

PUBLIC VERSION

UNITED STATES INTERNATIONAL TRADE COMMISSION

Washington, D.C.

In the Matter of

**CERTAIN BASEBAND PROCESSOR
CHIPS AND CHIPSETS,
TRANSMITTER AND RECEIVER
(RADIO) CHIPS, POWER CONTROL
CHIPS, AND PRODUCTS CONTAINING
SAME, INCLUDING CELLULAR
TELEPHONE HANDSETS**

Inv. No. 337-TA-543

COMMISSION OPINION ON REMEDY, THE PUBLIC INTEREST, AND BONDING

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SEPARATE, CONCURRING VIEWS OF COMMISSIONER CHARLOTTE R. LANE

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TABLE OF ABBREVIATIONS

Abbreviation	Full Name
Parties	
Complainant	
Broadcom	Broadcom Corporation
Respondent	
Qualcomm	Qualcomm Incorporated
Intervenors	
Verizon	Cellco Partnership d/b/a Verizon Wireless
Motorola	Motorola, Incorporated
Kyocera	Kyocera Wireless Corporation
Sprint	Sprint Nextel Corporation
Samsung	Samsung Electronics Company, Ltd
LGEMU	LG Electronics Mobilecomm U.S.A, Incorporated
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Transcript of Commission Hearing	Commission Hearing Transcript (begin date March 21, 2007)
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OUII's Post-ALJ-Remedy-Hearing Brief	Post-Hearing Remedy Brief of the Commission Investigative Staff
Broadcom's Post-ALJ-Remedy-Hearing Brief	Complainant Broadcom Corporation's Post-Trial Brief; Remedy Phase (July 21, 2006)
Qualcomm's Post-ALJ-Remedy-Hearing Brief	Respondent Qualcomm Incorporated's Post-Trial Brief on Remedy Issues (July 21, 2006)
Initial Briefs Before Commission Hearing	
Broadcom's Remedy Brief	Complainant Broadcom Corporation's Opening Brief Regarding Remedy, Bonding, and the Public Interest (January 18, 2007)
Qualcomm's Remedy Brief	Brief of Respondent Qualcomm Incorporated on Remedy, the Public Interest, and Bonding; Motion for Oral Argument and Hearing; Contingent Motion for a Stay of any Remedy Order (January 18, 2007)

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Intervenors' Remedy Brief	Intervenors' Joint Submission on Remedy, the Public Interest, and Bonding (January 18, 2007)
OUII's Remedy Brief	Office Of Unfair Import Investigations' Submission on Remedy, the Public Interest, and Bonding (January 18, 2007)
Reply Briefs	
OUII's Post-Remedy-Hearing Reply Brief	Post-Hearing Remedy Reply Brief Of The Commission Investigative Staff
Qualcomm's Post-Remedy-Hearing Reply Brief	Joint Post-Trial Reply Brief of Respondent Qualcomm Incorporated and the Intervenors (July 31, 2006)
Broadcom's Post-Remedy-Hearing Reply Brief	Complainant Broadcom Corporation's Post-Trial Reply Brief; Remedy Phase (July 31, 2006)
Broadcom's Remedy Reply Brief	Complainant Broadcom Corporation's Reply Brief Regarding Remedy, Bonding, and the Public Interest (February 1, 2007)
Qualcomm's Remedy Reply Brief	Brief of Respondent Qualcomm Incorporated in Response to Complainant Broadcom Corporation's Opening Brief Regarding Remedy, Bonding, and the Public Interest, and Office of Unfair Import Investigations' Submissions on Remedy, the Public Interest, and Bonding (February 1, 2007)
Intervenors' Remedy Reply Brief	Intervenors' Joint Reply Submission On Remedy the Public Interest and Bonding (February 1, 2007)
OUII's Remedy Reply Brief	Office Of Unfair Import Investigations' Reply Submission on Remedy, the Public Interest, and Bonding (February 1, 2007)
Post-Commission Hearing Submissions	
Broadcom's Post-Commission Hearing Submission	Complainant Broadcom Corporation's Post-Hearing Submission (March 29, 2007)
Qualcomm's Post-Commission Hearing Submission	Respondent Qualcomm Incorporated Post-Hearing Submission of Responses to Commission Questions Regarding Remedy and the Public Interest (March 29, 2007)
Manufacturer Intervenor's Post-Commission Hearing Submission	Joint Post-Hearing Submission of the Manufacturer Intervenors (March 29, 2007)

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Sprint's Post-Commission Hearing Submission	Sprint Nextel Corporation's Post-Hearing Submission (March 29, 2007)
Verizon's Post-Commission Hearing Submission	Post-Hearing Submission of Intervenor Verizon Wireless (March 29, 2007)
OUII's Post-Commission Hearing Submission	Post-Commission-Hearing Submission of the Office of Unfair Import Investigations on Remedy and the Public Interest (March 29, 2007)
Miscellaneous Pleadings	
Qualcomm's Emergency Motion to Strike	Respondent Qualcomm Incorporated's Emergency Motion To Strike Broadcom's Submission of Confidential Settlement Communications, for Shortened Response Time and for Expedited Consideration (March 27, 2007)
Broadcom's Response to Emergency Motion	Complainant Broadcom Corporation's Response to Qualcomm's Emergency Motion To Strike Portions of Broadcom's Post-Hearing Submission (April 6, 2007)
OUII's Response to Emergency Motion	Response of the Office of Unfair Import Investigations to Respondent Qualcomm Incorporated's Emergency Motion To Strike Confidential Settlement Communications (April 10, 2007)
Qualcomm's Petition for Reconsideration	Respondent Qualcomm Incorporated's Notice of New Authority of the U.S. Supreme Court; Petition To Reconsider the Commission's Final Determination Based on <i>KSR International Co. v. Teleflex Inc.</i> and <i>Microsoft v. AT&T</i> ; And To Re-Open the Proceedings To Establish a Briefing Schedule for Same (May 9, 2007)
OUII's Response to Petition for Reconsideration	Office of Unfair Import Investigations' Response to Respondent Qualcomm Incorporated's Notice of New Authority and Petition To Reconsider the Final Determination and Re-Open the Proceedings (May 14, 2007)
Broadcom's Response to Petition for Reconsideration	Opposition of Complainant Broadcom Corporation to Qualcomm Inc.'s Petition To Reconsider the Commission's Final Determination Based on <i>KSR International Co. v. Teleflex, Inc.</i> and <i>Microsoft v. AT&T</i> and to Re-Open the Proceedings To Establish a Briefing Schedule for Same (May 14, 2007)
Verizon's Petition for Reconsideration	Petition of Intervenor Verizon Wireless for Reconsideration of Denial of Application for Review of ALJ Order No. 29 (May 10, 2007)

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OUII's Response to Verizon's Petition	Office of Unfair Import Investigations' Response to the Petition of Intervenor Verizon Wireless for Reconsideration of Denial of Application for Review of ALJ Order No. 29 (May 15, 2007)
Broadcom's Response to Verizon's Petition	Complainant Broadcom Corporation's Response to Intervenor Verizon Wireless's Petition for Reconsideration of Denial of Application for Review of ALJ Order No. 29 (May 14, 2007)
T-Mobile Memorandum	Motion of T-Mobile USA, Inc. To Intervene Regarding the Proposed Remedy Directed to WCDMA Handsets (May 10, 2007)
OUII's Response to T-Mobile Memorandum	Office of Unfair Import Investigations' Response to the Motion of T-Mobile USA, Inc. To Intervene (May 16, 2007)
Broadcom's Response to T-Mobile Memorandum	Complainant Broadcom Corporation's Response to Motion of T-Mobile USA, Inc. To Intervene in the Commission's Review of the Initial Determination Regarding a Remedy Affecting WCDMA Handsets (May 14, 2007)
ATTM Submission	Public Statement of AT&T Mobility (F/K/A Cingular Wireless) in Response to the Proposal for an Exclusion Order Limited to WCDMA Handsets and Request To File Out of Time (May 18, 2007)

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INTRODUCTION

This is an investigation into the importation, sale for importation, and sale within the United States after importation of certain baseband processor chips alleged to infringe patents in violation of section 337 of the Tariff Act of 1930, 19 U.S.C. § 1337 ("Section 337"), as amended. These chips are used in certain cellular telephone handsets, as well as other handheld wireless communications devices. The Commission has already decided the merits on violation. It modified the claim construction of the administrative law judge ("ALJ"), and affirmed the ALJ's finding of violation of section 337. When the Commission finds a violation of section 337, as it has in this case, it must consider the issues of remedy, the public interest, and bonding. 19 U.S.C. §§ 1337 (d) and (f). Based on the full record in this investigation, including the administrative record, developed by the administrative law judge, written submissions by the parties and intervenors, and a hearing before the full Commission, the Commission has determined to exclude the accused chips. The Commission has also determined to exclude from importation downstream handheld wireless communications devices, including cellular telephone handsets, that contain the infringing chips and that are models not being imported into the United States for sale to the general public on or before June 7, 2007.^{1 2} The Commission has also determined to issue a cease and desist order.

¹ Commissioner Charlotte R. Lane joins the determination of the majority. As indicated herein, she joins certain aspects of this opinion, including remedy, and she supplies her own reasoning as well. See Separate and Concurring Views of Commissioner Charlotte R. Lane.

² Chairman Daniel R. Pearson and Commissioner Dean A. Pinkert dissenting. See Additional and Dissenting Views of Chairman Daniel R. Pearson and Commissioner Dean A. Pinkert.

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I. BACKGROUND

A. PROCEDURAL HISTORY

On June 21, 2005, the Commission instituted this investigation, based on a complaint filed by Broadcom Corporation of Irvine, California (“Broadcom” or “complainant”), alleging a violation of section 337 in the importation, sale for importation, and sale within the United States after importation of certain baseband processor chips and chipsets, transmitter and receiver (radio) chips, power control chips, and products containing same, including cellular telephone handsets by reason of infringement of certain claims of U.S. Patent Nos. 6,374,311 (“the ‘311 patent”), 6,714,983 (“the ‘983 patent”), 5,682,379 (“the ‘379 patent”), 6,359,872 (“the ‘872 patent”), and 6,583,675 (“the ‘675 patent”).³ The complainant named Qualcomm Incorporated of San Diego, California (“Qualcomm” or “respondent”), as the only respondent. The complaint, as supplemented, sought, *inter alia*, a limited exclusion order directed to Qualcomm’s infringing chips, as well as all cellular telephones and other devices that incorporate the infringing chips. Subsequently, the investigation was terminated as to the ‘379 and ‘872 patents. Only the ‘675, ‘983, and ‘311 patents were litigated in this investigation.

Several entities filed motions to intervene in the investigation: Cellco Partnership d/b/a Verizon Wireless (“Verizon”) (filed January 31, 2006), LG Electronics Mobilecomm U.S.A., Inc. (“LGEMU”) (filed February 2, 2006), Motorola, Inc. (“Motorola”) (filed February 3, 2006), Kyocera Wireless Corp. (“Kyocera”) (filed February 3, 2006), Sprint Nextel Corporation (“Sprint”) (filed February 8, 2006), and Samsung Electronics Co., Ltd. (“Samsung”) (filed February 10, 2006) (for the limited purpose of presenting evidence relating to remedy).

On February 15, 2006, the Administrative Law Judge (“ALJ”) issued an Initial

³ 70 *Fed. Reg.* 35707 (June 21, 2005).

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Determination (“ID”) (Order No. 27) granting the motions of Verizon, LGEMU, Kyocera, Motorola, Sprint, and Samsung (collectively, “Intervenors”) to the extent that they were permitted to intervene for the limited purpose of presenting evidence related to remedy and bonding.⁴ The ALJ also bifurcated the hearing in this matter into two phases, liability and remedy, and extended the target date for completion of the investigation from September 21, 2006, to December 21, 2006. An evidentiary hearing on liability was held on February 14-22, March 1, and March 13-21, 2006. An evidentiary hearing on remedy was held on July 6-11, 2006.

On October 19, 2006, the ALJ issued his final ID finding a violation of section 337 only as to claims 1, 4, 8, 9, and 11 of the ‘983⁵ patent and his recommended determination (RD) on remedy and bonding. The ALJ recommended issuance of a limited exclusion order directed to Qualcomm’s infringing chips. He did not recommend exclusion of downstream products, such as cellular telephone handsets incorporating the infringing chips. He also recommended that a cease and desist order be issued to Qualcomm.

On December 8, 2006, the Commission issued a notice of its decision to review and modify in part the ALJ’s final ID.⁶ The Commission also requested the parties to the investigation, interested government agencies, and any other interested persons to file written submissions on the issues of remedy, the public interest, and bonding. *Id.* All parties to the

⁴ Order No. 29, issued on March 9, 2006, denied Verizon’s motion to intervene in the liability phase and to disqualify complainant’s counsel. Out of all the intervenors, only Verizon expressly sought to intervene in the liability phase of this investigation.

⁵ The ALJ also found that Qualcomm’s accused products do not infringe the asserted claims of the ‘311 or ‘675 patents. *See* RD at 260.

⁶ Notice of Commission Decision to Review and Modify in Part a Final Initial Determination Finding a Violation of Section 337; Schedule For Filing Written Submissions on the Issues Under Review and On Remedy, the Public Interest, and Bonding (December 8, 2006).

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investigation, including the investigative attorney (“IA”) from the Commission’s Office of Unfair Import Investigations (“OUII”) as well as the Intervenor, filed timely opening and respective reply submissions.

In its opening brief, respondent Qualcomm, *inter alia*, moved for oral argument and hearing on the issues of remedy and the public interest. In its reply submission, complainant Broadcom opposed the motion on the ground that a hearing would delay the grant of relief in this investigation. No other party responded to Qualcomm’s motion. The Commission determined to hold a public hearing on the issues of remedy and the public interest, and to extend further the target date for completion of this investigation until May 8, 2007.

On March 21-22, 2007, the Commission held a public hearing on the issues of remedy and the public interest. Following the hearing, the parties filed their post-hearing submissions on the issues raised during the hearing. Subsequently, respondent Qualcomm filed an emergency motion to strike Broadcom’s submission of a confidential settlement communication; Broadcom and the IA filed their responses opposing Qualcomm’s emergency motion; and Qualcomm filed a motion for leave to reply to Broadcom’s and the IA’s responses.

On April 23, 2007, the Commission determined to extend the target date for completion of this investigation by seventeen (17) days to May 25, 2007.

On May 9, 2007, Qualcomm filed “Respondent Qualcomm Incorporated’s Notice Of New Authority Of The U.S. Supreme Court; Petition To Reconsider The Commission’s Final Determination Based On KSR International Co v. Teleflex Inc. and Microsoft v. AT&T; and To Re-Open The Proceedings To Establish a Briefing Schedule For Same.” Broadcom and the IA filed timely responses in opposition to Qualcomm’s motion.

On May 10, 2007, Verizon filed “Petition Of Intervenor Verizon Wireless For Reconsideration Of Denial Of Application For Review Of ALJ Order No. 29.” Broadcom,

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Qualcomm, and the IA filed timely responses, in which Broadcom and the IA oppose, and Qualcomm supports, Verizon's petition.⁷

Also, on May 10, 2007, non-party T-Mobile USA, Inc. ("T-Mobile"), filed a motion "To Intervene In The Commission's Review Of The Initial Determination Regarding a Remedy Affecting WCDMA Handsets." Broadcom and the IA filed timely responses in opposition to T-Mobile's motion. Qualcomm filed its timely response in support of T-Mobile's motion.⁸

On May 18, 2007, non-party AT&T Mobility ("ATTM") submitted a "Public Statement in Response to the Proposal for an Exclusion Order Limited to WCDMA Handsets and Request to File Out of Time" ("ATTM Statement"). Qualcomm and Broadcom filed timely responses (Qualcomm – in support, Broadcom – in opposition) to the ATTM Statement.

On May 25, 2007, the Commission determined to extend the target date for completion of this investigation by thirteen (13) days to June 7, 2007.

On June 7, 2007, the Commission determined to issue a limited exclusion order covering the infringing chips as well as certain handheld wireless communications devices containing the same which are not models being imported into the United States for sale to the general public on or before June 7, 2007, and a cease and desist order.⁹ The Commission also determined that the statutory public interest factors do not preclude the issuance of such relief and that respondent's bond during the Presidential review period should be set in the amount of 100 percent of entered value of each excluded chip, and 5 percent of entered value of each excluded handheld device. This opinion explains the basis for these determinations.

⁷ On May 16, 2007, Verizon filed a motion for leave to file a reply in support of its petition. On May 21, 2007, the IA filed an opposition to Verizon's motion for leave.

⁸ On May 18, 2007, T-Mobile filed a motion for leave to file a reply to Broadcom's response to T-Mobile's motion to intervene.

⁹ Chairman Pearson and Commissioner Pinkert dissented.

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B. THE PARTIES

1. Broadcom

Complainant Broadcom is a California corporation headquartered in Irvine, California. Broadcom provides complete system-on-a-chip solutions and related hardware and software applications for the broadband (GSM/GPRS) communications market.¹⁰

Within the United States, Broadcom conducts research and development of chips for many applications, including cellular phones.¹¹ Broadcom contracts with third parties for the manufacture and assembly of third generation (“3G”) baseband chips, which it sells for use in cell phones sold abroad, *e.g.*, in Europe and Japan.¹² Broadcom purchased the ‘983 patent in December 2002 as part of a portfolio of patents relating to cellular and wireless technologies. According to Broadcom, at the time of the purchase, Broadcom was planning to enter several new markets in the cellular and wireless arenas, and it acquired the ‘983 patent and the others in that portfolio in order to assist it in entering into and competing in cellular markets.¹³

2. Qualcomm

Respondent Qualcomm, located in San Diego, California, develops, has manufactured, and sells integrated circuits, including baseband processor chips and chipsets, including radio chips, for use in wireless communications and multimedia functions.¹⁴ Qualcomm’s chips can be

¹⁰ Complaint ¶ 19, p. 6; ¶ 24, p. 8; ¶ 27, p. 9. OUII’s Post-ALJ-Remedy-Hearing Brief at 2. Broadcom’s Remedy Brief at 4-5.

¹¹ Transcript of Commission Hearing at 23:1-7 (McGregor).

¹² Transcript of Commission Hearing at 24-25, 73-74 (McGregor).

¹³ Broadcom’s Post-Commission Hearing Submission at 48.

¹⁴ OUII’s Post-ALJ-Remedy-Hearing Brief at 3.

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sold individually, or in combination as chipsets.¹⁵ Qualcomm has contracts with third parties for the manufacture and assembly of these chips, chipsets, and other related products at facilities outside the United States. These chips are then incorporated into wireless handsets and other devices at facilities outside the United States. Qualcomm provides instructions to handset manufacturers [[]] and offers support and information regarding the use of those chips.¹⁶

3. Kyocera

Intervenor Kyocera, located in San Diego, California, is a Delaware corporation and a wholly-owned subsidiary of Kyocera International, Inc. of San Diego, which is the North American holding company for Kyocera Corporation of Japan. In February 2000, Kyocera Corporation acquired the cellular telephone handset manufacturing business of Qualcomm and formed Kyocera to continue that business.¹⁷ Kyocera manufactures handsets and other wireless devices at facilities outside the United States.¹⁸ Kyocera purchases Qualcomm chips and incorporates them into devices outside the United States, and then imports those devices for sale within the United States.¹⁹

4. LGEMU

Intervenor LGEMU, located in San Diego, is the North American wireless division of LG Electronics, which is headquartered in Seoul, Korea. LGEMU provides sales and marketing support for wireless handset products for North America.²⁰

LGEMU operates as the North American wireless division of LGE and provides sales and marketing support to LGE for North America. LGEMU purchases Qualcomm chips and

¹⁵ Broadcom's Remedy Brief at 5.

¹⁶ Broadcom's Remedy Brief at 5; RD at 149-151.

¹⁷ OUII's Post-ALJ-Remedy-Hearing Brief at 3.

¹⁸ Broadcom's Remedy Brief at 5.

¹⁹ Broadcom's Remedy Brief at 5.

²⁰ OUII's Post-ALJ-Remedy-Hearing Brief at 3.

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incorporates them into devices outside the United States, and then imports those devices for sale within the United States.²¹

5. Motorola

Intervenor Motorola is a Delaware corporation located in Schaumburg, Illinois. Motorola is a communications company that builds, markets, and sells products including wireless telephone handsets for the U.S. and world markets.²² Motorola purchases Qualcomm chips and incorporates them into devices outside the United States, and then imports those devices for sale within the United States.²³

6. Samsung

Intervenor Samsung is a South Korean company that manufactures consumer products including wireless telephone handsets and sells them to the U.S. and the world markets.²⁴ Samsung purchases Qualcomm chips and incorporates them into devices outside the United States, and then imports those devices for sale within the United States.²⁵

7. Sprint

Intervenor Sprint is a Kansas corporation with its principal place of business in Reston, Virginia. Sprint was formed in 2005 by the merger of Sprint Corporation and Nextel Communications Inc. Sprint is a communications company that sells wired and wireless communication products and services.²⁶ Sprint launched its first 3G, EV-DO network in summer of 2005.²⁷ Sprint sells handsets for its network that contain the Qualcomm chips.

²¹ Broadcom's Remedy Brief at 6.

²² OUII's Post-ALJ-Remedy-Hearing Brief at 3.

²³ Broadcom's Remedy Brief at 7.

²⁴ OUII's Post-ALJ-Remedy-Hearing Brief at 3.

²⁵ Broadcom's Remedy Brief at 7.

²⁶ OUII's Post-ALJ-Remedy-Hearing Brief at 4.

²⁷ See "Sprint Begins EV-DO Launch" by Kevin Fitchard, *Telephony's Wireless Review*, July 7, 2005, http://telephonyonline.com/wireless/marketing/sprint_evdo_3g_070705/.

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8. Verizon

Intervenor Verizon, a Delaware corporation, is a general partnership between Verizon Communications Inc. and Vodafone Group PLC.²⁸ Verizon is a communications company that sells wired and wireless communication products and services.²⁹ Verizon launched its first national consumer 3G, EV-DO service in winter of 2005.³⁰ Verizon sells handsets for its network that contain the Qualcomm chips.

C. THE INFRINGED PATENT CLAIMS

At issue during the remedy stage of this investigation are claims 1, 4, 8, 9, and 11 of the '983 patent. The '983 patent, entitled "Modular, Portable Data Processing Terminal for Use in a Communication Network" issued on March 30, 2004, based on Application Serial No. 08/513,658, filed on August 11, 1995. By virtue of a terminal disclaimer, the '983 patent will expire on June 8, 2010.³¹ The named inventors are Steven E. Koenck, Patrick W. Kinney, Ronald L. Mahany, Robert C. Meier, and Phillip Miller. Broadcom owns the '983 patent by assignment.

