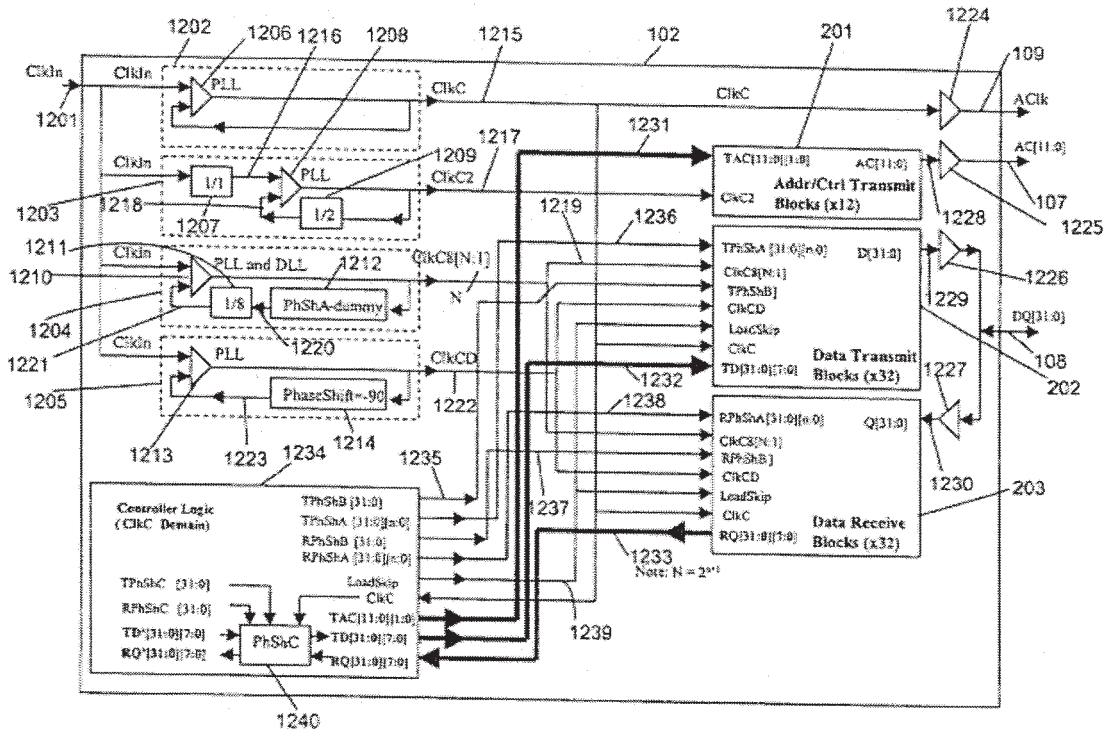


FIG. 12

(‘the ‘998 Patent, Figure 12 and 21:25-22:42; CX-440C, Przybylski Q&A 695; Subramanian, Tr. 880:15-82:15.) Finally, such an interpretation of claim 7 is consistent with comments made by Applicants during prosecution in distinguishing prior art that disclosed timing circuitry within the memory devices for externally delaying the arrival of data at the memory controller. See Order 12 at 43-44 (describing the prosecution history of the ‘998 patent); (JX-6, RambusITC00012743-57). Thus, based on the foregoing, the ALJ finds Respondents’ arguments unpersuasive and that the “timing circuitry to delay reception of the data signals” in claim 7 of the ‘998 Patent is located within the memory controller and that the delay need not occur pre-reception, *i.e.*, prior to the memory controller.

Under this interpretation, the ALJ finds that Rambus has shown by a preponderance of the evidence that the Accused DDR3 Products meet the “timing circuitry” limitation. The

evidence shows that

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Furthermore, as Staff correctly noted, this argument is essentially a rehashing of Respondents earlier argument that the delay must occur prior to the memory controller, *i.e.*, the delay must occur at a specific place/location in the memory controller. For the same reasons set forth *supra*, the ALJ finds that the asserted claims have no such requirement.

Furthermore, Dr. Subramanian admitted that he offered no evidence of non-infringement of the asserted '998 Patent claims when the circuitry that causes delay is located within the memory controller. (Subramanian, Tr. 888:19-89:07, 890:13-24.) Therefore, the ALJ finds that Rambus has shown by a preponderance of the evidence that the Accused DDR3 Products meet the "timing circuitry to delay reception of data signals" limitation of the '998 Patent.

## **2. The "shared control signal path" limitation**

Respondents argue that the Accused DDR3 Products do not infringe the '998 Patent and the '016 Patent because it does not meet the limitation that the "shared control signal path be [ ] coupled to each of the memory devices at a different point along its length such that [the] respective times required for the control signal to propagate from the memory controller to the memory device are different." (RIB at 13-19.) Specifically, Respondents argue that "Dr. Przybylski applies different standards in determining whether the propagation [sic] delay is

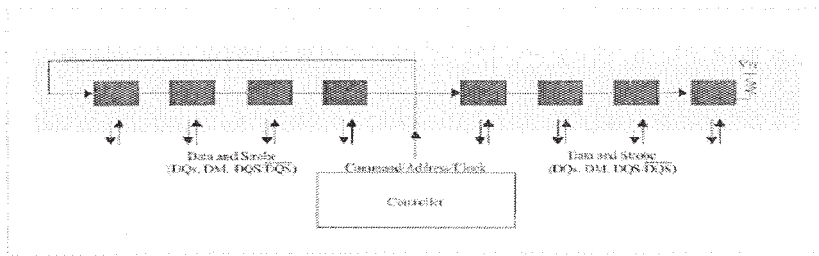
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‘different,’ for purposes of infringement and validity,” namely that the standard for validity purposes Dr. Przyblyski requires that the memory devices be located in different timing domains. (RIB at 19.) However, Respondents argue that in proving infringement, Dr. Przyblyski presented no such evidence of memory devices located in different timing domains and that in order to reconcile these different standards, evidence of memory devices located in different timing domains is necessary to prove infringement. (RIB at 18.)

Rambus argues that Respondents have conflated infringement with validity and essentially argue that they do not infringe the asserted patents because they practice the prior art. (CIB at 22.) Rambus argues that it has presented evidence that shows that the clock propagation times in the Accused DDR3 Products are different and require compensation. (CRB at 8.) Staff agrees noting that the fly-by topology of Accused DDR3 Products meet the “shared control signal path” limitation of claim 7. (SIB at 65-66.)

As will be set forth *infra* in Section VI.B, Rambus’s “standard” for validity is incorrect and, as such, Respondents’ arguments relating to non-infringement, *i.e.* Rambus’s validity arguments vitiate any infringement claims, are moot. The evidence shows that the JEDEC compliant Accused DDR3 Products interface with DDR3 memory arranged in a fly-by topology configuration where the command, address and clock signals are provided to the memory devices via shared paths such that they arrive at different memory devices at different times. (CX-440C, Przyblyski Q&A 613-15, 641-2, 691, 707; CX-970 at R-ITC-30008320; RX-1172C, Reed Q&A 42-43; Reed, Tr. 649:08-50:06; JX-81C, Reed 154:04-13, 155:03-11.) As shown below, based on the JEDEC documents setting forth the layout of the fly-by topology, the signals from the controller arrive at the different memory at different times:

Figure 6.1.1 — Fly-By Topology



(CX-970 at R-ITC-30008320.) Specifically, shared “Command/Address/Clock” paths connect the “Controller” to the plurality of memory devices (grayed out boxes) such that signals propagated thereon take progressively longer to reach each successive memory device (left to right) until terminating with the final memory device. (*Id.*; see also CX-440C at Q&A 642.) In addition to JEDEC standards, Respondents’ data sheets, documentation for the Accused DDR3 Products, testimony from NVIDIA’s engineers and expert as well as source code show that [REDACTED]

[REDACTED]

[REDACTED] The ALJ finds that Rambus has shown by a preponderance of the evidence that the circuitry that propagates these signals on the fly-by topology of the Accused DDR3 Products satisfies the “shared control signal path” limitation of claim 7 of the ‘016 and the ‘998 Patents. (CX-440C, Przybylski Q&A 637-40, at p. 897-900 and evidence cited therein.)

Furthermore, Respondents do not dispute any of the facts described above. (RIB at 17-19; RRB at 5; Reed, Tr. 649:23-50:06 (confirming that there are “differences between the arrival of the signals at every individual [DDR3] memory” device when arranged in a fly-by topology); RX-1172C, Reed Q/A 41-46 (discussing the control signal routing in the fly-by topology implemented by DDR3 DIMMs); Subramanian, Tr. 805:14-06:11.)



Therefore, the ALJ finds that the Accused DDR3 Products meet the control signal path limitation of claim 7 of the '998 and the '016 Patents.

### **3. Claims 13, 21 and 22**

Respondents argue that the Accused DDR3 Products do not infringe claims 13, 21 and 22 of the '998 Patent because these claims require data to be received after some delay and the Accused DDR3 Products do not meet these limitations for the same reasons the Accused DDR3 Products do not meet the similar limitation for claim 7. (RIB at 18-19.) As set forth *supra*, the ALJ finds Respondents' arguments relating to this "delay" limitation to be unpersuasive and, as such, similarly unpersuasive as it relates to claims 13, 21 and 22. Furthermore, Rambus has shown by a preponderance of the evidence that the Accused DDR3 Product meet each and every limitation of claims 13, 21, and 22. (CX-440C at Q&A 730-738; 756-760 and exhibits cited therein.)

Respondents argue that the Accused DDR3 Products do not infringe claims 13, 21 and 22 of the '016 Patent because these claims require the same "shared control signal path" limitation as claim 7 and these claims do not meet this limitation for the same reasons. (RIB at 19.) As set forth *supra*, the ALJ finds Respondents' arguments relating to this "shared control signal path" limitation in claim 7 to be unpersuasive and, as such, similarly unpersuasive as it relates to claims 13, 21 and 22. Furthermore, Rambus has shown by a preponderance of the evidence that the Accused DDR3 Product meet each and every limitation of claims 13, 21, and 22. (CX-440C at Q&A 674-688, 747-749 and exhibits cited therein.)

### **D. Induced or Contributory Infringement**

Rambus argues that in addition to Respondents' direct infringement of the asserted patents, Respondents also induces infringement and contributorily infringes the asserted claims.

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(CIB at 25-30.) Rambus argues that the Accused Products directly infringe the asserted claims through importation, sale, offer for sale, ordinary use and operation of these products and that Respondents' testing of these products and the end-user's use of the products also directly infringes the asserted claims. (CIB at 25-27.) Rambus argues that, despite having knowledge of the asserted claims and patents, the Respondents induce infringement by end-users by providing instructions in user manuals, providing technical support via telephone and websites and providing software device drivers. (CIB at 27-28.) Rambus further argues that Respondents have failed to cease selling the Accused Products or made any design changes to avoid infringement. (*Id.*)

As for contributorily infringing the asserted claims of the asserted patents, Rambus argues that Respondents contribute to the end-user's direct infringement since the Accused Products have no substantial non-infringing use and Respondents have not ceased to sell their products or attempt to change how their products function. (CIB at 28-30.) Staff agrees. (SIB at 17-19.)

Respondents make no direct argument against induced infringement or contributory infringement. (*See generally*, RIB at 13-19, 41-51; RRB at 1-6; 19-25.)

The ALJ finds that Rambus has shown by a preponderance of the evidence that all of the Respondents induce or contribute to the direct infringement of others. (CX-440C, Przybylski Q&A 768-807). The evidence shows that end users of the Accused Products directly infringe the asserted claims when they operate the Accused Products with JEDEC-compliant memory devices. (*Id.* Q&A 768-73; JX-108C, Young 227:19-228:03, 228:12-16; JX-98C, Wagner 291:06-15.) The evidence shows that Respondents have extensively sold the Accused Products within the United States and shows that there is substantial infringement by end users of the

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Accused Products in the United States. (CX-440C, Przybylski Q&A 773; CX-185C; CX-229C; CX-282C; CX-291C; CX-292C; CX-301C; CX-370C; CX-386C; CX-508C-512C; CX-514C-CX-521C; CX-557C; CX-561C.) Evidence of extensive sales in the United States has been found sufficient to show direct infringement by end users that perform a claimed method when operating an accused product as the manufacturer intended. *See Lucent Techs. v. Gateway, Inc.*, 580 F.3d 1301,1318-19 (Fed. Cir. 2009); *Moleculon Research Corp. v. CBS, Inc.*, 793 F.2d 1261, 1272 (Fed. Cir. 1986). The evidence further shows that Respondents directly infringe the asserted claims of the asserted patents by testing the Accused Products in the United States. (CX- 440C at Q&A 761-767; CX-490C at 159:8-13; CX-456C at 164 ;2-12; CX-483C at 90:5-15; Cx-449C at 93:7-14; CX-455C at 127:21-128:4; CX-446C at 98:9-17; CX-447C at 57:16-24; CX-444C at 94:7-18; CX-467C at 86:6-17.) *Paper Converting Machine Co. v. Magna-Graphics Corp.*, 745 F.2d 11, 20 (Fed. Cir. 1984) (“[T]esting the assemblies can be held to be in essence testing the patented combination and, hence, infringement.”) Thus, Rambus has shown direct infringement by end-users of the Accused Products and by the Respondents themselves.

The evidence further shows that Respondents were aware of the Asserted Patents with NVIDIA having knowledge of the patents as early as July 2008 (the filing of the Northern District of California case) and the remaining Respondents since November 2008 (the filing of the complaint in the instant investigation). (*Rambus Inc. v. NVIDIA Corp.*, No. 8-3343 (N.D. Cal); Complaint; CX-440C, Przybylski Q&A 783, 800; 801-803.) Respondents knowingly helped and encouraged end users to operate the Accused Products in an infringing manner by providing product user manuals, technical support via the telephone and the internet and by providing device drivers. (CX-440C, Q&A at 776-803; JX-98C, 190:11-21, 191:07-14, 192:16-19, 193:1-11, 194:15-195:01; CX-296, BIOS0003482, 84, 91-92; JX-106C, 159:07-17, 160:13-

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19, 162:8-15; JX-47C, 175:03-05, 135:11, 176:21-22, 177:03, 178:06-08, 178:12-13; JX-26C, 116:24-117:04; JX-95C, 76:13-17; JX-50C, 124:01-06, 126:02-15, 167:08-11; JX-29C, 102:04-14, 105:10-18; JX-72C, 131:16-20, 133:04-06; JX-19C, 81:15-21, 88:5-12; JX-104C, 116:20-21; JX-99C, 123:02-04, 123:6-10, 123:12, 123:14-17, 123:19; JX-107C, 100:22-25, 101:08-17; JX-22C, 93:21-23, 94:01-05; JX-103C, 41:08-09, 20.) Furthermore, there is no evidence before the ALJ that Respondents have taken any steps to avoid infringement despite having knowledge of the Asserted Patents. Thus, the ALJ finds that Rambus has shown by a preponderance of the evidence that the Respondents induce infringement of the asserted claims of the Asserted Patents.

As set forth above, Respondents were aware of the end-user's direct infringement and continued to aid the end-users in using the Accused Products in a way that infringed the asserted claims of the asserted patents. The evidence further shows that there are no substantial non-infringing uses for the accused component, *i.e.*, the component is not a staple article of commerce and, as such, Respondents have contributed to the infringement of the Asserted Patents. The evidence shows that most, if not all, of the Accused Products do not have a substantial, non-infringing use and cannot be used in any other manner except in a manner claimed in the asserted claims of the asserted patents. (CX-440C, Q&A 805-07, 810-11; JX-98C, 293:09-12, 293:14-20; CX-582C-589C; CX-591C; CX-592C; CX-594C; CX-595C.) There is no evidence before the ALJ that Respondents have taken any steps to avoid infringement despite having knowledge of the Asserted Patents. Thus, the ALJ finds that Rambus has shown by a preponderance of the evidence that Respondents contribute to the infringement of the Barth I and Ware Patents.

## VI. VALIDITY

### A. Background

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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, the claims of a patent are presumed to be valid. 35 U.S.C. § 282; *DMI Inc. v. Deere & Co.*, 802 F.2d 421 (Fed. Cir. 1986). Although a complainant has the burden of proving a violation of section 337, it can rely on this presumption of validity.

Respondents have the burden of overcoming the presumption that the asserted patents are valid and must prove invalidity by clear and convincing evidence in order to do so. *Technology Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1327 (Fed. Cir. 2008) (stating, “When an alleged infringer attacks the validity of an issued patent, [the] well-established law places the burden of persuasion on the attacker to *prove invalidity by clear and convincing evidence.*” (emphasis added)); *see also Checkpoint Systems, Inc. v. United States Int’l Trade Comm’n*, 54 F.3d 756, 761 (Fed. Cir. 1995). Respondents’ burden of persuasion *never shifts* to Rambus; the risk of “decisional uncertainty” remains on the respondent. *Id.*; *see also PowerOasis, Inc. v. T-Mobile USA, Inc.*, 522 F.3d 1299, 1303, 1305 (Fed. Cir. 2008); *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1360 (Fed. Cir. 2007). Thus, it is Respondents’ burden to prove by clear and convincing evidence that any of the alleged prior art references anticipate or render obvious the asserted claims of the patents in suit. Failure to do so means that Respondents loses on this point. *Id.* (stating, “[I]f the fact trier of the issue is left uncertain, the party with the burden [of persuasion] loses.”).

Respondents also bears the burden of going forward with evidence, *i.e.*, the burden of production. *Id.* This is “a shifting burden the allocation of which depends on where in the process of a trial the issue arises.” *Id.* However, this burden does not shift until a respondent presents “evidence that might lead to a conclusion of invalidity.” *Pfizer*, 480 F.3d at 1360. Once

a respondent “has presented a prima facie case of invalidity, the patentee has the burden of going forward with rebuttal evidence.” *Id.*

## **B. Anticipation**

A patent may be found invalid as anticipated under 35 U.S.C. § 102(a) if “the invention was known or used by others in this country, or patented or described in a printed publication in this country, or patented or described in a printed publication in a foreign country, before the invention thereof by the applicant for patent.” 35 U.S.C. § 102(a). A patent may be found invalid as anticipated under 35 U.S.C. § 102(b) if “the 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.” 35 U.S.C. § 102(b). Under 35 U.S.C. § 102(e), a patent is invalid as anticipated if “the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent.” 35 U.S.C. § 102(e). Anticipation is a question of fact. *Texas Instruments, Inc. v. U.S. Int’l Trade Comm’n*, 988 F.2d 1165, 1177 (Fed. Cir. 1993) (“*Texas Instruments II*”). Anticipation is a two-step inquiry: first, the claims of the asserted patent must be properly construed, and then the construed claims must be compared to the alleged prior art reference. *See, e.g., Medichem, S.A. v. Rolabo, S.L.*, 353 F.3d 928, 933 (Fed. Cir. 2003). It is axiomatic that claims are construed the same way for both invalidity and infringement. *W.L. Gore v. Garlock, Inc.*, 842 F.2d 1275, 1279 (Fed. Cir. 2008.)

“Claimed subject matter is ‘anticipated’ when it is not new; that is, when it was previously known. Invalidation on this ground requires that *every element and limitation* of the claim was *previously described in a single prior art reference*, either *expressly or inherently*, so as to place a person of ordinary skill in possession of the invention.” *Sanofi-Synthelabo v.*

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*Apotex, Inc.*, 550 F.3d 1075, 1082 (Fed. Cir. 2008) (emphasis added) (citing *Schering Corp. v. Geneva Pharms., Inc.*, 339 F.3d 1373, 1379 (Fed. Cir. 2003) and *Continental Can Co. USA v. Monsanto Co.*, 948 F.2d 1264, 1267-69 (Fed. Cir. 1991)).

To anticipate, a single prior art reference must be enabling and it must describe the claimed invention, *i.e.*, a person of ordinary skill in the field of the invention must be able to practice the subject matter of the patent based on the prior art reference without undue experimentation. *Sanofi*, 550 F.3d at 1082. The presence in said reference of *both* a specific description and enablement of the subject matter at issue are required. *Id.* at 1083.

To anticipate, a prior art reference also must disclose all elements of the claim within the four corners of said reference. *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369 (Fed. Cir. 2008) (“*NMF*”); *see also Abbott Labs. v. Sandoz, Inc.*, 544 F.3d 1341, 1345 (Fed. Cir. 2007) (stating, “Anticipation is established by documentary evidence, and requires that every claim element and limitation is set forth in a single prior art reference, in the same form and order as in the claim.”). Further, “[b]ecause the hallmark of anticipation is prior invention, the prior art reference--in order to anticipate under 35 U.S.C. § 102--must not only disclose all elements of the claim within the four corners of the document, but must also disclose those elements ‘arranged as in the claim.’” *Id.* (quoting *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548 (Fed. Cir. 1983)). The Federal Circuit explained this requirement as follows:

The meaning of the expression ‘arranged as in the claim’ is readily understood in relation to claims drawn to things such as ingredients mixed in some claimed order. In such instances, a reference that discloses all of the claimed ingredients, but not in the order claimed, would not anticipate, because the reference would be missing any disclosure of the limitations of the claimed invention ‘arranged as in the claim.’ But the ‘arranged as in the claim’ requirement is not limited to such a narrow set of ‘order of limitations’ claims. Rather, *our precedent informs that the ‘arranged as in the claim’ requirement applies to all claims and refers to the need for an anticipatory reference to show all of the limitations of the claims*



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*arranged or combined in the same way as recited in the claims, not merely in a particular order.* The test is thus more accurately understood to mean ‘arranged or combined in the same way as in the claim.’

*Id.* at 1370 (emphasis added). Therefore, it is not enough for anticipation that a prior art reference simply contains all of the separate elements of the claimed invention. *Id.* at 1370-71 (stating that “*it is not enough [for anticipation] that the prior art reference discloses part of the claimed invention, which an ordinary artisan might supplement to make the whole, or that it includes multiple, distinct teachings that the artisan might somehow combine to achieve the claimed invention.*” (emphasis added)). Those elements must be arranged or combined in said reference in the same way as they are in the patent claim.

If a prior art reference does not expressly set forth a particular claim element, it still may anticipate the claim if the missing element is inherently disclosed by said reference. *Trintec Indus., Inc. v. Top-U.S.A. Corp.*, 295 F.3d 1292, 1295 (Fed. Cir. 2002); *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999). Inherent anticipation occurs when “the missing descriptive material is ‘necessarily present,’ not merely probably or possibly present, in the prior art.” (*Id.*); *see also Rhino Assocs. v. Berg Mfg. & Sales Corp.*, 482 F. Supp.2d 537, 551 (M.D. Pa. 2007). In other words, inherency may not be established by probabilities or possibilities. *See Continental Can*, 948 F.2d at 1268. Thus, “[t]he mere fact that a certain thing may result from a given set of circumstances is not sufficient.” *Id.*

The critical question for inherent anticipation here is whether, as a matter of fact, practicing an alleged prior art reference necessarily features or results in each and every limitation of the asserted claim at issue. *See, e.g., Toro Co. v. Deere & Co.*, 355 F.3d 1313, 1320 (Fed. Cir. 2004). Such is the case even if one of ordinary skill in the art would not have

recognized said inherent anticipation at the time of the invention of the '829 Patent. *Id.* at 1320-21.