The '983 patent has a total of 25 claims. Independent claims 1 and 14 and dependent claims 4, 8, 9, 11, 17, 18, 19, 20, 21, 22, 23, and 24 are at issue in this investigation. During the violation stage of the investigation, the ALJ determined that Qualcomm's accused products directly infringe claims 1, 4, 8, 9, and 11 of the '983 patent, and that, in addition, Qualcomm induces infringement of claims 1, 4, 8, 9, and 11. The ALJ also determined that Qualcomm's accused products do not infringe, either directly, or indirectly, claims 14 and 17-24. After briefing by the parties, the Commission determined not to review, and therefore adopted, all the

²⁸ OUII's Post-ALJ-Remedy-Hearing Brief at 4. Broadcom's Remedy Brief at 7.

²⁹ See <http://investor.verizon.com/profile/index.aspx>.

³⁰ See "Verizon Offers Consumer 3G" by Kevin Fitchard, Telephony's Wireless Review, January 17, 2005, http://telephonyonline.com/mag/telecom_verizon_offers_consumer/.

³¹ Broadcom's Post-Commission Hearing Submission at 46.

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ALJ's infringement findings.³²

Claims 1, 4, 8, 9, and 11 of the '983 patent cover an invention relating to wireless telecommunications systems, which are radio data networks that facilitate communication between host computers and radio frequency ("RF") terminals. In particular, this invention relates to mobile device capabilities and power management. The patent discloses a modular mobile computing device and a method of using such a device to communicate with a network using two or more different wireless technologies. It is also directed to extending battery life in a mobile computing device by operating the device in a reduced power mode.

Modern mobile wireless handsets must be able to communicate via different network communication protocols, or air interfaces, found in different business environments. By employing the modular design disclosed in the '983 patent, interchangeable radio cards (or modules) can be used to allow a mobile device to communicate on different protocols (*i.e.*, sets of standard rules for data representation, signaling, authentication and error detection required to send information over a communications channel).

The other pertinent feature of the disclosed invention is efficient power consumption by handheld computing devices. The '983 patent discloses a power saving technique that relates to how often a wireless device scans in order to establish communication with a network. This technique saves power by reducing the frequency of scanning for access points to communicate with the network when roaming between coverage areas or disconnecting an RF link with one access point in favor of connecting with a different access point.

D. PRODUCTS AT ISSUE

Broadcom has accused the following Qualcomm baseband processor chips of infringing certain claims of the '983 patent: MSM 6200, 6225, 6245, 6250, 6255, 6260, 6275, 6280, 6300,

³² Notice of Commission Decision to Review and Modify in Part a Final Initial Determination Finding a Violation of Section 337; Schedule For Filing Written Submissions on the Issues Under Review and On Remedy, the Public Interest, and Bonding (December 8, 2006).

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6500, 6550, 6800, and 7500.³³ The ALJ found that the MSM 6250 chip is representative of these chips and infringes claims 1, 4, 8, 9, and 11 when used with Qualcomm system determination software.³⁴ Thus, he found that the Qualcomm chips at issue infringe the asserted claims of the '983 patent when they are programmed with a source code that implements battery saving features such as reducing the frequency of scanning for access points. For example, he found that the MSM6250 chipset [[

]].³⁵

The ALJ found that Qualcomm also induces this infringing combination by, *inter alia*,
[[

]].³⁶ [[

]].³⁷

The baseband processor chips found to infringe in the present investigation are designed for use in various handheld wireless communications devices, such as cellular telephone

³³ ID at 19, 132.

³⁴ ID at 137, 147-48, 154-64.

³⁵ RD at 158 (citing SIB at 77; CX-1664C (Nettleton Direct) at 51-52; Proakis, Tr. 2201-02; RX-922C (Proakis Rebuttal) at 11-13).

³⁶ A Form Factor Accurate ("FFA") device is a testing device that is made to resemble a cell phone. RD at 138 (citing RIB 64; JX-38C (Mollenkopf Dep) at 106-07).

³⁷ RD at 151.

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handsets, data cards,³⁸ and so called “converged devices” (*i.e.*, personal digital assistants (“PDAs”), Smartphones, and handheld e-mail devices like Blackberries) that operate on wireless networks.³⁹

E. THE U.S. WIRELESS COMMUNICATIONS MARKET

It is undisputed that all, or virtually all, of Qualcomm’s infringing chips enter the United States as part of downstream handheld wireless communications devices. More specifically, many of the infringing chips are used in cellular telephone handsets and PDAs most of which are capable of operating on so-called third generation (“3G”) cellular telephone networks. Therefore, we find it necessary to describe the U.S. wireless communications market as it relates to mobile telephone service.

In accordance with the Communications Act,⁴⁰ the Federal Communications Commission (“FCC”) establishes the rules and policies governing allocation and licensing of the radio spectrum used to provide mobile telephone services in the United States.⁴¹ The FCC has adopted flexible licensing policies instead of mandating any particular technology, air interface, or network standard. Under these policies, mobile telephone carriers have the flexibility to deploy the network technologies and services they choose as long as they abide by certain technical

³⁸ Data cards are devices that a user can insert into a laptop computer to enable it to connect to certain wireless networks (*e.g.*, a 1xRTT or EV-DO network, *see infra*) for wireless Internet access. *See* Broadcom’s Remedy Brief at 10.

³⁹ Broadcom’s Remedy Brief at 8. In order to ease the administration of any exclusion order that may issue, Broadcom proposes to define “converged device” as one that utilizes a full QWERTY keyboard in which each letter of the alphabet is assigned a unique, fixed, physical key, with those keys laid out as on a traditional typewriter keypad. Broadcom’s Remedy Brief at 62-64. We have not adopted this definition and do not distinguish between QWERTY and non-QWERTY devices in our remedy analysis, except when describing the parties’ arguments.

⁴⁰ Communications Act of 1934, as amended, 47 U.S.C. § 151 *et seq.*

⁴¹ FCC Comments at 2.

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parameters designed to avoid radio frequency interference with adjacent licensees.⁴² According to the FCC, as a result of this technological flexibility, different competing digital wireless standards have been deployed in the United States, which has resulted in greater product variety and greater differentiation of services offered by wireless carriers, and, accordingly, has benefited U.S. consumers.⁴³ The number of cellphone users in the United States has doubled over the past six years to 215 million.⁴⁴

Presently, Code Division Multiple Access (“CDMA”) and Global System for Mobile Communications (“GSM”) are the two leading second-generation (“2G”) wireless network technologies in the United States. CDMA and GSM are based on different coding schemes and are not compatible technologies. Carriers usually provide service using either one network or the other, so subscribers that wish to switch between the technologies need to change their service provider and obtain new equipment. According to the FCC, as of the second quarter of 2006, approximately 47 percent of U.S. mobile telephone subscribers were on CDMA networks, and approximately 36 percent were on GSM networks.⁴⁵ Of the four nationwide mobile telephone carriers in the United States, Verizon and Sprint use CDMA as their 2G network technology, while AT&T and T-Mobile use GSM.⁴⁶

Recently, U.S. carriers have been moving towards 3G network technologies that enable them to offer data services at higher data transfer speeds and allow them to implement a variety

⁴² FCC Comments at 2.

⁴³ FCC Comments at 2-3.

⁴⁴ Broadcom’s Remedy Brief at 12 (citing BRFF65).

⁴⁵ FCC Comments at 3.

⁴⁶ FCC Comments at 3.

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of new capabilities and services.⁴⁷ Carriers have been following two different, competing technological migration paths, determined by their 2G network technology.

In particular, CDMA carriers have been upgrading their networks first to CDMA2000 1xRTT and then to CDMA2000 1xEV-DO. EV-DO is considered to be a natural migration from the 2G version of CDMA, entailing a relatively simple upgrade of existing CDMA technology.⁴⁸ Subscribers can access EV-DO networks via technologically compatible handsets or a data card inserted into a laptop computer. According to the FCC, there were approximately 3.1 million mobile broadband subscribers in the United States at the end of 2005, nearly all of whom were EV-DO subscribers.⁴⁹ According to the FCC, among the numerous benefits of the EV-DO protocol is its backwards-compatibility that allows EV-DO subscribers to “seamlessly roam on and access their carrier’s existing CDMA network, continuing to enjoy the benefits of nationwide coverage provided by these networks.”⁵⁰ The FCC anticipates that the potential consumer benefits of future versions of EV-DO will include significantly faster average upload and download speeds, richer, more interactive applications such as wireline quality Voice-over-Internet Protocol (“VoIP”), high performance push-to-talk service, high-speed video telephony, video messaging, video and music on demand, and real-time gaming.⁵¹

⁴⁷ FCC Comments at 3.

⁴⁸ For example, the current version of EV-DO (“1 times Evolution-Data Optimized”) is 5 to 8 times faster than 1xRTT (“1 times Ratio Transmission Technology”). Due to the difference in data speed, many products that can be offered over EV-DO, such as many video, music, and gaming products, are not commercially acceptable over 1xRTT. Moreover, EV-DO makes transmitting data significantly cheaper: [[
]]. Intervenors’ Remedy Brief at 25-26.

⁴⁹ FCC Comments at 5.

⁵⁰ FCC Comments at 6.

⁵¹ FCC Comments at 6.

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GSM carriers have generally progressed to next-generation network technologies by upgrading first to General Packet Ratio Service (“GPRS”), then to Enhanced Data Rates for GSM Evolution (“EDGE”), followed by Wideband Code Division Multiple Access (“WCDMA,” also known as Universal Mobile Telecommunications System (“UMTS”)), and ultimately WCDMA with High Speed Data Packet Access (“HSDPA/WCDMA”).⁵² Similar to EV-DO, customers of a GSM-based HSDPA/WCDMA carrier can access mobile broadband services with handsets or data cards inserted into laptop computers.

In order to compete with the faster EV-DO network speeds offered to U.S. consumers, in December 2005, Cingular Wireless commercially launched the world’s first HSDPA/WCDMA network, which supports the speeds that are similar to or slightly faster than speeds on EV-DO networks.⁵³ Having been launched more than two years later than EV-DO, the HSDPA/WCDMA network is less widely deployed and used by consumers. As of mid-2006, HSDPA/WCDMA was available in counties containing about 20 percent of the U.S. population.⁵⁴ As of January 2007, AT&T, the successor to Cingular, remained the only GSM carrier in the United States that has commercially launched a mobile broadband network using HSDPA/WCDMA, while the second nationwide GSM carrier, T-Mobile, has announced plans to roll out a competing HSDPA/WCDMA network starting later in 2007.⁵⁵

Thus, CDMA-based EV-DO, first launched in the U.S. in 2003, and GSM-based

⁵² FCC Comments at 7.

⁵³ FCC Comments at 7.

⁵⁴ FCC Comments at 7.

⁵⁵ FCC Comments at 7. Also, according to the FCC, although Cingular offers a cellphone music service that allows subscribers to transfer music from personal computers to cellphones using a cable, Cingular has yet to introduce a service to compete with the over-the-air music downloading services offered by Verizon and Sprint on their EV-DO networks. FCC Comments at 7.

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HSDPA/WCDMA, first launched in 2005, generally compete in enabling U.S. consumers to receive mobile services at the most broadband-like speeds.⁵⁶ According to the FCC, “mobile broadband services are widely accepted as a critical element to the future evolution of mobile wireless services for consumers”⁵⁷ In general, “data-intensive services that provide customers with direct access to the Internet . . . can be effectively provided using *only* EV-DO [and other 3G] network technology,”⁵⁸ and “carriers can implement . . . [3G] technology *only* if consumers have access to [3G]-compatible devices, including handsets.”⁵⁹ As a result, for many applications 3G technology can be perceived as synonymous with mobile broadband.

Qualcomm MSM 6200, 6225, 6245, 6250, 6255, 6260, 6275, and 6280 chips (“the MSM 62XX series” or “the GSM chips”) support and implement the GSM/GPRS/WCDMA protocol. The MSM6300 chip, a dual-mode chip, supports and implements the 1xRTT and GSM/GPRS protocols. The MSM 6500, 6550, 6800, and 7500 chips support and implement both EV-DO and GSM/GPRS protocols.⁶⁰

II. REMEDY — GENERAL ISSUES

A. INTRODUCTION

Under Section 337(d), the Commission may issue either a limited or a general exclusion order. A limited exclusion order instructs the Bureau of Customs and Border Protection (“Customs”) to exclude from entry all articles that are covered by the patent at issue and also originate from a named respondent in the investigation. A general exclusion order instructs

⁵⁶ FCC Comments at 3.

⁵⁷ FCC Comments at 3-4.

⁵⁸ Intervenor’s Remedy Brief at 26 (citations omitted) (emphasis added).

⁵⁹ Intervenor’s Remedy Brief at 27 (citations omitted) (emphasis added).

⁶⁰ RD at 264.

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Customs to exclude from entry all articles that are covered by the patent at issue, without regard to source.⁶¹ The Commission may issue an exclusion order only after considering the public interest factors enumerated in 19 U.S.C. § 1337(d)(1). Thus, the Commission determines the appropriate remedy and decides whether the statutory public interest factors preclude issuance of that remedy.

In this investigation, both complainant Broadcom and the IA propose that the Commission issue a limited exclusion order covering the majority of the downstream products imported by the Intervenor that contain Qualcomm's infringing chips as well as the infringing chips. Qualcomm and the Intervenor strongly oppose an order covering downstream products.

B. LIMITED EXCLUSION ORDER ON QUALCOMM'S INFRINGING CHIPS

1. The ALJ's Recommended Determination

The ALJ noted that Broadcom requests issuance of a limited exclusion order that prohibits, *inter alia*, the importation of all infringing products, including but not limited to the following chips:

- (1) the MSM6200, MSM6225, MSM6245, MSM6250, MSM6255, MSM6260, MSM6275, and MSM6280 chips, which support and implement the GSM/GPRS/WCDMA protocol;
- (2) the MSM6300 chip, which is a dual-mode chip that supports and implements the 1xRTT and GSM/GPRS protocols;
- (3) the MSM6500, MSM6550, MSM6800, and MSM7500 chips, which support and implement both EV-DO and GSM/GPRS.⁶²

The ALJ recommended that, based on his findings, the infringing chips should be subject to a limited exclusion order. Since the ALJ found direct infringement of claims 1, 4, 8, 9, and 11 of the '983 patent, he stated that "an exclusion order directed to accused chips that are

⁶¹ 19 U.S.C. § 1337(d)(2).

⁶² RD at 264-65 (citing CIBR 10).

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programmed with source code that infringes and that are manufactured abroad by or on behalf of, or imported by or on behalf of Qualcomm and its affiliates, parents, subsidiaries or related business entities is appropriate.”⁶³ As discussed below, the ALJ also stated that he “does not recommend that the exclusion order include downstream products.”⁶⁴ The ALJ considered and rejected Qualcomm’s assertion of a new “exception” to an exclusion order that would allow for the testing of chips for research and development purposes “which appeared to be based on inherent ‘obligations’ that Qualcomm has with respect to products that are allowed to be imported under Broadcom’s proposed exclusion order.”⁶⁵ The ALJ took into consideration the IA’s contention that Qualcomm “has cited no precedent for its position,”⁶⁶ stating:

As to Qualcomm’s argument that there should be an exception to allow importation of infringing chips for testing purposes, no such exception is mandated by the statute and Qualcomm points to no such legal support. In addition, Qualcomm failed to preserve this as a remedy issue in its initial pre-trial brief, filed on January 30, 2006. Although the pre-trial was filed before the motions to intervene were filed and the investigation was bifurcated into liability and remedy phases, this is an issue that Qualcomm should have been able to foresee at the time the initial pre-trial brief was filed.⁶⁷

The ALJ concluded that, accordingly, the issue was waived under his ground rules.⁶⁸

⁶³ RD at 268.

⁶⁴ RD at 310.

⁶⁵ RD at 267-68 (citing SIBR 11-12).

⁶⁶ RD at 268 (citing SIBR 12).

⁶⁷ RD at 268.

⁶⁸ RD at 268 (citing Qualcomm’s pretrial brief at 111-22 filed on January 30, 2006, and Ground Rule 8.2 and noting that during the remedy phase, Qualcomm asserted that “testing” evidence should be permitted as evidence of non-infringement, but the ALJ ruled that such arguments should have been raised in the liability phase, see Order No. 50, June 22, 2006 and Bullock, R.Tr. 10-20 (July 6, 2006)).

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2. Broadcom's Position

Complainant Broadcom agrees with the ALJ that a limited exclusion order precluding respondent Qualcomm's infringing products from entry into the United States for consumption should be issued. Broadcom also supports the ALJ's finding that Qualcomm is not entitled to an exception that would allow Qualcomm to import chips for testing purposes.⁶⁹

Broadcom also argues before the Commission that to further prevent evasion of the exclusion order, the Commission should explicitly state that the order excludes importation of infringing Qualcomm chips into any United States Foreign Trade Zone ("FTZ").⁷⁰ Special Customs procedures may be used in FTZs that allow domestic activity involving foreign items to take place prior to formal Customs entry. FTZs can have various subzones for individual companies that employ the same special Customs procedures. Broadcom submits that in August 2006, shortly after the remedy hearing in this investigation, Qualcomm applied for three FTZ subzones covering sites that appear to implicate its operations with respect to the infringing MSM chips: one each in Raleigh, North Carolina; Denver, Colorado; and San Diego, California. Broadcom further submits that according to its FTZ applications, Qualcomm intends to conduct research and development and product testing in the proposed subzones on the very products the Commission has found to infringe Broadcom's patent. Broadcom argues that if the FTZ Board grants Qualcomm's subzone application, Qualcomm will likely attempt to import infringing chips into its FTZ subzones.⁷¹

3. Qualcomm's Position

Qualcomm submits that no exclusion order and no cease and desist order is appropriate in

⁶⁹ Broadcom's Remedy Brief at 14.

⁷⁰ Broadcom's Remedy Brief at 14 (citing 15 C.F.R. § 400.2 (1995)).

⁷¹ Broadcom's Remedy Brief at 14.

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this case, because Broadcom has not sustained its burden to establish the key issues relating to remedy, bonding, and the public interest under governing precedent.⁷²

Qualcomm takes the position that even if it is found liable for infringement of the '983 patent, a baseband chip only infringes the asserted patents when it is combined with certain software containing instructions enabling the accused functionality.⁷³ Qualcomm contends that because the chips themselves are not infringing and can be used in non-infringing ways, chips that have not been enabled by particular software to operate in an infringing manner should not be excluded. Moreover, Qualcomm argues that it should be able to import non-infringing chips.⁷⁴ Qualcomm asserts that any remedial order must be carefully tailored to allow the importation and use of chips in ways that do not infringe the asserted patents.⁷⁵ Furthermore, Qualcomm argues that it must be allowed to continue to provide the research, development, and other related activities essential to the development and manufacture of baseband chips for PDAs, smartphones and data cards.⁷⁶ In the alternative, Qualcomm also argues that “[a]ny order prohibiting Qualcomm’s research, development, and testing activities must be based on a careful inquiry into whether or not such activities would actually constitute inducement under United States patent law and whether or not the order would impair legitimate commerce.”⁷⁷

Qualcomm also argues, that Broadcom has not shown any legal or factual justification for a remedy any broader than that recommended by the ALJ. Qualcomm submits that any remedy

⁷² Qualcomm’s Remedy Reply Brief at 121.

⁷³ Qualcomm’s Post-ALJ-Remedy-Hearing Brief at 3.

⁷⁴ Qualcomm’s Post-ALJ-Remedy-Hearing Brief at 11.

⁷⁵ Qualcomm’s Post-ALJ-Remedy-Hearing Brief at 11.

⁷⁶ Qualcomm’s Post-ALJ-Remedy-Hearing Brief at 4.

⁷⁷ Qualcomm’s Post-ALJ-Remedy-Hearing Brief at 13.

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instead should be limited by the scope of the Commission's infringement finding, most notably the requirement of a specific hardware-and-software combination.⁷⁸ Qualcomm contends that because the chips themselves are non-infringing and are used in a wide range of non-infringing research, development, and testing activities, an order excluding them would impermissibly destroy significant volumes of indisputably legitimate commerce.⁷⁹

Qualcomm objects to the proposed exclusion of "circuit board modules or carriers" containing infringing chips. Qualcomm contends that there was no evidence in this case related to circuit board modules or carriers as a mode of importing infringing chips into this country and therefore no order should issue covering such items. Qualcomm also argues that no order should be entered with respect to FTZs because Broadcom failed to timely raise this issue and it is improper as a matter of law.⁸⁰

4. The IA's Position⁸¹

The IA acknowledges that the accused Qualcomm baseband processor chips infringe the claims of the '983 patent only after they have been programmed with source code that enables the required power-saving feature. Accordingly, she submits that the articles to be excluded from the United States should be any baseband processor chip that is programmed to enable the power-saving features covered by claims 1, 4, 8, 9, or 11 of the '983 patent and that is also manufactured abroad by or on behalf of, or imported by or on behalf of, Qualcomm or any of its affiliated companies, parents, subsidiaries, or other related business entities, or their successors

⁷⁸ Qualcomm's Remedy Reply Brief at 34.

⁷⁹ Qualcomm's Remedy Reply Brief at 40.

⁸⁰ See Qualcomm's Remedy Reply Brief at 125-35.

⁸¹ Intervenors did not express any position on this portion of the RD.

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or assigns.⁸² The IA argues that because there is no evidence that Qualcomm has imported non-infringing unprogrammed chips into the United States and then programmed them to make them infringing, the Commission should, as the ALJ recommended, decline to extend the exclusion order or any certification provision to non-infringing unprogrammed chips.⁸³ The IA submits that in accordance with a long-standing Commission practice, the exclusion order should also cover infringing chips contained in chip carriers and in circuit boards in order to prevent circumvention of the exclusion order.⁸⁴

The IA disagrees with Qualcomm's argument that it should be allowed to import infringing chips to continue its research, development, and testing activities upon submitting a certification that the chips will not be used for infringing purposes. The IA points out that the Commission exclusion orders do not bar domestic "activities" – instead they bar products that directly or indirectly infringe the patents at issue, and, accordingly, having found in this investigation that certain programmed baseband processor chips infringe the '983 patent, the Commission should bar those chips regardless of their intended use.

The IA also disagrees with Qualcomm's request for an additional exemption to the exclusion order that would allow for the importation of accused baseband processor chips for research, development, testing, or other "support" for such chips incorporated into exempted

⁸² OUII's Remedy Brief at 7 (citing *Certain Automated Mechanical Transmission Systems for Medium-Duty and Heavy-Duty Trucks and Components Thereof*, Inv. No. 337-TA-503; Limited Exclusion Order at 1 (April 7, 2005)); IA's Remedy Brief at 8 (citing RD at 268; *Certain Systems for Detecting and Removing Viruses or Worms, Components Thereof, and Products Containing Same*, Inv. No. 337-TA-510, Comm'n. Op. (August 23, 2005) ("Viruses"); *Certain Curable Fluoroelastomer Compositions and Precursors Thereof*, Inv. No. 337-TA-364, USITC Pub. 2890, Comm'n. Op. at 4-5 (May 1995) ("Fluoroelastomers")).

⁸³ OUII's Remedy Brief at 9 (citing RD at 268).

⁸⁴ The IA notes that the RD made no recommendation on this point. OUII's Remedy Brief at 10 n.12.

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PDA's and Smartphones that may be imported under Broadcom's proposed exclusion order.⁸⁵

The IA submits that to the extent Qualcomm wants to test converged devices, her proposed exclusion order would allow for the importation of such devices. The IA points out that inasmuch as the Commission has determined that only programmed chips infringe, Qualcomm would be free to import unprogrammed chips to perform any research, development, or testing activities that did not involve programming the chips to perform the patented power-saving features of claims 1, 4, 8, 9, and 11 of the '983 patent.⁸⁶

The IA disagrees with Broadcom's position regarding FTZs, arguing that any exclusion order should not apply to such zones, and that Broadcom has not presented any evidence that such an exclusion is required.⁸⁷ The IA contends that Broadcom failed to specify a basis for its belief that "after an exclusion order issues, Qualcomm intends to perform research and development and product testing 'on the very products that Commission has found infringe Broadcom's patent' in these foreign trade zones."⁸⁸ The IA notes that a review of Qualcomm's FTZ applications, cited by Broadcom does not lead to a conclusion that "Qualcomm is seeking 'an end-run' around any exclusion order"⁸⁹ The IA points out that to the extent that Qualcomm would program chips with software that enabled the patented feature, the IA's proposed exclusion order explicitly prohibits "entry for consumption from a foreign-trade zone" of any

⁸⁵ OUII's Remedy Brief at 12-13.

⁸⁶ OUII's Remedy Brief at 14.

⁸⁷ OUII's Remedy Reply Brief at 1 (citing *Certain Devices for Connecting Computers Via Telephone Lines*, Inv. No. 337-TA-360, Comm'n. Op. at 7-10 (November 1994) ("Devices for Connecting Computers"); *Certain Processes for the Manufacture of Skinless Sausage Casings and Resulting Product*, Inv. No. 337-TA-148/169, Comm'n. Op. (on modification) at 7-8 (September 1994) ("Sausage Casings")).

⁸⁸ OUII's Remedy Reply Brief at 2 (citing Broadcom's Remedy Brief at 14).

⁸⁹ OUII's Remedy Reply Brief at 1.

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such chips or phones containing them. The IA also submits that Broadcom has not shown that an exclusion order directed to entry for consumption is insufficient or that a broader order is required.⁹⁰

5. Views of the Commission

We agree with the IA's position on the scope of the order as it pertains to the infringing chips. The Commission has determined to adopt the relevant portion of the IA's proposed limited exclusion order. We note that the IA's position is generally consistent with the ALJ's recommendation.⁹¹

Accordingly, the Commission has determined to exclude the infringing chips, *i.e.*, the accused chips that are programmed with source code enabling the patented power-saving features that infringe claims 1, 4, 8, 9, or 11 of the '983 patent. Therefore, the Commission's exclusion order is limited to chips that are programmed with source code covered by the '983 patent and are manufactured abroad by or on behalf of, or imported by or on behalf of Qualcomm or its affiliated companies, parents, subsidiaries, contractors, or other related business entities, or their successors or assigns.⁹²

Furthermore, we agree with the IA's position that Qualcomm's testing exceptions have no support in the Commission precedent and are not appropriate. We also agree with the IA that any exclusion order should not apply to FTZs, because the IA's proposed exclusion order is adequate to protect Broadcom's interests by prohibiting "entry for consumption from a foreign-trade zone" of any such chips or phones containing them.⁹³ Finally, we agree that the limited exclusion

⁹⁰ OUII's Remedy Reply Brief at 2.

⁹¹ See RD at 268.

⁹² See The IA's Proposed Limited Exclusion Order, ¶ 1.

⁹³ The IA's Proposed Limited Exclusion Order, ¶ 1.

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order should also cover infringing chips in carriers to prevent circumvention.

III. ADDITIONAL ISSUES WITH RESPECT TO THE LIMITED EXCLUSION ORDER ON DOWNSTREAM PRODUCTS

A. INTRODUCTION

In every Section 337 proceeding in which a violation is found, the statute directs the Commission to issue an exclusion order on infringing articles unless it finds that the exclusion of such articles is not in the public interest. Section 337(d)(1) provides:

[I]f the Commission determines as a result of an investigation under this section, that there is a violation of this section, it shall direct that the articles concerned, imported by any person violating the provision of this section, be excluded from entry into the United States, unless, after considering the effect of such exclusion upon the public health and welfare, competitive conditions in the United States economy, the production of like or directly competitive products in the United States and the United States consumers, it finds that such articles should not be excluded from entry.

In this investigation, the infringing articles are incorporated into downstream products, including handheld wireless communications devices, prior to importation into the United States.⁹⁴ A central issue in this investigation is whether or not the statutory relief should include such products that contain chips that infringe the '983 patent. Qualcomm and the Intervenor argue against any remedy that covers products containing the infringing chips. Broadcom and the IA argue that a remedy that excludes from entry cellular telephone handsets except those that feature a full QWERTY-style keyboard is appropriate.

The plain language of the statute can be read to require the Commission either to issue an order excluding all infringing articles, regardless of whether they are imported as components of downstream products, or to issue no remedy at all if precluded by the statutory public interest

⁹⁴ See CX-2378C at 7; CX-2409C at 14; ALJ Remedy Hearing Transcript at 82 (Mulhern).

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factors.⁹⁵ The Commission, however, has interpreted the statute to afford it discretion, in cases involving downstream products, to issue exclusion orders covering less than all infringing articles. This approach was first articulated in 1989 in the Commission's *EPROMs* decision and subsequently approved by our reviewing Court.^{96 97} Under this approach, the Commission considers a number of factors in balancing the complainant's interest in obtaining maximum protection from all infringing imports through the exclusion of downstream products against the potential of such an exclusion order to harm third parties and disrupt legitimate trade in products that were not found to directly violate section 337.⁹⁸

The Commission has employed the following nine factors (the "*EPROMs* factors") when determining whether to issue a downstream exclusion order:

- (1) the value of the infringing articles compared to the value of the downstream products in which they are incorporated;
- (2) the identity of the manufacturer of the downstream products, *i.e.*, whether it can be determined that the downstream products are manufactured by the respondent or by a third party;
- (3) the incremental value to the complainant of the exclusion of downstream

⁹⁵ 19 U.S.C. § 1337(d)(1).

⁹⁶ Certain Erasable Programmable Read-Only Memories, Components Thereof, Products Containing Such Memories, and Processes for Making Such Memories, Inv. No. 337-TA-276, USITC Pub. 2196, Comm'n. Op. at 124-26 (May 1989) ("*EPROMs*"), *aff'd sub nom. Hyundai Elec. Indus. Co. v. U.S. Int'l Trade Comm'n*, 899 F.2d 1204, 14 USPQ2d 1396 (Fed. Cir. 1990) ("*Hyundai*").

⁹⁷ Commissioner Lane does not join in this opinion with regard to the application of the *EPROMs* factors. However, she concurs with the remedy recommended herein based on her consideration of the negative effects of the limited exclusion order requested by Broadcom on public health and welfare, competitive conditions in the United States economy, the production of like or directly competitive articles in the United States, and United States consumers. See Separate and Concurring Views of Commissioner Charlotte R. Lane.

⁹⁸ *EPROMs* at 125.

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products;

(4) the incremental detriment to respondents of exclusion of such products;

(5) the burdens imposed on third parties resulting from exclusion of downstream products;

(6) the availability of alternative downstream products that do not contain the infringing articles;

(7) the likelihood that the downstream products actually contain the infringing articles and are thereby subject to exclusion;

(8) the opportunity for evasion of an exclusion order that does not include downstream products; and

(9) the enforceability of an order by Customs.⁹⁹

The factors are not exclusive, and the Commission may identify and take into account any factor which it believes bears on the nature and extent of the remedy.¹⁰⁰ The balancing is not mechanical, and the Commission may determine to exclude downstream products even if some factors do not weigh in favor of doing so.¹⁰¹

Before the Commission directs exclusion of articles that are found to violate the provisions of Section 337 it must consider the effect of such exclusion upon: (1) the public health and welfare; (2) competitive conditions in the United States economy; (3) the production of like or directly competitive products in the United States; and (4) United States consumers.¹⁰² These factors are generally referred to as the “public interest factors.” If the Commission finds that the

⁹⁹ *EPROMs* at 124-26.

¹⁰⁰ *EPROMs* at 125-26.

¹⁰¹ See, e.g., *Certain Electrical Connectors and Articles Containing the Same, Inv. No. 337-TA-374*, USITC Pub. 2981, Comm’n. Op. at 11 (July 1996) (“*Electrical Connectors*”), *EPROMs* at 127.

¹⁰² 19 U.S.C. §1337(d)(1).

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effect of an exclusion of any or all articles that are violating the provisions of Section 337 is contrary to the public interest as contemplated in these statutorily enumerated factors, then such articles should not be excluded from entry. The Commission has historically applied the analytical framework of the *EPROMs* factors to assess whether downstream products containing infringing components should be excluded from entry before considering the public interest factors, and we follow that precedent in this case. We note, however, that had we evaluated the effects on the public interest of an exclusion of all infringing products, including downstream products, that contain or incorporate infringing products, prior to application of the *EPROMs* factors, and had found that the effects on the public interest militate against such an order, we then would have needed to determine if some lesser exclusion would reduce the negative public interest effects sufficiently to allow such a narrower exclusion of infringing articles.

We recognize that the remedy requested by Broadcom is less than exclusion of all articles containing the infringing chips. However, because the statute contemplates exclusion of all infringing products, we begin our analysis by considering whether a remedy that excluded all products containing the infringing chips is appropriate. We also considered the alternative remedies proposed by the parties. After careful consideration of all of the parties' arguments, and analyzing and weighing the *EPROMs* and public interest factors, we find that a limited exclusion order that continues to permit importation of the models of handheld wireless communications devices that were being imported for sale to the general public on or before the date of issuance of our limited exclusion order is appropriate. This remedy would "grandfather" existing models, while not permitting importation of any newly developed models unless they contain non-infringing chips. We believe that such a remedy provides effective protection to the intellectual property owner, promotes innovation without being unduly disruptive to legitimate commerce, and appropriately balances the competing public interests at stake. Our analysis is set

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forth below.

B. ANALYSIS OF EPROMS FACTORS ON EXCLUSION OF ALL INFRINGING HANDHELD WIRELESS COMMUNICATIONS DEVICES

As an initial matter, we note that the authority to issue an exclusion order rests with the Commission.¹⁰³ Nevertheless, in addition to the arguments of the interested parties, including the IA, in this case, we have also given careful consideration to the remedy proposed by the ALJ. The ALJ held a bifurcated trial where parties presented their arguments with respect to remedy.¹⁰⁴ In addition to the hearing before the ALJ, the Commission also held two days of public hearings devoted to consideration of the appropriate remedy.¹⁰⁵

In considering the *EPROMs* factors, we note two preliminary issues.¹⁰⁶ The first relates to the fact that Broadcom, during the course of the investigation, modified the extent of the downstream relief that it sought, ultimately proposing that devices containing a QWERTY-style

¹⁰³ 19 U.S.C. § 1337(d)(1).

¹⁰⁴ February 15-22 and March 13-23, 2006 (liability) and July 6-11, 2006 (remedy).

¹⁰⁵ March 21 and 22, 2007.

¹⁰⁶ The MSM 6300 chip is unique among the infringing chips because it is incapable of implementing 3G protocols. OUII's Post-Commission Hearing Submission at 12. The IA recommends that the Commission exclude the chips themselves from entry when programmed to enable the battery-saving features of the '983 patent, but contends that downstream products including the infringing MSM 6300 chips should not be excluded because the record contains little evidence relevant to an analysis of these products under *EPROMs*. *Id.* at 12-13. While the record is more developed as to downstream products implementing 3G protocols, we generally exclude all downstream products containing the infringing chips, unless a contrary result is counseled by our evaluation of the *EPROMs* factors or the statutory public interest considerations. The lesser availability of data relating to products containing the MSM 6300 chips weighs, if anything, in favor of their exclusion. Additionally, these products are offered by only two of the intervening manufacturers, and make up [[]] percent of their sales. Broadcom's Post-Commission Hearing Submission at 16. Accordingly, their exclusion appears to represent little incremental benefit to Broadcom, incremental detriment to Qualcomm, or burden on third parties. For these reasons, we decline to exempt downstream products containing MSM 6300 chips from the scope of our downstream relief.

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keypad (“QWERTY devices”) be exempt from any exclusion order. Nevertheless, we begin in our discretion with consideration of relief as to all downstream articles that contain the infringing Qualcomm chips, including QWERTY devices. The second relates to differing factual representations made with respect to Qualcomm’s market share for WCDMA chips contained in downstream devices sold in the U.S. market. During the proceedings before the ALJ, Qualcomm expressed no disagreement with the statement in the OUII’s Remedy Brief, that Qualcomm’s market share was 16 percent.¹⁰⁷ During the Commission’s hearing on March 22, 2007, however, Qualcomm representatives testified that its U.S. market share for WCDMA chips is about 80 percent,¹⁰⁸ and in its Post-Commission Hearing Submission it presented a figure of 100 percent.¹⁰⁹ In a similar fashion, the Manufacturer Intervenors asserted that, during 2007, [[]] of WCDMA compliant handsets sold in the U.S. contain infringing Qualcomm chips.¹¹⁰ We have no evidence indicating that any of the figures provided is inaccurate, and all may be correct given the pace of change in the relatively young WCDMA market. We note also that the more recent figures provided by Qualcomm and the Manufacturer Intervenors are generally consistent. Accordingly, for purposes of our analysis, including in respect to *EPROMs* Factor 6, we conclude that Qualcomm’s infringing chips make up the vast majority of chips supplied for use in WCDMA-compliant handsets sold in the United States.¹¹¹

¹⁰⁷ OUII’s Remedy Brief at 37 n.32.

¹⁰⁸ Transcript of Commission Hearing at 264 (Gonzalez) (Qualcomm primary supplier of WCDMA chips) and 309 (Gonzalez) (Qualcomm has an 80 percent market share).

¹⁰⁹ Qualcomm Post-Commission Hearing Submission at 48.

¹¹⁰ Manufacturer Intervenors’ Post-Commission Hearing Submission at 6.

¹¹¹ The Manufacturer Intervenors concede that at least one WCDMA handset that does not contain the infringing chips with a non-Qualcomm baseband processor chip has been on the market during 2007. Manufacturer Intervenors’ Post-Commission Hearing Submission at 6.

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1. EPROMs Factor 1: The value of the infringing articles compared to the value of the downstream products in which they are incorporated.

In evaluating this factor, the Commission has taken into account the value of the infringing component and its importance in the downstream product.¹¹²

(a) The ALJ's Recommended Determination

The ALJ found that *EPROMs* Factor 1 weighs in favor of including downstream products in the exclusion order, at least on a qualitative basis.¹¹³ The ALJ found that the baseband processor chip is an important part of the handset, taking into account a Motorola employee's testimony that the MSM chipset is the handset's "brain" and is essential to the handset's operation.¹¹⁴

The ALJ considered the Intervenors' argument that the Commission looks to the value of the patented technology relative to the downstream product, rather than the value of the infringing component, but found that there was no support for this argument. The ALJ declined to make any specific quantitative findings because, in his view, "regardless of which methodology is used, it is clear that the baseband processor chip provides significant value to the handset." The ALJ concluded that, accordingly, *EPROMs* Factor 1 weighs in favor of including downstream products in the exclusion order.¹¹⁵

¹¹² See *EPROMs*.

¹¹³ RD at 273.

¹¹⁴ RD at 273 (citing JX-459C (Bush Dep) at 66; JX-447C (Froehling Dep) at 252-53; CX-2409C (Mulhern Direct) at 13).

¹¹⁵ RD at 273.

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(b) Broadcom's Position

Broadcom agrees with the ALJ's findings that Qualcomm's infringing baseband processor chips are "essential to the handset's operation," and that "the parties do not dispute that the baseband processor chip is an important part of the handset."¹¹⁶ Broadcom contends that the Commission should reach the same conclusion.

Broadcom points out that Commission precedent holds that the first *EPROMs* factor weighs in favor of a broad downstream exclusion order when the accused component is "vital," "critical," or "fundamental" to the operation of the downstream product regardless of the monetary value of the accused component.¹¹⁷ Broadcom submits that because Qualcomm's infringing baseband processors are vital components of the handsets in which they operate, the *EPROMs* Factor 1 weighs in favor of a downstream exclusion order. Broadcom also argues that the cost of Qualcomm's infringing chips account for a significant percentage of the total cost of a handset. Citing the testimony of its expert, [[

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(c) Qualcomm's Position

¹¹⁶ Broadcom's Remedy Brief at 21 (quoting RD at 273).

¹¹⁷ Broadcom's Remedy Brief at 21 (quoting *Power Supply Controllers*, at 6); *Certain Display Controllers with Upscaling Functionality and Products Containing Same*, Inv. No. 337-TA-481, Comm'n. Op. at 60 (August 30, 2004); *Electrical Connectors*, Comm'n. Op. at 11; *Certain Integrated Circuit Telecommunication Chips and Products Containing Same, Including Dialing Apparatus*, Inv. No. 337-TA-337, at 30 (August 3, 1993); *EPROMs*, Comm'n. Op. at 126-27.

¹¹⁸ Broadcom's Remedy Brief at 22.

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Respondent Qualcomm disagrees with the ALJ's analysis of this factor, and argues that Factor 1 weighs against the inclusion of downstream products. Qualcomm contends that the infringing chips are not vital, but rather enhance the operation of the handsets. Qualcomm states that, just as the chips are one small part of the handset, the technology of the '983 patent is just one small aspect of the functionality provided by the chips. Qualcomm also submits that there is no discernible benefit to be gained by Broadcom if the handsets are excluded, and it argues that Broadcom failed to demonstrate that it would gain anything from the order it seeks, much less quantify any benefit that it would reap from such an order.

Qualcomm argues that the ALJ erred in concluding that the Commission never examines the value of the patented technology relative to the downstream product in determining whether to exclude downstream products. Qualcomm contends that Commission precedent holds that an important consideration in the downstream products analysis is "whether the complainant's patented technology was essential to the performance of the downstream products."¹¹⁹

Qualcomm further contends that, as in *EPROMs II*, the contribution that complainant's patent provides to the operation of the downstream product must be given due weight in the balance. Qualcomm concludes that, whether viewed quantitatively or qualitatively, the evidence pertaining to Factor 1 weighs against a downstream remedy here.¹²⁰ Qualcomm asserts that the '983 patent only has value because Qualcomm baked the invention into its chips.¹²¹

In an apparent contradiction to its argument that its handsets can function without the

¹¹⁹ Qualcomm's Remedy Brief at 42-43 (quoting *Certain EPROM, EEPROM, Flash Memory and Flash Microcontroller Semiconductor Devices and Products Containing Same*, Inv. No. 337-TA-395, USITC Pub. 3392, Comm'n. Op. at 85 (Feb. 2001) ("*EPROMs II*").

¹²⁰ Qualcomm's Remedy Brief at 44.

¹²¹ Qualcomm's Post-Commission Hearing Submission at 29.

infringing technology, [[

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]].

Qualcomm describes the current system as an “eco-system” in which a change in one component affects the others.¹²³

(d) Intervenor’s Position

Intervenors disagree with the ALJ’s finding that “the first *EPROMs* factor weighs in favor of including downstream products in the exclusion order” based on his determination that “the baseband processor chip is an important part of the handset.”¹²⁴ Intervenors argue that the ALJ erred by refusing “to ‘look[] to the value of the patented *technology* relative to the downstream product,’ rather than [to] the [value of the] accused *component*.”¹²⁵

Intervenors argue that in conducting its relative-value analysis under the first *EPROMs* factor, the Commission should compare both the value of the accused component and the value of the patented technology to the value of the downstream device.¹²⁶ Intervenors contend that in this case, it is the value of the patented technology (not the accused component) that should be controlling, because it is only by isolating the value of the patented technology that the Commission can determine the burden on legitimate commerce. Intervenors argue that if the Commission applies the proper quantitative analysis, the value of the accused baseband chips

¹²² Qualcomm’s Post-Commission Hearing Submission at 30.

¹²³ Qualcomm’s Post-Commission Hearing Submission at 32.

¹²⁴ Intervenors’ Remedy Brief at 87 (citing RD at 273).

¹²⁵ Intervenors’ Remedy Brief at 87 (citing RD at 273) (emphasis added by Intervenors).

¹²⁶ Intervenors’ Remedy Brief at 87 (citations omitted).

[[
]]¹²⁷ Intervenor
conclude that this factor weighs against entry of a downstream order.¹²⁸

(e) The IA's Position

The IA asserts that with regard to the first *EPROMs* factor, the Commission considers the value of the components at issue relative to the targeted downstream products, both in terms of the monetary value of the components and the importance of the components to the operation of the downstream products in which they are incorporated.¹²⁹ The IA further notes that before the ALJ, the parties used different methodologies to compare the value of the baseband processor chips to that of the downstream cellular telephone handsets and each came up with different results. The IA agrees with the methodology used by the Intervenor Manufacturers and Verizon, which compares the total cost of the chip to the total cost of the downstream phone.

[[
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IA also submits, in response to arguments by Intervenor at the hearing that the Commission engage in an assessment of what a reasonable royalty would be and compare that against the harm to third parties, that the value of a patent is more than that of a reasonable royalty because patent rights include the right to exclude.¹³⁰

The IA submits that when the essential functionality of the baseband processor chip is considered, [[

¹²⁷ Intervenor's Remedy Brief at 89.

¹²⁸ Intervenor's Remedy Brief at 90.

¹²⁹ OUII's Remedy Brief at 23 (citing Telecommunication Chips at 30-31).

¹³⁰ OUII's Post-Commission Hearing Submission at 18.

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]], the chip is highly significant. The IA also submits that baseband processor chips are essential to the operation of a cellular telephone, and agrees with the ALJ that the first *EPROMs* factor weighs in favor of including downstream products in the exclusion order.¹³¹

(f) Analysis and Finding

Numerous valuation methods of the technology have been advocated. Broadcom focuses on the vital importance of the chip to the handset. Qualcomm argues that the patented technology is not essential to the performance of the downstream product. Intervenors argue that in this case it is the value of the patented technology (not the accused component) that should be controlling. The IA advocates a valuation which considers the cost of the chip to the downstream article, but also notes that the chips are essential to the operation of the phone. The Commission has stated that it considers the value of the infringing components relative to the targeted downstream products, both in terms of the monetary value of the components and the importance of the components to the operation of the downstream products in which they are incorporated.¹³² The infringing baseband processor chip at issue here is essential to the handset's operation.¹³³ As shown in the record and found by the ALJ, the baseband processor chip is an important part of the handset, taking into account a Motorola employee's testimony that the MSM chipset is the handset's "brain" and is essential to the handset's operation.¹³⁴ [[

¹³¹ OUII's Remedy Brief at 26 (citing RD at 273).