If there are “slight differences” between separate elements disclosed in a prior art reference and the claimed invention, those differences “invoke the question of obviousness, not anticipation.” *NMI*, 545 F.3d at 1071; *see also Trintec*, 295 F.3d at 1296 (finding no anticipation and stating that “the difference between a printer and a photocopier may be minimal and obvious to those of skill in this art. Nevertheless, obviousness is not inherent anticipation.”). Statements such as “one of ordinary skill may, in reliance on the prior art, complete the work required for the invention,” and that “it is sufficient for an anticipation if the general aspects are the same and the differences in minor matters is only such as would suggest itself to one of ordinary skill in the art,” *actually relate to obviousness*, not anticipation. *Connell*, 722 F.2d at 1548; *see infra*.

### **1. The Barth I Patents**

Respondents argue that the asserted claims of the Barth I Patents are anticipated by the following references: U.S. Patent No. 5,319,755 (“Farmwald”) and U.S. Patent No. 6,748,507 (“Kawasaki”). (RIB at 52.)

#### **a) Farmwald**

Respondents argue that Farmwald anticipates the asserted claims of the Barth I Patents. Rambus argues that Farmwald does not anticipate the Barth I Patents because it fails to disclose or suggest the strobe signal of the '353 and the '405 Patents and the signal of the '109 Patent. (CIB at 36-43.) Staff agrees that Farmwald does not anticipate the '353 and the '405 Patents, but Farmwald does anticipate the '109 Patent because the '109 Patent requires a “signal” instead of a “strobe signal.” (SIB at 22-25, 57, 59-63.) Thus, the main point of contention between the

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parties is whether Farmwald discloses a “strobe signal” as required by the ‘353 and the ‘405 Patents and a “signal” as required by the ‘109 Patent.

Farmwald was considered by the PTO during the prosecution of each of the Barth I Patents and, as such, Respondents’ and Staff’s burden of proving invalidity is particularly heavy. (JX-3; JX-4; JX-5; Subramanian, Tr. 1156:21-1157:4.) *See McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1353 (Fed. Cir. 2001) (“When no prior art other than that which was considered by the PTO examiner is relied on by the attacker, he has the added burden of overcoming the deference that is due to a qualified government agency presumed to have properly done its job, which includes one or more examiners who are assumed to have some expertise in interpreting the references and to be familiar from their work with the level of skill in the art and whose duty it is to issue only valid patents.”) (citing *American Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1359, (Fed. Cir. 1984)); *Hewlett-Packard Co. v. Bausch & Lomb, Inc.*, 909 F. 2d 1464, 1467 (Fed. Cir. 1990) (particularly heavy burden in establishing invalidity on the same prior art that was examined in the PTO). The ALJ finds that Respondents and Staff have failed to meet this particularly heavy burden of showing by clear and convincing evidence that the asserted claims of the Barth I Patents are anticipated by Farmwald.

**(1) “strobe signal” (the ‘353 and the ‘405 Patent)**

Respondents argue that Farmwald discloses two “strobe signals,” the AddrValid bit 27 and the clock signal. (RIB at 54-55.) For the AddrValid bit 27, Respondents argue that it functions in the same way as the claimed strobe signal, namely the memory device in Farmwald will not initiate sampling if the AddrValid bit 27 is not transmitted with a value of 0. (RIB at 54.) Because of this, Respondents argue that the AddrValid bit 27 is the “strobe signal.” Respondents argue that the bus clock edge specifically identified by the access time value in Farmwald is also

a strobe signal because there is a delay between issuance of the AddrValid bit 27 and the issuance of the write command and data sampling is only initiated on a clock edge (*i.e.*, a transition from low-to-high or from high-to-low) identified by the access time. (RIB at 55-56.)

The claim element requires that “after delaying for the first time period, issuing the strobe signal to the memory device to initiate sampling of a first portion of the data by the memory device.”<sup>8,9</sup> (’353 Patent, Claim 11.) As the ALJ set forth in the *Markman* Order, the “strobe signal” is a timing signal that initiates sampling of a first portion of data by the memory device. (Order No. 12 at 14.) The evidence shows that the AddrValid bit 27 is not a timing signal that initiates sampling of data, as required in the ’353 and ’405 Patents. (RX-310 at 9:41-60, Fig. 4; JX-3, at 8: 57-63, Fig. 9; Subramanian Tr. at 1174:14-21; CX-3900C, Przybylski Rebuttal Stmt. at Q&A 129; Przybylski Tr. at 1595:13-19.) Rather, Farmwald discloses AddrValid bit 27 as being used for collision detection and bus arbitration. (RX-310 at 14:19-24; CX-3900C at Q&A 130.) If two controllers send request packets across the bus at the same time, the requests will collide and “result[] in scrambled request information and neither desired data block transfer.” When such a collision is detected, the controller drives AddrValid 27 high in the last byte of the request packet, indicating that the memory devices should ignore the request. (CX-3900C, Przybylski Rebuttal Stmt. at Q&A 129-131; RX-310 at 9:48-52, 13:7-12, 23-66, 40-46; 14:19-24; Subramanian Tr. at 1184:13-1185:9; Przybylski Tr. at 1572:15-1574:2.) In other words, Farmwald teaches that the AddrValid bit 27 is directed to *whether* a memory device should handle the request at all—not *when* a memory device should initiate sampling as required by the claimed strobe signal.

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<sup>8</sup> Claim 11 requires, *inter alia*, “delaying for a first period of time after issuing the write command.” (’353 Patent, claim 11.)

<sup>9</sup> Claim 11 of the ’405 Patent requires, *inter alia*, “delaying for an amount of time after providing the plurality of control codes; and issuing an external strobe signal to the memory device after delaying for the amount of time, to signal the memory device to sample data, wherein the data is to be written to the array during the write operation.” (’405 Patent, claim 11.)

The AddrValid 27 bit also cannot be the strobe signal because, in the embodiment relied upon by Respondents, Farmwald shows that the AddrValid 27 bit is part of the control information in the request packet and the Barth I specification and claims distinguish control information as separate from information in the request packet. (JX-3, at 8:57-63, Fig. 9; RX-310, 9:41-60, Fig. 4.) Furthermore, the evidence shows that the AddrValid bit 27 could be disabled and omitted and the memory devices in Farmwald could still sample data. (RX-310 at 13:07-12; Przybylski, Tr. 1571:20-25, 1572:15-75:18.) This is further evidence that the AddrValid bit 27 is not the claimed strobe signal – it is not a timing signal that initiates sampling of data.

The clock signal is also not the strobe signal as Respondents claim. The evidence shows that the clock signal in Farmwald is not a timing signal that initiates the sampling of a first portion of data. (Przybylski, Tr. 1559:17-60:07.) The evidence shows that the clock signal lacks “data transfer start information” because it always cycles in a continuous fashion, *i.e.*, before, during and after the availability of valid data for sampling, and thus does not “initiate” the sampling of data when valid data becomes available. (See CX-3900C Q&A 73, 114-17.) Because the clock signal cycles continuously, there is also no delay between the alleged write command (or “control code”), namely AccessType[0], and the “issuing” of the alleged strobe signal, namely the clock signal, as required by the asserted claims of the ’353 and ’405 Patents. (CX-3900C Q&A 104-118; JX-4; RX-310.) Nor is the clock signal “issued” as required by the asserted claims of the ’353 and ’405 Patents. The clock signal continues to rise and fall regardless of the actions of the devices and is not delayed for an amount of time after a write command is issued as required by the asserted claims of the ’353 and ’405 Patents. (CX-3900C Q&A 114-118, 145-146; JX-3; JX-4.)

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Respondents argue that it is not the clock signal in general, but the specific clock edge identified by the access type that is the strobe signal. (RRB at 27.) However, as noted *supra*, the clock edge signal does not contain any “data transfer start information” as required by the ALJ’s claim construction. Rather, the evidence shows that the sampling is initiated based on a specified offset relative to the request packet as a whole. (Przyblyski, Tr. 1564:20-66:17.)

Therefore, the ALJ finds that Respondents have failed to show by clear and convincing evidence that Farmwald discloses the claimed “strobe signal” of the ‘353 and the ‘405 Patent and, as such, Farmwald does not anticipate those patents.

**(2) “signal” (the ‘109 Patent)**

Respondents and Staff argue that the AccessType [1:2] is the claimed “signal” for the ‘109 Patent. (RIB at 60; SIB at 61.) Unlike the “strobe signal,” the “signal” of the ‘109 Patent does not require a delay between the issuance of the write command and the signal. AccessType[1:2] is transmitted from the memory controller to a memory device as part of request packet and indexes an access register, which then contains an access time that specifies when the memory device is to begin sampling data. (Przyblyski, Tr. 1580:08-81:11; 1585:07-93:03; RX-1132C Q&A 170.) Thus, AccessType [1:2] indicates when memory device is to begin sampling data responsive to a request packet as required by the “signal” in the ‘109 Patent.

As an initial matter, the ALJ notes that the Examiner *did* consider the AccessType bits specified in the request packet of Figure 4 in initially rejecting claims of the ‘109 Patent and expressly cited to it in the Office Action. (JX-10, at R-ITC-00015717; Subramanian Tr. at 1188:22-89:4, 1193:1-95:17.) The PTO considered what Respondents and Staff contend anticipates the asserted claims of the ‘109 Patent and did not reject those claims. As such, Respondents and Staff’s burden are particularly heavy.

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Staff argues that the claims of the '109 Patent differ from those of the '353 and the '405 Patent in three ways, which is the basis for why Farmwald invalidates the '109 Patent and not the '353 and the '405 Patent: (1) a “signal” is not limited a timing signal; (2) the claims do not require the signal to “initiate sampling” but to indicate when to begin sampling; and (3) the claims do not require a delay between the issuance of the write command and the signal.

Claim 1 of the '109 Patent recites, *inter alia*, “providing control information to the memory device, wherein the control information includes a first code which specifies that a write operation be initiated in the memory device” and “providing a signal to the memory device, wherein the signal indicates when the memory device is to begin sampling write data.” (JX-5 at claims 1.)<sup>10</sup> The evidence shows that the AccessType[1:2] bits includes control information and that this AccessType[1:2] bit cannot be selected and sent separate from the request packet embodied in Figure 4. (Subramanian Tr. at 1174:14-1176:2, 1188:11-21; RX-310, Farmwald '755 at 6:37-40, 9:41-60, Fig. 4; JX-3, 6:60-63, 8:59-67, 10:27-37, Fig. 9.)

Respondents and Staff argue, however, that the first bit of the AccessType field in Figure 4, AccessType[0], is the “first code which specifies a write operation” and the second two bits, AccessType[1:2], are the claimed “signal.” (RIB at 60-61; SIB at 62.) However, the evidence shows that Farmwald describes that the entire AccessType[0:3] field of Figure 4 as “an op code (operation code) which, for example, specifies the type of access.” (RX-310 at 9:57-60.) Farmwald teaches that read or write operations can be performed on the memory array within the

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<sup>10</sup> Independent claim 12 requires, *inter alia*, “providing a plurality of operation codes to the memory device, wherein the operation codes include a first code which specifies that a write operation be initiated in the memory device” and “providing a signal to the memory device, wherein the signal indicates when the memory device is to begin receiving write data to be written during the write operation.” ('109 Patent, claim 12.)

Independent claim 20 requires, *inter alia*, “providing control information to the memory device, wherein the control information includes a first code which specifies that a transfer operation be initiated with the memory device” and providing a signal to the memory device, wherein the signal indicates when the memory device is to being the transfer operation.” ('109 Patent, claim 20.)



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memory device or on a control register within the memory device. In Figure 4, all four AccessType bits are required to specify the type of operation to be performed. Thus, AccessType [0] bit cannot be considered “separate and apart” from AccessType [1:2] bits. Instead, a write operation to the array with AccessType bits [0:3] is not fully specified without all four bits and the evidence shows that those bits cannot be split apart in the manner advocated by Respondents and the Staff. (Subramanian, Tr. 1174:11-1175:15; Przyblyski, Tr. 1556:19-1557:16, 1569:10-24; CX-3900C at Q&A 81-84; 161-163.) Indeed, if just the first bit was used, as contended by Respondents and the Staff, that bit by itself would not indicate, for example, whether the operation applies to the array or the register. (Przyblyski Tr. at 1569:10-1570:10; CX-3900C, at Q&A 83-87; 161-163; RX-310 at 11:45-55.) The claims here are directed to writing to the array, so the first bit would not be sufficient to specify the claimed write or transfer operation – all four bits are necessary to specify the type of access. (CX-3900C at Q&A 163; RX-310 at 9:57-60.) And the same access type field that satisfies the claimed “first code” cannot also satisfy the separate “signal” of the ’109 patent claims.

Thus, the ALJ finds that Farmwald does not disclose or suggest providing control information and separately providing a signal that indicates when the memory will perform an operation such as sampling, as required by the ’109 Patent.

Furthermore, the Barth I Patent teaches away from the embodiment in Figure 4 of Farmwald. The Barth I specification labels as “inflexible” systems in which the “number of clock cycles that elapse between a request packet and the transfer of data specified in the request packet may be determined by a value stored in a register within the DRAM.” (JX-3 at 10:27-34.) The Barth I specification thus characterizes as inflexible the approach embodied in Figure 4 that includes AccessType [1:2] bits. The Barth I specification and the ’109 Patent teach that in order

to correct this inflexibility, the control information should be sent separate from a signal that indicates when the memory device is to begin an action. (JX-2 at 10:20-33; JX-3, at 3:24-25, 8:57-63, 10:27-34; Subramanian, Tr. at 1177:2-1179:9; RX-310 at 6:34-40.) Dr. Subramanian agreed that Respondents' position as to the AccessType [1:2] bits is that what was expressly distinguished in the Barth I specification. (Subramanian Tr. 1190:16-1191:21.)

Therefore, the ALJ finds that Respondents and Staff have failed to show by clear and convincing evidence that Farmwald discloses the claimed "signal" and, therefore, Farmwald does not anticipate the '109 Patent.

**b) Kawasaki**

Respondents argue that Kawasaki anticipates claim 11 of the '353 Patent. (RIB at 62.) Respondents state that Kawasaki discloses each element of claim 11 and that Dr. Przyblyski has offered no opinion that Kawasaki does not disclose said element.<sup>11</sup> (RIB at 62-63.)

Rambus argues that Kawasaki does not anticipate the Barth I Patent because it does not disclose a strobe signal or signal as required by the Barth I Patents and also does not disclose a delay between the write command and issuance of the signal as required by the '353 and the '405 Patents. (CIB at 44-47.) Staff agrees. (SIB 27-28, 57, 63.)

The ALJ finds that, by simply making cursory assertions and conclusory arguments that consist of two sentences per claim element, Respondents have blatantly failed to meet the clear and convincing standard necessary to invalidate claim 11 of the '353 Patent based on anticipation.<sup>12</sup> *NTP, Inc. v. Research in Motion, Ltd.*, 418 F.3d 1282, 1325 (Fed. Cir. 2005) (in

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<sup>11</sup> Respondents cite to their findings of fact. Permitting Respondents to present their anticipation arguments based on conclusory sentences without providing any analysis ("Kawasaki discloses 'A method of controlling a memory device that includes a plurality of memory cells.' (RPF 658-661).") is tantamount to allowing the parties to circumvent the page limitation for the post-hearing briefs set by the ALJ.

<sup>12</sup> In contrast, Respondents provided a detailed anticipation analysis for the Ware Patents in light of *Coteus*. (*See* RIB at 19-27.)

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affirming a district court ruling that the evidence was conclusory and failed to analyze and explain the claim language and which components of the prior art embodied each element of the asserted claims, the Federal Circuit stated “[w]e agree with the district court that “such conclusory evidence is hardly enough to meet RIM’s high burden of clear and convincing evidence with respect to anticipation and obviousness.”); *see also Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1328 (Fed. Cir. 2008) (“‘Convince’ is the operative word, because if the court is not persuaded by clear and convincing evidence that Gennum is correct, Gennum has failed to carry its ultimate burden of persuasion; and its defense of invalidity, based on anticipation by the Elantec art, fails.”) Here, Respondents summarily state Kawasaki contains the asserted element without any explanation or analysis, including failing to state what element in Kawasaki actually meets the asserted element, and that Rambus’s expert has not stated otherwise. Such cursory and conclusory language fails to show by clear and convincing evidence that the claim 11 of the ‘353 Patent is anticipated. Furthermore, regardless of whether Rambus made any contrary argument, Respondents still carry the burden of proving anticipation by clear and convincing evidence.

Nevertheless, even if the ALJ were to consider Respondents’ argument, the evidence shows that Kawasaki fails to disclose the claimed “strobe signal” to the memory devices. (RX-248, 17:10-12, 16:56-59, Figure 8; *see also* Przybylski, Tr. 1624:02-15, 1627:6--28:02; Subramanian, Tr. 1200:06-12; 1216:09- 1218:12; 1219:15-1220:6; CX-3900C, Przybylski Q&A 69, 190-203.) Therefore, the Respondents have failed to show by clear and convincing evidence that claim 11 of the ‘353 Patent is anticipated.

## **2. The Ware Patents**

Respondents argue that the asserted claims of the Ware Patents are anticipated by the

following references: U.S. Patent No. 6,292,903 (“Coteus”) and U.S. Patent No. 6,226,757 (“Intel Ware Patent”). (RIB at 19.)

**a) Coteus**

Respondents argue that Coteus anticipates the asserted claims of the Ware Patents. (RIB at 19-20.) Respondents argue that Coteus discloses the same problem in the same system topology being overcome in the same way as described in the Ware Patents. (RIB at 20.) Specifically, Respondents argue that Coteus discloses a system in which a control signal path is shared by a plurality of memory devices in a fly-by path, *i.e.*, a shared path that travels serially past memory devices one after another. (RIB at 20.) Staff agrees that Coteus anticipates the asserted claims of the Ware Patents. (SIB at 71-84; 101-105.)

Rambus argues that Coteus does not anticipate the Ware Patents because it addresses problems relating to data path length and fails to teach clock line length compensation because the clock line lengths are all the same. (CIB at 50-56.) Rambus further argues that Coteus fails to disclose the timing differences along a control signal path that connects a plurality of memory devices and the circuitry that accounts for those delays. (CIB at 56.) This failure is based on the following reasons: it is improper to read Figure 2 of Coteus as showing a physical implementation of the clock line; Respondents’ and Staff’s analysis of Coteus and JEDEC standards is simplistic and factually inaccurate; the terms “fly-by” and “multi-drop” are not synonymous and interchangeable as Respondents and Staff incorrectly assert; and Coteus does not disclose a “control transmit circuitry” or “timing circuitry”. (CIB at 56-67.)

In other words, the parties’ dispute focuses on whether Coteus discloses the control transmit circuitry in a “fly-by” topology and a timing circuitry limitation that compensates for skew inherent in a fly-by topology as covered by the asserted claims of the Ware Patent. As

discussed below, the ALJ finds that Respondents have shown by clear and convincing evidence that the asserted claims of the Ware Patent are anticipated by Coteus.

**(1) “Memory controller” limitation (claim 7)**

The evidence shows that Coteus discloses a memory controller as shown in Figures 1 and 2a, 2b, which depict a memory controller 1 electrically connected to a plurality of memory devices  $D_1$ - $D_n$ . (RX-247, Figures 1 and 2a, 2b; RX-1132C, Subramanian Q& A 26, 52, Subramanian, Tr. 918:17-20, 918:25-19:04, 920:8-11.) Rambus does not dispute that Coteus discloses a memory controller. (CIB at 50-67.) Therefore, the ALJ finds that Coteus meets the “memory controller” limitation.

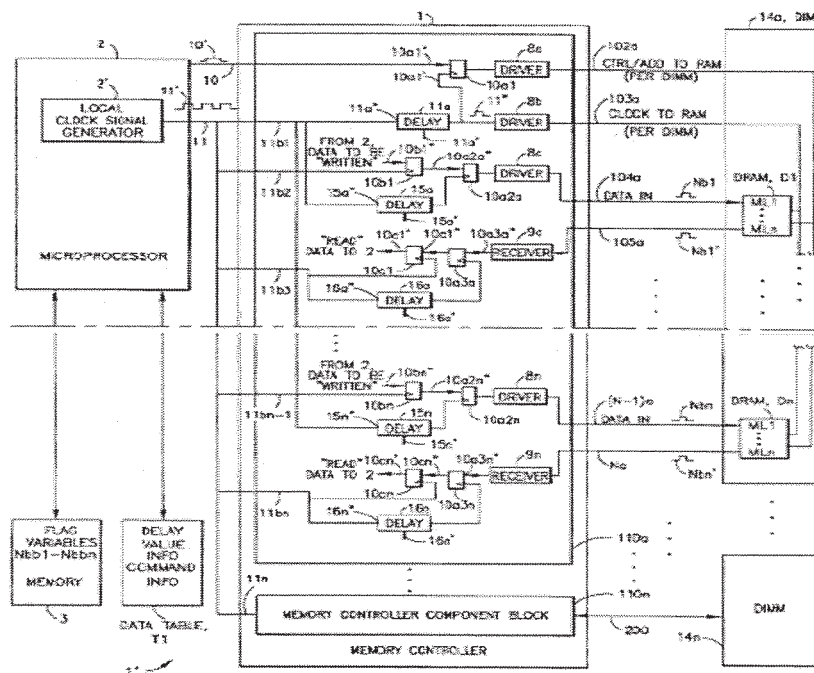
**(2) “control transmit circuitry” limitation (claim 7)**

Rambus argues that interpreting clock line 103a of Figure 2 of Coteus as the claimed control signal path “requires ignoring almost every other line drawing” and inconsistently “infer[s] physical meaning” to the drawing, *e.g.* certain portions of the same drawing are depicted as physical implementations while other portions are not. (CIB at 57-58.) In essence, Rambus argues that the drawings of Coteus are not detailed enough to determine whether Coteus discloses a fly-by topology. Rambus further argues that for the same reason, *i.e.*, the lack of detail in Coteus, the comparison between Figure 2 of Coteus and Figure 2 of the Ware Patents is overly simplistic and inaccurate. (CIB at 62-63.) Finally, Rambus argues that the use of “multi-drop” in Coteus is not synonymous with “fly-by” in the Ware Patents since in the context of Coteus and as used by the assignee of Coteus, multi-drop refers to multiple drops to different DIMMs and not to different memory devices. (CIB at 63-65.) The ALJ finds Rambus’s arguments unpersuasive.