¹³² See, e.g., *EPROMs* at 127; *Telecommunication Chips* at 30-31.

¹³³ RD at 273.

¹³⁴ RD at 273 (citing JX-459C (Bush Dep) at 66); JX-447C (Froehling Dep.) at 252-53; CX-2409C (Mulhern Direct) at 13).

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]].

Moreover, a significant part of the value of a telephone handset is derived from the value of the chip. Qualcomm concedes that the technology of the '983 patent cannot be disabled or turned off without creating serious functionality issues for handsets.¹³⁵ The Commission has never set a minimum percentage of value that it considers to be significant, but rather considers the percentage value along with the functional significance of the component part. We decline to adopt the valuation methodology based on measuring the value of the patented technology to the downstream products as argued by Qualcomm and Intervenors. "The Commission has made clear that the focus should be on a comparison of the value and importance of the infringing articles with the downstream products,"¹³⁶ not the value of the patented technology to the downstream products. Accordingly, consistent with the ALJ's finding in his RD, we find that *EPROMs* Factor 1 weighs in favor of including downstream products in the exclusion order.

2. *EPROMs* Factor 2: The identity of the manufacturer of the downstream products, i.e., whether it can be determined that the downstream products are manufactured by the respondent or by a third party.

Where the downstream products in question are manufactured by parties that are not in violation of Section 337, the Commission has generally found that *EPROMs* Factor 2 weighs against, but does not preclude, downstream relief.¹³⁷

¹³⁵ Qualcomm's Post-Commission Hearing Submission at 29-30.

¹³⁶ Power Supply Controllers at 7; see also Certain Audio Processing Integrated Circuits and Products Containing Same, Inv. No. 337-TA-538, at 9 ("[Respondent's] audio processing chips are vital to the operation of downstream MP3 players. The accused [respondent's] chips provide audio decoders, digital signal processing, and micro-controllers in addition to the power saving features at issue.")(citations omitted).

¹³⁷ See, e.g., Power Supply Controllers at 7. If this factor alone were found to preclude relief, the possibility arises that infringers would ensure that rather than directly importing the infringing articles into the United States, they would arrange to have a third

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(a) The ALJ's Recommended Determination

The ALJ found that *EPROMs* Factor 2 weighs heavily against the exclusion of downstream products in this investigation. According to the ALJ, it has been the Commission's policy to encourage complainants to name as respondents all those foreign manufacturers which it believes have entered, or are on the verge of entering, the domestic market with infringing articles.¹³⁸ When Broadcom filed its Complaint, Broadcom knew that almost all of the accused chips that entered the U.S. were incorporated into downstream handsets,¹³⁹ and that Qualcomm did not manufacture any such handsets.¹⁴⁰ Broadcom also knew the identity of the handset manufacturers that did.

The ALJ found that Broadcom made a tactical litigation decision by not naming any of these handset manufacturers as respondents when it filed its Complaint and that public and judicial resources would have been conserved if it had. While Broadcom was within its legal rights in refraining, the ALJ was unpersuaded that the limited exclusion order must include downstream products in order for Broadcom to have "complete and effective relief," given that the handset manufacturers could have been named respondents.¹⁴¹ Accordingly, the ALJ found that *EPROMs* Factor 2 weighs heavily against including downstream products in the exclusion

party incorporate the articles into other products prior to importation, thus circumventing an exclusion order.

¹³⁸ RD at 275 (citing *Crystalline Cefadroxil Monohydrate*, Inv. No. 337-TA-293, Comm'n. Op., USITC Pub. No. 2391, at 10-11 (June 1991) and *Certain Airless Spray Pumps*, Inv. No. 337-TA-90, Comm'n. Op., USITC Pub. No. 1199, at 12, n. 14 (November 24, 1981) ("*Airless Spray Pumps*"). The ALJ noted that while these opinions relate to general exclusion orders, rather than downstream products, he found them equally applicable here).

¹³⁹ RD at 276 (citing Complaint at ¶¶ 83-94).

¹⁴⁰ RD at 275 (citing Complaint at ¶¶ 12-13, 58-93).

¹⁴¹ RD at 275-76.

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order.¹⁴²

The ALJ rejected, however, the Intervenor's argument that the Commission lacks authority under Section 337(d)(1) to exclude articles imported by persons not found to have violated Section 337. The ALJ stated that the Commission has broad discretion in selecting the form, scope, and extent of the remedy in a Section 337 proceeding and that if the Commission finds a violation of Section 337, it may issue an exclusion order that covers not only the articles found to infringe, but "downstream products" imported by persons not found to have violated Section 337.¹⁴³

(b) Broadcom's Position

Broadcom argues that the ALJ erred in relying on the Commission's policy of encouraging complainants to name all manufacturers or potential importers of infringing articles to support his finding that Factor 2 weighed against exclusion of downstream products. Broadcom contends that the policy encouraging complainants to name all manufacturers or potential importers only applies when the complainant seeks a general exclusion order. Broadcom states that "it is well settled that an exclusion order may cover a third party downstream product" and that there is "no precedent for any requirement that the third party be specifically named or identified."¹⁴⁴

Broadcom argues in the alternative that there is no basis to apply such a policy in the present investigation. Broadcom points out that the Commission in *Crystalline Cefadroxil*

¹⁴² RD at 275.

¹⁴³ RD at 275.

¹⁴⁴ Broadcom's Remedy Brief at 24 (quoting *Audio Processing Integrated Circuits, Inv. No. 337-TA-538, Final Initial and Recommended Determinations*, 2006 WL 1586552 at 68 (March 20, 2006)).

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Monohydrate explained that the policy of encouraging complainants to name all manufacturers of infringing articles is intended to discourage complainants from “[failing] to name entities that could raise strong defenses to allegations of Section 337 violations as respondents, or to file only against likely defaulters.”¹⁴⁵ Broadcom submits that in the present investigation, Qualcomm is perfectly capable of vigorously defending itself and was never likely to default.

Broadcom further argues that *EPROMs* Factor 2 does not weigh against a downstream exclusion order affecting non-party manufacturers when those manufacturers have had “opportunities to be involved with the investigation in other ways,” by, for example, “intervene[ing] in the investigation or fil[ing] remedy briefs.”¹⁴⁶ Broadcom points out that Kyocera, LGEMU, Motorola, Samsung, Verizon, and Sprint (the parties who would be most affected by a downstream order) were involved during the remedy proceeding. Broadcom submits that, under these circumstances, the second *EPROMs* factor should not weigh against a downstream exclusion order, much less weigh “heavily” against such an order.¹⁴⁷

Broadcom also contends that, contrary to the ALJ’s conclusion, the second *EPROMs* factor should not weigh against a downstream remedy because the carriers and manufacturers that will be affected by the downstream exclusion order have [[

]] of the downstream products. Broadcom argues that, although Qualcomm does not manufacture the downstream products, [[]] sets this case apart from the typical circumstance where a Section 337 complainant attempts to exclude

¹⁴⁵ Broadcom’s Remedy Brief at 25 (citing *Cefadroxil Monohydrate* at 32.)

¹⁴⁶ Broadcom’s Remedy Brief at 27 (citing *Power Supply Controllers* at 7).

¹⁴⁷ Broadcom’s Remedy Brief at 27.

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downstream products made by companies that truly are innocent bystanders.”¹⁴⁸

(c) Qualcomm’s Position

Qualcomm supports the ALJ’s finding that *EPROMs* Factor 2 weighs heavily against a downstream exclusion order. Qualcomm points out that downstream exclusion orders generally exclude either downstream products of respondents or products of third parties who can turn to non-infringing alternatives to continue to conduct their business. Qualcomm argues that in the present investigation neither situation is presented.¹⁴⁹ Qualcomm submits that Broadcom seeks an unusual order against non-respondents, who had no opportunity to show their products are non-infringing, and who have no non-infringing alternative available to prevent damage to [[
]] their businesses. Qualcomm submits that the downstream order Broadcom seeks would be unprecedented and unfair.¹⁵⁰

(d) Intervenors’ Position

Intervenors agree with the ALJ that Factor 2 weighs against a downstream exclusion order. They contend that important Commission policies encourage “complainants to include in an investigation all those foreign manufacturers which it believes have entered, or are on the verge of entering, the domestic market with infringing articles,”¹⁵¹ the purpose of which is to avoid giving complainants “an incentive not to name such entities that could raise strong

¹⁴⁸ Broadcom’s Remedy Brief at 28.

¹⁴⁹ Qualcomm’s Remedy Brief at 45 (citing *Hyundai*, 899 F.2d at 1209-10 (upholding exclusion of respondents’ downstream products); and *Power Supply Controllers* at 10.)

¹⁵⁰ Qualcomm’s Remedy Brief at 45 at 45.

¹⁵¹ Intervenors’ Remedy Brief at 14 (citing *Cefadroxil Monohydrate* at 10-11 (quoting *Certain Airless Spray Pumps* at 12 n.14); *Certain Battery-Powered Ride-On Toy Vehicles and Components Thereof*, Inv. No. 337-TA-314, Commission Notice, 1991 WL 788806 (Apr. 9, 1991)).

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defenses to allegations of Section 337 violations as respondents, or to file only against likely defaulters.”¹⁵² Intervenor argue that while *Cefadroxil* concerned a general exclusion order, the same policies apply equally to downstream products, as the ALJ held.¹⁵³

Intervenor also argue that the Commission lacks authority under Section 337(d)(1) to exclude downstream products manufactured by persons not found to have violated Section 337. Intervenor assert that a 1994 amendment to the statute clarifies that a limited exclusion order must be limited to persons found to have violated Section 337.¹⁵⁴

Intervenor state that Broadcom misled third parties as to the scope of the investigation by failing to name third parties as respondents.¹⁵⁵

(e) The IA’s Position

In the IA’s view, Broadcom’s failure to name any handset manufacturers as a respondent should weigh somewhat against the issuance of a limited exclusion order covering downstream products.¹⁵⁶ The IA also believes, however, that the ALJ may have placed too much weight on this factor and that Broadcom’s failure to name additional respondents should not preclude issuance of an order extending to downstream handsets.¹⁵⁷

The IA challenges both the ALJ’s finding regarding the applicability of the Commission

¹⁵² Intervenor’s Remedy Brief at 14 (citing *Cefadroxil Monohydrate* at 11; *Certain Diltiazem Hydrochloride and Diltiazem Preparations*, Inv. No. 337-TA-349, Order No. 5, 1993 WL 852594 (May 7, 1993)).

¹⁵³ Intervenor’s Remedy Brief at 14 (citing RD at 275 n.1089).

¹⁵⁴ Intervenor’s Remedy Brief at 116.

¹⁵⁵ Manufacturer Intervenor’s Post-Commission Hearing Submission at 17.

¹⁵⁶ OUII’s Remedy Brief at 29.

¹⁵⁷ OUII’s Remedy Brief at 29.

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policy regarding named respondents to limited, rather than general, exclusion orders, and the particular application of the policy in the present investigation. The IA submits that “the Commission may wish to consider this policy issue and to clarify the criteria to be used in assessing *EPROMs* Factor 2.”¹⁵⁸

(f) Analysis and Finding

We begin with the threshold question of whether the Commission has authority to issue downstream relief where, as here, the downstream products are manufactured by parties not having been found in violation of Section 337.

As a starting point, we recall that a Commission “exclusion order operates against goods, not parties.”¹⁵⁹ Section 337 prohibits, *inter alia*, “[t]he importation into the United States, the sale for importation, or the sale within the United States after importation . . . of *articles* that . . . infringe a valid and enforceable United States patent”¹⁶⁰ When such a violation is found, the Commission “shall direct that the *articles concerned*, imported by any person violating the provision of this section, be excluded from entry into the United States, unless [consideration of certain public interest factors requires otherwise].”¹⁶¹ Accordingly, the statute requires that the determination of an unfair act be made in relation to a defined set of “articles,” which the Commission must then exclude from entry.

It is the Commission’s long-standing practice, affirmed by our reviewing court,¹⁶² to

¹⁵⁸ OUII’s Remedy Brief at 29.

¹⁵⁹ *Sealed Air Corp. v. U.S. Int’l Trade Comm’n*, 645 F.2d 976, 985 (C.C.P.A. 1981).

¹⁶⁰ 19 U.S.C. § 1337(a)(1)(B) (emphasis added).

¹⁶¹ 19 U.S.C. § 1337(d)(1) (emphasis added).

¹⁶² *Hyundai*, 899 F.2d at 1209.

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exclude the articles whether they are imported alone or as components of downstream products, unless a contrary result is suggested by our consideration of the *EPROMs* factors or the statutory public interest factors.¹⁶³ The Federal Circuit has approved this practice, reiterating its prior holdings that the “Commission has broad discretion in selecting the *form, scope, and extent* of the remedy,”¹⁶⁴ and that “the courts will not interfere except where a remedy selected has no reasonable relation to the unlawful practices found to exist.”¹⁶⁵

Nevertheless, Qualcomm and the Intervenor argue that the Commission lacks the authority to exclude downstream products on the facts of this investigation. Intervenor allow that Section 337(d)(1), prior to the amendment that added Section 337(d)(2), was interpreted to authorize the Commission to “impose a general exclusion order that binds parties and non-parties alike.”¹⁶⁶ That changed, they assert, when Congress amended the statute by the addition of Section 337(d)(2), which provides that:

[t]he authority of the Commission to order an exclusion from entry of articles shall be limited to persons determined by the Commission to be violating this section unless the Commission determines that – (A) a general exclusion from entry of articles is necessary to prevent circumvention of an exclusion order limited to products of named persons; or (B) there is a pattern of violation of this section and it is difficult to identify the source of infringing products.

Qualcomm and the Intervenor argue that, as clarified by Section 337(d)(2), Section 337(d)(1)

¹⁶³ See, e.g., 19 U.S.C. § 1337(d)(1); *EPROMs* at 124-26; *Power Supply Controllers* at 5; *Display Controllers* at 58-66; *Telecommunication Chips* at 32.

¹⁶⁴ *Gamut Trading Co. v. United States*, 200 F.3d 775, 784 (Fed. Cir. 1999) (emphasis added).

¹⁶⁵ *Hyundai*, 899 F.2d at 1209 (quoting *Viscofan S.A. v. United States Int’l Trade Comm’n*, 787 F.2d 544, 548 (Fed. Cir. 1986)).

¹⁶⁶ Intervenor’s Remedy Brief at 116 (quoting *Hyundai*, 899 F.2d at 1210).

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allows the Commission to enter relief only against articles imported by a person found to be in violation of Section 337.¹⁶⁷ They point out also that in *EPROMs* the downstream products were not manufactured by third parties, and therefore argue that *Hyundai* does not establish that the Commission may order the exclusion of downstream products manufactured by third parties.¹⁶⁸

We are unpersuaded that the Commission lacks the authority under Section 337(d)(1) to issue relief against downstream products that include Qualcomm's infringing chips. As explained above, the violation finding was made with respect to a defined set of accused chips made by Qualcomm, which are contained in downstream products.¹⁶⁹ The relief contemplated here is likewise directed to Qualcomm's infringing chips and products that contain them. Contrary to the suggestion of Qualcomm and the Intervenors, the relief under consideration here is consistent with the requirement of Section 337(d)(2) that the limited exclusion order be directed to articles of persons determined to be violating this section because it does not extend to telephone handsets or other devices that do not contain the infringing articles.

We also note that the statute provides that the Commission "shall" issue an order excluding the articles concerned (unless public interest considerations counsel otherwise). That obligation to exclude contains no exception for downstream products containing the infringing articles where the downstream products are manufactured by third parties.¹⁷⁰ In the absence of such an exception, the statute conveys the Commission authority to exclude such products.

¹⁶⁷ Intervenors' Remedy Brief at 116.

¹⁶⁸ See Intervenors' Remedy Brief at 115.

¹⁶⁹ See ID at 19, 132 (listing Qualcomm chips as used in connection with the asserted claims of the '983 patent) 137, 145-50, 305 (downstream devices contain the accused chips).

¹⁷⁰ Indeed, the statutory interpretation advocated by Qualcomm and Intervenors would encourage circumvention of an exclusion order by simply moving facilities that produce downstream articles offshore.

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Moreover, as noted previously, the Federal Circuit has held that the Commission had broad discretion “in selecting *the form, scope, and extent* of the remedy”¹⁷¹

Finally, the observation that the downstream products involved in the *EPROMs* investigation were not manufactured by third parties misses important points. The Commission did not limit its finding to downstream products manufactured by the respondent. To the contrary, the Commission recognized in *EPROMs* the necessity of balancing the complainant’s interest in obtaining complete protection from “*all* infringing imports by means of exclusion of downstream products against the inherent potential of even a limited exclusion order, when extended to downstream products, to disrupt legitimate trade in *products which were not themselves the subject of a finding of violation of Section 337*.”¹⁷² In the same manner, the *Hyundai* Court’s focus was not on the identity of the importing party, but rather what constituted effective and reasonable relief to the complainant Intel. The court cited as reasons in support of the downstream certification procedure the need to ensure an effective remedy to the complainant Intel, and the desirability of “placing the risk of unfairness associated with a prophylactic order upon potential importers rather than American manufacturers”¹⁷³

¹⁷¹ Gamut Trading Co., 200 F.3d at 784. We note also that our reading of Section 337(d)(1) is not changed by the addition of Section 337(d)(2) to the statute in 1994. Prior to the 1994 amendment, our reviewing Courts had approved the Commission’s issuance of exclusion orders that encompassed downstream relief under the authority of Section 337(d), which at that time included only the language currently found in Section 337(d)(1). Section 337(d)(2) was added to “treat[] the circumstances in which general exclusion orders are warranted and reflects suggestions by the GATT panel on this subject.” H. R. Rep. 103-826. Section 337(d)(2) therefore addresses the issuance of general exclusion orders, not downstream relief afforded in connection with limited exclusion orders. Accordingly, the assertion that section (d)(2) was intended to limit the scope of articles subject to downstream relief is without support.

¹⁷² *EPROMs* at 125 (emphasis added).

¹⁷³ *Hyundai*, 899 F.2d at 1209-10.

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Based on the plain language of the statute, and the decisions of our reviewing court, we conclude that the Commission has authority to issue an order excluding all downstream products that contain the infringing articles, regardless of the identity of the manufacturer of the downstream product. In conformance with that authority, the Commission has long excluded downstream products even when manufactured by a party other than a named respondent.^{174 175}

Having addressed that threshold matter, we turn to consideration of *EPROMs* Factor 2 itself. The Commission has previously found that this factor weighs against downstream relief where, as here, the downstream products are manufactured exclusively by parties other than the one(s) found in violation. We therefore reach the same conclusion in this investigation – Factor 2 weighs against downstream relief.

For the reasons given below, however, we disagree with Qualcomm and Intervenors that this factor deserves special weight in our analysis on the facts of this investigation. Although we agree that Commission policy favors the naming of parties known to or likely to import products believed to contain the infringing articles, we do not find that Broadcom’s failure to name all

¹⁷⁴ E.g., *Power Supply Controllers* at 7; *Display Controllers* at 60; and *Telecommunication Chips* at 32.

¹⁷⁵ We disagree with the arguments of Qualcomm and the Intervenors that the Commission should decline to grant downstream relief in this investigation because Broadcom could be made whole through litigation in U.S. district courts, and that the remedies available via those proceedings are more appropriate in this case than the remedies the Commission is empowered to issue since they do not impose the same burdens on downstream entities. See, e.g., Qualcomm’s Post-Commission Hearing Submission at 63-65 (*EPROMs* analysis should include potential availability of remedies through district court litigation); Transcript of of Commission Hearing at 511 (Hansen) (same). Congress has indicated that the remedies available for violation of Section 337 are “in addition to any other provision of law” 19 U.S.C. § 1337(a)(1), and that the Commission must issue an appropriate remedial order for a violation unless precluded by public interest considerations. Accordingly, we view the possibility that Broadcom may receive other remedies in other venues to be irrelevant to the issues before us.

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known importers deserves special weight. Moreover, we disagree that Broadcom misled the parties as to the scope of the investigation or prevented information known to third parties from being presented in this investigation.

Contrary to the IA's and Broadcom's position on this issue, similar policies apply in investigations involving both general and limited exclusion orders involving downstream products. For example, the Commission stated in the *EPROMs* investigation:

In general, in determining whether to issue a general exclusion order, the Commission balances the complainant's interests in obtaining complete protection from all potential foreign infringers against the inherent potential of a general exclusion order to disrupt legitimate trade. *Similarly*, the Commission may, in issuing exclusion orders, *whether general or limited*, balance the complainant's interests in obtaining complete protection from all infringing imports by means of exclusion of downstream products against the inherent potential *of even a limited exclusion order, when extended to downstream products, to disrupt legitimate trade in products which were not themselves the subject of a finding of violation of Section 337.*¹⁷⁶

The Commission's decision in *Crystalline Cefadroxil Monohydrate* supports our conclusion as well. In that investigation, the Commission determined that Bristol failed to satisfy the criteria that complainants must meet when seeking general exclusion orders.¹⁷⁷ After rejecting the request for a general exclusion order, the Commission determined that the appropriate remedy in that case was a limited exclusion order directed against only the named respondents. In determining the scope of its limited exclusion order, the Commission decided not to exclude the infringing cefadroxil manufactured by the foreign manufacturer Dobfar and marketed in the U.S. by Zenith Laboratories, Inc. The Commission stated that "because Bristol

¹⁷⁶ EPROMs at 124-25 (citation omitted)(emphasis by underlining in the original, emphasis by bold italics is added).

¹⁷⁷ Cefadroxil Monohydrate at 30.

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could have named Zenith and Dobfar as proposed respondents before institution of or at a very early stage in this investigation, no inequity exists in issuing a limited exclusion order directed only at the infringing products of named respondents.”¹⁷⁸ Therefore, *Cefadroxil Monohydrate* demonstrates that the Commission has applied its policy of encouraging complainants to name known potential infringers in Section 337 investigations including instances where the Commission issues a limited exclusion order.¹⁷⁹

Broadcom argues that the Commission’s policy of encouraging complainants to name known potential infringers should not apply in this investigation because Qualcomm has mounted a comprehensive and vigorous defense, and Broadcom therefore could not have had “an incentive not to name such entities that could raise strong defenses to allegations of Section 337 violations as respondents, or to file only against likely defaulters.”¹⁸⁰ We disagree. Even though Qualcomm is capable of vigorously defending itself, that fact does not lessen the incentive on the part of a complainant to decline to name “such entities that could raise strong defenses.”¹⁸¹ Naming additional respondents would require the complainant to overcome the testimony of the respective experts representing additional respondents, and face numerous other challenges resulting from bringing additional parties as respondents to the investigation.¹⁸²

¹⁷⁸ *Cefadroxil Monohydrate* at 31.

¹⁷⁹ The circumstances in *Cefadroxil Monohydrate* differ from those here in that Dobfar and Zenith were the manufacturer and importer of the infringing article itself, not a downstream product containing that article. Nevertheless, the investigation illustrates that the Commission has applied the policy in the context of a limited exclusion order.

¹⁸⁰ Broadcom’s Remedy Brief at 25 (citing *Cefadroxil Monohydrate* at 32).

¹⁸¹ *Cefadroxil Monohydrate* at 32.

¹⁸² The recent two-day Commission Hearing on the issues of remedy and the public interest serves as a good illustration of how much more difficult it is to answer the arguments of seven defending parties, as opposed to only one.

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We are not persuaded by Broadcom's contention that if the Commission adopts the ALJ's view that all known respondents should have been named in this investigation, the effect may be to drain more public and judicial resources, and frustrate the purpose of Section 337 to give prompt relief. The failure to name parties that produce the allegedly infringing goods tends to make Section 337 investigations even more complex and time consuming, such as here where it created the need to bifurcate the investigation into separate violation and remedy proceedings. The added complexity also contributes to extensions of the target date. Moreover, the Commission's policy, by bringing interested parties into the litigation at an early stage, may facilitate settlements at an early stage of the investigation, conserving judicial and public resources, and those of the private parties as well.

Nonetheless, while we conclude that the policy encouraging complainants to name all potential infringers as respondents applies to both general exclusion order cases and limited exclusion order cases, complainant's failure to name all known potential infringers as respondents should not result in an automatic denial of a downstream remedy against third parties. Rather, complainant's failure to name all known potential infringers should be considered in combination with all factors, and may yield different results in different investigations.¹⁸³

Although Commission policy favors the naming of known foreign manufacturers as respondents, we do not agree with Intervenors' contention that Broadcom misled third parties as

¹⁸³ Compare Crystalline Cefadroxil Monohydrate (Complainant's failure to name known potential infringers precludes relief as these parties) with Power Supply Controllers at 7 (complainant's failure to name known potential infringers did not preclude downstream exclusion, where the downstream manufacturers could have intervened in the investigation, or could have filed remedy briefs with the Commission). Importantly, the Commission's decisions use the permissive term "encouraging" rather than a mandatory term, such as, "requiring," in expressing its policy. See, e.g., Cefadroxil Monohydrate at 32.

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to the scope of the investigation or that the failure to name the third parties as respondents prevented them from providing relevant information to the Commission. The Intervenors assert that Broadcom, by failing to name handset manufacturers and others as respondents in the Complaint, hoped to prevent third parties and the public from being “aware of the remedy it was requesting.”¹⁸⁴ They assert also that Broadcom intentionally misled the parties in the Expert Report of Carla Mulhern as well as in a letter from a Broadcom employee to handset maker LG Electronics.¹⁸⁵ We find little if any evidence in support of these assertions.

The present investigation started with a Complaint filed by Broadcom, a public version of which was available on May 16, 2005, and notice of which was published in the *Federal Register* on June 21, 2005. Although Qualcomm was the sole named respondent, the title of the Complaint (reflected in the *Federal Register* notice) indicates that the products at issue included not only a variety of baseband processor and other chips, but also “*Products Containing Same, Including Cellular Telephone Handsets.*”¹⁸⁶ The Complaint requests the exclusion of the Qualcomm chips “as well as all cellular telephones and other electronic devices that incorporate Respondent’s infringing chips”¹⁸⁷ The Complaint expressly alleges that handsets made by LG, Motorola, and Samsung contain the infringing handsets.¹⁸⁸ We conclude that the Complaint is in no way unclear that the relief sought included cellular telephone handsets and other products containing the infringing chips.

¹⁸⁴ Manufacturer Intervenors’ Post-Commission Hearing Submission at 17.

¹⁸⁵ Manufacturer Intervenors’ Post-Commission Hearing Submission at 17-18.

¹⁸⁶ 70 Fed. Reg. 35707 (June 21, 2005) (emphasis added).

¹⁸⁷ Amended Complaint at IX.c.

¹⁸⁸ Amended Complaint at 3, 107.

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Nor do we find the Expert Report of Carla Mulhern to be misleading. The Intervenors assert that the parties and public relied on a representation contained in footnote 50 of the Report, in which Ms. Mulhern stated “I understand that handsets that incorporate the accused chips MSM6100 and MSM6500 that also incorporate a Broadcom Bluetooth radio chip would not be subject to the exclusion order”¹⁸⁹ In the first instance, it seems unlikely that any party would place preclusive weight on the statement, given that it is at odds with the relief requested in the Amended Complaint. Moreover, Ms. Mulhern qualified her statement with the words “I understand” and the Report indicates that her conclusions are tentative, when she indicates that “discovery is ongoing in this matter [and that] [t]o the extent that additional information becomes available, I may be asked to supplement my opinions to take this information into account.”¹⁹⁰

Even setting these observations aside, the statement cited by Intervenors goes only to two types of chips (the MSM6100 and MSM6500). The Mulhern Report indicates that eleven other types of chips are at issue with respect to the patent that forms the basis of the Commission’s infringement finding (the ‘983 patent).¹⁹¹ At most, therefore, the statement held up by the Intervenors addresses only some of the chips at issue.

Finally, the Report indicates that the following manufacture downstream products that include the infringing chips: Motorola, LG, Sanyo, Samsung, Toshiba, Sony Ericsson, Option, Hi-Tech, Sierra Wireless, Siemens, Novatel, Casio Hitachi, SK Teletech, Curitel/Pantech,

¹⁸⁹Manufacturer Intervenors’ Post-Commission Hearing Submission at 17 (citing Expert Report of Carla S. Mulhern, Dec. 5, 2005, at 17 n.50).

¹⁹⁰ Mulhern Report at ¶2.

¹⁹¹ Mulhern Report at ¶7.

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Kyocera, ICT, RIM, and Amoi.¹⁹² Notwithstanding any other statement in the Report, this one puts the reader on notice that the interests of many different handset makers were potentially at risk. Based on the above, we conclude that the Mulhern Report would not reasonably lead any handset manufacturer to conclude that its products were not potentially subject to exclusion.¹⁹³

The referenced letter from a Broadcom employee to LG Electronics advises [[

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]].¹⁹⁵ Unlike the Manufacturer Intervenors, we do not understand the letter to indicate that the proceedings before the ITC were necessarily limited to Bluetooth patents and, in any event, neither of the Bluetooth patents forms the basis of the Commission's violation finding in this investigation. Accordingly, we do not find the letter misleading.

Given the lack of misleading conduct, we find no reason to blame Broadcom for the handset makers' collective failure to seek to intervene in the liability stage of the proceedings.

¹⁹² Mulhern Report at ¶24.

¹⁹³ The Complaint and Mulhern Report also undermine the assertion that no party was on notice that the remedy could extend to handsets compatible with the WCDMA network protocol. The Complaint expressly includes within the scope of accused chips those operating according to the GSM and GPRS protocols, of which WCDMA is but a later generation development, which is in fact mentioned elsewhere in the Complaint in relation to the '983 patent. Amended Complaint at ¶¶ 3, 107. Moreover, the Mulhern Report expressly indicates that the many of the chips alleged to infringe the '983 patent include the WCDMA standard. Mulhern Report at ¶7.

¹⁹⁴ Manufacturer Intervenors' Post-Commission Hearing Submission at Exhibit C.

¹⁹⁵ Manufacturer Intervenors' Post-Commission Hearing Submission at Exhibit C.

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While we cannot know the handset makers' motivations, the record contains evidence that in [[]] and that [[]], and that Motorola received a subpoena seeking information regarding Motorola handsets and Qualcomm CDMA baseband chips.¹⁹⁶ Counsel for Sprint received a third party subpoena in November 2005.¹⁹⁷ Similarly, Verizon represented to the Commission that in December 2005 Verizon learned "that Broadcom was seeking exclusion of certain downstream products that would seriously threaten Verizon Wireless's business interests."¹⁹⁸ Based on those actions and Verizon's admission that it knew its business interests were at stake, we do not find that Broadcom's failure to name additional parties as respondents prevented third parties from intervening in the liability phase of these proceedings.¹⁹⁹ The Commission found in a previous investigation that the failure to name downstream manufacturers as respondents did not counsel against downstream relief where "these [third party] companies had opportunities to be involved with the investigation in other

¹⁹⁶ See Broadcom's Remedy Reply Brief at 28 (citing BRFF 251, 259; CX-2480C (discussing subpoena of Kyocera by Broadcom)).

¹⁹⁷ Transcript of Commission Hearing at 482 (Alcantara).

¹⁹⁸ Memorandum In Support of Emergency Motion of Cellco Partnership D/B/A/ Verizon Wireless To Intervene in Liability Phase of Investigation or for an Order Precluding Broadcom from Proceeding Against Verizon Wireless, To Have WilmerHale Disqualified, Immediately to Suspend Further Proceedings, and for Shortened Response Time at 3 (February 22, 2006).

¹⁹⁹ Verizon was the sole third party that attempted to intervene in the violation phase of the proceedings. Despite acknowledging that it knew as of December 2005 that the investigation proceedings "seriously threaten [its] business interests," it did not move to intervene in the liability phase until February 26, 2006, a date that was four days after the violation hearing had begun, and more than three weeks after Verizon's motion to intervene in the remedy phase of the investigation. See ALJ Order 29 at 11. The ALJ denied the motion as untimely and on substantive grounds as well. Accordingly, there is no evidence that Broadcom's failure to name Verizon as a respondent prevented Verizon from filing a timely motion to intervene in the violation phase of this investigation.

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ways . . . they could have intervened in the investigation or filed remedy briefs with the Commission, but chose not to do so.²⁰⁰

We are also unpersuaded that Broadcom's failure to name additional respondents prevented Qualcomm from acquiring substantial additional knowledge from handset makers or network operators that would have been relevant during these proceedings. The record indicates that Qualcomm [[

]]. As such, Qualcomm is highly knowledgeable about the operation of handsets that include the infringing chips, and familiar with technical persons employed by the Intervenor who could facilitate the identification of information useful in the Commission proceeding.²⁰¹ If, as Qualcomm and the Intervenor now assert, Intervenor were in possession of information showing that any particular handset was not infringing because the software enabling the infringing functionality [[Qualcomm could have introduced evidence or witnesses to that effect at trial. It did not do so.^{202 203}

Based on our review of the record, we find no evidence that Broadcom misled the parties,

²⁰⁰ Power Supply Controllers at 7.

²⁰¹ See ID at 147-50; Broadcom's Remedy Brief at 28; Qualcomm's Post-Commission Hearing Submission at 31-32.

²⁰² ID at 141-45 [[

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²⁰³ Qualcomm and the Intervenor also argue that Broadcom failed to prove that the accused chips infringe when incorporated into downstream headsets used on Sprint's and Verizon's networks in the United States, in part, because they assertedly are not adapted to two different wireless communications. Having already determined that the downstream products contain infringing chips, we decline to re-open this violation issue during the remedy proceedings. See, e.g., ID at 305, and at 136-37, 141-47, 149-50, 264. If Qualcomm wished to present these arguments as to violation, it should have done so during the liability proceedings before the ALJ. As noted above, other parties had the opportunity to intervene in a timely manner, yet opted not to do so.

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prevented them from intervening in the liability phase, or prevented Qualcomm from presenting information in the possession of third parties. We note in addition that various parties successfully intervened in the remedy phase of these proceedings, and that our opinion relies in part on arguments and facts presented by them. For these reasons, although we find *EPROMs* Factor 2 weighs against downstream relief, we decline to give the factor special weight in our analysis.

3. *EPROMs* Factor 3: The incremental value to the complainant of the exclusion of downstream products.

The incremental value to the complainant is often a compelling factor in determining whether to issue downstream relief. When the Commission has determined that the complainant would be granted no effective relief without including downstream products in the exclusion order, the Commission has been more likely to grant downstream relief. This has most often occurred when the infringing article is imported only (or primarily) in the downstream products.²⁰⁴

(a) The ALJ's Recommended Determination

The ALJ found that *EPROMs* Factor 3 weighs against including downstream products in the exclusion order.²⁰⁵ The ALJ was not persuaded by the arguments of Broadcom and the IA that Broadcom will be effectively deprived of any relief without a downstream exclusion order. The ALJ stated, as he did in his *EPROMs* Factor 2 analysis, that Broadcom was in complete control of how it crafted its Complaint, and held that if Broadcom is deprived of relief, it is only because it chose not to name the handset manufacturers as respondents, “knowing full well that

²⁰⁴ Electrical Connectors at 4; Telecommunications Chips at 30; Certain Display Controllers and Products Containing Same, Inv. No. 337-TA-481/491 at 64.

²⁰⁵ RD at 279.

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there is virtually no importation of infringing chips themselves into the United States.”²⁰⁶

The ALJ rejected the Intervenor’s argument that, because Broadcom does not manufacture a substitute for the accused MSM chips, Broadcom will not gain any incremental economic benefit. The ALJ stated that there is no requirement that the incremental value to Broadcom must be directly correlated with exclusion of downstream products.²⁰⁷ The ALJ also found, however, that the record reflects no substantive evidence that Broadcom’s sales will increase if downstream products are covered by the exclusion order. The ALJ noted that, while Broadcom speculates that it may realize increased sales of its baseband processors that operate on the WCDMA and HSDPA standards if a downstream order is in place, Broadcom’s speculation, without corroborating evidence, is insufficient to support a finding that *EPROMs* Factor 3 weighs in favor of downstream exclusion.²⁰⁸

(b) Broadcom’s Position

Broadcom argues that the ALJ erred in deciding that this factor weighs against a downstream remedy based on Broadcom not naming all handset manufacturers as respondents. Broadcom contends that the incremental value of a downstream exclusion order is “very substantial”—and therefore that Factor 3 should weigh in favor of downstream relief—where the majority of infringing articles are imported as part of a downstream product.²⁰⁹ Broadcom submits that the evidence shows that “virtually no” infringing Qualcomm MSMs are imported into the United States, other than those incorporated into downstream products, and that millions

²⁰⁶ RD at 279 (citing Complaint, ¶¶ 12-13, 58-93).

²⁰⁷ RD at 279.

²⁰⁸ RD at 279-80 (citing CIBR 22).

²⁰⁹ Broadcom’s Remedy Brief at 28 (citing *Telecommunication Chips* at 30.)

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of infringing Qualcomm chips incorporated into handsets manufactured by the third parties are imported and sold in the United States.²¹⁰

Broadcom contends that given these facts, the incremental value of a downstream exclusion order, *i.e.*, the value of a downstream exclusion order over and above the value of a limited exclusion order directed only at unincorporated infringing chips, is very substantial.²¹¹

(c) Qualcomm's Position

Qualcomm agrees with the ALJ's conclusion that the exclusion of EV-DO-capable handsets would provide Broadcom no cognizable incremental value. Qualcomm argues that the record evidence shows that Broadcom's business will not increase if downstream products are excluded.²¹² Because Broadcom does not manufacture EV-DO chips, Qualcomm argues that Broadcom would not have any cognizable gain from an exclusion order.²¹³ Qualcomm points out that Broadcom also does not make or sell any chips for CDMA phones sold in the United States and has no intention of designing, selling, or manufacturing CDMA chips. In addition, Broadcom has no plans through 2008 to manufacture handsets or supply CDMA baseband chips to handset manufacturers that would be possible alternatives for the accused MSM chips in the U.S. market. Qualcomm further notes that Broadcom does not produce any handsets or compete for customers in this trade.²¹⁴ Qualcomm also contends that protection of the "intellectual property rights" secured by Broadcom's patents also offer Broadcom no incremental value in the

²¹⁰ Broadcom's Remedy Brief at 30-31.

²¹¹ Broadcom's Remedy Brief at 31 (citing *Telecommunication Chips* at 30.)

²¹² Qualcomm's Remedy Brief at 47.

²¹³ Qualcomm's Post-Commission Hearing Submission at 34.

²¹⁴ Qualcomm's Remedy Brief at 48.

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event of a downstream exclusion order. Qualcomm points out that [[

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Qualcomm submits that in cases where the Commission has entered a downstream exclusion order, the complainant manufactured a substitute for the accused article. As a result, the complainant itself would obtain the benefit for which Section 337 was enacted, because it would stand to gain increased sales of its components if downstream articles containing infringing components were excluded. Qualcomm submits that Broadcom will gain no such tangible economic benefit in the present case.²¹⁶

(d) Intervenor's Position

Intervenors argue that the exclusion of EV-DO capable handsets would provide Broadcom no measurable economic benefit. They agree with the ALJ that “in this case, ‘the record reflects *no substantive evidence* that Broadcom’s sales will increase if the downstream products are covered by the exclusion order.’”²¹⁷ Intervenors contend that Broadcom’s only claim of economic benefit was “speculation” that “it may realize increased sales of its baseband processors that operate on the WCDMA and HSDPA standards” – that is, non-EV-DO standards used by wireless carriers that operate GSM networks²¹⁸ and that such “speculation” is insufficient to support Broadcom’s position.

Intervenors point out that, unlike any previous cases where a downstream exclusion order

²¹⁵ Qualcomm’s Remedy Brief at 49.

²¹⁶ Qualcomm’s Remedy Brief at 49.

²¹⁷ Intervenors’ Remedy Brief at 16 (citing RD at 279 (emphasis added by Intervenors)).

²¹⁸ Intervenors’ Remedy Brief at 16 (citing RD at 279).

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has been issued against third parties, Broadcom will not gain any incremental economic benefit from exclusion of downstream products because it does not manufacture a substitute for Qualcomm's accused MSM chips, and there is no evidence that Broadcom will increase its sales of any of its other products.²¹⁹ In particular, Broadcom specifically does not make an EV-DO-capable baseband chip, nor does it have any plans to do so. Intervenors note that, in past cases involving downstream relief, not only could the complainant show that the harm to third parties would be minimized – because manufacturers of downstream products could turn to alternative suppliers – but the complainant itself would obtain the benefit for which Section 337 was enacted by gaining increased sales of its components when the downstream articles containing infringing components were excluded.²²⁰

Furthermore, Intervenors argue that Broadcom's real reason for requesting a downstream exclusion order is to gain negotiating leverage against Qualcomm.²²¹ Intervenors point out that, as the Commission has found, every exclusion order is "in the nature of an injunction," and the availability of relief "is guided by principles of equity."²²² Intervenors submit that "[f]our Justices of the Supreme Court have determined that motives like Broadcom's undercut any claim for the type of equitable relief at issue here."²²³ Intervenors contend that the Commission is

²¹⁹ Intervenors' Remedy Brief at 17 (citing *Power Supply Controllers* at 9; *Display Controllers*, 2005 WL 996252, at 28; *Electrical Connectors*, 1996 WL 1056313, at 27; *Telecom Chips*, 1993 WL 13033517, at 22).

²²⁰ Intervenors' Remedy Brief at 18.

²²¹ Intervenors' Remedy Brief at 21.

²²² Intervenors' Remedy Brief at 21 (citing *Certain Processes for the Manufacture of Skinless Sausage Casings and Resulting and Resulting Products*, Inv. No. 148/169, Commission Opinion, 1994 WL 931906, at 6.)

²²³ Intervenors' Remedy Brief at 21 (citing *eBay Inc. v. MercExchange, L.L.C.*, 126 S. Ct. 1837, 1842 (2006) (Kennedy, J., concurring) ("When the patented invention is but a small component of the product the companies seek to produce and the threat of an injunction is

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required by statute to hear such “equitable defenses.”²²⁴

(e) The IA’s Position

The IA submits that *EPROMs* Factor 3 weighs heavily in favor of an exclusion order covering handsets, and disagrees with the ALJ’s conclusion regarding this factor. The IA notes that the ALJ “appears to agree that without downstream product coverage, Broadcom would be deprived of complete and effective relief, but rejects the idea that such a result militates in favor of including downstream products in any exclusion order.”²²⁵ The IA points out that the legislative history of the 1988 amendments to Section 337 demonstrates Congress’s intent that Section 337 be strictly enforced and that domestic industries be provided the most complete protection possible from infringing imports.²²⁶ The IA argues that, without an exclusion order that extends to handsets, Broadcom will effectively be deprived of any Section 337 relief, since there is virtually no importation of the infringing products themselves into the United States other than as components of the downstream handsets. The IA submits that, accordingly, the third *EPROMs* factor weighs heavily in favor of extending the exclusion order to handsets.

The IA also disagrees with the ALJ’s conclusion that “the third *EPROMs* factor weighs against including downstream products in the exclusion order. . . . [because] the record reflects no substantive evidence that Broadcom’s sales will increase if the downstream products are

employed simply for undue leverage in negotiations, legal damages may well be sufficient to compensate for the infringement and an injunction may not serve the public interest.”).

²²⁴ Intervenor’s Remedy Brief at 21 (citing 19 U.S.C. § 1337(c)).

²²⁵ OUII’s Remedy Brief at 31.

²²⁶ OUII’s Remedy Brief at 30 (citing *EPROMs* at 124 n.159; S. Rep. 100-71 at 127-33 (1987)).

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covered by the exclusion order.”²²⁷ The IA contends that this conclusion relies on an improperly narrow interpretation of the benefit to Broadcom of an order extending to handsets and is based upon the incorrect presumption that downstream product relief should only be granted to protect sales that would be made by the domestic industry, rather than to protect the intellectual property right itself. The IA submits that “Congress determined that there is ‘a public interest in the enforcement of protected intellectual property rights’ and ‘the importation of any infringing merchandise . . . indirectly harms the public interest.’”²²⁸ The IA contends that Broadcom is being damaged within the meaning of the statute by the infringing imports, even if not in terms of lost product sales. The IA submits that there is no basis in the statute or legislative history to limit the analysis of incremental benefit to the Complainant to an assessment of head-to-head competition.

(f) Analysis and Finding

We find that Factor 3 weighs heavily in favor of including handsets and other handheld wireless communications devices in any remedial order issued. Without an exclusion order that extends to downstream devices, Broadcom will effectively be deprived of any Section 337 relief, since there is virtually no importation of the infringing products themselves into the United States other than as components of the downstream handheld wireless communications devices.^{229 230}

²²⁷ OUII’s Remedy Brief at 32-33 (citing RD at 279).

²²⁸ OUII’s Remedy Brief at 34 (citing H.R. Rep. No. 100-40 at 156 (April 6, 1987)).

²²⁹ CX-2409C at 14; ALJ Remedy Hearing Transcript at 82 (Mulhern).