The evidence shows that Coteus discloses a fly-by topology and associated control transmit circuitry as called for in claim 7 of the Ware Patents. Coteus discloses a control

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transmit circuitry 8a and 8b. (RX-247 (Coteus), Figure 2, CX-1132C at Q&A 27 & 52.) Coteus further discloses fly-by topology connecting a memory controller 1 to a plurality of memory devices  $D_1$ - $D_n$  with shared paths 102a and 103a in Figure 2 (Figures 2a, 2b in combination):



(RX-247 (Coteus), Figure 21 RX-3321C at Q&A 28 & 52.) As shown above, Coteus discloses a shared “Clock To RAM” path 103a and a shared “Ctrl/Add To RAM” path 102a (Ctrl and Add corresponding to “control” and “address” respectively) which electrically connect the memory controller 1 to the plurality of memory devices  $D_1$ - $D_n$  such that signals propagated thereon take progressively longer to reach each successive memory device until terminating with the final memory device  $D_n$ , *i.e.*, a fly-by topology. (Subramanian, Tr. 1206:02-16; RX-247 (Coteus) at 5:18-25; RX-1132C at Q&A 28-29.) While specification describes a “multi-drop” architecture with respect to path 102a, the figures and specification in Coteus show that they have effectively the same meaning as to what is understood in the art to be a fly-by topology. (RX-247, 5:19-23, Figures 1, 2a and 2b; Subramanian, Tr. 822:20-23:02, 939:13-40:12, 940:16-24; RX-1132C, Subramanian Q&A 28, 30-31.) In addition, the evidence shows that a CIP application in the

Ware Patent family similarly uses the term “multi-drop” to describe the claimed fly-by topology and, as such, evidences that these terms have overlapping meaning for purposes of the asserted Ware Patents and Coteus. (RX-170, ¶379; Przybylski, Tr. 1539:08-42:12 (discussing RX-170).)

Furthermore, a side by side comparison of Coteus Figure 2 and Figure 2 of the Ware Patents clearly shows that the depiction of the fly-by topology allegedly covered by the “control circuitry limitation” of claim 7 is strikingly and unquestionably similar to that of Coteus:

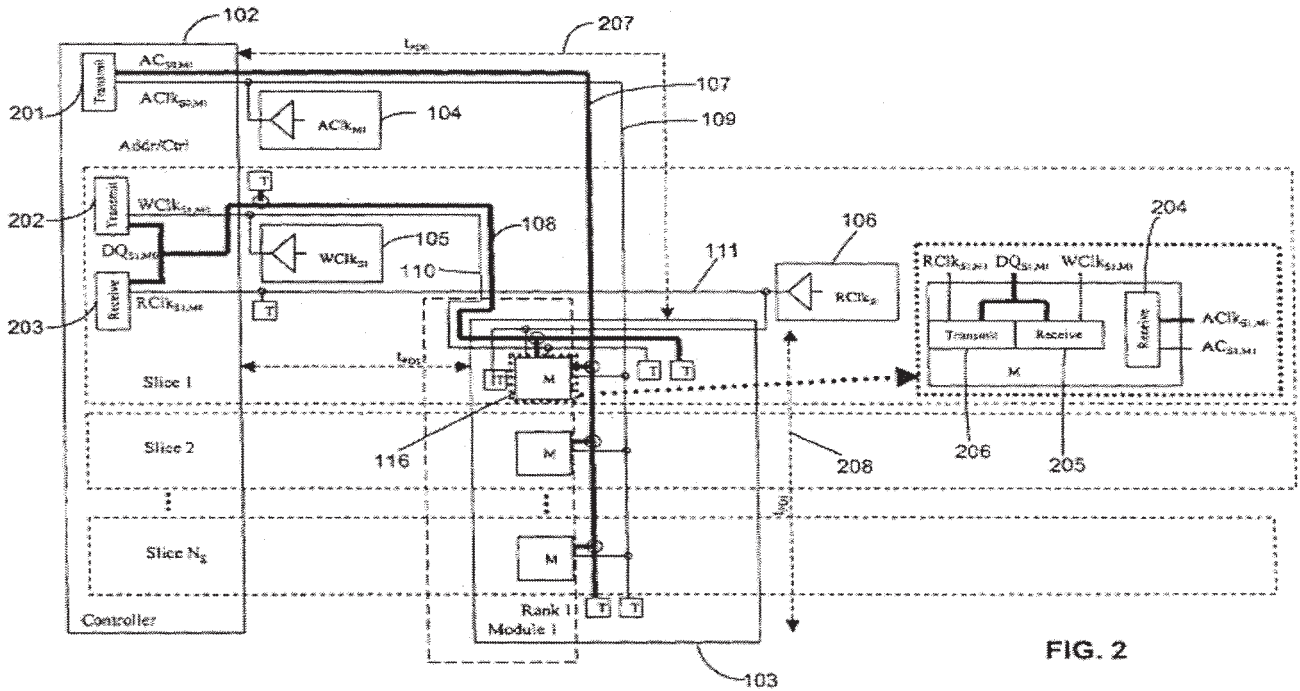
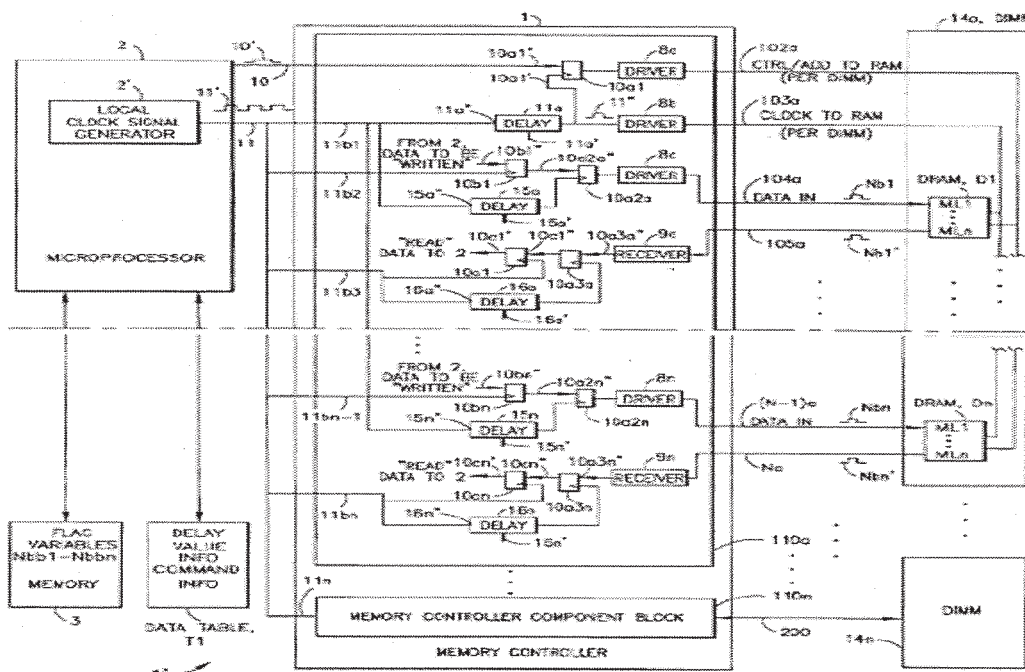


FIG. 2

(the '998 Patent, Figure 2.)





(RX-247, Figure 2.) As illustrated in Figure 2 of the Ware Patents, shared paths 107, 109 electrically connect the memory controller to the plurality of memory devices 116 such that signals propagated thereon take progressively longer to reach each successive memory device until terminating with the final memory device. (JX-1, Figure 2.) Thus, Figure 2a, 2b from Coteus matches Figure 2 (and others) from the Ware Patents in their illustration of the fly-by topology called for in “control circuitry limitation” of claim 7. (See also RIB at 23, Figure 3.) The ALJ finds that Figure 2 of Coteus discloses a “control transmit circuitry to transmit a control signal to a plurality of memory devices,” (driver 8a and driver 8b and registers 10a1 and 11a that transmits clock signal 103a and other control signals 102a to the memory devices  $D_1$  through  $D_n$ ); “via a shared control signal path,” (clock signal 103a and control/address bus 102a in FIGS. 2a and 2b of the Coteus patent); “the shared control signal path being coupled to each of the memory devices at a different point along its length” (clock signal path 103a and control signal path 102a are coupled to memory devices  $D_1$  through  $D_n$  at different points along their respective

paths); “such that respective times required for the control signal to propagate from the memory controller to the memory devices are different,” (buses 102a and 103a).

As for Rambus’s argument that Coteus is not detailed enough to determine whether it discloses a fly-by topology and it is improper to inconsistently “infer[s] physical meaning” to the drawings, the ALJ finds that Coteus sufficiently discloses and teaches fly-by topology despite not being drawn to scale and not disclosing specific lengths for wires. As set forth above, Figure 2 of Coteus and its specification describe in sufficient detail the system layout and basic routing of Coteus. Furthermore, the evidence shows that one ordinary skill in the art could understand the topology disclosed in Coteus, despite it not using the term “fly-by” specifically and despite there being no specific trace lengths disclosed. (Subramanian, Tr. 941:21-24; 950:20-951:15;965:18-24; 980:19-981:16.)

The ALJ further finds that the multi-drop topology described in Coteus and other prior art references to be the same as the fly-by topology described in the Ware Patents. The evidence shows that the term “fly-by” is relatively recent and was not even in use at the time of the filing of the Ware Patents so whether the topology depicted in Coteus is actually termed “fly-by” is as relevant as the fact that the Ware Patent never uses the term “fly-by” – regardless of the actual “name” of the topology, the evidence shows that both Coteus and the Ware Patents disclose similar topologies. (CX-11321C at Q&A 31; Przyblyski, Tr. 1473:22-23; CX-440C (Przyblyski) at Q&A 615.) Indeed, even the inventors of the Ware Patents referred to a similar topology as “multi-drop.” (RX-170 ¶379 (Rambus CIP patent application related to the asserted Ware patents and filed by the same inventors in the same year as the original Ware patent, describing Fig. 2 of the asserted Ware patents as having a “multi-drop topology.”).)

Therefore, the ALJ finds that Coteus discloses the “control transmit circuitry” limitation of claim 7.

**(3) “data receive circuitry”/“data transmit circuitry” limitations (claim 7)**

The evidence shows that Coteus discloses the “data receive circuitry” limitation of claim 7 of the ‘998 Patent as shown by the receiver 9a and 9n in Figure 2 of Coteus. (RX-247, Figure 2a, 2b, 9:36-47; Subramanian, Tr. 1206:22-07:07; RX-1132C, Subramanian Q&A 53.) As Coteus explains, a plurality of receivers are used to receive data from the memory devices  $D_1$ - $D_n$  via respective, dedicated data signal paths 105a-105n, which is what is called for in claim 7. (RX-247, Figure 2a, 2b, 9:07-10, 9:36-47, 9:51-55, 5:30-35; Subramanian 1207:04-07; RX-1132C, Subramanian Q&A 54.)

The evidence also shows that Coteus discloses “data transmit circuitry” limitation of claim 7 of the ‘016 Patent as shown by driver 8c and 8n of Figure 2 of Coteus. (RX-247, Figures 2a, 2b, 8:66-9:20; RX-1132C, Subramanian Q&A 37-38; Subramanian, Tr. 1207:04-18.) As shown in the complete Figure 2, Coteus includes a plurality of drivers 8c and 8n that transmit data to the memory devices  $D_1$ - $D_n$  via respective, dedicated data signal paths 104a-104n as claimed. (RX-247, Figures 2a, 2b, 5:30-35, 8:66-9:05; RX-1132C, Subramanian Q&A 37-38<sup>13</sup>; Subramanian, Tr. 920:24-21:09, 921:16-24, 922:03-17; 1207:04-18.)

Rambus does not dispute that Coteus discloses a “data receive circuitry” and “data transmit circuitry.” (CIB at 50-67.) Therefore, the ALJ finds that Coteus discloses a “data receive circuitry” and a “data transmit circuitry”.

**(4) “timing circuitry” limitation (claim 7)**

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<sup>13</sup> In Q&A 38, Dr. Subramanian mistakenly refers signal paths 105a through Na as the dedicated signal paths. However, based on the Figures and specification of Coteus, the lines used to transmit the data signals is 104a through Na. (RX-247, Figures 2a, 2b, 8:66-9:20.)

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Rambus argues that Coteus fails to disclose the “timing circuitry” limitation because it fails to disclose a control transmit circuitry; any differences in the arrival clock signals at the memory devices do not exist or are too small to be adjusted; and the algorithm cited by Respondents to compensate for the delays fails because it only does so for clock line 103a and not for a single shared control signal path. (CIB at 66-67.)

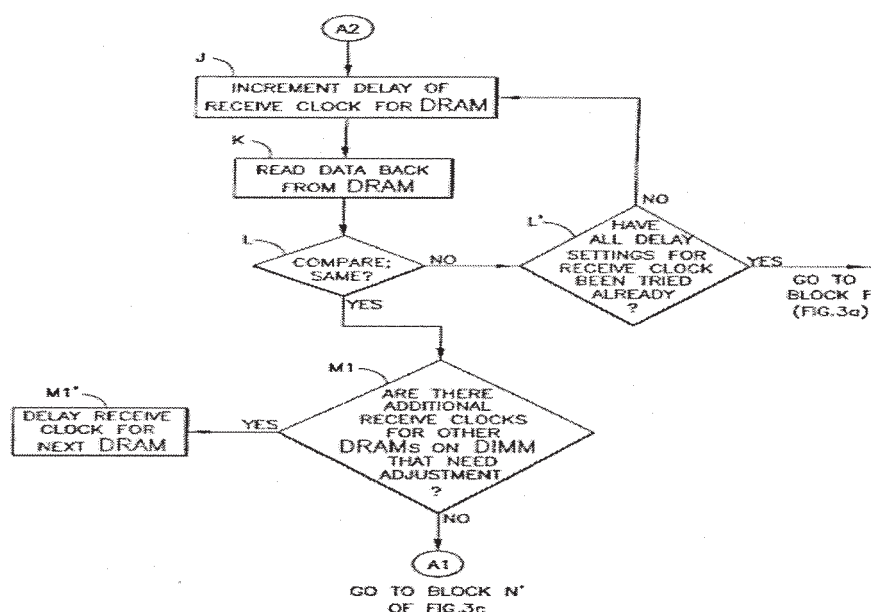
The evidence shows that Coteus discloses timing circuitry that delays the transmission or reception of the data signals by a respective time. Coteus discloses delay elements 15a-15n that delay transmission of data signals on data paths 104a-104n for a period of time that is based on an data adjust procedure (algorithm) disclosed in Coteus. (RX-247, Figure 2a, 2b, 17:29-62; RX-1132C, Subramanian Q&A 39-40; Subramanian, Tr. 922:24-23:21.) Similarly, Coteus also discloses delay elements 16a-16n that delays reception of data signals received on respective, dedicated data paths 105a-105n for a period of time that is based on a data adjust procedure (algorithm) disclosed in Coteus. (RX-247, Figure 2a, 2b, 17:29-62; Subramanian, Tr. 923:08-15, 926:19-27:09, 928:08-29:16; RX-1132C, Subramanian Q&A 55-56.) Thus, the evidence shows that Coteus discloses timing circuitry that delays the reception or transmission of data signals for a respective time interval as is analogous to claim 7 of the Ware Patents.

The evidence further shows that Coteus also discloses delaying reception “by a respective time interval that is based, at least in part, on the time required for the control signal to propagate on the control signal path from the memory controller to a respective memory device of the memory devices.” (JX-1, 56:52-56.) As set forth above, Coteus discloses delay elements 15a-15n and 16a-16n that delay transmission and reception of data signals, respectively. The delays in these elements are programmed based, at least in part, on the propagation time of the clock

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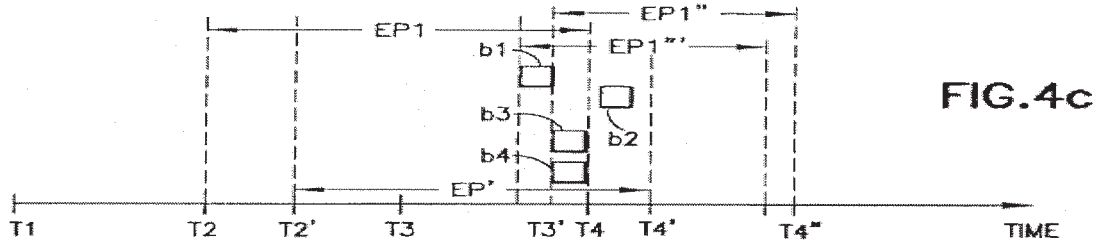
signal 11' on clock signal path 103a and, thus, Coteus discloses a read-leveling and write-leveling function.

As shown in Figures 3b and 4c, Coteus discloses a read-leveling function. The delay elements 16a-16n are programmed by an algorithm that is based, at least in part, on the propagation time of a clock signal on shared clock path 103a to each individual memory device. (RX-247, Figures 2a, 2b; RX-11321C at Q&A 56-58; Subramanian, Tr. 1210:22-25.) Specifically, Coteus depicts an exemplary read-leveling function in Figure 3b:



(RX-247, Figure 3b, 12:61-14:24; Subramanian, Tr. 1211:1-22.) More specifically, Figures 3b and 4c depict steps J, K, L, and L' of a read-leveling function that individually increment a delay of a receive clock for each of the DRAMs  $D_1$ - $D_n$  such that the bits b1-b4 are all received within an enablement period EP of the memory controller.

As set forth in Figure 4c below, when this read-leveling function is running, the amount of delay is gradually adjusted until data is properly read by the memory controller 1 from the DRAMs  $D_1$ - $D_n$ :



(RX-247, Figure 4c, 13:63-14:24, RX-1132C at Q&A 57-58.) Namely, adjusting the local clock within the memory controller 1 as part of the read-leveling function of Figure 3b temporally moves the enablement period “EP” for the memory controller’s registers, the moving enablement period being represented by EP1, EP’, EP1’’ and EP1’’’ shown in Figure 4c (EP’ and EP1 occur while searching for a minimum delay, and EP’’ and EP1’’’ occur while searching for a maximum delay). (*Id.*) Coteus adjusts the enablement period of the memory controller 1 by manipulating delay elements 16a through 16n of Figure 2 using the method of Figure 3b to thereby compensate for varying data arrival times from the DRAMs until all of bits b1-b4 appear within the enablement period of the memory controller 1 as shown in Figure 4c. (*Id.*)

The varying data arrival times that Coteus’s read-leveling function compensates for are based at least in part on the propagation time to each memory device of the clock signal on shared clock path 103a. (Subramanian, Tr. 1212:09-20.) Each memory device  $D_1$ - $D_n$  in Coteus transmits data back to the memory controller 1 based on when the respective device receives a clock signal from the memory controller 1. (*Id.*; RX-1132C, Subramanian Q&A 58.) As Dr. Subramanian explained:

The timing of the delayed clock is based on the time at which data arrives at the controller, and the arrival time of that data is determined by the time at which the data is sent by the memory device. Since the memory device sends the data when it receives a clock signal edge along the shared clock bus 103a, the delay on the receive side is calibrated based on the propagation time of the clock signal to the memory device. If the clock signal edge arrives at the memory device later, such as with DRAM  $D_n$ , the data will arrive at the controller later, and the delay will have to be larger to grab the data at the right time, and *vice versa*.

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(RX-1132C at Q&A 58.) Thus, there is a direct relationship between the data transmission time from the memory devices  $D_1$ - $D_n$ , the data reception time at the memory controller 1, and the clock signal reception time at the memory devices  $D_1$ - $D_n$ . Thus, any variation of when the clock signal is received by the memory devices  $D_1$ - $D_n$  necessarily results in a similar variation of when data is received from the memory devices  $D_1$ - $D_n$  by the memory controller 1. It follows that Coteus's read-leveling function for adjusting the enablement period based on the actual arrival time of bits b1-b4 must necessarily be based, at least in part, on when the clock signal is received by the memory devices  $D_1$ - $D_n$  and they begin the process of transmitting data back to the memory controller 1.

Thus, as set forth above, the ALJ finds that Coteus delays reception based, at least in part, on the time required for a control signal to propagate on a shared control signal path from the memory controller to the memory devices.

In a similar manner, Coteus also discloses a "write-leveling" function as shown in Figures 3c and 4d. The delay elements 15a-15n are indeed calibrated based, at least in part, by an algorithm that is based, at least in part, on the propagation time of a clock signal on shared clock path 103a to each individual memory device. (RX-247, Figure 3c; RX-1132C, Subramanian Q&A 40-42.) Specifically, Coteus depicts an exemplary write-leveling function in Figure 3c:



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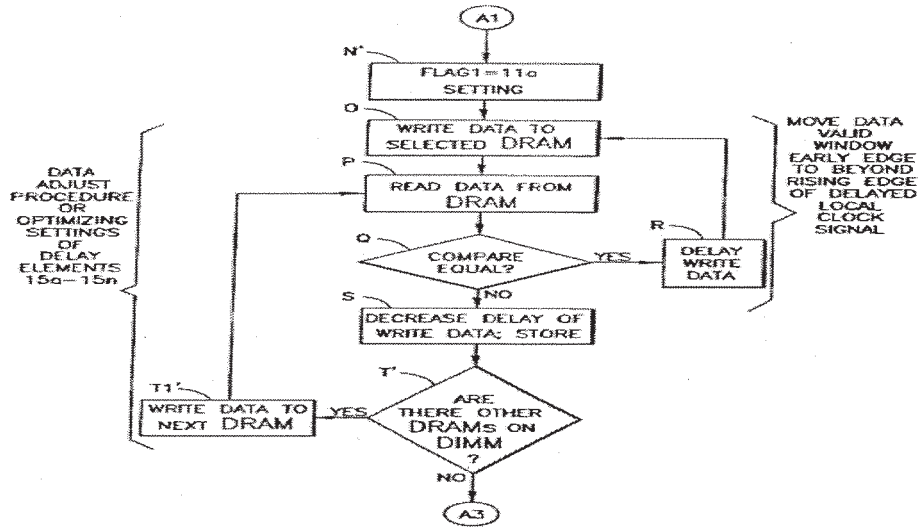


FIG. 3c

(RX-247, Figure 3c; 17:6 -18:15.) More specifically, Figures 3c and 4d depict steps Q, R, S, and T' of a write-leveling function which adjust a delay of a transmit clock for data transmitted by the memory controller 1 to each of the DRAMs  $D_1$ - $D_n$ .

When this write-leveling function is running, the amount of delay is gradually adjusted until data is properly written to the DRAMs  $D_1$  through  $D_n$  from the memory controller 1.