²³⁰ As for the argument that the Commission is required to follow precedent on injunctions established in *eBay Inc. v. MercExchange, LLC*, 126 S.Ct. 1837 (2006), see *Intervenors’ Remedy Brief* at 9-11; *Qualcomm’s Remedy Brief* at 40 n. 118, we note that a threshold issue exists whether the Commission’s legal test for whether to issue an exclusion

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We disagree with the ALJ's analysis of this factor, which relies primarily on Broadcom's failure to name as respondents the manufacturers of the handsets. We have addressed Broadcom's failure to name these parties as respondents in our analysis of Factor 2, and do not find it necessary or appropriate to repeat our analysis here.

We also do not find it appropriate to assess whether or not Broadcom's chip sales will increase if the downstream products are covered by the exclusion order, as advocated by Qualcomm and the Intervenors. First, to engage in such an analysis would be tantamount to reintroducing the injury requirement that Congress removed from the statute for patent infringement cases in 1988. Second, the right to exclude has a value which is not considered in this analysis. The right is given in order to spur innovation.²³¹

order, here in a downstream case, is modified by the Supreme Court's decision in *eBay Inc.* In *eBay*, the Supreme Court held that a district court should apply the traditional four factor test for deciding whether to grant a permanent injunction, even in a patent case, looking for the presence of (1) irreparable harm to the plaintiff, (2) no adequate remedy at law, (3) the balance of hardships weighing in favor of the plaintiff, and (4) the public interest not disserved. *Id.* The Commission, in interpreting its organic statute, takes the position that the Tariff Act of 1930, as amended, represents a legislative modification of the traditional test in equity for the following reasons. The Tariff Act of 1930 replaced the monetary remedy of § 316 of the Tariff Act of 1922 with the remedy of exclusion. 19 U.S.C. § 1337(d),(e),(g). This represents a legislative determination that there is an inadequate remedy at law for infringement by importation. Second, the Tariff Act of 1930 was amended in 1988 to remove the requirement of proof of harm to domestic industry. This represents a legislative determination that it is unnecessary to show irreparable harm to the patentee in the case of infringement by importation. The remaining factors, those of balance of hardships and public interest, are analyzed by the Commission in its EPROMs factors and public interest analysis. The difference between exclusion orders granted under the Tariff Act of 1930, as amended, and injunctions granted under the Patent Act, 35 U.S.C. § 283, is reasonable in light of the long-standing principle that importation is treated differently than domestic activity. See, e.g., *United States v. 12 200-Ft. Reels of Super 8 MM. Film (Paladini, Claimant)*, 413 U.S. 123, 125 (1973) ("Import restrictions and searches of persons or packages at the national borders rest on different considerations and different rules of constitutional law from domestic regulations.") (rejecting facial challenge to § 305(a) of the Tariff Act of 1930, as amended).

²³¹ *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 476, 480 (1974) ("The stated objective of the Constitution in granting the power to Congress to legislate in the area of intellectual property is to 'promote the Progress of Science and the useful Arts.' The patent laws promote

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Prior to 1988, the Commission was required to assess whether there was injury to a domestic industry in its analysis under Section 337.²³² In amending the statute, Congress recognized that infringing imports were not the primary concern of Congress when the predecessor of Section 337 was initially enacted in 1922, but that the statute had evolved into one that was predominantly used to enforce U.S. intellectual property rights. Congress determined that the injury and efficient and economic operation requirements of Section 337, designed for the broad context originally intended in the statute, made no sense in the intellectual property arena.²³³

In eliminating the requirement, Congress stated:

this progress by offering a right of exclusion for a limited period as an incentive to inventors to risk the often enormous costs in terms of time, research, and development. The productive effort thereby fostered will have a positive effect on society through the introduction of new products and processes of manufacture into the economy, and the emanations by way of increased employment and better lives for our citizens.”). This principle was recognized in the Senate report issued during consideration of the 1988 amendments to Section 337. S. Rep. 100-71 at 128-29 (1987) (“The importation of any infringing merchandise derogates from the statutory right, diminishes the value of the intellectual property, and thus indirectly harms the public interest.”) For these reasons, we disagree with the analysis presented at the Commission Remedy Hearing by Professor Hausman, who stated that the relief to Broadcom was zero. (“A goose egg. Zero. . . . We’re talking about billions of dollars lost to the public interest and zero gain incrementally to Broadcom.”) Transcript of Commission Hearing at 465. This analysis does not take into account the value of the right to exclude granted by the patent right.

²³² Congress specifically amended the statute to address decisions such as *Corning Glass v. U.S. International Trade Commission*, 230 USPQ 822 (Fed. Cir. 1986) which affirmed a Commission decision finding that complainant’s optical waveguide fiber patent was infringed, but that no violation of Section 337 was found because the level of imports had been, and were likely to remain, de minimis. See *Textron, Inc. v. U.S. Int’l Trade Comm’n*, 753 F.2d 1019, 1028-29, 224 USPQ 625, 631-32 (Fed. Cir. 1985) (discussing ITC and the historical requirement of injury to domestic injury). See also Report to Selected Congressional Subcommittees, United States General Accounting Office, *International Trade: Strengthening Trade Law Protection of Intellectual Property Rights* at 29 (August, 1986) (discussing how requirement of harm to domestic industry [in effect before 1988 Congressional amendments] resulted in denial of relief to complainants).

²³³ S. Rep. 100-71 (1987).

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that the owner of intellectual property has been granted a temporary statutory right to exclude others from making, using or selling the protected property. The purpose of such temporary protection, which is provided for in Article I, Section 8, Clause 8, of the United States Constitution, is ‘to promote the Progress of Science and Useful Arts, by securing for limited Time to Authors and Inventors the exclusive Rights to their respective Writings and Discoveries.’ In return for temporary protection, the owner agrees to make public the intellectual property in question. This trade-off creates a public interest in the enforcement of protected intellectual property rights. Any sale in the United States of a product covered by an intellectual property right is a sale that rightfully belongs only to the holder or licensee of that property. The importation of any infringing merchandise derogates from the statutory right, diminishes the value of the intellectual property, and thus indirectly harms the public interest.²³⁴

Thus, Congress has made clear that relief should not be limited to instances where there are proven lost sales by the domestic industry. Rather, it is sufficient that relief is provided to protect the intellectual property itself. Indeed, consistent with the underlying constitutional protection to encourage innovation, respondent might simply design around the infringed patent without complainant gaining any sales. This result is anticipated by the statute, not discouraged. Commission determinations are consistent with Congress’ direction, in amending the statute in 1988, that the remedy phase of the investigation not be used to reintroduce an injury requirement into the Commission’s analysis under Section 337.^{235 236}

²³⁴ S. Rep. 100-71 at 128 (1987).

²³⁵ S. Rep. 100-71 at 129 (1987) (“The Committee notes that in adopting section 401, it is effectively eliminating the requirements that the domestic industry be economically and efficiently operated and that the infringement have the tendency or effect of destroying or substantially injuring the domestic industry from Section 337 insofar as they apply to intellectual property cases. The Committee does not intend that the ITC, in considering the public health and welfare, or the President, in reviewing the ITCs determination on policy grounds, will reintroduce these requirements.”); accord H.R. Rep. 100-40 at 156 (1987).

²³⁶ In EPROMs II, the Commission took into account the fact that the complainant did not manufacture products containing the infringing product in assessing the third factor. EPROMs II at 83 (“Since respondents and Intervenor are not major manufacturers of the EPROMs, EEPROMs, flash memory, and flash microcontroller semiconductor devices at issue in this investigation, the benefit to Atmel from an exclusion order covering downstream products would appear to be minimal”). In that case, there was conflicting evidence on the

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Where, as here, we found the patent to be valid and a domestic industry to exist,²³⁷ relief is appropriate under this factor. Based on the fact that Broadcom would be denied any effective relief without the exclusion of articles containing the infringing chips, we find that *EPROMs* Factor 3 weighs heavily in favor of the requested downstream exclusion.²³⁸

4. *EPROMs* Factor 4: The incremental detriment to respondents of exclusion of such products.

The incremental detriment to the respondent resulting from an exclusion order on downstream products can weigh against downstream relief. As discussed below, under this factor we analyze the detriment to a respondent's noninfringing activities.

(a) The ALJ's Recommended Determination

The ALJ found that *EPROMs* Factor 4 weighs against including downstream products in any exclusion order because of the incremental detriment to Qualcomm, including [[

existence and extent of importation of downstream products. However, to the extent that the Commission was assessing actual lost sales in *EPROMs* II, we believe that it reintroduced an injury finding into their analysis contrary to Congressional intent, and decline to adopt that approach in our analysis of this factor.

²³⁷ The Commission previously adopted the ALJ's findings that Broadcom meets the domestic industry requirement of the statute. Order No. 19 (January 24, 2006) (economic prong), ID at 174 (technical prong). The existence of a domestic industry is a threshold requirement for Section 337 relief. 19 U.S.C. § 1337(a)(2). The statute specifies that an industry exists in the United States with respect to a particular article involving an intellectual property right if there is, in the United States (1) significant investment in plant and equipment; (2) significant employment of labor or capital; or (3) substantial investment in the exploitation of the intellectual property right including engineering, research and development or licensing. This is in contrast to the practice of District Courts, which do not have such a requirement.

²³⁸ See *Power Supply Controllers* at 7 ("As a result, an order that does not include these products would essentially provide no relief for complainant. Accordingly, this factor weighs in favor of an order excluding downstream products"); *Display Controllers* at 60; *Telecommunication Chips* at 32.

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]]. The ALJ noted that in 2005, [[]]

accused chips entered the United States incorporated in handsets manufactured by LG, Motorola, and Samsung, and concluded that the effect of an exclusion order covering these handsets is significant.²³⁹

(b) Broadcom's Position

Broadcom disagrees with the ALJ's conclusion that *EPROMs* Factor 4 weighs against a downstream exclusion order because of "the incremental detriment to Qualcomm, [[

]]."²⁴⁰ Broadcom contends that it is contrary to Federal Circuit and Commission precedent to consider Qualcomm's lost sales of infringing MSM chips as an incremental detriment that would weigh against a downstream remedy. Broadcom submits that it is an obvious and appropriate effect of Qualcomm's Section 337 violation that it should not benefit from the sale of its infringing articles, and therefore this fact cannot weigh against granting Broadcom a meaningful remedy.

Broadcom also contends that there is no factual basis for the ALJ's conclusion that Qualcomm will [[

.]]²⁴¹ Broadcom submits that based on the factual record, the Commission should not find that this factor weighs against a downstream remedy.

²³⁹ RD at 281 (citing SFFR 40, SAMDX-2C; SAMX-130C at 10-11; JX-323C at MOT/BQ 62731; ALJ Remedy Hearing Transcript at 96, 147, 157, 164 (Mulhern), 387-88 (Hausman)).

²⁴⁰ Broadcom's Remedy Brief at 31 (citing RD at 281).

²⁴¹ Broadcom's Remedy Brief at 32 (citing RD at 281).

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(c) Qualcomm's Position

Qualcomm argues that a downstream exclusion order would have a [[]] negative incremental impact on it. Qualcomm contends that the ripple effects of a downstream order would extend far beyond the particular accused technology. For instance, the downstream order could encumber Qualcomm's EV-DO standard itself, and, in the absence of alternative EV-DO compatible chips, that standard, and the industry that depends upon it, will be devastated. Qualcomm further contends that products that contain this technology will be unavailable, the products and services that support those products will founder, and Qualcomm will be unable to continue its innovative research and development activities.²⁴²

(d) Intervenors' Position

The Intervenors agree with the ALJ's conclusion that this factor weighs against including downstream products because of the substantial detriment to Qualcomm, [[

]]. Intervenors argue that this factor is entitled to greater-than-usual weight here because Qualcomm is a domestic company that has pioneered innovative technology that is relied on by major domestic businesses and millions of American consumers.²⁴³

(e) The IA's Position

The IA agrees with the ALJ that the incremental detriment to Qualcomm of an order covering handsets weighs against the exclusion of downstream products.²⁴⁴ The IA notes,

²⁴² Qualcomm's Remedy Brief at 50.

²⁴³ Intervenors' Remedy Brief at 22-23.

²⁴⁴ OUII's Remedy Brief at 36 (citing RD at 281).

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however, that “this type of detriment is certainly nothing unusual in the context of Section 337 investigations.”²⁴⁵ The IA also agrees that Qualcomm may also lose some sales of other Qualcomm chips that themselves are not accused of infringement, but that have been designed to work with the infringing chips within a cell phone that might be excluded from the U.S. market, such as the power management integrated circuits which are designed to work with infringing chips.²⁴⁶

(f) Analysis and Finding

In considering *EPROMs* Factor 4, we distinguish between detriment related to a respondent’s sales of infringing articles and its sales of non-infringing articles. As our reviewing Court has held, “[o]ne who elects to build a business on a product found to infringe cannot be heard to complain if an injunction against continuing infringement destroys the business so elected.”²⁴⁷ Accordingly, we generally give little if any weight to detriment occurring as to respondents’ sales of infringing articles, absent unusual circumstances.²⁴⁸

In the present investigation, we give little if any weight to the likelihood that a downstream exclusion order will be detrimental to Qualcomm’s sales of infringing chips and chipsets. The potential economic detriment Qualcomm would suffer from exclusion of downstream products is so great precisely because of the broad extent of Qualcomm’s infringing activities .

²⁴⁵ OUII’s Remedy Brief at 36.

²⁴⁶ OUII’s Remedy Brief at 36.

²⁴⁷ *Windsurfing Int’l Inc. v. AMF, Inc.*, 782 F.2d 995, 1003 n.12 (Fed. Cir. 1986).

²⁴⁸ See *Audio Digital-To-Analog Converters and Products Containing Same*, Inv. No. 337-TA-499, Comm’n. Op. at 20, and *Certain Power Supply Controllers* at 8.

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Nevertheless, we agree with the IA that Qualcomm may also lose sales of some of its non-infringing chips, such as power management circuits, that have been designed to work with the infringing chips within a cell phone that might be excluded from the U.S. market.²⁴⁹

Accordingly, we conclude that *EPROMs* Factor 4 weighs against the exclusion of downstream products, although we give it little weight in our analysis.²⁵⁰ As discussed *infra*, there is only limited evidence on the record regarding potential lost sales of noninfringing chips. Moreover, the limited exclusion order we issue includes a certification provision, which will help Customs, *inter alia*, ensure that non-infringing chips are not improperly excluded.²⁵¹

5. ***EPROMs* Factor 5: The burdens imposed on third parties resulting from exclusion of downstream products.**

In assessing this factor, the Commission has taken into account the burden on third parties where the downstream products are manufactured and imported by third parties unrelated to the respondent.²⁵² The Commission may also consider a downstream order to be an undue burden on third parties because of possible difficulties in proving that a given downstream product does not contain an infringing article.²⁵³ However, a decision to include a certification provision in the limited exclusion order can ease the burden on third parties imposed by downstream exclusion.²⁵⁴

(a) **The ALJ's Recommended Determination**

²⁴⁹ OUII's Remedy Brief at 36 (citing CX-129, CX-142, CX-145, and CX-1534).

²⁵⁰ See OUII's Remedy Brief at 36; RD at 281.

²⁵¹ We decline to respond here to Qualcomm's arguments that an exclusion order will have a ripple effect on other parties. That contention is best evaluated in relation to *EPROMs* Factor 5 and, where appropriate, the statutory public interest factors.

²⁵² See Display Controllers at 61.

²⁵³ *EPROMs* at 84.

²⁵⁴ Display Controllers at 61.

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The ALJ found that *EPROMs* Factor 5 weighs heavily against including downstream products in the exclusion order. The ALJ stated that, while the parties dispute the actual dollar value of the burden that will be borne, it is clear that there will be a significant financial burden borne by third parties in the millions, if not billions, of dollars.²⁵⁵ The ALJ found that there are significant barriers to mitigating such harm, including the cost and timing required to re-design handsets. [[

]].²⁵⁶ In the ALJ's view, the Intervenors' failure to mitigate the substantial harms they face does not diminish the weight of this factor.²⁵⁷

The ALJ further found that consumers will also bear a burden if an exclusion order issues that covers downstream handsets. For instance, consumers will be faced with fewer choices of handsets and fewer network providers. Consumers may also face higher costs either by being forced to buy a more expensive PDA or smartphone, or by increased prices if the manufacturer's redesign costs are passed onto consumers.²⁵⁸

Accordingly, the ALJ found that the *EPROMs* Factor 5 weighs heavily against including downstream products in the exclusion order because of the significant financial burden borne by third parties, including handset manufacturers, wireless carriers, and consumers that would result if

²⁵⁵ RD at 300 (citing ALJ Remedy Hearing Transcript at 112-13 (Mulhern), 510-11 (Lynch); VX-300C (Lynch Direct) at 27-28.

²⁵⁶ RD at 300-01 (citing SAMX-130C (Hausman Direct) at 12; KX-246C (Zeran Direct) at 17, Zeran, ALJ Remedy Hearing Transcript, 996-1001 (Grob); KX-245C (Meyer Direct) at 12-13; KX-226C (Meyer Rebuttal) at 13, KX-195C).

²⁵⁷ RD at 301.

²⁵⁸ RD at 301 (citing SAMX-130C (Hausman Direct) at 12, 14-15, 18; ALJ Remedy Hearing Transcript 433-34 (Hausman); VX-300C (Lynch Direct) at 36).

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downstream products were excluded.²⁵⁹

(b) Broadcom's Position

Broadcom disagrees with the ALJ's finding that the potential burden of a downstream order on third parties would be significant, and that *EPROMs* Factor 5 weighs heavily against the exclusion of downstream products.²⁶⁰

Broadcom argues that it presented substantial evidence to demonstrate the limited nature of any real and identifiable burden on third parties, as well as the possibility of mitigating any such burden through the actions of Intervenors and through the availability of alternative sources of revenue and products. Broadcom contends that, while the ALJ considered the impact of a downstream order only in absolute terms, he did not consider whether the impact would constitute a burden on third parties in the context of the scope of Broadcom's proposed order and the context of gauging any future impact.²⁶¹

Broadcom contends that its proposed exclusion order is limited and narrowly tailored to provide effective relief to Broadcom while minimizing the resulting burden on third parties. Broadcom points out that it seeks to exclude only "handsets" – not PDAs, smartphones, or data cards – that contain infringing Qualcomm baseband processors. Broadcom emphasizes that by excluding only handsets and by permitting importation of converged devices and data cards with infringing chips, the Commission will prevent the importation of the significant majority of infringing chips, yet will allow the carriers and manufacturers to realize [[

²⁵⁹ RD at 301.

²⁶⁰ Broadcom's Remedy Brief at 52.

²⁶¹ Broadcom's Remedy Brief at 33.

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]].²⁶²

As for EV-DO handsets, Broadcom argues that the Intervenor's claims of substantial burden are greatly inflated. First, Broadcom contends, the revenue earned from the EV-DO handsets that Broadcom proposes to exclude and from the services that would be affected by such an exclusion represent [[]] of the Intervenor's total revenues. Second, according to Broadcom, EV-DO technology and EV-DO enabled products (*i.e.*, streaming video and music) are new and unproven in the marketplace, and any calculation of the future burden resulting from excluding EV-DO handsets in the short term necessarily requires making speculative assumptions concerning the future success of EV-DO products.²⁶³ Third, Broadcom argues, the Intervenor has taken no action to minimize the potential impact of a proposed downstream order.²⁶⁴ Broadcom contends that the Intervenor's inaction belies their assertions of devastating burdens and highlights that EV-DO will continue to be supported, developed, and made available to consumers.

Broadcom further argues that a downstream order will not materially burden the carriers. Specifically, Broadcom submits that its proposed order will not affect [[]]

]]. Broadcom contends that [[]]

]].²⁶⁵

Broadcom argues that manufacturer Intervenor overstate any potential burden caused by

²⁶² Broadcom's Remedy Brief at 34.

²⁶³ Broadcom's Remedy Brief at 35.

²⁶⁴ Broadcom's Remedy Brief at 35.

²⁶⁵ Broadcom's Remedy Brief at 36.

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the downstream exclusion order.²⁶⁶ Broadcom contends that excluding downstream handsets containing Qualcomm's infringing WCDMA chips (the MSM6200 series), and Qualcomm's infringing dual mode chip (the MSM6300 series) will not adversely affect manufacturers.

Broadcom points out that while Samsung, LGEMU, and Motorola each manufacture GSM/GPRS and WCDMA handsets, the majority of their products that are imported and sold in the U.S. do not contain an infringing Qualcomm chip. Broadcom further points out that affected handsets comprise a small fraction of the total handset offerings of the manufacturers, constituting a negligible amount of revenue.²⁶⁷

Broadcom also contends that the manufacturers' projections of future harm are speculative and unreliable,²⁶⁸ and that the manufacturers failed to mitigate any potential burden.²⁶⁹ Broadcom contends that even if the manufacturers' calculations of the cost and timing required to redesign handsets are correct, the cost cited per handset model [[]] is dwarfed by the [[]] of loss the manufacturers claim they will face in the next few years if an exclusion order extending to downstream products is issued. Broadcom further contends that, had the Intervenor taken actions to redesign even some handsets at the time they learned of this investigation, they could already have replacement models ready for market.²⁷⁰

In Broadcom's view, the burden to consumers if a downstream order is put in effect will be

²⁶⁶ Broadcom's Remedy Brief at 44.

²⁶⁷ Broadcom's Remedy Brief at 45 (citing CX-2500C - CX-2508C).

²⁶⁸ Broadcom's Remedy Brief at 46.

²⁶⁹ Broadcom's Remedy Brief at 49.

²⁷⁰ Broadcom's Remedy Brief at 49.

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slight.²⁷¹ First, Broadcom submits that, other than downloading videos or listening to music, handsets that operate on the 1xRTT network offer the same services as handsets that operate on the EV-DO standard. Moreover, because fewer than 1 percent of consumers use their handsets to watch videos and fewer than 2 percent use them to listen to music, the vast majority of consumers who would otherwise buy an EV-DO handset can simply switch to a 1xRTT handset with no discernible change in their handset experience. Second, Broadcom argues that those few consumers who actually want to use the video and music downloading capabilities available on the EV-DO network can do so by using existing handsets, or existing and future PDAs or smartphones. Third, Broadcom points out that the record does not support the ALJ's conclusion that consumers may suffer an increase in prices because there is no evidence that those consumers who value EV-DO services will have to purchase a more expensive device in the future.²⁷²

(c) Qualcomm's Position

Qualcomm supports the ALJ's finding that Factor 5 weighs heavily against including downstream products in the exclusion order.²⁷³ Qualcomm submits that the record evidence shows that Intervenors [[

]].²⁷⁴ [[

]].²⁷⁵ Qualcomm further contends that virtually every

²⁷¹ Broadcom's Remedy Brief at 51.

²⁷² Broadcom's Remedy Brief at 51.

²⁷³ Qualcomm's Remedy Brief at 51-52 (citing RD at 300, 309).

²⁷⁴ Qualcomm's Remedy Brief at 53.

²⁷⁵ Qualcomm's Remedy Brief at 54-55.