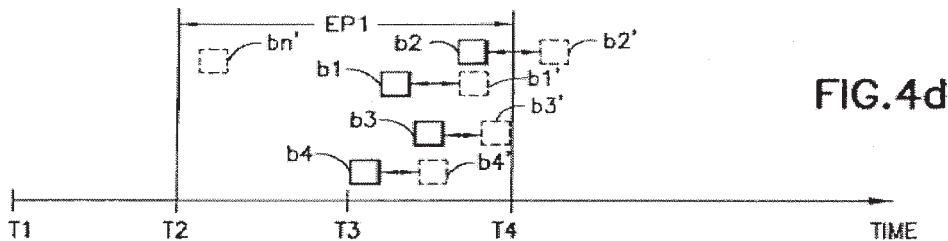


FIG. 4d

(RX-247, Figure 4d, 16:52-56; RX-1132C at Q&A 41-42.) As shown in Figure 4d above, bit  $b_2'$  is problematic because it was received by the memory device outside of the enablement window (EP1) of that device. (*Id.*) In other words, bit  $b_2'$  was received by the memory device on a dedicated data path too late relative to when the clock edge was received on the shared clock path, since the outer limit of acceptable arrival time is time  $T_4$ . Bits  $b_1'$ ,  $b_3'$ , and  $b_4'$  were all properly received by the memory device in EP1 (between times  $T_2$  and  $T_4$ ) relative to when the

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device received the clock edge. (*Id.*) Thus, there is a “write error” with respect to bit 2’, but not with respect to bits b1’, b3’, and b4’. (RX-247, 16:67-17:01.) To correct this write error, Coteus implements the write-leveling function of Figure 3c whereby the delay elements 15a through 15n are calibrated by decreasing the delay values to a memory device so that all of the data bits will arrive during the enablement period for that particular memory device. (RX-247, 15:63-17:63; RX-1132C at Q&A 42.) In other words, Coteus’s write-leveling function realigns data transmission from the memory controller 1 to the memory devices D<sub>1</sub>-D<sub>n</sub> (by adjusting the data transmission delay) such that bits b1’-b4’ are realigned as bits b1-b4 to all appear within the enablement period EP1 of the memory device. Because the enablement period EP1 is defined by when the clock signal is received by memory devices D<sub>1</sub>-D<sub>n</sub> via shared path 103a and because the data transmission delay is based, at least in part, on that enablement period EP1, Coteus’s write-leveling function is based at least in part on clock propagation time via shared path 103a.

Rambus argues, however, that Coteus the differences in the arrival clock signals at the memory devices do not exist or are too small to be adjusted and the algorithm fails to compensate for the delays as required by the claims of the Ware Patents because it only does so for clock line 103a and not for a single shared control signal path. (CIB at 66-67.) Rambus argues that Coteus does not disclose any delay difference because the clock signal is delivered at the same time and that if there is a delay difference, the delay difference on shared paths 102a and 103a the delay “do not exist or are too small” to be considered to be different. (CIB at 50-54, 66.) However, there is nothing in the asserted claims of the Ware Patent that quantifies how “different” delay must be and Rambus points to nothing in the specification or prosecution history that would require reading such a limitation into the claims. (JX-1; JX-2; JX-6; JX-7.) Rather, the plain language of the claims and the intrinsic record merely require that “the

respective times required for the control signal to propagate from the memory controller to the memory device are different.” (JX-1, JX-2, claim 7.)

Thus, the evidence shows that “different” simply means “different” and there is no quantitative qualifier in the asserted claims of the Ware Patents. When properly construed, the asserted Ware Patent claims simply require that there be a configuration resulting in a memory device to memory device “difference” in propagation time along a shared control signal path that is compensated for using the recited read- or write-leveling processes of the ‘998 and ‘016 Patents respectively. As set forth above, Coteus discloses such a configuration and associated processes at least in the embodiment of Figures 1, 2a, 2b, 3b, 3c, 4c and 4d.

Rambus further argues that Coteus discloses a “single” enablement period for all of the individual memory devices. (CIB at 54-55.) Such an interpretation is unsupported by the specification in Coteus. Rambus bases its interpretation on certain quotes that are taken out of context and relies on Prior Art Figure 8 in Coteus. (CIB at 52-56.) The evidence shows, however, that Coteus actually discloses distinct enablement periods for each of the memory devices  $D_1$ - $D_n$  as embodied in Figures 1, 2a, 2b, 3b, 3c, 4c and 4d. (RX-247 at 16:18-22, 21:21-23; RX-1132C, Subramanian Q&A 41; Subramanian, Tr. 976:01-78:17.) Figure 2 details signals that serially hit DRAMs  $D_1$ - $D_n$ .<sup>14</sup> Coteus describes a calibration procedure to calculate an individual delay for each DRAM so that data sent to that DRAM arrives in the center of that DRAM’s enablement period. (RX-1132C at Q&A 41-42; *see also* Subramanian, Tr. 977:10-24, 1207:19–1213:6 (Dr. Subramanian describing the how the flow-charts 3b and 3c show an

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<sup>14</sup> Under established inherency case law, there is no requirement that an inherent feature be appreciated to anticipate. *See SmithKline*, 403 F.3d at 1343; *Schering Corp. v. Geneva Pharms.*, 339 F.3d 1373, 1377 (Fed. Cir. 2003); *MEHL/Biophile Int’l Corp. v. Milgraum*, 192 F.3d 1362, 1366 (Fed. Cir. 1999). Because the topology shown in Coteus’s Figure 2 inherently results in “different” propagation times for signals propagated between the memory controller 1 and the memory devices  $D_1$ - $D_n$  on paths 102a and 103a, this limitation is clearly met even if one of ordinary skill in the art would have mistakenly believed that the signals reach the devices at “essentially” the same time.

algorithm to “compensate for both data propagation delays and clock skew.”.) Specifically, delay elements 15a-15n are programmed based on the propagation time of the clock signal 11’ on signal path 103a because the write data is delayed for each DRAM D1-Dn to place the write data at the respective DRAM in the center of an “enablement period” of the DRAM. (RX-247 at 17:51-62, 25:15-31.) Thus, the memory devices D<sub>1</sub>-D<sub>n</sub> as illustrated in Figure 2a, 2b will correspondingly have different enablement periods. Indeed, Rambus’s expert, Dr. Przybylski conceded that “[w]hen a clock pulse reaches D1 on whatever conductor it’s traveling on, that starts the enablement period of DRAM D1.” (Przybylski, Tr. 1502:11-13.)<sup>15</sup>

Thus, as set forth above, the ALJ finds that Coteus discloses delaying data transmission based, at least in part, on the time required for a control signal to propagate on a shared control signal path from the memory controller to the memory devices.

In sum, based on the foregoing analysis, the ALJ finds that Respondents and Staff have shown by clear and convincing evidence that Coteus discloses each and every element of claim 7 of the ‘016 and the ‘998 Patents and, therefore, anticipates claim 7.

#### **(5) Claims 13, 21, and 22**

Claim 13 is a method claim and claims 21 and 22 of the ‘998 and ‘016 Patents are apparatus claims, all of which are substantially similar to claim 7. (See JX-1; JX-2.) Rambus sets forth no separate arguments for these claims. (See CIB at 50-67.) Therefore, for similar reasons as discussed above with respect to claim 7, the ALJ finds that Respondents and Staff have shown by clear and convincing evidence that Coteus anticipates claims 13, 21 and 22 of ‘998 Patent and the ‘016 Patent. (RX-1132C, Subramanian Q&A 46-51; 62-67.)

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<sup>15</sup> Rambus argues that Coteus discloses only clock path signals of equal length to individual DRAMs. (CIB at 55-56.) This argument is a mere rehashing of Rambus’s unsupported contention that there is a single enablement period for each DRAM (i.e., the clock signal should arrive at each DRAM at the same time). Rambus provides no evidence to rebut Coteus’s disclosure of a clock signal that serially traverses multiple DRAMs attached to a common path.

**b) Intel Ware Patent**

Respondents argue that the Intel Ware Patent anticipates the asserted claims of the '998 Patent.<sup>16</sup> (RIB at 28-34.) Respondents argue that the Intel Ware Patent is directed to solving problems with clock skew and discloses the exact type of components and embodiments required by the asserted claims. (RIB at 28-29.)

Rambus argues that the Intel Ware Patent does not anticipate the asserted claims of the Ware Patent because the (1) it discloses a single shared interconnect with delay elements in the memory devices; (2) it does not disclose delay elements in the memory controller; (3) the delay elements are not part of a system with “dedicated,” “respective,” “first” or “second” data buses; and (4) it does not disclose compensating for delays in writing data. (CIB at 67-69.) Staff agrees that the Intel Ware Patent does not anticipate the asserted claims of the Ware Patent primarily because the Intel Ware Patent discloses timing circuitry that is located in the memory devices and not in the memory controller as required by the Ware Patents. (SIB at 84-86.) The ALJ finds that Respondents have failed to prove by clear and convincing evidence that the Intel Ware Patent anticipates the asserted claims of the '998 Patent.

Respondents argue that the Intel Ware Patent teaches the use of delay circuitry to compensate for propagation delays and that this delay circuitry is not limited to being placed on the memory device. (RIB at 28-30.) Respondents further argue that Rambus and Staff requires an unreasonably narrow reading of the Intel Ware Patent, and the Intel Ware Patent teaches that the delay elements can be placed anywhere along the read datapath, which extends off of the

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<sup>16</sup> In its pre-hearing brief, Respondents only raised anticipation arguments in light of the Intel Ware Patent for the '998 Patent. It raised no arguments for the '016 Patent. (*See* Respondents Pre-hearing Brief.) Pursuant to Ground Rules 8(f) and (h), Respondents have waived any arguments that the Intel Ware Patent anticipates the asserted claims of the '016 Patent.

memory device, and further can be used to compensate “any interconnect induced delay variations” including placing timing circuitry in the memory controller. (RIB at 30-31.)

The evidence shows, however, that contrary to Respondents’ arguments, the delay elements and “timing circuitry” in Intel Ware Patent are located in the memory devices and is limited to the memory devices. The Intel Ware Patent describes a method of compensating for delays associated with signals traveling along a communication bus connected to a master device and a plurality of slave devices in a memory system. This communication bus is a shared interconnect that carries address, and control information and data. (RX-845, 11:30-43, 13:39-63, Figs. 29, 30; CX-3900C, at Q&A 523-524.) Along this shared interconnect, delays may exist causing gaps in the transmission of data and reducing the efficiency of the interconnect. (RX-845, 8:50-57, 9:48-56, 13:46-63, Fig. 30; CX-3900C, Przybylski Rebuttal Stmt. at Q&A 523-524.) According to the Intel Ware Patent, “[t]he goal is to achieve a fully packed data interconnect when data is being transferred from transmitter to receiver . . . ,” which is achieved by placing the delay element within the memory devices. (RX-845 at 9:51-53, 13:39-45 Figure 29; CX-3900C, Przybylski Rebuttal Stmt. at Q&A 525; Przybylski Tr. at 1633:4-15.) Placing the delay elements outside the memory device and in the memory controller would eviscerate the Intel Ware Patent’s stated objective of fully packing the shared interconnect. Thus, the Intel Ware Patent does not disclose or suggest the timing circuitry recited in the asserted Ware Patent claims and actually teaches away from it.

Respondents’ argue that since the Intel Ware Patent states that delays “can be done . . . anywhere in the read datapath” and “can be used for any interconnect induced delay variations” then the delay can be placed on the memory controller. However, the evidence shows that the datapath referenced therein refers to the datapath internal to the memory device, and does *not*

extend to the datapath internal to the memory controller as required by claim 7 of the Ware

Patents:

Delaying the read data can be done by placing delay anywhere in the read datapath. *One way* to delay the read data is to delay the start of the column operation by delaying the column control signals to the core; this is called front-end leveling. *The other approach* is to delay the read data at the core output after the data exits the core; this is called back-end leveling.

(RX-845, 14:14-20 (emphasis added); Przybylski, Tr. 1632:2-8 (discussing same).) As Staff and Rambus correctly noted, the language is “closed” in that it describes only two approaches, *i.e.*, “one” approach and “the other” approach. (Przybylski, Tr. 1632:09-33:03.) The specification does *not* use open language, broadly describing “exemplary” approaches or “preferred” approaches. (*Id.* at 1632:16-33:03.) In using closed language to describe only two approaches that both implement delays *internal* to the memory device, the specification makes clear to one of ordinary skill in the relevant art that placing the delay “anywhere” in the read datapath is referring to the datapath *internal to the memory device*. (Przybylski, Tr. 1633:04-15.) Furthermore, Respondents’ argument that Intel Ware Patent teaches placing the delay element in the memory controller is based on combining prior art (Figure 25) and the invention of the Intel Ware Patent. Respondents point to no valid reason as to why one of ordinary skill in the art would seek to combine the invention claimed Intel Ware Patent with the prior art figure and, as such, the ALJ finds Respondents argument unpersuasive.

Therefore, the ALJ finds that Respondents have failed to show by clear and convincing evidence that the Intel Ware Patent fails to disclose implementing the timing circuitry within the memory controller as required by claim 7 of the ‘998 Patent and, as such, fails to anticipate the asserted claims of the ‘998 Patent.

### **C. Obviousness**



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Included within the presumption of validity is a presumption of non-obviousness.

*Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 714 (Fed. Cir. 1984).

Obviousness is grounded in 35 U.S.C. § 103, which provide, *inter alia*, that:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, 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. Patentability shall not be negative by the manner in which the invention was made.

35 U.S.C. § 103(a). Under 35 U.S.C. § 103(a), a patent is valid unless “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(a). The ultimate question of obviousness is a question of law, but “it is well understood that there are factual issues underlying the ultimate obviousness decision.” *Richardson-Vicks Inc.*, 122 F.3d at 1479; *Wang Lab., Inc. v. Toshiba Corp.*, 993 F.2d 858, 863 (Fed. Cir. 1993).

Once claims have been properly construed, “[t]he second step in an obviousness inquiry is to determine whether the claimed invention would have been obvious as a legal matter, 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) secondary considerations of non-obviousness” (also known as “objective evidence”). *Smiths Indus. Med. Sys., Inc. v. Vital Signs, Inc.*, 183 F.3d 1347, 1354 (Fed. Cir. 1999), citing *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). The ultimate determination of whether an invention would have been obvious is a legal conclusion based on underlying findings of fact. *In re Dembiczak*, 175 F.3d 994, 998 (Fed. Cir. 1999).

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Obviousness may be based on any of the alleged prior art references or a combination of the same, and what a person of ordinary skill in the art would understand based on his knowledge and said references. If all of the elements of an invention are found, then:

a proper analysis under § 103 requires, inter alia, consideration of two factors: (1) whether the prior art would have suggested to those of ordinary skill in the art that they should make the claimed composition or device, or carry out the claimed process; and (2) whether the prior art would also have revealed that in so making or carrying out, those of ordinary skill would have a reasonable expectation of success. *Both the suggestion and the reasonable expectation of success must be founded in the prior art, not in the applicant's disclosure.*

*Velder v. Garner*, 348 F.3d 1359, 1363 (Fed. Cir. 2003) (emphasis added) (internal citations omitted).

The critical inquiry in determining the differences between the claimed invention and the prior art is whether there is a reason to combine the prior art references. *See C.R. Bard v. M3 Sys.*, 157 F.3d 1340, 1352 (Fed. Cir. 1998). For example:

*[A] patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. Although common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does. This is so because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known.*

*KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 418-19 (2007) (emphasis added). The Federal Circuit case law previously required that, in order to prove obviousness, the patent challenger must demonstrate, by clear and convincing evidence, that there is a “teaching, suggestion, or motivation to combine. The Supreme Court has rejected this “rigid approach” employed by the

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Federal Circuit in *KSR Int'l Co. v. Teleflex Inc.*, 500 U.S. 398 (2007), 127 S.Ct. 1727, 1739. The Supreme Court stated:

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. *Sakraida* and *Anderson's-Black Rock* are illustrative—a court must ask whether the improvement is more than the predictable use of prior art elements according to their established function.

Following these principles may be more difficult in other cases than it is here because the claimed subject matter may involve more than the simple substitution of one known element for another or the mere application of a known technique to a piece of prior art ready for the improvement. Often, it will be necessary for a court to look to interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. To facilitate review, this analysis should be made explicitly. See *In re Kahn*, 441 F.3d 977, 988 (CA Fed. 2006) (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusions of obviousness”). As our precedents make clear, however, the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.

[...]

The 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. In many fields it may be that there is little discussion of obvious techniques or combinations, and it often may be the case that market demand, rather than scientific literature, will drive design trends. Granting patent protection to advance that would occur in the ordinary course without real innovation retards progress and may, in the case of patents combining previously known elements, deprive prior inventions of their value or utility.

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*KSR*, 550 U.S. at 417-419; 127 S.Ct. at 1740-41. The Federal Circuit has harmonized the *KSR* opinion with many prior circuit court opinions by holding that when a patent challenger contends that a patent is invalid for obviousness based on a combination of prior art references, “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)(citing *Medichem S.A. v. Rolabo S.L.*, 437 F.3d 1175, 1164 (Fed. Cir. 2006)); *Noelle v. Lederman*, 355 F.3d 1343, 1351-52 (Fed. Cir. 2004); *Brown & Williamson Tobacco Corp. v. Philip Morris, Inc.*, 229 F.3d 1120, 1121 (Fed. Cir. 2000) and *KSR*, 127 S.Ct. at 1740 (“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, a suggestion to combine need not be express and may come from the prior art, as filtered through the knowledge of one skilled in the art. *See Certain Lens-Fitted Film Pkgs.*, Inv. No. 337-TA-406, Order No. 141 at 6 (May 24, 2005).

“Secondary considerations,” also referred to as “objective evidence of non-obviousness,” must be considered in evaluating the obviousness of a claimed invention, but the existence of such evidence does not control the obviousness determination. *Graham*, 383 U.S. at 17-18. A court must consider all of the evidence under the *Graham* factors before reaching a decision on obviousness. *Richardson-Vicks Inc.*, 122 F.3d at 1483-84. Objective evidence of non-obviousness may include evidence of the commercial success of the invention, long felt but unsolved needs, failure of others, copying by others, teaching away, and professional acclaim. *See Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 894 (Fed. Cir. 1984), *cert.*

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*denied*, 469 U.S. 857 (1984); *Avia Group Int'l, Inc. v. L.A. Gear California*, 853 F.2d 1557, 1564 (Fed. Cir. 1988); *In re Hedges*, 783 F.2d 1038, 1041 (Fed. Cir. 1986); *Kloster Speedsteel AB v. Crucible Inc.*, 793 F.2d 1565 (Fed. Cir. 1986), *cert. denied*, 479 U.S. 1034 (1987). The burden of showing secondary considerations is on the patentee and, in order to accord objective evidence substantial weight, a patentee must establish a nexus between the evidence and the merits of the claimed invention; a *prima facie* case is generally set forth “when the patentee shows both that there is commercial success, and that the thing (product or method) that is commercially successful is the invention disclosed and claimed in the patent.” *In re GPAC Inc.*, 57 F.3d 1573, 1580 (Fed. Cir. 1995); *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, 851 F.2d 1387, 1392 (Fed. Cir. 1988), *cert. denied*, 488 U.S. 956 (1988); *Certain Crystalline Cefadroxil Monohydrate*, Inv. No. 337-TA-293, Comm’n Op. (March 15, 1990). Once a patentee establishes nexus, the burden shifts back to the challenger to show that, e.g., commercial success was caused by “extraneous factors other than the patented invention, such as advertising, superior workmanship, etc.” (*Id.*) at 1393.

Generally, a prior art reference that teaches away from the claimed invention does not create *prima facie* case of obviousness. *In re Gurley*, 27 551, 553 (Fed. Cir. 1994); *see also Andersen Corp. v. Pella Corp.*, No. 2007-1536, 2008 U.S. App. LEXIS 24087, \*13-18 (Fed. Cir. Nov. 19, 2008); *Certain Rubber Antidegradants*, Inv. No. 337-TA-533 (Remand), Final ID (Dec. 3, 2008) (stating, “KSR reaffirms that obviousness is negated when the prior art teaches away from the invention.”)). However, the nature of the teaching is highly relevant. *Id.* “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.*” *Id.* (emphasis added). For example, “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.” *Id.*

### **1. The Barth I Patents**

Respondents argue that the Barth I Patents are invalid in light of the following prior art alone and/or in combination: U.S. Patent No. 5,319,755 (“Farmwald”); U.S. Patent No. 6,748,507 (“Kawasaki”); Japanese Patent Application (S)57-210495 (“Inagaki”); and JEDEC Standard No. 21-C, Release 4 Configuration for Solid State Memories (“JEDEC Release 4”). (RIB at 52.)

#### **a) Farmwald**

Respondents argue that the Barth I Patents are obvious in view of the TrncvrRW signal of Farmwald. (RIB at 62.) Respondents summarily and conclusorily state that using this signal “in a system having a memory controller and the memory devices directly connected would have been obvious to one of ordinary skill in the art in order to gain the same benefits it provides on the transceiver bus.” (RIB at 62.)

Rambus argues that the Barth I Patents are not obvious because one of ordinary skill in the art would not make the modification proposed by Respondents in order to achieve a strobe signal. (CRB at 14-15.) Staff agrees (SIB at 29-30.)

The ALJ finds that, by simply making cursory assertions and conclusory arguments that consist of a single paragraph, Respondents has failed to meet the clear and convincing standard necessary to invalidate the Barth I Patents in view of Farmwald based on obviousness. *See PharmaStem*, 491 F.3d at 1360 (stating that a patent challenger must “show by clear and convincing evidence that a person of ordinary skill in the art would have had reason to attempt to

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make the composition or device, or carry out the claimed process, and would have had a reasonable expectation of success in doing so.”); *see also Tech. Licensing*, 545 F.3d at 1327 (stating, “When an alleged infringer attacks the validity of an issued patent, [the] well-established law places the burden of persuasion on the attacker to *prove invalidity by clear and convincing evidence*.” (emphasis added)). A person is not entitled to a patent if the differences between the claimed invention 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.” 35 U.S.C. §103. The underlying factual inquiries relating to non-obviousness include: 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) secondary considerations of non-obviousness, such as long-felt need, commercial success, and the failure of others. *See Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). Here, Respondents summarily stated that it would be obvious for one of ordinary skill in the art to make a modification, without any further explanation, and simply concludes that such a modification renders the Barth I Patents obvious. *See NTP, Inc.*, 418 F.3d at 1325; *see also Tech. Licensing Corp.*, 545 F.3d at 1328.

**b) Kawasaki in combination with Farmwald, Inagaki, and/or JEDEC Release 4**

Respondents argue that the asserted claims of Barth I Patents are obvious in light of certain combinations of prior art references Kawasaki, Farmwald, Inagaki and/or JEDEC Release

4. (RIB at 63-71.) Respondents assert the following prior art reference combinations:

- Claim 12 of the ‘353 Patent over Kawasaki in view of the Farmwald or in view of Inagaki
- Claim 11 of the ‘405 Patent over Kawasaki in view of the Farmwald or JEDEC Release 4
- Claims 12 and 13 of the ‘405 Patent over Kawasaki in view of the Farmwald or in view of JEDEC Release 4 Further in view of Inagaki



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- Claims 15 and 18 of the '405 Patent over Kawasaki in view of the Farmwald or JEDEC Release 4
- Claim 1 of the '109 Patent over Kawasaki in view of the Farmwald or Inagaki
- Claims 2, 4, and 5 of the '109 Patent over Kawasaki in view of the Farmwald or Inagaki
- Claims 12 and 13 of the '109 Patent over Kawasaki in view of the Farmwald or Inagaki
- Claims 20, 21, and 24 of the '109 Patent over Kawasaki in view of the Farmwald or Inagaki

In arguing that the Barth I Patents are obvious in light of these prior art reference combinations, Respondents simply state that the prior art reference discloses the quoted claim element, without actually disclosing what element in the prior art satisfies the quoted claim element; occasionally provide a motivation to combine certain prior art reference combinations but does not provide a motivation to combine other prior art reference combinations; and states that Dr. Przyblyski has offered no opinion that the prior art reference does not disclose the quoted claim element. (RIB at 64-71.)

The ALJ finds that, by simply making cursory assertions and conclusory arguments, Respondents have failed to meet the clear and convincing standard necessary to invalidate the Barth I Patents based on obviousness. *See PharmaStem*, 491 F.3d at 1360 (stating that a patent challenger must “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.”); *see also Tech. Licensing*, 545 F.3d at 1327 (stating, “When an alleged infringer attacks the validity of an issued patent, [the] well-established law places the burden of persuasion on the attacker to *prove invalidity by clear and convincing evidence*.” (emphasis added)). A person is not entitled to a patent if the differences between the claimed invention 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.” 35 U.S.C. §103. The underlying factual inquiries relating to non-obviousness include: 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) secondary considerations of non-obviousness, such as long-felt need, commercial success, and the failure of others. *See Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). Here, Respondents seek to invalidate 15 claims in three different patents in only nine pages of argument. (RIB at 63-71.) While the specific number of pages is not dispositive, it is certainly indicative as to how Respondents have clearly not met their burden of clear and convincing evidence. Furthermore, each of the prior art reference combinations involves Kawasaki, which the ALJ found in Section VI.B does not disclose the claimed “strobe signal” of the Barth I Patents and, as such, to the extent that Respondents’ obviousness arguments are dependent on Kawasaki disclosing the claimed “strobe signal,” they must fail.

Therefore, the ALJ finds that Respondents have failed to show by clear and convincing evidence that the asserted claims Barth I Patents are obvious in light of Kawasaki in combination with Farmwald, Inagaki and/or JEDEC Release 4.

## **2. The Ware Patents**

Respondents argue that the asserted claims of the Ware Patents are obvious in light of U.S. Patent No. 6,292,903 (“Coteus”). (RIB at 27-28.) On page 19 of Respondents’ Initial Post-hearing Brief, Respondents argue that the Ware Patents are anticipated by and obvious in view of Coteus and the Intel Ware Patents. However, Respondents never presented any obviousness arguments for the Intel Ware Patents in its Initial Post-hearing Brief. (*See* RIB at 19-34.) Pursuant to Ground Rule 8(f), Respondents have waived any obviousness argument related to the

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Intel Ware Patent. Staff also argues that the asserted claims of the Ware Patents are obvious in light of Coteus. (SIB at 88-89.)

Staff argues that it would have been obvious to one of ordinary skill in the art to modify Coteus to achieve the system and method of the asserted claims of the Ware Patents. (SIB at 88, 106.) Staff argues that Coteus clearly discloses fly-by topology and a method of achieving DRAM-to DRAM propagation delay adjustment and that given the operating speeds of memory devices in 2001 and the need to compensate for the propagation delays, it would have been obvious for one of ordinary skill in the art to implement the systems and methods of the Ware Patents. (SIB at 88-89, 106-107.)

In response, Rambus essentially reiterates its arguments that Coteus does not anticipate the Ware Patents, namely that Coteus does not disclose shared control path compensation, fly-by topology, or the same single enablement period. (CRB at 29-31.) However, for the reasons set forth in Section VI.B, the ALJ finds that Coteus does disclose fly-by topology and a method to compensate for delays in propagation time between memory devices along a shared control path. The evidence also shows that, at the operating speeds of memory devices as of the April 24, 2001 priority date of the asserted Ware Patents, one of ordinary skill in the relevant art would have understood the need to compensate for device-to-device propagation delays on fly-by paths as depicted in Coteus's Figure 2a, 2b. (Subramanian, Tr. 820:10-18, 1215:08-17.) The evidence shows that one of ordinary skill in the relevant art would have understood that the methods disclosed in Coteus would compensate for device-to-device propagation delays that are present on fly-by paths. (Subramanian, Tr. 1214:01-07, 1214:24-15:07.) Therefore, the ALJ finds that Staff has shown by clear and convincing evidence that the asserted claims of the Ware Patents are obvious in light of Coteus.

### 3. Objective Indicia of Nonobviousness

As indicated above, one of the *Graham* factors that must be considered in an obviousness analysis, is “objective evidence of nonobviousness,” also called “secondary considerations.” *See Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1536 (Fed. Cir. 1983) (“Thus evidence arising out of the so-called ‘secondary considerations’ must always when present be considered en route to a determination of obviousness.”). However, 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*, 127 S.Ct. at 1745 (commercial success did not alter conclusion of obviousness).

Rambus argues that that secondary considerations of non-obviousness include commercial success, long felt need, failure of others, copying and praise by others. (CIB at 49; CIB at 70; CRB at 33.) Rambus presents no specific instances of the factors listed above and simply conclusorily states so in a single sentence, then states that Respondents have not rebutted their evidence, and then cites to their findings of fact.<sup>17</sup> The ALJ finds that by simply making a conclusory argument that simply states that Rambus has met the general secondary consideration factors, Rambus has blatantly failed to meet its burden of establishing secondary considerations and failed to establish a nexus between the evidence and the merits of the claimed invention.

#### D. Double Patenting

The double patenting doctrine generally prevents a patentee from receiving two patents for the same invention. Thus, this doctrine polices the proper application of the patent term for

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<sup>17</sup> As noted above in Section VI.B, the ALJ did not permit Respondents to simply cite to their findings of fact. Similarly, permitting Rambus to present their arguments on secondary considerations based on conclusory sentences without providing any analysis (“Here, secondary considerations of nonobviousness include commercial success, long-felt need, failure of others, copying, and praise by others. Each of these secondary considerations, undisputed by Respondents, supports the non-obviousness of the asserted claims of the Barth I patents.’ (CFF-VI.B.410-22.)”) is tantamount to allowing the parties to circumvent the page limitation for the post-hearing briefs set by the ALJ.

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each invention. The proscription against double patenting takes two forms, statutory and non-statutory. Statutory, or “same invention,” double patenting, is based on the language in § 101 of the Patent Act providing for “a patent” for any new and useful invention. 35 U.S.C. § 101 (2000); *In re Goodman*, 11 F.3d 1046, 1052 (Fed. Cir. 1993) (“If the claimed inventions are identical in scope, the proper rejection is under 35 U.S.C. § 101 because an inventor is entitled to a single patent for an invention.”). Non-statutory, or “obviousness-type,” double patenting is a judicially created doctrine adopted to prevent claims in separate applications or patents that do not recite the “same” invention, but nonetheless claim inventions so alike that granting both exclusive rights would effectively extend the life of patent protection. *In Re Basell Poliolefine Italia S.P.A.*, 547 F.3d 1371, 1375 (Fed. Cir. 2008); *Georgia-Pacific Corp. v. U.S. Gypsum Co.*, 195 F.3d 1322, 1326 (Fed. Cir. 1999).

Generally, an obviousness-type double patenting analysis entails two steps. First, a court construes the claim in the earlier patent and the claim in the later patent and determines the differences. Second, the court determines whether the difference in subject matter between the two claims render the claims patentably distinct. A later claim that is not patentably distinct from an earlier claim in a commonly owned patent is invalid for obviousness-type double patenting.

*In re Metoprolol Succinate Patent Litigation*, 494 F.3d 1011, 1016 (Fed. Cir. 2007) (quoting *Eli Lilly v. Barr Labs*, 251 F.3d 955, 968); *Perricone v. Medicis Pharma Corp.*, 432 F.3d 1368, 1372-73 (Fed. Cir. 2005); *In re Berg*, 140 F.3d 1428, 1437 (Fed. Cir. 1998).

Respondents argue that the Barth I Patents are invalid for obviousness type double patenting over U.S. Patent No. 6,584,037 (“the ‘037 Patent”). (RIB at 71-72.) The ‘037 Patent resulted from a continuation of the application leading to Farmwald and share the same specification. (RX-279.) Respondents argue that the clock signal in the ‘037 Patent is the “strobe signal” in the ‘353 and the ‘405 Patent and the “signal” in the ‘109 Patent for the same reasons that the clock signal in Farmwald is the “strobe signal” as set forth *supra*. (RIB at 71-72.)

Respondents argue that, as a result, the Barth I Patents are invalid for obviousness type double patenting.

However, as the ALJ set forth in Section VI.B, the evidence fails to show that the “clock signal” disclosed is the claimed “strobe signal” or “signal.” As such, Respondents have failed to prove that the Barth I Patents are obvious for double patenting.

## VII. UNENFORCEABILITY

### A. Applicable Law

A patent is unenforceable on grounds of “inequitable conduct” if the patentee withheld material information from the PTO with intent to mislead or deceive the PTO into allowing the claims. *LaBounty Mfr., Inc. v. U.S. Int’l Trade Comm’n*, 958 F.2d 1066, 1070-1074 (Fed. Cir. 1992). Both materiality and intent must be proven by clear and convincing evidence. *Id.*; *Kingsdown Med. Consultants, Ltd. v. Hollister, Inc.*, 863 F.2d 867, 872 (Fed. Cir. 1988), *cert. denied*, 490 U.S. 1067 (1989); *Certain Salinomycin Biomass and Preparations Containing Same*, Inv. No. 337-TA-370, Unreviewed Initial Determination at 76, 1995 WL 1049822 (U.S.I.T.C. November 6, 1995), *aff’d sub nom. Kaken Pharmaceutical Co., Ltd. v. U.S. Int’l Trade Comm’n*, 111 F.3d 143 (Fed. Cir. 1997) (Table) (nonprecedential) (“*Salinomycin*”). When inequitable conduct occurs in relation to one or more claims of a patent, the entire patent is unenforceable. *Kingsdown*, 863 F.2d at 874.

According to the rules of the PTO, the duty to disclose information “exists with respect to each pending claim until the claim is canceled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is canceled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There

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is no duty to submit information which is not material to the patentability of any existing claim.”  
37 C.F.R. § 1.56(a).

Generally, when withheld information is highly material, a lower showing of deceptive intent will be sufficient to establish inequitable conduct. *American Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1363 (Fed. Cir.), *cert. denied*, 469 U.S. 821 (1984). Moreover, “[d]irect proof of wrongful intent is rarely available but may be inferred from clear and convincing evidence of the surrounding circumstances.” *LaBounty*, 958 F.2d at 1076; *Salinomycin*, ID at 77. The conduct at issue must be viewed in light of all the evidence, including evidence of good faith. *Kingsdown*, 863 F.2d at 876; *Salinomycin*, ID at 77.

“Information is material where there is a substantial likelihood that a reasonable examiner would consider it important in deciding whether to allow the application to issue as a patent.” *LaBounty*, 958 F.2d at 1074; *Salinomycin*, ID at 77. A patent applicant, however, has no obligation to disclose a reference that is cumulative or less pertinent than those already before the examiner. *Halliburton Co. v. Schlumberger Tech. Corp.*, 925 F.2d 1435, 1439-40 (Fed. Cir. 1991). Under the rules of the PTO, information is material when it is not cumulative to information of record and it either (i) “establishes, by itself or in combination with other information, a prima facie case of unpatentability of a claim”; or (ii) “it refutes, or is inconsistent with, a position the applicant takes” in either opposing the PTO’s argument of unpatentability or asserting the applicant’s own argument of patentability. 37 C.F.R. § 1.56(b). Close cases, however, “should be resolved by disclosure, not unilaterally by applicant.” *Abbott Laboratories v. TorPharm, Inc.*, 300 F.3d 1367, 1379 (Fed. Cir. 2002) *quoting LaBounty*, 958 F.2d at 1076.

Respondents argue that the asserted claims of the Ware Patents are unenforceable by reason of inequitable conduct because the named inventors failing to disclose two highly



material references to the U.S. Patent and Trademark Office during prosecution, namely the Intel Ware Patent and a paper entitled “A Scalable 32 Gb/s Parallel Data Transceiver with Onchip Timing Calibration Circuits” by Kewei Yang, *et. al.* (“the Hotrail paper”).

### **B. Intel Ware Patent**

Respondents argue that the inventors committed inequitable conduct by withholding the Intel Ware Patent from the PTO. (RIB at 34.) Respondents argue that the Intel Ware Patent is highly material and is not cumulative of other cited prior art. (RIB at 34-35.) Respondents argue that had the PTO been aware of the Intel Ware Patent, it may have raised questions of proper inventorship. (RIB at 35.) Respondents further argue that the inventors intended to deceive the Patent Office because, despite the materiality of the Intel Ware Patent, the inventors made a conscious decision not to disclose the Intel Ware Patent because Rambus’ relationship with Intel had “soured” and Rambus no longer wanted to share inventorship with Intel. (RIB at 35-36.)

The ALJ finds that Respondents have failed to show by clear and convincing evidence that the Intel Ware Patent was material or that the inventors had an intent to deceive the PTO. As for the materiality of the Intel Ware Patent, Respondents conclusorily state that “the Intel Ware patent invalidates the asserted claims of the Ware patents, and thus, is material.” (RIB at 34.) However, as set forth in Section VI.B, the ALJ found that the Intel Ware Patent does not render the Ware Patents invalid and, as such, Respondents arguments relating to materiality in this respect fail. As for an intent to deceive, the evidence shows that the inventors reasonably concluded that it need not be disclosed *even assuming* they were reminded of its existence as of the filing of the first application in the Ware Patent family. (Hampel, Tr. 447:03-49:06; CX-3903C, Hampel Q&A 12 (same).) Furthermore, as for Respondents argument that the failure to disclose the Intel Ware Patent was to essentially “hide” the Ware Patents from the Intel co-

inventors, the ALJ notes that Respondents have not presented any evidence from Intel that indicates that anyone at that company considered the Ware Patents to be part of the joint venture or that Intel or any of its employees should be named an inventor on the Ware Patents. Indeed, the Ware Patents issued a few years ago and there is no evidence that Intel seeks to claim any inventorship of the Ware Patents -- this cuts against Respondents' arguments of "hiding" the Ware Patents from Intel.

Therefore, the ALJ finds that Respondents have failed to show by clear and convincing evidence that the Ware Patents are unenforceable due to a failure to disclose the Intel Ware Patent before the PTO.

### **C. Hotrail Paper**

Respondents argue that the inventors also committed inequitable conduct by withholding the Hotrail paper from the PTO. (RIB at 37.) Respondents argue that the Hotrail paper is material and not cumulative of the prior art. Specifically, Respondents argue that the Hotrail disclosed essentially the same timing circuitry solution claimed in the Ware Patents, namely a method for calculating a unique compensation amount for up to 10 different receiver cells. (RIB at 37-38.) Respondents argue that the Hotrail Paper in combination with the cited Gillingham paper would have rendered the asserted claims of the Ware Patents obvious. (RIB at 37.) Respondents further argue that the intent to deceive is clear as the evidence shows that the inventors were aware of the Hotrail paper and that it could potentially be a competing signaling technology but nevertheless failed to disclose this to the PTO. (RIB at 39-40.)

The ALJ finds that Respondents have failed to show by clear and convincing evidence that the Hotrail paper was material and not cumulative and that the inventors intended to deceive the PTO. The evidence shows that the Hotrail paper is directed at the problem of skew in chip-

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to-chip connections of different lengths by adjusting for variations in propagation time along *different* signal paths of different lengths. (CX-3900C, Przybylski Q&A 621-23.) The Ware Patents, however, are directed to variations in propagation time along a *single*, shared control path. Accordingly, one of ordinary skill in the relevant art would not have found the Hotrail paper to be particularly informative in addressing the specific problem of the Ware Patents. (*Id.*; CX-3903C, Hampel Q&A 26-27.) Furthermore, the evidence shows that the Hotrail paper is cumulative to prior art considered by the Patent Office. (CX-1330C, Przybylski Q&A 628-38.)

The evidence further shows that the inventors did not intend to deceive the PTO. One of the inventors testified that even if Hotrail disclosed a “competing signaling technology” in a commercial sense, that does *not* mean that the inventors believed that it disclosed a technology material to the Ware Patents. (Hampel, Tr. 458:05-64:05; CX-3903C, Hampel Q&A 16-22, 26 (same).)

Therefore, the ALJ finds that Respondents have failed to show by clear and convincing evidence that the Ware Patents are unenforceable due to a failure to disclose the Hotrail paper to the PTO.

## VIII. UNCLEAN HANDS

### A. Applicable Law

“To succeed in an unclean hands claim, a plaintiff is required to show that the defendant has ‘engaged in particularly egregious conduct which would change the equities significantly in plaintiff’s favor.’” *Serdarevic v. Adv. Med. Optics, Inc.*, 532 F.3d 1352, 1361 (Fed. Cir. 2008) (quoting *Aukerman Co. v. R.L. Chaides Constr. Co.*, 960 F.2d 1020, 1033 (Fed. Cir. 1992) (en banc) (“*Aukerman*”). “But it is not enough merely to show misconduct.” *Id.* Rather, the party asserting unclean hands must show prejudice resulting therefrom. *Id.*

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The Federal Circuit recently described spoliation of evidence in the specific context of adverse inferences that can be drawn when a party destroys evidence with a culpable state of mind:

The general rules of evidence law create an adverse inference when evidence has been destroyed and “(1) . . . the party having control over the evidence had an obligation to preserve it at the time it was destroyed; (2) . . . the records were destroyed with a culpable state of mind; and (3) . . . the destroyed evidence was relevant to the party’s claim or defense such that a reasonable trier of fact could find that it would support that claim or defense.

*Jandreau v. Nicholson*, 492 F.3d 1372, 1375 (Fed. Cir. 2007) (quoting *Residential Funding Corp. v. DeGeorge Fin. Corp.*, 306 F.3d 99, 107 (2d Cir. 2002)) (alterations in original) (“*Jandreau*”); *see also JANA, Inc. v. U.S.*, 936 F.2d 1265, 1269-70 (Fed. Cir. 1991) (recognizing a defense of laches may be premised on destruction of evidence by plaintiff); *Cornetta v. U.S.*, 851 F.2d 1372, 1378 (Fed. Cir. 1988) (same).

### **B. Background**

#### **1. JEDEC**

The Federal Circuit, writing in *Rambus Inc. v. Infineon Techs. Ag*, 318 F.3d 1081, 1085 (Fed Cir. 2003), provides a good factual background for the issues involved in spoliation of evidence as they relate to Rambus’s JEDEC activities:

Rambus develops and licenses memory technologies to companies that manufacture semiconductor memory devices. Rambus does not manufacture any memory devices itself, but relies instead on licensing its patent portfolio for revenue. In April 1990, Rambus filed U.S. Patent Application Serial No. 07/510,898 ('898 applications) with claims directed to a computer memory technology known as dynamic random access memory (DRAM). The United States Patent and Trademark Office (PTO) determined that the '898 application covered multiple independent inventions. The PTO issued an eleven-way restriction requirement requiring Rambus to elect one invention to pursue in the '898 application. In response, Rambus filed numerous divisional and continuation applications based on the original '898 application -- at least thirty-one of which have issued. Many of these patents claim aspects of a memory technology known as Rambus DRAM (RDRAM). In April 1991, Rambus filed a patent application under the Patent Cooperation Treaty (WIPO application) claiming priority to the

'898 application.

In December 1991, Rambus attended a Joint Electron Devices Engineering Council (JEDEC) meeting as a guest. Rambus officially joined JEDEC in February 1992. JEDEC is a standard-setting body associated with the Electronic Industries Association (EIA). JEDEC member companies participate on various committees to develop standards for semiconductor technologies. Committee JC-42.3 drafts standards for random access memory (RAM), a common component in computers, printers, and other electronic devices. JEDEC meetings are open meetings, but nonmembers must receive an invitation to attend. Minutes of the JEDEC meetings and copies of the published JEDEC standards are available to members and nonmembers alike. Both JEDEC and EIA have a written patent policy encouraging the adoption of standards free of patented items or processes. At least by 1993, the EIA/JEDEC patent policy required members to disclose patents and patent applications "related to" the standardization work of the committees.

During Rambus's membership on committee JC-42.3, JEDEC adopted a standard for synchronous dynamic random access memory (SDRAM). SDRAM increases the speed at which a central processing unit (CPU) can read or write memory by synchronizing itself with the CPU's clock speed. JEDEC incorporated four technologies into its SDRAM standard that are relevant to this case: programmable CAS latency, programmable burst length, externally supplied reference voltage, and two-bank designs. JEDEC adopted and published its SDRAM standard in early 1993. Since 1993, JEDEC has published several revisions of the standard.

Rambus attended its last JEDEC meeting in December 1995, and officially withdrew from JEDEC in June 1996. In December 1996, JEDEC began work on a standard for double data rate-SDRAM (DDR-SDRAM), the successor to SDRAM. DDR-SDRAM doubles the transfer rate between the CPU and memory device by supporting data transfers on both the rising and falling edge of each clock cycle. The JEDEC DDR-SDRAM standard ultimately incorporated four technologies that had been discussed in general before Rambus's withdrawal in 1996. Those technologies include: source-synchronous clocking, low-voltage swing signaling, dual clock edge, and on-chip phase locked loop/delay locked loop (PLL/DLL). JEDEC adopted and published the DDR-SDRAM standard in 2000.