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sector of American society would be significantly burdened by Broadcom's request for an order excluding EV-DO-compatible handsets. Qualcomm argues that the ultimate impact of the requested exclusion order would fall on American consumers who would be deprived of technology available to the rest of the world.²⁷⁶

Qualcomm also argues that no rational justification exists to inflict such consequences on behalf of Broadcom, which was unable to provide any evidence that either itself or any other supplier could "fill the deep hole such an order would leave on the American technological and business landscape."²⁷⁷ Qualcomm argues that cellular telephone handsets utilize many different components covered by many different patents and that the patent rights of Broadcom which cover one component should not trump the patent rights of the other parties who own patents that cover the other aspects of the handsets.²⁷⁸

Qualcomm also objects to Broadcom's argument that Intervenor failed to mitigate and therefore are to blame for any harm they suffer. Qualcomm points out that, as the record evidence indicates, the cost of designing new handsets would cost Intervenor [[

]].²⁷⁹ Qualcomm states that "many third parties [that are] sure to be affected had . . . no knowledge of this proceeding and had no opportunity to mitigate."²⁸⁰ Qualcomm argues that Intervenor had no duty or reason to mitigate because Broadcom never accused them of any wrongdoing. Qualcomm further points out that consumers

²⁷⁶ Qualcomm's Remedy Brief at 52.

²⁷⁷ Qualcomm's Remedy Brief at 55.

²⁷⁸ Qualcomm Post-Commission Hearing Submission at 41.

²⁷⁹ Qualcomm's Remedy Brief at 75 (citing RD at 300, 301).

²⁸⁰ Qualcomm's Remedy Brief at 55.

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have no ability to mitigate the loss they might experience.²⁸¹ Finally, Qualcomm argues that the record evidence demonstrates that Broadcom does not use its patents as a tool for technological innovation; rather, according to Qualcomm, Broadcom uses this patent as a “weapon” in its effort to dismantle the competition presented by the superior EV-DO technology.²⁸² Qualcomm also contends that mitigation is the responsibility of a plaintiff but not of a defendant, citing *Robinson v. United States*, 305 F.3d 1330, 1333 (Fed. Cir. 2002).²⁸³ Finally, Qualcomm asserts that Broadcom waived exclusion of WCDMA chips because it did not ask for their exclusion until its post-hearing remedy briefing before the ALJ.²⁸⁴

(d) Intervenor’s Position

Intervenors argue that the relief that Broadcom seeks would effectively shut down an entire segment of leading-edge handset technology. According to the Intervenors, the evidence at trial established that an exclusion order barring EV-DO-compatible handsets (1) would cause [[]] of dollars in harm to Verizon and Sprint and disrupt the carriers’ services, business planning, and efforts to innovate; (2) would cause [[]] in harm to each handset manufacturer by eliminating their ability to sell EV-DO handsets, an increasingly important source of revenue and the primary focus of research and development; (3) would cause serious harm to third-party consumers, who will lose access to the handsets, carriers, and services they desire, and may suffer higher prices; and (4) would damage other third parties.²⁸⁵ Intervenors contend that the

²⁸¹ Qualcomm’s Remedy Brief at 56.

²⁸² Qualcomm’s Remedy Brief at 56.

²⁸³ Qualcomm Post-Commission Hearing Submission at 42

²⁸⁴ Qualcomm Post-Commission Hearing Submission at 45.

²⁸⁵ Intervenors’ Remedy Brief at 23-24.

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proposed downstream exclusion is inconsistent with Commission precedent because the Commission has never issued an exclusion order that threatened a type of harm that was even remotely comparable to the harm that Broadcom's proposed order would inflict on third parties.²⁸⁶

Intervenors argue that the EV-DO technology offers superior capabilities that prior technologies cannot match. For example, Intervenors point out that EV-DO provides a customer with an experience that 1xRTT (the technology EV-DO replaces) cannot match because the current version of EV-DO is 5 to 8 times faster than 1xRTT. Intervenors note that for data services, 1xRTT provides the equivalent of a dial-up connection, a service that is unacceptable to consumers accustomed to broadband access at work and at home.²⁸⁷

(e) The IA's Position

The IA submits that the proposed downstream relief would be a substantial burden on third parties, and that it would fall largely on third party handset manufacturers and service providers that are unrelated to Qualcomm. The IA notes that while there may be some mitigation strategies, the burden will still be significant and, therefore, this factor weighs against the issuance of an order that covers handsets.

The IA states that if an exclusion order that includes downstream cellular telephone handsets issues, the handset manufacturers and others will not be able to import handsets that incorporate infringing Qualcomm chips.²⁸⁸ Accordingly, the IA submits that manufacturers will have to redesign their current and future offerings at substantial cost. The IA concludes that, in

²⁸⁶ Intervenors' Remedy Brief at 23-24.

²⁸⁷ Intervenors' Remedy Brief at 25.

²⁸⁸ The IA notes that in 2005, Motorola, Samsung, and LGEMU alone imported [[
 .]] See OUII's Remedy Brief at 38.

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sum, an exclusion order covering downstream telephone handsets would cause a substantial burden on third-party manufacturers both in terms of time and money, multiplied by the number of handsets that are redesigned.

The IA arrives at a similar conclusion with regard to the service providers, *e.g.*, Verizon and Sprint. The IA notes that the service providers have spent billions of dollars on developing nationwide EV-DO networks, and if an exclusion order that covers downstream cellular telephone handsets issues, the service providers will experience substantial drops in projected revenues.²⁸⁹ The IA notes that Verizon asserts that it [[]] in total revenues, including device sales and service revenues between 2007 and 2010, if an exclusion order is issued that prohibits the importation of EV-DO handsets.²⁹⁰ The IA questions some of the assumptions made by Verizon for its projections, but agrees that Verizon will lose some device sales and service revenues.²⁹¹ The IA notes that even limiting Verizon's estimate of lost revenue from consumer EV-DO services, Broadcom's expert estimated that Verizon [[]] in revenue for 2007 through 2010.²⁹² The IA further notes that Sprint estimates that in 2006 alone, handset consumers spent between [[]] on Sprint data services delivered over the EV-DO network.²⁹³ The IA concludes that "under anyone's analysis such losses are substantial and weigh heavily against the exclusion of downstream products."²⁹⁴

²⁸⁹ OUII's Remedy Brief at 41-42.

²⁹⁰ OUII's Remedy Brief at 42.

²⁹¹ OUII's Remedy Brief at 44.

²⁹² OUII's Remedy Brief at 45 (citing ALJ Remedy Hearing Transcript at 126-28 (Mulhern)).

²⁹³ OUII's Remedy Brief at 45.

²⁹⁴ OUII's Remedy Brief at 45.

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The IA submits, however, that Intervenors have failed even to attempt mitigation of potential harms associated with the downstream exclusion order. For example, the IA points out that when Verizon made the decision to adopt EV-DO and embark upon its business plan, [[

]].²⁹⁵ The IA further

points out that “the decision to move to an EV-DO system was *based on its assumption* that Verizon would be able to sell EV-DO-capable handsets.”²⁹⁶ The IA notes that even after Verizon’s assumptions were brought into question by the relief being sought in this investigation, Verizon did not re-examine its assumptions or adjust its business plan, but rather continued to transition to EV-DO at an even faster pace, [[

]]. The IA further notes that, since knowing of this investigation, “Sprint has continued its roll-out of its EV-DO network.”²⁹⁷ The IA submits that, while both Verizon and Sprint protest that all of these expenditures and enormous expected future profits will be lost if a downstream order is issued, in her view, Verizon and Sprint are in part responsible for such an outcome.²⁹⁸

The IA further submits that, even after being aware of Broadcom’s requested relief for more than six months, there was no evidence at the remedy hearing that [[

²⁹⁵ OUII’s Remedy Brief at 45 (citing ALJ Remedy Hearing Transcript at 480-81 (Lynch)).

²⁹⁶ OUII’s Remedy Brief at 46 (citing ALJ Remedy Hearing Transcript at 501-02 (Lynch) (emphasis added by the IA)).

²⁹⁷ OUII’s Remedy Brief at 46 (citing ALJ Remedy Hearing Transcript at 837-38 (Yarkowsky)).

²⁹⁸ OUII’s Remedy Brief at 47.

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]].²⁹⁹ The

IA points out that Verizon has continued to develop a product mix that consists of increasingly high-tier EV-DO handsets containing infringing Qualcomm chips.³⁰⁰ The IA concludes that, accordingly, although the service providers “likely face substantial harm if an exclusion order is issued that bars EV-DO handsets, their absolute failure to do anything to mitigate this potential financial burden diminishes the weight of this *EPROMs* factor.”³⁰¹

With respect to the handset manufacturers, the IA notes that while it is true that they will have to redesign all EV-DO compatible handsets, some of these potentially excluded handsets were designed during this investigation with full knowledge of the possible consequences. The IA points out that while the Intervenor Manufacturers estimate that it will take [[]] per handset model to redesign affected handsets, they will have had over 15 months from first realizing the possible impact of a downstream exclusion order to the end of the Presidential review period, which occurs 60 days after the target date, the original target date being March 8, 2007.³⁰² The IA concludes that, as with the service providers, the handset manufacturers’ failure to do anything to mitigate the substantial harms they face diminishes the weight of this *EPROMs* factor.³⁰³

The IA believes, however, that the ALJ placed too much weight on this factor, and submits that while it is true that third parties will bear significant burdens from an exclusion order that covers downstream handsets, in view of the third parties’ failure to mitigate, this factor should not

²⁹⁹ OUII’s Remedy Brief at 47 (citing ALJ Remedy Hearing Transcript at 475-76 (Lynch)).

³⁰⁰ OUII’s Remedy Brief (citing JRB at 41).

³⁰¹ OUII’s Remedy Brief at 47.

³⁰² OUII’s Remedy Brief at 48.

³⁰³ OUII’s Remedy Brief at 49.

be weighed as heavily as it appears to have been in the recommended determination.³⁰⁴

(f) Analysis and Finding

In evaluating the burdens associated with downstream relief, we find it useful, in this investigation, to analyze the affected third parties as falling into three general groups, distinguished by their proximity to Qualcomm and the conduct in violation of Section 337. One group consists of the manufacturers of handsets and other downstream devices; they select the chips to be incorporated into their devices and work very closely with chip manufacturers in developing the products they sell.³⁰⁵ The second group consists of wireless network operators. They also participate in the development of downstream devices, but they do not ultimately control the selection of the chip, and their primary focus is the development and deployment of the expensive, nationwide wireless networks to which the downstream devices are a means of access.³⁰⁶ The third group is furthest removed from Qualcomm and the infringing conduct, and consist of entities such as PacketVideo Corporation and Warner Music Group,³⁰⁷ which sell software and music and video content, and other services and products for use by handset owners.

An order that prevents the importation of handsets and other downstream devices that contain infringing Qualcomm chips would place very substantial burdens on third parties,

³⁰⁴ OUII's Remedy Brief at 50; OUII's Post-Commission Hearing Submission at 13-16.

³⁰⁵ See ID at 147-50; Broadcom's Remedy Brief at 28; Qualcomm's Post-Commission Hearing Submission at 31-32.

³⁰⁶ E.g., Transcript of Commission Hearing at 479-81 (Hansen and Lynch) (the manufacturers produce the handsets, while network operators rely on the manufacturers to ensure that the devices comply with intellectual property rights) and Qualcomm's Post-Commission Hearing Submission at 32 (in general, network operators supply the system specifications, which handset manufacturers must then comply with).

³⁰⁷ These entities testified at the Commission's Remedy Hearing. See Transcript of Commission Hearing at 659-62 (Kull) and 668-74 (Singer).

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including, in particular, wireless network operators.³⁰⁸ As described below in more detail, the exclusion would lead to substantial losses in revenue to both the manufacturers and network operators from the sale of the excluded devices themselves. Network operators would experience even greater burdens from the loss of the associated service contracts. The loss of these revenue streams would in turn greatly impair the network operators as they attempt to generate earnings on their considerable investments in the EV-DO and WCDMA networks. An order on downstream products could end, or at least significantly delay, efforts to move existing and new customers to these third-generation networks, which promise higher revenues, lower transmission costs, and more efficient use of the electromagnetic spectrum.

The order would also place burdens on providers of services, software, and content, such as PacketVideo and Warner Music Group, that require an expanding pool of EV-DO and WCDMA subscribers in order to increase sales.

Sales by handset manufacturers represent only a portion of the potential losses to third parties, yet are substantial even considered in isolation. In 2005, Motorola, Samsung, and LGEMU alone imported [[]] CDMA handsets worth [[]].³⁰⁹ Broadcom reports that in 2006 there were 27.2 million EV-DO handsets shipped into North America, a figure expected to rise to 44.6 million in 2007.³¹⁰ WCDMA handset shipments into North America are estimated at 3.1

³⁰⁸ For purposes of analyzing this factor, we focus on the effects of downstream relief on handset manufacturers, network operators (wireless carriers), and providers of services, software, and content. We address effects on consumers in connection with Factor 6 and the public interest.

³⁰⁹ See OUII's Remedy Brief at 38 (citing SAMDX-2C; SAMX-130C at 10-11; JXS-323C at MOT/BQ 62731; ALJ's Remedy Hearing Transcript at 96, 147, 157, 164 (Mulhern), 387-88 (Hausman)).

³¹⁰ Broadcom's Post-Commission Hearing Submission at 2.

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million for 2006 and 9.8 million for 2007.³¹¹ The loss of these revenue streams would impose a substantial burden on the handset manufacturers.

While smaller, another burden imposed on handset manufacturers are the costs required to design noninfringing handsets. Assuming the availability of a noninfringing chip, the redesign of a single handset model can require [[]].³¹² Redesigns require the commitment of substantial engineering resources, representing a large opportunity cost.³¹³ Although there is currently one noninfringing WCDMA-compatible handset for sale,³¹⁴ all other handset manufacturers will have to incur redesign costs if they wish to participate in the expanding market for EV-DO and WCDMA handsets.

The burden on third party network operators is likely to be even greater. While network operators will experience substantially reduced revenue from the loss of sale of handsets and other devices, a much greater burden is imposed by the loss of sales of the much more lucrative service contracts.³¹⁵ Broadcom's expert estimated that Verizon will lose [[]] in revenue derived from consumer EV-DO services for 2007 through 2010.³¹⁶ Likewise, Sprint estimates that for 2006 alone handset consumers spent between [[]] on Sprint data services delivered

³¹¹ Broadcom's Post-Commission Hearing Submission at 2.

³¹² Manufacturer Intervenors' Post-Commission Hearing Submission at 7.

³¹³ Intervenors' Remedy Brief at 56.

³¹⁴ Manufacturer Intervenors' Post-Commission Hearing Submission at 6; Qualcomm's Post-Commission Hearing Submission at 51.

³¹⁵ Broadcom's Remedy Brief at 58 (for network operators, service contracts represent a much greater source of revenue than do device sales); Intervenors' Remedy Brief at 30, 32 (same); see also ALJ Remedy Hearing Transcript at 121-22, 127-28 (Mulhern); VDX-3C; SNX-54C at 11.

³¹⁶ ALJ Remedy Hearing Transcript at 126-128 (Mulhern).

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over the EV-DO network.³¹⁷ Moreover, these revenue streams are projected to grow sharply during the remaining term of the patent.³¹⁸

The loss of large revenue streams would also threaten the network operators' multi-billion dollar investments in nationwide EV-DO and WCDMA networks.³¹⁹ As of March 2007, Verizon and Sprint had invested over [[]] in EV-DO networks. The network operators are relying on revenue streams to recoup investments and continue the expansion of the networks.³²⁰

The new networks offer not only important revenue potential but also lower transmission costs, greater spectrum efficiency, and a vehicle through which to offer cutting edge wireless technology.³²¹ Without an expanding customer base, the network providers' ability to receive a return on investment and continue the expansion of the networks into new areas is threatened.³²² In the case of Sprint, the availability of EV-DO handsets is critical to that firm's planned migration of customers currently on the [[]] 1xRTT and iDEN networks.³²³

³¹⁷ JX-452C at 55:2-17, 56:1-14.

³¹⁸ E.g., Transcript of Commission Hearing at 441 (Lynch), 444 (Garavaglia), 450-52 (Elliott), 470 (Hansen), 566-67 (Garavaglia), 569-71 (Lynch).

³¹⁹ Verizon and Sprint alone have spent billions of dollars on developing nationwide EV-DO networks. Transcript of Commission Hearing at 440 (Lynch), 449-50 (Elliott) and OUII Remedy Brief at 41-42; VX-300C at 8-9, 21; VX-302C at 4; SNX-53C at 6; JX-367C; JX-368C.

³²⁰ See, e.g., Transcript of Commission Hearing at 440-43 (Lynch), 453 (Elliott); Verizon' Post-Commission Hearing Submission at 14-15.

³²¹ Intervenors' Remedy Brief at 25-27; Transcript of Commission Hearing at 440 (Lynch).

³²² Transcript of Commission Hearing at 441-42 (Lynch), 452 (Elliott).

³²³ Transcript of Commission Hearing at 452 (Elliott); Intervenors' Remedy Brief at 44-49.

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Burdens imposed on service, software, and content providers are smaller, yet still substantial to those entities. PacketVideo reports that the exclusion of EV-DO handsets would dramatically compromise the company's revenue stream and place 60 percent of its workforce at risk.³²⁴ Warner Music Group reports that retail sales of physical albums are declining but digital sales are growing, and that about half of the music industry's worldwide digital revenue is from sales for mobile applications.³²⁵ We infer that other providers of products and content to mobile users would be adversely affected as well.

In sum, an order excluding downstream products would impose very substantial burdens on third parties through the loss of sales of the products, the associated service contracts, and, in the case of the network providers, by limiting their ability to grow their customer base and receive returns on the very large sums invested in EV-DO and WCDMA networks. Accordingly, we conclude that Factor 5 weighs heavily against the exclusion of downstream products.^{326 327}

The IA and Broadcom suggest that Qualcomm and the Intervenor are at fault for not attempting to mitigate harm and that their failure to do so lessens the weight we should give to the harms they would suffer as a result of the exclusion of downstream devices. While mitigating the negative impact of the downstream exclusion may be desirable, we find no authority to support

³²⁴ Letter of February 28, 2007 to the Commission from James C. Bailean of PacketVideo.

³²⁵ March 22, 2007 Statement to the Commission of Howard M. Singer of Warner Music.

³²⁶ RD at 300.

³²⁷ Other network operators, such as ATTN and T-Mobile did not intervene in the remedy phase of the trial or appear at the Commission hearing on remedy. Despite their failure to timely offer evidence of their particular circumstances, we infer from the record that an exclusion order that covers both EV-DO and WCDMA would have an adverse impact on them as well. Manufacturer Intervenor's Post-Commission Hearing Submission at 6-7.

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relying on a party's failure to mitigate to reduce the weight of *EPROMs* Factor 5.

In sum, we find that this factor weighs heavily against full downstream relief, especially in conjunction with Factor 6.

6. *EPROMs* Factor 6: The availability of alternative downstream products that do not contain the infringing articles.

In applying Factor 6, the Commission has focused mainly on the availability of alternative downstream products,³²⁸ although it has also taken into account whether alternatives to the infringing articles themselves are available as well.³²⁹ When alternative downstream products are available, this factor weighs in favor of downstream exclusion.

(a) The ALJ's Recommended Determination

The ALJ found that *EPROMs* Factor 6 weighs against downstream relief because commercially available alternatives to Qualcomm's EV-DO chips do not exist. With respect to whether non-infringing downstream alternatives exist, the ALJ stated that availability must be determined in light of the real world economic demands of a particular industry.³³⁰ The ALJ noted that consumers of downstream products in the wireless communications market are cost-sensitive, and would not view PDAs or other QWERTY devices permitted under Broadcom's proposed order as viable alternatives because they are more expensive both in terms of initial purchase price and the cost of the associated service. Accordingly, the ALJ found the available non-infringing

³²⁸ See, e.g., *EPROMs* at 125 ("The availability of alternative downstream products which do not contain the infringing articles"); *Power Supply Controllers* at 8 ("With regard to the sixth *EPROMs* factor, there are several alternative downstream products that do not contain the infringing articles"); see also *Display Controllers* at 61.

³²⁹ See, e.g., *Telecommunication Chips* at 31-32 ("[t]here are numerous sources of non-infringing tone dialer chips"; "there are numerous sources of low end telephones containing non-infringing tone dialer chips.")

³³⁰ RD at 304.

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handsets and QWERTY devices do not represent real world viable alternatives for consumers, and that *EPROMs* Factor 6 weighs against the grant of relief against downstream products.³³¹

(b) Broadcom's Position

Broadcom believes that the ALJ erred by apparently basing his recommendation on the lack of commercially available alternatives to Qualcomm's EV-DO chips, rather than the availability of alternative downstream products.³³² While not disputing that currently there are no commercially available alternatives to Qualcomm's infringing EV-DO chips, Broadcom argues that there are many alternative downstream products that offer similar functionality without using the infringing EV-DO chips.³³³ Broadcom also contends that numerous alternatives exist to Qualcomm's infringing WCDMA chips and the handsets incorporating them. Broadcom asserts that suppliers other than Qualcomm account for approximately two thirds of the market for third generation WCDMA baseband processors.³³⁴

While Broadcom admits that no alternative EV-DO handsets are currently available, it argues that only a small number of consumers would be left without a handset that meets their needs if the Commission issues Broadcom's proposed order (which would not exclude devices containing QWERTY keypads). Broadcom describes these as consumers who (1) wish to download videos and music or play games; (2) want to do so on a handset and not a PDA or smartphone; and (3) are outside the coverage of AT&T's third generation network. Broadcom asserts that even those consumers will not have to wait long for alternative handsets because

³³¹ RD at 301-04.

³³² Broadcom's Remedy Brief at 53.

³³³ Broadcom's Remedy Brief at 53.

³³⁴ Broadcom's Remedy Brief at 54.

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alternative suppliers of EV-DO chips are “on the horizon.”³³⁵

Broadcom contends that the vast majority of consumers who have purchased EV-DO handsets are using their handsets mostly for voice services and perhaps simple text messaging, and are not interested in the few services that require an EV-DO network. Broadcom argues that for this vast majority, handsets that operate on the current 1xRTT standard will be perfectly acceptable alternatives to the EV-DO handsets that rely on Qualcomm’s infringing chips.³³⁶

(c) Qualcomm’s Position

Qualcomm contends that there is no source of non-infringing chips for use in EV-DO capable devices and the only alternatives to EV-DO are inferior in form, function, expense, and overall desirability.³³⁷ Qualcomm contends that Commission precedent indicates that the absence of an alternative source alone is sufficient to preclude a downstream order. Qualcomm points out that, in previous cases where the Commission ordered exclusion of downstream products, it did so with the knowledge that non-infringing suppliers were available to avoid disruption to commerce and harm to the businesses of innocent third parties.³³⁸ Qualcomm submits that, contrary to Broadcom’s argument that businesses and consumers can be directed to other devices that have some similarity to the excluded handsets, the Commission looks for direct substitutes, not some arguable equivalency between one device or product and another.³³⁹

³³⁵ Broadcom’s Remedy Brief at 54-55.