*Rambus Inc. v. Infineon Techs. Ag*, 318 F.3d at 1085. Rambus filed its first application related to the Barth I Patents before the PTO on Oct 15, 1995. Rambus filed the applications that ripened into the '405, '353 and '109 Patents on May 1, 2000, January 10, 2000, and October 15, 2004, respectively. As noted *supra*, the Barth I Patents share a common specification and are directed

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to, among other things, systems and methods for increasing the efficiency of communication between a memory controller and a memory device. (CIB at 3.) The Barth I Patents are all part of continuing applications, dating back to October 19, 1995, and share their common specification with the initial application No. 08/545,292 filed on Oct. 19, 1995, which issued as Patent No. 5,748,914.<sup>18</sup>

While the patent families in *Micron Technology v. Rambus* and *Rambus Inc. v. Infineon* were different than those in this case, JEDEC standards and the patents in both families deal with the broad topic of dynamic memory, and the chips (DRAM) used in data transfer. In any event, we need not concern ourselves too much regarding the conduct of Rambus with regard to JEDEC and NVIDIA since NVIDIA and Rambus were not engaged at JEDEC during the same time frame. As for Rambus's conduct in JEDEC, the Eastern District of Virginia explained:

On appeal, the United States Court of Appeals for the Federal Circuit affirmed in part and reversed in part. *Rambus, Inc. v. Infineon Techs. AG*, 318 F.3d 1081, 1106 (Fed. Cir. 2003). Respecting the fraud verdict, the court held that the JEDEC patent disclosure policy applied only to patent claims that reasonably read on or covered the standard under consideration by JEDEC and that, although Rambus wanted to obtain claims covering SDRAM standards, it did not in fact obtain any SDRAM patent claims while it was a member of JEDEC. *Rambus, Inc.*, 318 F.3d at 1103-04. In reaching this conclusion, the Federal Circuit stated:

The record shows that Rambus's claimed technology did not fall within the JEDEC disclosure duty. The record shows at most that Rambus wanted to obtain claims covering the SDRAM instead. Some of that evidence does not put Rambus in the best light. Rambus thought it could cover the SDRAM standard and tried to do so while a member of an open standards-setting committee. While such actions impeach Rambus's business ethics, the record does not contain substantial evidence that Rambus breached its duty under the EIA/JEDEC policy.

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<sup>18</sup> While the patents, and the application at issue in the *Rambus v. Infineon* case are different than those in this case, the history of Rambus's involvement with JEDEC is the same.

*Rambus, Inc. v. Infineon Techs. AG*, 330 F. Supp. 2d 679, 684 (E.D. Va. 2004). While Rambus was ethically and morally challenged in its conduct, the evidence in this matter does not alter the conclusion the Federal Circuit reached in that case.

## 2. Prior Litigation

Rambus's conduct prior to litigation regarding its patents has been the subject of litigation in numerous forums. Contrary to Rambus's representation that they have been vindicated time after time, the litigation puts Rambus and its business ethics in an unfavorable light each and every time.

In *Micron Tech., Inc. v. Rambus Inc.*, 255 F.R.D. 135 (D.Del. Jan 9, 2009), the District Court found certain Rambus patents to be unenforceable against Micron due to spoliation of evidence and litigation misconduct. The court made numerous findings of fact that are useful in this matter, in particular regarding Rambus and the time Rambus anticipated litigation, a crucial element in the matter before the ITC. This is not vindication.

In *Samsung Elecs. Co., Ltd v. Rambus, Inc.*, 440 F. Supp.2d 495, 496 (E.D.Va. 2006), the District Court also found Rambus was barred from enforcing the patents-in-suit due to spoliation of evidence. Rambus settled the suit and agreed to pay its opponents' legal fees. As a result, the case was dismissed as moot. Similarly, this is not a vindication of Rambus. As stated by the Federal Circuit:

From the bench, the district court in Virginia ruled that Rambus had unclean hands due to spoliation of evidence. To avoid issuance of an adverse finding, Rambus quickly settled with Infineon. Accordingly, the trial court properly dismissed that original case against Infineon before entry of any findings or judgment against Rambus.

*Samsung Elecs. Co. v. Rambus, Inc.*, 523 F.3d 1374, 1377 (Fed. Cir. 2008).



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The FTC found that Rambus engaged in spoliation of evidence. However, they did not conclude that Rambus's misconduct resulted in unlawful monopolization. They found that if Rambus had disclosed the patents, the consequences were an alternative of either adopting a non-proprietary standard or extracting a RAND commitment from Rambus. While the Federal Circuit stated its wish that the evidence had been more fully developed, they did not challenge the conclusions of the FTC regarding the misconduct on the part of Rambus:

Rambus challenges the Commission's determination that it engaged in unlawful monopolization--and thereby violated § 5 of the FTC Act--on a variety of grounds, of which two are most prominent. First, it argues that the Commission erred in finding that it violated any JEDEC patent disclosure rules and thus that it breached any antitrust duty to provide information to its rivals. Second, it asserts that even if its nondisclosure contravened JEDEC's policies, the Commission found the consequences of such nondisclosure only in the alternative: that it prevented JEDEC *either* from adopting a non-proprietary standard, *or* from extracting a RAND commitment from Rambus when standardizing its technology. As the latter would not involve an antitrust violation, says Rambus there is an insufficient basis for liability.

We find the second of these arguments to be persuasive, and conclude that the Commission failed to demonstrate that Rambus's conduct was exclusionary under settled principles of antitrust law. Given that conclusion, we need not dwell very long on the substantiality of the evidence, which we address only to express our serious concerns about the breadth the Commission ascribed to JEDEC's disclosure policies and their relation to what Rambus did or did not disclose.

The Commission held that Rambus engaged in exclusionary conduct consisting of misrepresentations, omissions, and other practices that deceived JEDEC about the nature and scope of its patent interests while the organization standardized technologies covered by those interests. Had Rambus fully disclosed its intellectual property, "JEDEC either would have excluded Rambus's patented technologies from the JEDEC DRAM standards, or would have demanded RAND assurances, with an opportunity for *ex ante* licensing negotiations." But the Commission did not determine that one or the other of these two possible outcomes was the more likely. *See* Transcript of Oral Argument at 43 (Commission's counsel confirming that the Commission was unable to decide which of the two possible outcomes would have occurred had Rambus disclosed). The Commission's conclusion that Rambus's conduct was exclusionary depends, therefore, on a syllogism: Rambus avoided one of two outcomes by not disclosing its patent interests; the avoidance of either of those outcomes was anticompetitive; therefore Rambus's nondisclosure was anticompetitive...

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Thus, if JEDEC, in the world that would have existed but for Rambus's deception, would have standardized the very same technologies, Rambus's alleged deception cannot be said to have had an effect on competition in violation of the antitrust laws; JEDEC's loss of an opportunity to seek favorable licensing terms is not as such an antitrust harm. Yet the Commission did not reject this as being a possible--perhaps even the more probable--effect of Rambus's conduct. We hold, therefore, that the Commission failed to demonstrate that Rambus's conduct was exclusionary, and thus to establish its claim that Rambus unlawfully monopolized the relevant markets.

*Rambus Inc. v. FTC*, 522 F.3d 456, 458-459 (D.C. Cir. 2008) (internal citations omitted). While Rambus won the battle regarding the anticompetitive result of its misconduct, the Federal Circuit did not disturb the FTC finding the Rambus engaged in misconduct.

Finally, in *Hynix Semiconductor Inc. v. Rambus Inc.*, 591 F. Supp. 2d 1038 (N.D. Cal.), the District Court judge rejected the claim that Rambus spoiled evidence, framing the issue as (1) whether Rambus adopted a document retention plan in order to destroy documents in advanced of a planned litigation campaign against DRAM manufacturers, and (2) whether in light of any such conduct the court should dismiss Rambus's patent claims against Hynix as a sanction for unclean hands. After a lengthy series of factual findings, the court determined the essential issue as "Rambus initiated its first suit against a DRAM manufacturer, Hitachi, on January 18, 2000. Litigation was not actively pending when Rambus formulated and adopted its document retention policy. Thus, litigation was not pending at the time of the 1998 and 1999 Shred Days. The questions are, however, when litigation by Rambus was reasonably foreseeable and when a duty to preserve evidence arose." *Hynix Semiconductor Inc. v. Rambus Inc.*, 591 F. Supp. 2d at 1061. The ALJ agrees entirely with the *Hynix* Court's statement of the issue, and that position is borne out by law:

B. Duty to Preserve Evidence

Before sanctions for spoliation can be imposed, it must be determined whether the duty to preserve evidence has been triggered. An independent duty to preserve

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relevant evidence arises when the party in possession of the evidence knows that litigation by the party seeking the evidence is pending or probable and the party in possession of the evidence can foresee the harm or prejudice that would be caused to the party seeking the evidence if the evidence were to be discarded. See *Joe Hand Promotions v. Sports Page Cafe*, 940 F. Supp. 102, 104 n.13 (D.N.J. 1996); see also *Baliotis v. McNeil*, 870 F. Supp. 1285, 1290 (M.D. Pa. 1994). If, however, the duty to preserve evidence has not been triggered at the time the evidence was destroyed, then there can be no spoliation.

*Kounelis v. Sherrer*, 529 F. Supp. 2d 503, 518 (D.N.J. 2008); *See also Kronisch v. United States*, 150 F.3d 112, 126 (2d Cir. 1998). The *Hynix* Court then proceeded to find that Rambus did not reasonably anticipate litigation until late in 1999, after the initial two shred days, and thus did not engage in spoliation of the evidence.

### 3. Analysis

As noted *supra*, the general rule regarding spoliation of evidence comes from the *Jandreau* case:

The general rules of evidence law create an adverse inference when evidence has been destroyed and . . . the party having control over the evidence had an obligation to preserve it at the time it was destroyed; (2) . . . the records were destroyed with a culpable state of mind; and (3) . . . the destroyed evidence was relevant to the party's claim or defense such that a reasonable trier of fact could find that it would support that claim or defense." The burden is on the party seeking to use the evidence to show the existence of each criterion..

*Jandreau v. Nicholson*, 492 F.3d 1372, 1375 (Fed. Cir. 2007) (internal citations omitted).


#### a) Factual Findings

The general facts surrounding the actions that have led to the series of law suits disputing the validity and enforceability are undisputed:

1. In the mid-1990's, Rambus's President and CEO, Geoff Tate, instructed Rambus employees and patent counsel to actively prepare a patent minefield to trap its competitors. (RX-441 (email with "Subject: sdram and most patent claims" Tate, then Rambus's CEO stated "this stuff is real critical – i'd like a list of which claims we are making that read directly on concurrent/planned sdrams and on what most be, so I can track progress from Lester's periodic status lists. Thx. geoff"); RX-436

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(Lester Vincent's handwritten notes regarding patenting DRAM features; *see also* RX-412C; RX-439C; RX-442C; RX-449C.)

2. Shortly before filing the patent application for the Barth I patents, Rambus discussed expanding its patent portfolio to be more "controller centric" (RX-1094C (David Mooring email re: "More patents" "I propose we kick-off another patenting spree focused on the controller side of things. We have a window of opportunity left while we still have confidential information and only a few companies are trying to figure out how to drink from a fire hose, I would like to put Billy, Fred, Rick, Mohan/Matt together in a room to brainstorm this.")). Rambus's patents focused on expanding its claim scope to cover "auto-precharge" that "would have high harassment value" against controller manufacturers. (RX-1095C.)
3. These patent amendments and filings were coined by Rambus's officers and employees as its "patent minefield." (RX-468C ('August 4, 1997 email, Tate wrote: "[D]ave believes we should meet with intel ... to get them aware that IF they were to consider a DDR chipset that there is a minefield of 60+ rambus patents that would have to be avoided.)); RX-448C (February 15, 1996 email, Rambus CEO Geoff Tate wrote: "[S]everal papers were presented on SDRAMs that look more and more rambus-like ... prepare the [patent] minefield.)).
4. 
5. Complainant hired a new vice president of intellectual property, Joel Karp, on October 20, 1997 to assess Rambus's patent portfolio and determine strategies for potential enforcement thereof. (Barth, Tr. 1100:17-01:01; Karp, Tr. 688:09-90:24, 691:03-08; RX-473C.)
6. On January 13, 1998, Karp and Tate met with Leal to discuss litigation strategies and Rambus's belief that its patents were infringed. (RX-1107C (Leal's notes of the meeting: "litigation strategy by [the] March board meeting," "[n]o negotiations [without] full strategy and prep[aration]," "[g]o in quickly [and] proceed to either a license or litigation," "[t]ry win-win first; do not prejudice [good faith] for litigation," "[l]ooking for royalty rate that tells them it costs to infringe," and "[g]o to first meeting but be ready (in advance) to go to litigation.)); JX-69C at 615:9-616:5, 616:22-618:15, 622:12-623:10; 624:9-625:9, 628:24-629:15 (Leal); JX-58C at 187:18-188:2 (Karp).) Karp confirmed it believed its patents were infringed and also communicated this belief to Leal. (RX-482C.)
7. A few days later, on January 15, 1998, with a claim chart outlining his evidence of infringement in hand (RX-482C; RX-1010 at 175:12-18, 178:5-179:12 (Karp)), Karp met with Leal to further discuss the patents Rambus believed to be infringed. (RX-482C; RX-1010 at 191:2-192:3.) Soon thereafter, Karp met with Leal, Johnson, and Girvin on February 12, 1998. (RX-484C; RX-490C; RX-568C; RX-1010 at 196:24-197:6 (Karp).)
8. Karp's notes show they primarily discussed litigation: they "[r]eviewed a license program document" and made "minor changes" noting that "[r]oyalty rates will probably push us into litigation quickly." (RX-484C; RX-490C; RX-568C; JX-58C at 199:23-200:16 (Karp).)

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9. Karp noted that Rambus “[N]eed[ed] to litigate against someone to establish [a] royalty rate and [to] have [a] court declare patent valid.” (RX-484C; RX-490C.) Karp also noted: “Make ourselves battle ready. Start gathering critical documents in company so we can start putting together an electronic database. Gather all documents into searchable, coded database. Need company policy on document retention policy.” (RX-484C; JX-58C at 207:19-208:6 (Karp).) Karp acknowledged that “battle ready” meant “preparing for war of litigation.” (JX-58C at 212:1-15 (deposition impeachment), *compare* 211:13-20 (trial testimony p. 686).)
10. Following Tate’s instructions in January 1998 to prepare a licensing framework and litigation strategy for the March 1998 Board of Directors meeting (RX-475C, RX-646C, JX-58C at 182:5-24, 184:9-185:14 (Karp)), Karp contacted Diane Savage at the law firm of Cooley Godward, “looking for some litigation—somebody to provide him with litigation assistance.” (JX-87C at 597:9-598:15 (Savage); JX-58C at 441:7-19 (Karp).)
11. Per Karp’s request, Ms. Savage arranged a meeting with Dan Johnson, a litigation partner at Cooley Godward. (JX-87C at 597:9-598:15; 599:1-7 (Savage).)
12. Thus, with the assistance of counsel, Rambus developed a plan for litigation to establish a royalty rate and validate its patents. (JX-87C at 597:9-598:15 (Savage); JX-58C at 187:18-188:2 , 441:7-19 (Karp); RX-1107C; JX-69C at 615:9-616:5, 616:22-618:15, 622:12-623:10; 624:9-625:9, 628:24-629:15 (Leal).)
13. In addition to discussing patent infringement, Johnson (outside litigation counsel) identified a breach of contract as an easier alternative to patent infringement, and Karp noted that “[t]hey [Cooley Godward] will review Micron, Fujitsu, and Samsung and Hyundai contracts and formulate litigation strategy driven by results of the analysis-breach-scope of license, NDA or patent infringement.” (RX-484C.)
14. Karp noted that the prosecution files should be “cleaned out” and that all attorney notes from patent prosecution files should be destroyed so that the prosecution files would conform with the official files, and that Rambus should to select experts” in advance.” (RX-484C.)
15. After the meeting in early February, Karp and Johnson worked together to create a strategy for Rambus, and on February 20, 1998, Johnson provided Rambus with a memorandum outlining licensing and litigation strategies. (RX-485C; RX-508C.)
16. The memorandum was a collaborative effort between Cooley Godward and Rambus that reflects Rambus’s plan to push litigation so that its intellectual property rights would be taken seriously by the DRAM industry, establish a royalty rate, and validate its patents. (RX-485C.)
17. It was on this document that Karp again highlighted cleaning out patent prosecution files by handwriting: “Document retention policy—patent attorney files.” (RX-485C.)
18. On March 2, 1998 Karp presented a “Licensing and Litigation Strategy” to Rambus’s Board of Directors that included a detailed litigation plans, including a tiered litigation strategy, preferred venues, and a hierarchy of chosen targets. (RX-486C; RX-487C.)
19. Mr. Karp’s presentation specifically called for “creating a document retention policy, preparing a discovery database, and organizing the prosecuting attorneys files for



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- issued patents” as part of Rambus’s “Licensing and Litigation Strategy:” (RX-486C.)
20. Karp also proposed a five percent running royalty rate for products other than Rambus’s RDRAM (RX-486C), which was a rate more than double the rate for Rambus’s RDRAM. (RX-443C, JX-48C at 216:15-18,216:24-217:2. (Harmon).)
  21. Karp believed companies would “fiercely resist” a five-percent royalty and knew this push Rambus into litigation quickly. (JX-58C at 244:3-11; 254:4-11 (Karp).)
  22. The “Licensing and Litigation Strategy” also outlined a timetable for litigation with the final step to “commence legal action” four to six months after obtaining samples of the infringing product. (RX-486C.)
  23. The timeline detailed steps of obtaining samples of products, reverse engineering, drafting claim charts, sending a notice letter, and meeting with the alleged infringers with the final step of commencing legal action. (RX 486; JX-58C at 246:5-8 (Karp).)
  24. The “Licensing and Litigation Strategy” also included “NEAR TERM ACTIONS” that “Need to create document retention policy;” “Need to prepare discovery database;” “Need to organize prosecuting attorney’s files for issued patents.” (RX-486C.)
  25. Karp informed the Board that these actions, including implementing a document retention policy, were necessary to prepare for their upcoming battle. (JX-58C at 241:2-10; 242:13-243:12 (Karp).)
  26. The “document retention policy” was implemented, in part, “to allow Rambus to purge documents, including emails, from its files that might be discoverable in litigation.” (RX-612C; Barth, Tr. 1063:1-10; RPF 897.) Rambus had not discussed a document retention policy before this time—it was only in the context of being prepared for the upcoming “battle” that Rambus considered, and subsequently implemented, a document retention policy. (JX-58C at 241:2-10; 242:13-243:12 (Karp).)
  27. On July 22, 1998, Karp emailed a document retention policy to Rambus employees, and Karp made presentations, with Johnson, about the policy to Rambus employees. (JX-58C at 271:323 (Karp).) The slide presentation made at the meeting characterized the policy as a “Document Retention/Destruction Policy” and focused on implementing the policy in light of their upcoming litigation: it outlined the policy while characterizing it as the precursor to litigation. Far from being “content neutral”, at least seven slides in the presentation had as a final line, LOOK FOR THINGS TO KEEP. The slides bullet points were not in all capitals. (RX-505C; RX-507C; JX-58C at 274:23-275:7 (Karp).) The final slide was headed “The Eve of Litigation”, and the only bullet under that heading was “The need for an effective document retention policy.” (RX-505C.)
  28. During the presentation, Karp instructed Rambus engineers to look for things to keep that would help establish conception and prove that Rambus had intellectual property. (JX-58C at 267:5-16 (Karp).)
  29. At trial, Mr. Barth confirmed that during the all employee meeting, Mr. Karp informed Rambus employees to destroy e-mail because it was discoverable in litigation; however, consistent with Rambus’s strategy of selective destruction, Mr. Karp informed all Rambus employees that not all e-mail was to be destroyed—e

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- mail relating to patent disclosures and proof of invention dates, or would aid in refreshing one's recollection, were to be kept. (RX-612C; Barth, Tr. 1063:1-10; 1064:25-1065:3; 1065:4:20.) In contrast, the document retention policy also targeted types of documents for destruction—Karp explained that one category of documents they should not keep were documents questioning the patentability of Rambus inventions. (Hampel, Tr. 474:16-475:14.)
30. Rambus' goals for Quarters 2 and 3 in 1998 reflect Rambus' understanding that implementing a document retention policy was part of its larger litigation strategy. (RX-477C, RX-500C.)
  31. On at least three separately documented occasions, Rambus held company-wide events, called "Shred Days", in which employees participated in the destruction of millions of pages of documents. (RX-513C, RX-920, RX-526C (Receipts and Certificates of Destruction from Sure Shred), RX-510C, RX-511C, RX-512C, JX-58C at 283:14-24, 287:12-289:2 (Karp).)
  32. In June of 1998 prior to the first of the Shred Days, Karp listed NVIDIA in his notebook among a list of what appear to be licensing/litigation targets. (RX-475C.)
  33. Rambus's first "Shred Day" took place on September 3, 1998. On this day, Rambus destroyed approximately 400 boxes of documents. (RX-526C at R-ITC-10174907); JX-82C at 1469:2-13 (Rhodes).) Rambus conducted a second shred day on August 26, 1999, destroying about 300 boxes of documents. There was a third document destruction day in December 2000, in which about 480 boxes of documents were destroyed.
  34. Karp presented Rambus's "Strategy Update – 10/98" to Rambus's executives in October 1998. (RX-517C.) Karp advised the Rambus executives "DO NOT ROCK THE DIRECT BOAT;" and "We should not assert patents against Direct partners until ramp reaches a point of no return (TBD);" "Probably not until Q1/00." "Big Question Is-WHAT'S THE RUSH?;" "What is compelling business reason? I can't think of any;" "Let's not snatch defeat from the jaws of victory." (RX-517C at R-ITC-10014283; JX-58C at 296:22-298:2 (Karp).)

There was no evidence that Rambus separated the background paperwork for each family of patents, and there is no evidence that Rambus inventoried what was destroyed. Thus, the evidence that was destroyed by Rambus is as likely to have applied to any or all of its patents as it relates to a specific family or relates back to a particular application.

### **b) Rambus's misrepresentations**

Throughout this case, Rambus and its counsel have made a number of both misleading and irrelevant claims such that the ALJ feels compelled to comment on them. Rambus has indicated that on its "Shred Days" it shredded numerous things, from phone books to pizza boxes:



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There were stacks of computer printouts 4-5 feet high in some places. CFF-VII.C.457. The “bulk” of materials discarded consisted of computer printouts of circuitry analyses from engineers but also included pizza boxes, phone books, old marketing material, and other “junk.” (CFF.VII.C.467-471.)

(CIB at 103.) While this may be true, though there is no inventory of the material that was shredded to confirm it, it is also irrelevant. That Rambus shredded things that were not relevant to this case does not lead or assist in coming to the conclusion that they did not shred things that were, in fact, relevant to the case. This is a classic misdirection presented to the ALJ. By claiming they used their shredder to shred a “bulk” of irrelevant material, Rambus seems to wish others in the case to forget that if the shred resulted in the loss of relevant evidence, then the amount of other shredding would not matter. Page after page of the notes of Karp and others discuss destroying items such as emails because they are subject to discovery. All of the witnesses relevant to this topic admit destruction of material relevant to the case was done, including back up tapes and other sources. Rambus’s counsel’s decision to mention the irrelevant shredding is itself irrelevant and presents no legitimate point (the memos regarding shred day from members of Rambus’ staff also put the lie to the theory that Rambus was randomly shredding garbage, yellow pages and other assorted items). Ed Larsen, in a memo dated September 2, 1998, clearly stated to the employees the need to be selective in what went into the shred bags: “Thursday is Shred Day 1998. If you haven’t started reviewing your documents for compliance with our Document Retention Policy, please do so TODAY.” (RX-511C) The memo further directed any questions to Joel Karp.

This was not the only example of counsel for Rambus attempting to mislead in this case. It is beyond cavil that Rambus’s patent attorneys were instructed to remove and destroy documents from their files. (Karp noted that the prosecution files should be “cleaned out” and that all attorney notes from patent prosecution files should be destroyed so that the prosecution

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files would conform with the official files, and that Rambus should to select experts” in advance.” (RX-484C.) It is clear from Rambus’s own evidence that Mr. Vincent did indeed purge some patent files. (CIB at 107.) While it is not clear what, if anything, he purged from the Barth I Patent files and whether it prejudiced Respondents, Rambus introduced into evidence a patent file that was apparently not purged in an attempt to demonstrate that not all files were purged. Again, this leads away from the correct issue: Was relevant material purged from files they had a duty to maintain? In yet another example, Rambus offered Mr. Moniz’s testimony that he believed that the Barth I Patent files were complete:

Joe Moniz, Rambus’s Senior Manager Intellectual Property, who has been doing patent prosecution work for a decade, testified that he believes Rambus’s Barth I files are complete.

(Moniz Tr. at 1337-1338, 1382-1383; CX-3901C, Moniz Direct Stmt. at 2.) In as much as he had not seen the original, this testimony is particularly unhelpful to the ALJ or anyone else trying to understand the truth. One final example will suffice: Rambus presented an expert on document retention, who testified that conducting a shred day in connection with implementing a document retention policy is a common practice. (See CX-3904C, Montaña Direct Stmt. at 14-15.) While this may be true, it again attempts to turn the attention of the ALJ away from the relevant issues in this case: When did the duty to preserve the documents arise, that is when did Rambus anticipate litigation? While all or most companies do destroy or discard documents, not all do so in the context of getting themselves “Battle ready.” While in many situations companies may legally throw out documents once they anticipate litigation, they are prohibited from removing potential evidence, and Mr. Montana was not useful in advancing ALJ’s knowledge on the key issues.

In its brief Rambus argued that:

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“There was nothing unusual about the volume of material that Rambus shredded,” *Hynix*, 591 F. Supp. 2d at 1053; CFF-VII.C.464, 493-498, and SureShred has many clients that shred hundreds of boxes each *week*. CFF-VII.C.464. As also is typical in the industry, Rambus did not log what was discarded. CFF-VII.C.501-507. The clean-up was sorely needed: Rambus was “messy” and looked “more like a university lab than a company” with “papers stacked all over the place.” CFF-VII.C.456. There were stacks of computer printouts 4-5 feet high in some places. CFF-VII.C.457. The “bulk” of materials discarded consisted of computer printouts of circuitry analyses from engineers but also included pizza boxes, phone books, old marketing material, and other “junk.” CFF-VII.C.467-471.

(CIB at 103.) While these points may have been true, the record does not contain a single comment or note that the Shred Days were done because of the need to get rid of “junk,” “phone books” or to discard other such materials. Indeed, for a company trying to make money, the contention that they would hire a company to shred pizza boxes, phone books, old marketing material and other “junk,” none of which would need shredding as none have any confidential value, is not credible. The ALJ also observes that even if the company shredded volumes of material it had no duty to preserve, if they shredded material they *did have a duty to preserve* in addition to the “pizza boxes,” “computer printouts” and “junk,” they would still violate their duty. Once more Rambus attempts to divert attention away from the issues of this case and take the finder of fact on a journey away from the evidence. Finally, it is worth noting that in all the memos, emails, notes and other materials authored by Rambus and its employees, from the time frame when Rambus established its document destruction/retention policy, not one word was uttered regarding “messy” papers all over or any other matter except discovery.

Rambus made one more misleading argument that bears comment. To quote from their brief:

Respondents advocate a double standard for the preservation of documents. Under the standards they would apply to Rambus, Respondents’ hands are unclean. At its core, Respondents’ position is that Rambus’s planning for licensing negotiations involving unasserted patents and legacy products was sufficient to establish anticipation of litigation and trigger a duty to preserve documents for this Investigation. If that is the standard, then nVidia should have

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anticipated litigation at least by April 2000, when Rambus first presented it with a licensing proposal for the Farmwald/Horowitz patents. nVidia should have preserved all communications with Rambus, as well as all internal documents concerning its relationship with Rambus. Indeed, nVidia was aware in 2000 that licensing negotiations with Rambus could lead to litigation. CFF-VII.C.1382-1384. Yet, nVidia did not preserve its Rambus-related documents and hundreds of them, produced by Rambus, have been destroyed by nVidia. CFF0VII.C.1340-2014.

(CIB at 109) First, Rambus's statement that the "planning for licensing negotiations involving unasserted patents and legacy products was sufficient to trigger a duty to preserve documents for this Investigation" is inaccurate. That is not at all what triggers the duty to preserve documents, but rather the anticipation of litigation triggers that duty. The courts have clearly established this over the years. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

On the other hand, Rambus planned to sue someone, narrowed the field to the most promising companies in the range, and then went after NVIDIA, among others. While Rambus may not have put a name on the complaint in 1998, they knew the field of operation, that they would sue, and that their own actions would force the suit. Rambus was in control of the timing, the venue and the choice of respondents. In addition, the evidence includes Joel Karp's many statements regarding preparing for the "war":

Question: And one of the things you told them in pursuit of this licensing and litigation strategy to prepare for this war, one of the things you could do right away was document retention. That's what you told them, correct?

Answer: Well, not necessarily right away, but that was one of the near -- was one of the early things that could have been done.

Question: Near term as opposed to far term, correct?

Answer: Right.

\* \* \*

Question: So to -- to implement this -- this battle-readiness plan, the first thing you did was the document retention policy?

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Answer: Right.

Question: And you said that was implemented in July? [1998]

Answer: The official policy came out in July, right.

(Tr., 703:23-704:8; 705:11-18) (Ms. Bagrowski reading deposition testimony of Karp). There is no mention of cleaning the offices, getting rid of superfluous papers or cleaning out areas in any part of the exchange. [REDACTED]

[REDACTED]

Rambus's intentions were also made clear in its "Top Level Key Results for 1998" that explicitly stated under the heading "Develop and enforce IP" that a key 1998 result was to "Get all infringers to license our IP with royalties > than RDRAM (if it is a broad license) OR sue." (RX 524; RX-551C.) In the same document, under the heading "WIN OR ESTABLISH CLEAR MOMENTUM IN MAJOR MARKET SEGMENTS" and sub-heading "Establish PC Multimedia market segment momentum so by the end 98 Rambus is positioned to dominate in 99/00," NVIDIA is highlighted as a potential target: "Win 2 of 3 of the leaders: ATI, Nvidia, Intel including 98 announcements." (RX 524; RX-551C.) In 1998, Mr. Karp told Ms. Diane Savage he was looking for a litigator:

Question: Did you have any responsibilities for litigation matters while you were a partner at Cooley Godward?

Answer: No.

Question: How was it that you came to be contacted by Rambus with regard to the provision of legal services?

Answer: Joel Karp was working for Rambus, and he gave me a call.

Question: And you don't recall when you received that call from Mr. Karp?

Answer: No. I suspect it was 1998.

Question: When Mr. Karp first contacted you with respect to providing legal services for Rambus, what did he say to you and what did you say to him?

Answer: He told me he was working at Rambus and that he was looking for some litigation, someone to provide him with litigation assistance.

(Tr., 729:8-730:1) (Ms. Bagrowski reading deposition testimony of Savage).

**c) Applying the *Jandreau* factors to this matter**

**(1) The party having control over the evidence had an obligation to preserve it at the time of destruction**

Rambus had decided that it would go into litigation against manufacturers of SDRAM and control makers no later than July of 1998, when Joel Karp formulated the document retention policy. Looking at all of his notes, statements and actions, he established this database for one and only one reason: litigation. The documents he had retained were for a “discovery” database, and the ALJ would note discovery is a process in litigation, not licensing. From January 1998, Rambus and Joel Karp, in particular, were not creating a licensing framework but a litigation strategy. (See Fact # 6 above.) While Dr. Karp talked about proposed royalty rates, he was planning to set them at rates that were unacceptably high and would push the company into litigation. (See Fact # 20 & 21 above.)

Mr. Karp’s statements, if taken at his word, demonstrate that as early as January 1998 Rambus planned to litigate, knew they were going to litigate and wanted to litigate:

Karp noted that Rambus “[N]eed[ed] to litigate against someone to establish [a] royalty rate and [to] have [a] court declare patent valid.”

Karp also noted: “Make ourselves battle ready. Start gathering critical documents in company so we can start putting together an electronic database. Gather all documents into searchable, coded database. Need company policy on document retention policy.”

(RX-484C; RX-490C; JX-58C at 207:19-208:6 (Karp).)

A broad overview of the evidence as gleaned from the meetings and presentations all point to litigation, not license. In addition to the many statements made by Mr. Karp, the litigation attorney, Dan Johnson, also briefed and advised Rambus employees in 1998 on

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materials to be retained. In January, he brought up the idea that breach of contract suits might be an easier way to enforce Rambus's IP rights against licensees (in addition to discussing patent infringement). Johnson identified a breach of contract as an easier alternative to patent infringement, and Karp noted that "[t]hey [Cooley Godward] will review Micron, Fujitsu, and Samsung and Hyundai contracts and formulate litigation strategy driven by results of the analysis-breach-scope of license, NDA or patent infringement." (RX-484C.)

Exhibit RX-485C also provides additional evidence that Rambus was not only planning litigation in 1998, but that it understood this planning could lead to an advantage before any other company might be aware of its intentions:

The second scenario results in Rambus filing a patent-infringement suit against an unlicensed competitor. To implement the above strategy Rambus has authorized outside counsel to begin organizing documents, and preparing a discovery data base, so that if and when Rambus elects to proceed with litigation, it will not unduly disrupt the company's activities. More importantly, with proper planning, Rambus may be able to obtain an advantage over its competitors by choosing a court such as the eastern district of Virginia, "the rocket docket", or the ITC. Because these courts proceed at an accelerated schedule, early preparation will benefit Rambus.

(RX-485C). Again, the purpose behind the document policy is to create a discovery database, not to remove pizza boxes. It was to gain an advantage over the competitors, not by offering the best solutions or best value through licensing, but through litigation. And, as the strategy played out, Rambus did bring actions in the two courts outlined above.

While the court in *Hynix* found that Rambus was not contemplating litigation in 1998, the evidence before the ALJ suggests otherwise. The District Court judge in *Hynix Semiconductor, Inc. v. Rambus Inc.*, 591 F. Supp. 2d 1038, 1045 (N.D. Cal. 2006) found that:

Here, by contrast, the path to litigation was neither clear nor immediate. Although Rambus began to plan a litigation strategy as part of its licensing strategy as early as February 1998, the institution of litigation could not be said to be reasonably



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probable because several contingencies had to occur before Rambus would engage in litigation: (1) the direct RDRAM ramp had to be sufficiently developed so as not to jeopardize RDRAM production; (2) Rambus's patents covering non-RDRAM technology had to issue; (3) product samples from potentially infringing DRAM manufacturers had to be available in the market; (4) the non-compatible products had to be reverse engineered and claim charts made showing coverage of the actual products; (5) Rambus's board had to approve commencement of negotiations with a DRAM manufacturer; and (6) the targeted DRAM manufacturer had to reject Rambus's licensing terms.

The direct RDRAM ramp did not have to be sufficiently developed so as to not jeopardize RDRAM production, but rather Rambus was waiting as a tactic so it would be far more difficult for competitors to find an alternative. Like a wise military commander preparing the battlefield, Rambus wanted the production to be sufficiently advanced so the resources committed by its competitors could not be shifted, but rather the competitors would have to fight at the time, (probably not until Q1/00) and the place (Eastern District of Virginia, "the rocket docket", or the ITC) of Rambus' choosing. The fact that is exactly what happened tends to give weight to the statements of Karp and Johnson that that was what they were intending to do.

While the District Court judge was correct that Rambus's patents covering non-RDRAM technology had to issue, that was indeed part of the plan. Rambus believed, through Mr. Tate, that their intellectual property covered the other technologies. Rambus was moving to get the patents and was preparing to sue once they did. While it is true that if the patents had not issued as Rambus expected, that would have disrupted their litigation plans, the fact that the plans would be sprung only after a triggering event does not mean they did not plan litigation in July 1998. While the plans could have been thwarted by intervening events, they nonetheless were being implemented step by step at that time.

As to the samples being available, while this is true, it was again in the plan to sue. These chips were going to be made and marketed regardless -- it was not that Rambus was

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waiting to see if the event would occur, but rather when. This is clear from the Strategy Update of 10/98: the “DO NOT ROCK THE BOAT, WHAT’S THE RUSH?” briefing. Rambus knew their hand strengthened in waiting, and the suit could come to greater advantage by doing so. (RX-517C) That Rambus had a long range and detailed plan does not mean that in 1998 they did not plan to sue. The thoroughness of the plan, and the length of the intended campaign, does not mitigate Rambus’s duty to preserve evidence that may not be needed for a long time. That the evidence required to prove infringement would have to be developed in the future is entirely irrelevant; in most legal suits that is the case. More to the point is the fact Rambus and its key personnel were focused not on licensing, but on developing evidence far more useful in litigation. That Rambus made a list of the things it would need to do to prevail in litigation is proof that, as of 1998, they planned litigation, not proof they had not yet planned it.

The board approval and the targeted DRAM manufacturer rejecting the licensing terms were also part of the litigation plan. As Dan Johnson and Mr. Karp said, the royalty demand was formulated to push them into litigation quickly. Taken at their word and looking at what happened, Rambus intended to sue in 1998 (no later than July), made plans, began to carry out those plans, never wavered in that purpose, and then did, in fact, sue. The only piece missing from the equation is the fact they were not sure who the target would be. However, since the evidence to be destroyed was the same regardless of which company they selected, this hardly mattered to them.

**(2) The records were destroyed with a culpable state of mind**

Rambus looked for and briefed employees to destroy items that were “discoverable.” In the briefings, particular emphasis was placed on emails, because they were subject to discovery. The things that were to be kept were put in what was called a “discovery data base” includes such notes as “Make ourselves battle ready. Start gathering critical documents in company so we

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can start putting together an electronic database. Gather all documents into searchable, coded database.” “Need to litigate against someone to establish royalty rate and have court declare patent valid.” “They will review Micron, Fujitsu and Samsung and Hyundai contracts and formulate litigation strategy driven by results of the analysis-breach-scope of license, NDA or patent infringement.” (RX-484C.) The February 12, 1998 meeting from which these notes were taken and overall contents of the memo clearly reveal that the document retention policy and purge of records was accomplished for litigation, and not for any other purpose. This strategy was meant to cover DRAM SDRAM, SCDRAM, and SLDRAM. It called for a “Tiered litigation strategy.”<sup>19</sup> The memo went on to consider which venues to pursue and how being prepared worked to Rambus’s advantage. In a March 1998 email, Allen Roberts again identified the problem with emails was that they were discoverable. (RX-488C.) Joel Karp was forming his document retention strategy with the advise of litigation counsel and was limiting retention times. (RX-493C.) In the same memo, he discouraged any electronic email communication, but rather wanted face to face meetings thereby leaving no record. In its “Key Goals for Q3 ’98” Rambus lists implementing its document retention strategy under its IP Litigation Activity. (RX-500C.) It does not list any goals regarding licensing at all. The document retention brief dated July 22, 1998 also emphasizes litigation and the need to keep discoverable material out of the files. (RX-505C.) The document also teaches employees to not view the policy as content neutral, but rather suggests they “Look for things to keep,” and also suggests keeping documents regarding contracts that might “refresh your recollection.”

Based on all the above, it is clear the document retention policy was not for cleaning out offices or files because they were messy, but to create an advantage in litigation, particularly if

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<sup>19</sup> The ALJ notes that if you are not committed to litigation, planning a “tiered litigation strategy” makes little sense. (RX-485C.)

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Rambus chose a venue that processed cases quickly, such as the ITC, and Eastern District of Virginia. The plan was for litigation, and the destruction was to disadvantage whomever Rambus decided to sue. It did not matter whether they had NVIDIA, Micron or Hynix in mind. The evidence they destroyed applied to Rambus's patents and would be the same regardless of the name they wrote on the complaint. The records that were destroyed were done so with a culpable state of mind.

The ALJ makes one last observation regarding Rambus's assertion that the document retention policy was to clean up the work area or that they had become packrats to such an extent that it was necessary. If that were the case, there would have been no reason whatsoever to have their outside patent counsel purge their files, as those files were not on Rambus's property. The only reason to purge any outside files takes us back to the fact Rambus was not following a standard industry practice, they were getting "battle ready."

Staff has suggested that there is an issue as to whether "bad faith" or a lesser standard of negligence should apply to a determination of whether there was spoliation of evidence. The ALJ finds no such issue. The ALJ finds the evidence of Rambus' intention to destroy evidence for purposes of preparing the company for litigation overwhelming and that the destruction was intentional and in bad faith. Rambus's evidence to the contrary cannot withstand even the most fundamental inquiry, based on the documents and statements of its own personnel.

**(3) The destroyed evidence was relevant to the party's claim or defense such that a reasonable trier of fact could find that it would support that claim or defense**

It is clear Rambus intentionally planned to destroy and destroyed documents that were, at the time of the destruction, subject to discovery, which they had a duty to preserve. The only question remaining is whether the destroyed evidence was relevant to and would support Respondent's claim or defense.

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The ALJ also finds that there is no statute or case that would require that Rambus have a specific party in mind to trigger the duty to preserve evidence. Such a rule would cast the law's protection around the company that knew it intended to mug and abuse another, but had yet to select its victim. Thus, once Rambus determined to engage in litigation against makers of DRAM and the various types, it triggered a duty to preserve evidence. In effect, Rambus set up a blind, as hunters would, and to follow their reasoning, it is not preparation unless they know the name of the ducks they intended to shoot. The Court in *Infineon* stated the matter well:

Rambus fails to cite, without decisional support, that, before a court can find spoliation, it must find that the alleged spoliator reasonably anticipated litigation with the specific party who later alleges the spoliation. Although the spoliation decisions tend to arise in the context of anticipated litigation with a potentially adversary, there is no decision that articulates the rule as Rambus presents it.

*Infineon (I)*, 222 F.R.D.280, 295 n. 31 (E.D. Va 2004).

While the ALJ disagreed with Rambus and Staff in finding that Rambus anticipated litigation in 1998 rather than at some later time, there still must be a showing that the materials destroyed beginning in September of that year and carrying on for many years were relevant to the anticipated DRAM litigations and that the destruction materially prejudiced Respondents' ability to defend themselves in the instant investigation.

Respondents demonstrated that Rambus destroyed a very large amount of documentation, and to some extent the general nature of the documentation. (See RIB 86-87) Rambus destroyed documents from the patent prosecution attorney's files, from their own files, from their emails, and various other sources. Rambus did this destruction solely with the intent to prepare for litigation and to prepare themselves for the most advantageous position in litigation. Respondents have estimated the destruction amounted to some 3 million pages of documents and over 1000 back-up tapes. (RIB at 95.)

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All of this being true, the record does not demonstrate that evidence relevant to the party's claim or defense, such that a reasonable trier of fact could find that it would support that claim or defense, was destroyed. While Rambus clearly was getting rid of records it should have kept, there was no evidence or testimony that the evidence that was destroyed would have supported any Respondent's claims or defenses. While it is true that Rambus clearly did not dispose of records in a content neutral way, keeping things that might be "helpful" that does not *per se* mean that what was disposed of was necessarily supportive of the defense. In a case such as this, Respondents are placed in a very difficult position. Rambus pursued its destruction while making no records of what it destroyed, kept conversations about destruction between the employees outside the record, and acted when no one else was alerted there shall be litigation. If ALJ could rule on the bad intentions of a party, there is no question but Rambus could not prevail. Nonetheless, the evidentiary burden is on Respondents to prove that their defenses were prejudiced by Rambus's misconduct, and they have not carried that burden. The ALJ has found no evidence in the record that the evidence destroyed would support the respondent's claim or defense.

**IX. EQUITABLE ESTOPPEL**

**A. Applicable Law**

In *A.C. Aukerman*, the Federal Circuit set forth the legal standard for equitable estoppel:

The following statement of the underlying factual elements of equitable estoppel which generally are deemed significant reflects a reasonable and fairly complete distillation from the case law:

[equitable] estoppel case . . . has three important elements. [1] The actor, who usually must have knowledge of the true facts, communicates something in a misleading way, either by words, conduct or silence. [2] The other relies upon that

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communication. [3] And the other would be harmed materially if the actor is later permitted to assert any claim inconsistent with his earlier conduct.

Remedies § 2.3, at 42. In other authorities, elements [2] and [3] are frequently combined into a single "detrimental reliance" requirement. See, e.g., 5 Chisum § 19.05[3], at 19-189. However, the statement of reliance and detriment as separate factors adds some clarity in this confusing area of the law.

The first element of equitable estoppel concerns the statements or conduct of the patentee which must "communicate something in a misleading way." The "something" with which this case, as well as the vast majority of equitable estoppel cases in the patent field is concerned, is that the accused infringer will not be disturbed by the plaintiff patentee in the activities in which the former is currently engaged. The patentee's conduct must have supported an inference that the patentee did not intend to press an infringement claim against the alleged infringer. It is clear, thus, that for equitable estoppel the alleged infringer cannot be unaware--as is possible under laches--of the patentee and/or its patent. The alleged infringer also must know or reasonably be able to infer that the patentee has known of the former's activities for some time. In the most common situation, the patentee specifically objects to the activities currently asserted as infringement in the suit and then does not follow up for years. In *Dwight & Lloyd Sintering*, Judge Learned Hand noted that estoppel was regularly based on "no further assurance [that a known competitor would not be sued than] the patentee's long inaction." 27 F.2d at 827. There is ample subsequent precedent that equitable estoppel may arise where, coupled with other factors, a patentee's "misleading conduct" is essentially misleading inaction. See *Hottel Corp.*, 833 F.2d at 1573-74, 4 USPQ2d at 1941, and cases cited therein. However, plaintiff's inaction must be combined with other facts respecting the relationship or contacts between the parties to give rise to the necessary inference that the claim against the defendant is abandoned. *Id.*; *A.C. Aukerman Co. v. Miller Formless Co.*, 693 F.2d at 701, 216 USPQ at 866; *Jensen*, 650 F.2d at 169, 207 USPQ at 819; *Continental Coatings Corp. v. Metco, Inc.*, 464 F.2d 1375, 1379-80, 174 USPQ 423, 426-427 (7th Cir. 1972).

The second element, reliance, is not a requirement of laches but is essential to equitable estoppel. *Heckler v. Community Health Svcs.*, 467 U.S. 51, 59, 81 L. Ed. 2d 42, 104 S. Ct. 2218 (1984). The accused infringer must show that, in fact, it substantially relied on the misleading conduct of the patentee in connection with taking some action. Reliance is not the same as prejudice or harm, although frequently confused. An infringer can build a plant being entirely unaware of the patent. As a result of infringement, the infringer may be unable to use the facility. Although harmed, the infringer could not show reliance on the patentee's conduct. To show reliance, the infringer must have had a relationship or communication with the plaintiff which lulls the infringer into a sense of security in going ahead with building the plant.



Finally, the accused infringer must establish that it would be materially prejudiced if the patentee is now permitted to proceed. As with laches, the prejudice may be a change of economic position or loss of evidence. See, e.g., *Advanced Hydraulics*, 525 F.2d at 481-82, 186 USPQ at 4-5.

Finally, the trial court must, even where the three elements of equitable estoppel are established, take into consideration any other evidence and facts respecting the equities of the parties in exercising its discretion and deciding whether to allow the defense of equitable estoppel to bar the suit.

*A.C. Aukerman Co. v. R.L. Chaides Constr. Co.*, 960 F.2d 1020, 1039 (Fed. Cir. 1992).

### **B. Analysis**

Under the principles the Federal Circuit has outlined in *Aukerman*, Rambus has not engaged in equitable estoppel. There is no evidence in the file that Rambus made any communication to NVIDIA or any respondent in this matter at all, let alone that was misleading. As none of Respondents were on JEDEC at the time of Rambus's membership, even Rambus's silence at JEDEC was not communication to Respondents such as to trigger estoppel. The second test of equitable estoppel is also not met, as without a communication by Rambus to Respondents, it is clear Respondents did not rely on any such communication. Finally, as the first two tests of equitable estoppel are not met, the third fails as well.

## **X. DOMESTIC INDUSTRY**

On October 7, 2009, the ALJ issued an Initial Determination finding that Rambus had satisfied the domestic industry requirement pursuant to Section 337(a)(3)(C). See Order No. 21 (October 7, 2009). On November 6, 2009, the Commission determined not to review the order. See *Notice of Commission Decision Not to Review an Initial Determination Granting Complainant's Motion That Its Licensing Activities in the United States Satisfy the Domestic Industry Requirement* (November 6, 2009).

## XI. CONCLUSIONS OF LAW

1. The Commission has personal jurisdiction over the parties, and subject-matter jurisdiction over the accused products.
2. The importation or sale requirement of section 337 is satisfied.
3. The accused products literally infringe the asserted claims of the '353 Patent.
4. The accused products literally infringe the asserted claims of the '405 Patent
5. The accused products literally infringe the asserted claims of the '109 Patent.
6. The accused products infringe claim 11 of the '405 Patent and claims 5 and 13 of the '109 Patent under the doctrine of equivalents
7. The accused products literally infringe the asserted claims of the '998 Patent.
8. The accused products literally infringe the asserted claims of the '016 Patent.
9. Respondents induce infringement of the asserted claims of the asserted patents.
10. Respondents contribute to the infringement of the asserted claims of the asserted patents.
11. The asserted claims of the '353 Patent, the '405 Patent and the '109 Patent are not invalid under 35 U.S.C. § 102 for anticipation.
12. The asserted claims of the '998 Patent and the '016 Patent are invalid under 35 U.S.C. § 102 for anticipation.
13. The asserted claims of the '353 Patent, the '405 Patent and the '109 Patent are not invalid under 35 U.S.C. § 103 for obviousness.
14. The asserted claims of the '998 Patent and the '016 Patent are invalid under 35 U.S.C. § 103 for obviousness.

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15. The '353 Patent, the '405 Patent and the '109 Patent are not obvious for double patenting.
16. The '998 Patent and the '016 Patent are not unenforceable due to inequitable conduct.
17. The asserted patents are not unenforceable due to unclean hands.
18. Rambus is not equitably estopped from asserting the asserted patents against Respondents.
19. It has been established that a violation exists of section 337 with respect to the '353 Patent, the '405 Patent and the '109 Patent.
20. It has not been established that a violation exists of section 337 with respect to the '998 Patent and the '016 Patent.

## XII. INITIAL DETERMINATION AND ORDER

Based on the foregoing, it is the INITIAL DETERMINATION (“ID”) of this ALJ that a violation of section 337 of the Tariff Act of 1930, 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 semiconductor chips having synchronous dynamic random access memory controllers and products containing same by reason of infringement of one or more of claims 11-13, 15, and 18 of U.S. Patent No. 6,470,405, claims 11-13 of U.S. Patent No. 6,591,353, and claims 1, 2, 4, 5, 12, 13, 20, 21, and 24 of U.S. Patent No. 7,287,109. It is further the INITIAL DETERMINATION of this ALJ that no violation of Section 337 of the Tariff Act of 1930 has occurred in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain semiconductor chips having synchronous dynamic random access memory controllers and products containing same by reason of infringement of one or more of claims 7, 13, 21, and 22 of U.S. Patent No. 7,177,998 and claims 7, 13, 21, and 22 of U.S Patent No. 7,210,016.

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, as listed in the attached exhibit lists in Appendix A,

are 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.

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The Secretary shall serve a public version of this ID upon all parties of record and the confidential version upon counsel who are signatories to the Protective Order (Order No. 1.) issued in this investigation, and upon the Commission investigative attorney.

## RECOMMENDED DETERMINATION ON REMEDY AND BOND

### I. Remedy and Bonding

The Commission's Rules provide that subsequent to an initial determination on the question of violation of section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, the administrative law judge shall issue a recommended determination containing findings of fact and recommendations concerning: (1) the appropriate remedy in the event that the Commission finds a violation of section 337, and (2) the amount of bond to be posted by respondents during Presidential review of Commission action under section 337(j). *See* 19 C.F.R. § 210.42(a)(1)(ii).

#### A. General Exclusion Order

Under Section 337(d), the Commission may issue either a limited or a general exclusion order. A limited exclusion order instructs the U.S. Customs and Border Protection ("CBP") to exclude from entry all articles that are covered by the patent at issue and that originate from a named respondent in the investigation. A general exclusion order instructs the CBP to exclude from entry all articles that are covered by the patent at issue, without regard to source.

A general exclusion order may issue in cases where (a) a general exclusion from entry of articles is necessary to prevent circumvention of an exclusion order limited to products of named respondents; or (b) there is a widespread pattern of violation of Section 337 and it is difficult to identify the source of infringing products. 19 U.S.C. § 1337(d)(2). The statute essentially codifies Commission practice under *Certain Airless Paint Spray Pumps and Components Thereof*, Inv. No. 337-TA-90, Commission Opinion at 18-19, USITC Pub. 119 (Nov. 1981) ("*Spray Pumps*"). *See* *Certain Neodymium-Iron-Boron Magnets, Magnet Alloys, and Articles Containing the Same*, Inv. No. 337-TA-372 ("*Magnets*"), Commission Opinion on Remedy, the

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Public Interest and Bonding at 5 (USITC Pub. 2964 (1996)) (statutory standards “do not differ significantly” from the standards set forth in *Spray Pumps*). In *Magnets*, the Commission confirmed that there are two requirements for a general exclusion order: a “widespread pattern of unauthorized use;” and “certain business conditions from which one might reasonably infer that foreign manufacturers other than the respondents to the investigation may attempt to enter the U.S. market with infringing articles.” The focus now is primarily on the statutory language itself and not an analysis of the *Spray Pump* factors. *Ground Fault Circuit Interrupters and Products Containing Same*, Inv. No. 337-TA-615, Comm’n Op. at 25 (March 9, 2009); *Hydraulic Excavators and Components Thereof*, Inv. No. 337-TA-582, Comm’n Op. at 16-17 (January 21, 2009).

Rambus argues that a general exclusion order is necessary because a limited exclusion order will be easily circumvented and there is a widespread pattern of violation and it is difficult to identify the source of the infringing product. (CIB at 115.) Specifically, Rambus argues that Respondents will easily be able to evade a limited exclusion order because the accused memory controllers and downstream products are sold to foreign customers and are imported into the U.S. through a vast network of distributors, manufacturers of downstream products, resellers, and customers, and Respondents can direct its sales to foreign customers who can easily import downstream products into the U.S. as an alternative source to those of the named Respondents. (CIB at 115-116.) Rambus further argues that original equipment manufacturers can easily re-tool their facilities so they can incorporate NVIDIA’s accused products into the downstream products of non-Respondents for importation into the United States. (CIB at 116.)

Rambus further argues that there is widespread pattern of unauthorized use of Rambus’s technology as evidenced by the importation of infringing products by Respondents as well as



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twenty additional entities that NVIDIA identified during discovery. (CIB at 117.) Rambus argues that the source of the infringing products is difficult to identify as evidenced by the fact that Rambus was unable to identify additional infringing sources until after NVIDIA and other Respondents produced discovery and that “the delay and expense involved in filing a Complaint and obtaining formal discovery in order to identify additional sources of infringing products renders it extremely difficult to identify the sources of infringing products.” (CIB at 117-118.) As further evidence of this, Rambus points to the difficulty in identifying the correct Pine entity for importation of the accused products in this investigation. (CIB at 118-119.)

Respondents argue that Rambus has failed to show that a general exclusion order is warranted. (RIB at 119; RRB at 54.) Respondents argue Rambus’s evidence that a limited exclusion order can easily be circumvented, namely the pre-existing practice of selling Respondents’ accused products for incorporation into downstream products overseas, has been rejected by the Commission in past investigation. (RRB at 54-55.) Respondents further argue that Rambus’s argument that OEM could easily re-tool their facilities is unsupported by the evidence, especially since the products at issue are “complex graphics microprocessors which must be designed into a computer system.” (RRB at 55.) As for Rambus’s evidence of a widespread pattern of violation and difficulty identifying the source of goods, Respondents argue that Rambus’s ability to readily identify seventeen respondents in this investigation undermines its arguments and that the downstream respondents were named solely because they purchased NVIDIA products and not because they committed separate, additional acts of infringement. (RRB at 56.)

Staff argues that a general exclusion order is not warranted. (SIB at 115-116.) Specifically, Staff argues that while the evidence shows that there is a widespread pattern of

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unauthorized use, the evidence fails to show that it is difficult to identify the source of the infringing products or that circumvention of a limited exclusion order is likely. (SIB at 115-117.)

The ALJ finds that Rambus has failed to show that a general exclusion order is warranted in this investigation. The evidence fails to show that Respondents would circumvent a limited exclusion order such that a general exclusion order is necessary. Rambus points to Respondents' pre-existing practices, namely the sale of the Accused Products to foreign manufacturers overseas for incorporation into downstream products, as evidence that circumvention is likely. However, the Commission has held that the incorporation of the accused products into downstream products outside of the United States that was a pre-existing practice prior to the filing of the complaint could not serve as a basis for circumvention. *Certain Semiconductor Chips with Minimized Chip Package Size and Products Containing Same*, Inv. No. 337-TA-605, Comm'n Op. at 66-67 (May 20, 2009). Thus, here, evidence of the same pre-existing practice by Respondents cannot serve as a basis for circumvention. The ALJ further finds that Rambus's arguments that original equipment manufacturers can "quickly" re-tool their manufacturing facilities as evidence that circumvention is likely unpersuasive. The evidence fails to show that such re-tooling can be done "quickly" or with any sort of ease and minimal expense.

The evidence does show, however, that there is a widespread pattern of unauthorized use. The evidence shows that there is high demand for JEDEC compliant memory devices and that a large number of those memory devices and downstream products incorporating those memory devices are imported, sold and used in the United States by the Respondents. (CX-440C at Q&A 97; 773 and evidence cited therein.)

Nevertheless, the ALJ further finds that Rambus has failed to show that it is difficult to identify the source of infringing goods. Rambus's arguments, namely that Rambus was unable

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to identify additional infringing sources until after NVIDIA and other Respondents produced discovery and that “the delay and expense involved in filing a Complaint and obtaining formal discovery in order to identify additional sources of infringing products renders it extremely difficult to identify the sources of infringing products,” are less about difficulties in *identifying* infringing sources and more about the cost of litigation. Indeed, Rambus concedes that it identified 20 additional infringing sources but unilaterally chose not to seek to amend the Complaint to add the infringing sources or file a new complaint. The expense of enforcing one’s intellectual property rights is not equivalent to a “difficulty” in identifying the source of infringing goods such that a general exclusion order is warranted. Furthermore, Rambus’s use of its problems with the Pine respondents is also less an issue about identifying the source of infringing goods and appears to be more about discovery issues. Indeed, Rambus was able to identify Pine in the Complaint and then substituted the correct entity once discovery had shown that the originally identified Pine Technology was the incorrect entity. Such a practice is not uncommon in Section 337 Investigations. *See Bulk Welding Wire Containers and Components Thereof and Welding Wire*, Inv. No. 337-TA-686, Order No. 9 (October 30, 2009) (granting motion to substitute correct entity); *MLC Flash Memory Devices and Products Containing Same*, Inv. No. 337-TA-683, Order No. 8 (November 5, 2009) (granting motion to substitute the correct entity).

Thus, the ALJ finds that Rambus has failed to show that a general exclusion order is warranted. Therefore, the ALJ does not recommend that the Commission issue a general exclusion order for any of the asserted patents in this investigation.

### **B. Limited Exclusion Order**

Under Section 337(d), the Commission may issue either a limited or a general exclusion order. A limited exclusion order directed to respondents' infringing products is among the remedies that the Commission may impose, as is a general exclusion order that would apply to all infringing products, regardless of their manufacturer. *See* 19 U.S.C. § 1337(d).

The ALJ recommends that a limited exclusion order be issued for the Accused Products that infringe the valid asserted patents in this investigation.

### **C. Cease and Desist Order**

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). The Commission generally issues a cease and desist order directed to a domestic respondent when there is a "commercially significant" amount of infringing, imported product in the United States that could be sold so as to undercut the remedy provided by an exclusion order. *See Certain Crystalline Cefadroxil Monohydrate*, Inv. No. 337-TA-293, USITC Pub. 2391, Comm'n Op. on Remedy, the Public Interest and Bonding at 37-42 (June 1991); *Certain Condensers, Parts Thereof and Products Containing Same, Including Air Conditioners for Automobiles*, Inv. No. 337-TA-334, Comm'n Op. at 26-28 (Aug. 27, 1997).

Rambus argues that a cease and desist order against respondents NVIDIA, Hewlett-Packard, ASUS Computer International, Palit Multimedia, Palit Microsystems, MSI Computer Corp., Micro-Star International, EVGA Corp., DiabloTek, Inc., Biostar Microtech, and BFG Technologies currently maintain significant inventory of Accused Products in the United States. (CIB at 119.) Rambus argues that a cease and desist order prohibiting these listed respondents from importing or selling after importation infringing NVIDIA semiconductor chips having

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synchronized random access memory controllers and any downstream products containing infringing chips. (CIB at 119.) Staff agrees that a cease and desist order should be issued against these listed respondents. (SIB at 117-118.)

Respondents argue that Rambus has failed to show that the Respondents maintain a commercially significant inventory of accused products. (RIB at 120; RRB at 58.) Respondents argue that for the listed respondents for which Rambus seeks a cease and desist order, namely NVIDIA, Hewlett-Packard, ASUS Computer International, Palit Multimedia, Palit Microsystems, MSI Computer Corp., Micro-Star International, EVGA Corp., DiabloTek, Inc., Biostar Microtech, and BFG Technologies, the evidence fails to show that the companies maintain a commercially significant inventory in the U.S. with respect to the products that are accused in this investigation. (RRB at 58.)

The ALJ finds that the evidence shows that respondents NVIDIA, Hewlett-Packard, ASUS Computer International, Palit Multimedia, Palit Microsystems, MSI Computer Corp., Micro-Star International, EVGA Corp., DiabloTek, Inc., Biostar Microtech, and BFG Technologies currently maintain significant inventory of Accused Products in the United States. (CX-547C, pp. 7-10; CX-243; CX-249C; JX-54C, Hudson 31:05-14, 460:03-13; CX-440C, Przybylski Q/A 773; CX-648C, pp. 3-4; CX-422C; JX-107C, Yang 89:12-92:19; CX-369C, pp. 13-16, 37; CX-370C, pp. 13-16, 36-37; CX-643C, p. 3; CX-329 through 333; JX-72C, Lin 95:18-98:09, 108:1-119:12; CX-557C, pp. 13-15, 36-37; CX-647C, pp. 3-4; CX-558C, pp. 13-16, 37-38; JX-104C, Wu 108:14-09:16; CX-401C, pp. 13-16, 37-38; CX-228C, pp. 18-21, 41-42; CX-640C, pp. 3-5; JX-106C, Yan 65:14-18, 70:16-71:8, 74:18-75:19; CX-282C, pp. 13-15, 36-37; CX-641C, pp. 3-5; CX-284C; JX-50C, Herkelman 115:06-17:12, 147:13; CX-291C, pp. 13-15, 35-36; CX-642C, pp. 3-4; JX-29C, Chuang 88:07-91:11; CX-276C, pp.13-16, 37; CX-644C,

p. 3; JX-47C, Han 162:04-165:03, 165:12-166:16; CX-229C pp. 16-19, 40; CX-185C, pp. 17-21; CX-646C, pp. 2-5; JX-67C, Lafaix 43:20-44:4, 59:03-05; JX-86C, Sanders 45:01-46:2, 63:10-64:13; JX-40C, Getches, 52:06-54:02, 75:20-76:15; JX-49C, Harrington 95:01-21.) Therefore, the ALJ recommends that the Commission issue a cease and desist order against respondents NVIDIA, Hewlett-Packard, ASUS Computer International, Palit Multimedia, Palit Microsystems, MSI Computer Corp., Micro-Star International, EVGA Corp., DiabloTek, Inc., Biostar Microtech, and BFG Technologies.

#### **D. Bond During Presidential Review Period**

The Administrative Law Judge and the Commission must determine the amount of bond to be required of a respondent, pursuant to section 337(j)(3), during the 60-day Presidential review period following the issuance of permanent relief, in the event that the Commission determines to issue a remedy. The purpose of the bond is to protect the complainant from any injury. 19 C.F.R. § 210.42(a)(1)(ii), § 210.50(a)(3).

When reliable price information is available, the Commission has often set the bond by eliminating the differential between the domestic product and the imported, infringing product. *See Certain Microsphere Adhesives, Processes for Making Same, and Products Containing Same, Including Self-Stick Repositionable Notes*, Inv. No. 337-TA-366, Comm'n Op. a 24 (1995). In other cases, the Commission has turned to alternative approaches, especially when the level of a reasonable royalty rate could be ascertained. *See, e.g., Certain Integrated Circuit Telecommunication Chips and Products Containing Same, Including Dialing Apparatus*, Inv. No. 337-TA-337, Comm'n Op. at 41 (1995). A 100 percent bond has been required when no effective alternative existed. *See, e.g., Certain Flash Memory Circuits and Products Containing Same*, Inv. No. 337-TA-382, USITC Pub. No. 3046, Comm'n Op. at 26-27 (July 1997)(a 100%

bond imposed when price comparison was not practical because the parties sold products at different levels of commerce, and the proposed royalty rate appeared to be *de minimis* and without adequate support in the record).

Rambus argues that the bond should be set at 100% of the entered value. (CIB at 120.) Rambus argues that a reasonable royalty rate is insufficient because it would be manifestly unfair to Rambus's legitimate licensees to merely charge Respondents essentially the same royalty rate. (CIB at 120.)

Respondents argue that since Rambus has failed to present any evidence that could be used as a basis for determining a bond amount, Respondents should not be required to post a bond. (RIB at 120; RRB at 60.) Respondents further argue, in the alternative, the bond should be determined as a percentage of a "reasonable royalty" which should be no more than what Rambus's other U.S. based memory controller manufacturers have paid to Rambus. (RRB at 60.)

[REDACTED]

[REDACTED]

[REDACTED]

The ALJ recommends that the Commission set a bond at a reasonable royalty rate of the entered value of the accused products. Rambus's argument that the bond should be set at 100% of the entered value because a reasonable royalty would be unfair to Rambus's licensees is tantamount to punishing Respondents for past infringing acts. The Commission is not the appropriate forum for such punitive redress.

## II. Conclusion

In accordance with the discussion of the issues contained herein, it is the RECOMMENDED DETERMINATION ("RD") of the ALJ that the Commission should issue a



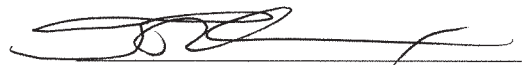
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limited exclusion order directed at Respondents products found to infringe the '353 Patent, the '405 Patent and the '109 Patent. The Commission should also issue a cease and desist order directed toward respondents NVIDIA, Hewlett-Packard, ASUS Computer International, Palit Multimedia, Palit Microsystems, MSI Computer Corp., Micro-Star International, EVGA Corp., DiabloTek, Inc., Biostar Microtech, and BFG Technologies who currently maintain significant inventories of Accused Products in the United States that prohibits the sale of any commercially significant quantities of the Accused Products. Furthermore, if the Commission imposes a remedy following a finding of violation, Respondents should be required to post a bond set at a reasonable royalty rate of the entered value of the accused products during the Presidential review period.

Within seven days of the date of this document, each party shall submit to the office of the Administrative Law Judge a statement as to whether or not it seeks to have any portion of this document deleted from the public version. The parties' submissions must be made by hard copy by the aforementioned date.

Any party seeking to have any portion of this document deleted from the public version thereof must submit to this office a copy of this document with red brackets indicating any portion asserted to contain confidential business information by the aforementioned date. The parties' submission concerning the public version of this document need not be filed with the Commission Secretary.

**SO ORDERED.**



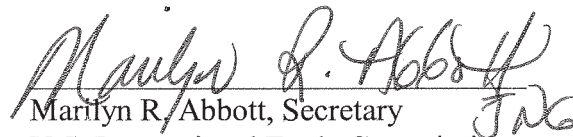
Theodore R. Essex  
Administrative Law Judge

**IN THE MATTER OF CERTAIN SEMICONDUCTOR CHIPS HAVING  
SYNCHRONOUS DYNAMIC RANDOM ACCESS MEMORY CONTROLLERS  
AND PRODUCTS CONTAINING SAME**

**Inv. No. 337-TA-661**

**PUBLIC CERTIFICATE OF SERVICE**

I, Marilyn R. Abbott, hereby certify that the attached **INITIAL DETERMINATION ON VIOLATION OF SECTION 337 AND RECOMMENDED DETERMINATION ON REMEDY AND BOND** has been served by hand upon the Commission Investigative Attorney, **Daniel L. Girdwood, Esq.**, and the following parties as indicated on **April 26, 2010.**

  
Marilyn R. Abbott, Secretary  
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PACKARD CO. MSI COMPUTER CO., MICRO-STARR INTERNATIONAL CO, LTD,  
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**IN THE MATTER OF CERTAIN SEMICONDUCTOR CHIPS HAVING  
SYNCHRONOUS DYNAMIC RANDOM ACCESS MEMORY CONTROLLERS  
AND PRODUCTS CONTAINING SAME**

**Inv. No. 337-TA-661**

**CERTIFICATE OF SERVICE - PAGE 2**

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