³³⁶ Broadcom’s Remedy Brief at 55-56.

³³⁷ Broadcom’s Remedy Brief at 55-56.

³³⁸ Qualcomm’s Remedy Brief at 57 (citing *Power Supply Controller* at 10; *Display Controllers* at 61-62 (Feb. 4, 2005); *Telecommunication Chips*, Comm’n. Op. at 31; *Electrical Connectors* at 8; *EPROMs* at 137).

³³⁹ Qualcomm’s Remedy Brief at 57-58 (citing *Power Supply Controllers* at 8-9; *Telecommunication Chips* at 31; *Display Controllers* at 62.)

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Qualcomm argues that, while Broadcom suggests that businesses and consumers can use 1xRTT technology instead of EV-DO, ATTM instead of Verizon or Sprint, and converged devices instead of handsets, each of these choices represents a diminution in functionality and value. Thus, 1xRTT is slower and more expensive; ATTM has limited coverage; and consumers have already expressed, through their buying choices, their preference for handsets over the bulkier, less portable, and significantly more expensive converged devices.³⁴⁰ Qualcomm further contends that requiring consumers and business customers to obtain their EV-DO data on a PDA or similar device will mean that most people will need to carry two devices since none of the converged devices does the basic job of telephoning nearly as well as cell phones do. Qualcomm concludes that the "alternatives" Broadcom proffers will leave American businesses and consumers worse off than they are with EV-DO enabled handsets.³⁴¹

Qualcomm argues finally that there are no alternative WCDMA chips in the United States marketplace today, that it is the sole supplier of WCDMA baseband chips for the United States WCDMA market, and that it would take [[]] for another WCDMA manufacturer to bring an alternative handset to market.³⁴²

(d) Intervenor's Position

Intervenors agree with the ALJ's finding that there are no alternatives to Qualcomm's infringing chips or to EV-DO-compatible handsets, stating that even Broadcom's expert, Ms. Mulhern, admitted that consumers in the United States will not be able to purchase

³⁴⁰ Qualcomm's Remedy Brief at 58 (citations omitted).

³⁴¹ Qualcomm's Remedy Brief at 58-59 (citations omitted).

³⁴² Qualcomm's Remedy Brief at 59; Qualcomm's Post-Commission Hearing Submission at 51.

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EV-DO-compatible handsets if Broadcom's proposed exclusion order issues.³⁴³ Intervenors contend that the present investigation differs from the previous cases in which the Commission has issued exclusion orders covering downstream products because in those cases, substitutes for the infringing components were readily available.³⁴⁴

Intervenors contend that EV-DO-compatible PDAs, smartphones, and data cards are not alternatives for EV-DO-compatible handsets. Moreover, they submit that EV-DO customers overwhelmingly prefer handsets to such other EV-DO-compatible devices as PDAs, smartphones, and data cards,³⁴⁵ due to differences in size, shape, functionality, and expense. Thus, Intervenors point out that approximately [[]] of Verizon's EV-DO device sales from January to April 2006 were handsets, whereas PDAs, smartphones, and data cards combined constituted [[]] of sales. Likewise, Intervenors note that in May 2006, Verizon sold more than [[]] EV-DO-capable handsets, out of [[]] handsets sold, whereas during the same period, it sold [[]] EV-DO-capable PDAs and smartphones.³⁴⁶ Intervenors point out that Verizon's handsets that are targeted for exclusion have [[]], whereas the products identified by Verizon as smart phones [[]].³⁴⁷

Intervenors further argue, contrary to Broadcom's position, that 1xRTT-compatible

³⁴³ Intervenors' Remedy Brief at 74.

³⁴⁴ Intervenors' Remedy Brief at 72 (citing *Power Supply Controllers* at 9; *Display Controllers* at 62; *Telecommunication Chips* at 31; *Electrical Connectors* at 8; *EPROMs* at 137.)

³⁴⁵ Intervenors' Remedy Brief at 75 (citing ALJ Remedy Hearing Transcript at 511:20-21 (Lynch)).

³⁴⁶ Intervenors' Remedy Brief at 77.

³⁴⁷ Intervenors' Remedy Brief at 76.

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handsets are not alternatives for EV-DO-compatible handsets.³⁴⁸ Intervenors state that the evidence shows it is, on average, [[]] less expensive to transmit data over EV-DO than over 1xRTT, and that the speed of data transmission over the network using EV-DO technology is more than five times, and in certain circumstances eight times, faster than speeds offered by the network using 1xRTT technology. Intervenors point out that as a result of these superior capabilities, EV-DO allows for the high-speed transmissions of multimedia content, including video, music, games, and Internet web pages.³⁴⁹ Verizon's survey of consumer preferences for wireless services found that consumers [[]].³⁵⁰

(e) The IA's Position

The IA submits that, unlike many previous cases where the evidence showed ample availability of third party sources of substitute components for the affected downstream products, it is undisputed here that there is no current chip capable of supporting the EV-DO standard apart from the Qualcomm baseband processor chips that infringe the '983 patent. The IA asserts that Broadcom's assertion that alternative suppliers of EV-DO chips are "on the horizon" is unsubstantiated.³⁵¹ The IA notes that "[a]s the complexities rise for 3G, [and] the amount of R&D efforts to develop these chips increases dramatically," very few companies can afford such high R&D expenses to develop a competing chip, and, consequently, it is unlikely that a replacement

³⁴⁸ Intervenors' Remedy Brief at 78.

³⁴⁹ Intervenors' Remedy Brief at 79.

³⁵⁰ Intervenors' Remedy Brief at 80.

³⁵¹ OUII's Remedy Brief at 50-51 (citing BCRB at 44, 47; JRB at 85-86).

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EV-DO chip will become available soon.³⁵²

Nevertheless, with regard to the exclusion of handsets containing the infringing EV-DO chips, the IA argues that “while the absence of a replacement chip weighs against the issuance of an exclusion order on downstream telephone handsets that incorporate the EV-DO chips,” “[t]he evidence indicates that alternative downstream products would be available to satisfy at least part of the existing domestic market demand for EV-DO handsets.”³⁵³ The IA contends that in the event of such an exclusion order, customers may purchase (i) 1x RTT handsets, (ii) EV-DO capable converged devices, or (iii) WCDMA handsets operating on GSM networks.³⁵⁴

The IA notes that the ALJ found *EPROMs* Factor 6 to weigh against including downstream products in an exclusion order because (i) “there are no commercially available alternatives to Qualcomm’s EV-DO chips” and (ii) “alternative devices that cost more, along with higher cost associated with service of the device, do not represent real world viable alternatives for consumers in a cost sensitive industry.”³⁵⁵ While the IA agrees that this factor weighs somewhat against issuing an exclusion order extending to downstream cellular telephone handsets incorporating the EV-DO chips, she believes that the availability of other downstream product options and Intervenors’ control over costs to the consumer considerably lessens the weight that should be accorded to this factor. The IA argues that for consumers only wishing to make phone calls on a handset, 1xRTT phones are virtually identical to EV-DO phones.³⁵⁶ Moreover, smartphone use is

³⁵² OUII’s Remedy Brief at 51 (citing CX-2350 at BCMITC000309298).

³⁵³ OUII’s Remedy Brief at 51-52 (citing CX-2408C at 28-29, 41; CX-2409C at 29).

³⁵⁴ OUII’s Remedy Brief at 52 (citing ALJ Remedy Hearing Transcript at 389-90 (Hausman)).

³⁵⁵ OUII’s Remedy Brief at 54 (citing RD at 304).

³⁵⁶ OUII’s Post-Commission Hearing Submission at 10.

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expected to increase.³⁵⁷

The IA argues that with regard to the exclusion of non-EV-DO handsets containing infringing 62XX chips that support the GSM/GPRS and WCDMA standards, there are 14 manufacturers of GSM baseband chips used in U.S. handsets, while Qualcomm represents only about 16 percent of the WCDMA baseband processor chip market.³⁵⁸ The IA further notes that Broadcom has launched the BCM 2152 baseband processor chip which integrates WCDMA, GSM, GPRS, EDGE, and HSDPA baseband processing into a single chip, and concludes that “there are a myriad of other manufacturers capable of expeditiously providing alternative GSM/WCDMA baseband processor chips upon the exclusion of downstream products containing the infringing 62XX chips.”³⁵⁹ The IA argues that while the redesign of handsets to accommodate these alternative chips will require time and money, this is often a factor when downstream product relief is considered, and mere inconvenience to a respondent’s customers has not been considered an adequate basis for denying effective relief to a complainant.³⁶⁰ It is the IA’s view, therefore, that *EPROM* Factor 6 supports issuance of a remedy with respect to downstream non-EV-DO products incorporating the infringing 62XX chips.

The IA concludes that, in sum, *EPROMs* Factor 6 weighs somewhat against issuing an exclusion order extending to downstream cellular telephone handsets incorporating EV-DO baseband processor chips, but does not weigh against issuing an exclusion order extending to

³⁵⁷ OUII’s Post-Commission Hearing Submission at 22.

³⁵⁸ OUII’s Remedy Brief at 55 (citing ALJ Remedy Hearing Transcript at 81, 84 (Mulhern); CX-2530 at BCMITC 000309296).

³⁵⁹ OUII’s Remedy Brief at 55 (citations omitted).

³⁶⁰ OUII’s Remedy Brief at 55 (citing Certain Integrated Circuits, Processes for Making Same, and Products Containing Same, Inv. No. 337-TA-450, USITC Pub. 3624, Comm’n. Op. at 111 (August 2003)).

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downstream cellular telephone handsets incorporating GSM chips. The IA argues in the alternative that the Commission should exclude at least handsets containing infringing chips that operate under the WCDMA standard.^{361 362} The IA notes that, overall, the evidence does not indicate that a limited exclusion order covering downstream products will create a situation where the existing need for cellular telephone handsets cannot be met with 1x RTT handsets, EV-DO converged devices (and to some extent EV-DO data cards), and GSM/WCDMA handsets containing a non-Qualcomm processor chip.³⁶³

(f) Analysis and Finding

As discussed earlier, the starting point of our EPROMs analysis is full downstream relief. We find that there are no known, readily-acceptable alternatives to the infringing EV-DO chips or the EV-DO-compliant downstream handsets and other devices that contain them. Similarly, we find there are few alternatives to the infringing WCDMA chips, or downstream products containing them. We conclude that *EPROMs* Factor 6, when considered in conjunction with *EPROMs* Factor 5, weighs decisively against an order that would grant relief against all downstream products in this investigation.

It is uncontested that there are no non-infringing EV-DO-compatible chips or EV-DO-compatible handsets that contain non-infringing EV-DO chips. From these facts, we infer that there are also no EV-DO-compliant data cards, PDAs, smartphones or converged devices that contain non-infringing chips. Accordingly, we conclude that there are no EV-DO compatible

³⁶¹ OUII's Remedy Brief at 65-66.

³⁶² Based on then-current information, she argues that more alternative, noninfringing products exist under the WCDMA standard than under the EV-DO standard. See OUII's Remedy Brief at 56, 65-66.

³⁶³ OUII's Remedy Brief at 56.

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alternative products, either for the EV-DO chips themselves or the downstream products that contain such chips.³⁶⁴

Our conclusion is little changed even if there are some EV-DO compliant alternative devices with non-infringing chips.³⁶⁵ While such devices would likely be reasonable alternatives for EV-DO compliant data cards, PDAs, smartphones, or converged devices with infringing Qualcomm chips, the record establishes that such alternative devices represent [[

]] of the handset manufacturers' sales of EV-DO compliant devices.³⁶⁶ Accordingly, the possible existence of alternatives for EV-DO compliant devices other than traditional handsets with infringing chips carries little weight in our analysis.

Of greater import is whether any such alternative EV-DO compliant alternative devices with non-infringing chips would constitute good alternatives for EV-DO compliant handsets (or any other handsets). Based on our review of the record, we conclude that various practical

³⁶⁴ Although Broadcom asserts that non-infringing EV-DO-compliant chips will be offered in the market in the near future, see, e.g., Broadcom's Remedy Brief at 58-59 and Broadcom's Remedy Reply Brief at 48, that contention remains speculative in the absence of confirmatory record evidence. See, e.g., Broadcom's Remedy Brief at 56-57; Intervenor's Remedy Brief at 73-74; Qualcomm's Remedy Reply Brief at 96-97; Intervenor's Remedy Reply Brief at 61 n.19. Additionally, as described below in relation to chips compliant with the WCDMA standard, the record indicates that non-infringing chips cannot be utilized in handsets already designed for use with infringing Qualcomm chips. See, e.g., Intervenor's Remedy Brief at 54-55, 74.

³⁶⁵ Given that the relief that Broadcom ultimately requested exempted QWERTY devices, the parties had little reason to address specifically whether EV-DO compliant non-infringing devices other than traditional cellphone handsets exist. While the undisputed lack of noninfringing EV-DO-compliant chips supports the inference that no EV-DO compliant data cards, PDAs, smartphones, or converged devices devices with noninfringing chips are available, we allow that the existence of such devices cannot be ruled out, and for that reason explain why our conclusion is unchanged even if some such EV-DO-compliant devices exist.

³⁶⁶ Transcript of Commission Hearing at 469 (Hausman) ("in terms of Verizon's data for the last year, 85 percent of the people buy EV-DO handsets. Only 15 percent buy data cards, PDAs, and smartphones."); Manufacturer Intervenor's Post-Commission Hearing Submission at 21-33; Verizon's Post-Commission Hearing Submission at 14-16.

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considerations prevent these other devices from being a ready alternative for handsets, from the perspective of either the handset manufacturers or consumers.

Many consumers find alternative devices inferior to handsets in their appeal as telephones, because they are larger, bulkier, more difficult to use, and more expensive on average in terms of both initial purchase price and the cost of the associated service.^{367 368} We judge these differences to be significant based on the behavior of consumers, which in 2006 preferred EV-DO compliant handsets over EV-DO devices by a very wide margin.³⁶⁹ Although it was argued that alternative devices offer a wider range of functionality than do handsets, the vast majority of consumers opted for handsets, due to one or more of the reasons listed above. Accordingly, even if there were EV-DO compliant devices with non-infringing chips, we still conclude that alternative products are generally not available for the EV-DO handsets, which make up the vast majority of EV-DO downstream products.³⁷⁰

³⁶⁷ Transcript of Commission Hearing at 445-46 (Garavaglia), 469 (Hausman), 548-52 (Elliott, Garavaglia) and Manufacturer Intervenors' Post-Commission Hearing Submission at 21-23.

³⁶⁸ Our inquiry as to the availability of alternative products is not theoretical in nature, but driven by the realities confronting the buyers and sellers of these products. While the Commission has not previously considered price in evaluating the availability of alternative products, we find it relevant here in light of the consumer-oriented and price sensitive market. As a general matter, the cost of the devices differ, but providers are sometimes able to adjust device purchase prices in order to maintain or expand the customer base for their service contracts.

³⁶⁹ Transcript of Commission Hearing at 469 (Hausman), 548-52 (Elliott, Garavaglia) and Manufacturer Intervenors' Post-Commission Hearing Submission at 21-23.

³⁷⁰ Nor do we find 1xRTT compliant handsets to represent a good alternative to EV-DO compliant handsets for data services. Data are transmitted [[]] more rapidly over an EV-DO network than over the earlier-generation 1xRTT network. Intervenors' Remedy Brief at 25-26. [[]]

]]. Id. at 26. While it was argued that many purchasers of EV-DO compatible devices do not in fact utilize that functionality of the device, the record indicates that a large and increasing number of handset users do use that capability. Verizon and Sprint provided data in

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respect to *EPROMs* Factor 5, weighs very heavily against the grant of an order excluding all downstream products containing infringing Qualcomm chips.

7. *EPROMs* Factor 7: The likelihood that the downstream products actually contain the infringing articles and are thereby subject to exclusion.

The analysis of this factor involves an assessment of the impact that the exclusion of a product containing an infringing component will have on non-infringing products. The more likely the downstream products are to contain the infringing articles, the more this factor weighs towards downstream exclusion.³⁷²

(a) The ALJ's Recommended Determination

The ALJ found that *EPROMs* Factor 7 weighs in favor of including downstream products in any exclusion order to be issued because there is no dispute between the parties that all current EV-DO handsets contain the accused chips, as do approximately 16 percent of the WCDMA handsets.³⁷³

The ALJ noted the Intervenor's argument that whether a particular device infringes under Broadcom's construction of the '983 patent claims depends on whether the device is adapted to operate on both the GSM and the GPRS air interfaces in the United States, and because neither Sprint nor Verizon operates a GSM or GPRS network in the United States, the devices imported for use on their networks are not capable of infringement.³⁷⁴ The ALJ, however, refused to consider the Intervenor's arguments regarding non-infringement, as all infringement issues were

³⁷² See, e.g., *EPROMs* at 127-28.

³⁷³ RD at 305 (citing CFF509, CX-2409C (Mulhern Direct) at 45; SFFR 47-48; ALJ Remedy Hearing Transcript 408, 453 (Hausman), 995-96 (Zeran), 934 (Gralak)).

³⁷⁴ RD at 305 (citing IIBR 96-97).

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decided in the liability phase of the investigation.³⁷⁵

(b) Broadcom's Position

Broadcom argues that because there is no dispute between the parties that all current EV-DO handsets contain the infringing chips, *EPROMs* Factor 7 must weigh in favor of a downstream remedy. In support, Broadcom cites a recent Commission opinion holding that Factor 7 weighs in favor of a downstream exclusion order when “there are downstream products that actually contain the infringing articles.”³⁷⁶ Broadcom points out that the very basis of the manufacturers and carriers’ intervention in this case was the fact that they import handsets and other wireless devices containing infringing Qualcomm chips. Broadcom also contends that because Qualcomm currently holds a monopoly on EV-DO-capable baseband chips, there is no doubt but that EV-DO handsets will contain infringing chips. Broadcom concludes that the seventh *EPROMs* factor therefore weighs in favor of a downstream exclusion order.³⁷⁷

Broadcom rejects the argument made by Qualcomm and the Intervenors that Factor 7 weighs against downstream relief because Broadcom “failed to prove that the accused MSM chips are infringing when incorporated into downstream handsets used on Sprint’s network or Verizon’s network in the United States.”³⁷⁸ Broadcom submits that a Section 337 complainant is obligated to prove only that an accused product infringes the patent at issue. Broadcom points out that once the complainant proves infringement, the propriety of a downstream exclusion order is governed by the nine-factor *EPROMs* test, not a second, separate infringement analysis as to downstream products.

³⁷⁵ RD at 305.

³⁷⁶ Broadcom’s Remedy Brief at 59 (citing *Power Supply Controllers* at 9).

³⁷⁷ Broadcom’s Remedy Brief at 60.

³⁷⁸ Broadcom’s Remedy Reply Brief at 53 (citing Intervenors’ Remedy Brief at 90; Qualcomm’s Remedy Brief at 59-61).

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Broadcom argues that a complainant does not need to prove that the downstream products themselves infringe, let alone, as Intervenors contend, that the downstream products, once sold on the open market, would infringe only in a particular mode of operation.³⁷⁹

In the alternative, Broadcom argues that as part of its inducement case, it established that the Qualcomm chipsets operate in an infringing manner when incorporated into handsets, and thus that those handsets also infringe the '983 patent.³⁸⁰ Broadcom submits, therefore, that it proved, and Qualcomm failed to rebut, that the downstream products to be excluded, including downstream products operating on Verizon's and Sprint's networks, themselves infringe the '983 patent. Broadcom notes that at trial, Qualcomm tried to challenge Broadcom's showing by arguing that, even if the downstream products contained infringing Qualcomm chipsets, it was [[
]].

Broadcom points out, however, that Qualcomm's showing was deficient, and that the ALJ found that "there is no evidence that handset manufacturers [[
]] to make the accused MSM chips non-infringing."³⁸¹ Broadcom submits that if Qualcomm believed the evidence was relevant to the EPROMs analysis, it could have made a similar attempt to prove that its chipsets did not infringe when used on Verizon's or Sprint's networks. Broadcom concludes that Qualcomm failed to present any evidence concerning the way its chipsets operated on wireless networks because there was no evidence that would have helped its case.³⁸²

³⁷⁹ Broadcom's Remedy Reply Brief at 60.

³⁸⁰ Broadcom's Remedy Reply Brief at 61 (citing ID at 144-47).

³⁸¹ Broadcom's Remedy Reply Brief at 62 (citing ID at 146).

³⁸² Broadcom's Remedy Reply Brief at 62.

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(c) Qualcomm's Position

Qualcomm disagrees with the ALJ's finding that Factor 7 supports exclusion of downstream products because, in Qualcomm's view, the record does not indicate that downstream products contain infringing chips. Thus, Qualcomm argues that the record "contains no finding that telephones operated on Verizon and Sprint networks infringe."³⁸³ Qualcomm further argues that Broadcom did not introduce evidence of infringement by Verizon in the liability phase and should not receive the benefit of an infringement finding against Verizon.³⁸⁴

Qualcomm contends that it is not possible for the accused chips to infringe when placed in CDMA handsets designed for use with Verizon and Sprint CDMA networks. Qualcomm argues that the reason for this, in brief, is that a device infringes the '983 patent only if it is adapted to utilize two different methods of communication, such as the GSM and GPRS air interfaces in the United States, and that devices that operate on the CDMA networks of Verizon and Sprint do not utilize the GSM or GPRS air interfaces in the United States. Qualcomm concludes that regardless of the ALJ's finding of the ability of the accused chips to infringe when combined with certain software, they cannot infringe once they are included in downstream products designed to operate exclusively on the Intervenor's CDMA networks, and therefore the requirement of Factor 7 that the downstream products actually contain infringing chips cannot be met.³⁸⁵

(d) Intervenor's Position

Intervenor disagrees with the ALJ's determination that this factor "weighs in favor of

³⁸³ Qualcomm's Remedy Brief at 59.

³⁸⁴ Qualcomm's Remedy Brief at 60-61.

³⁸⁵ Qualcomm's Remedy Brief at 61.

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including downstream products in the exclusion order.”³⁸⁶ Intervenor argue that Broadcom failed to prove that the accused MSM chips are infringing when incorporated into downstream handsets used on Sprint’s network or Verizon’s network in the United States. Intervenor urge that if the Commission decides to issue an exclusion order that covers downstream products, the scope of that order should be limited by the scope of the infringement case actually proven.³⁸⁷ Intervenor argue that Broadcom is obligated to prove that the specific devices that it wishes to exclude are infringing in order to have a downstream order that covers them issued. Intervenor argue that Broadcom failed to do so and did not even put on an infringement case for Verizon’s or Sprint’s handsets. Intervenor submit that under *Display Controllers*, a downstream exclusion order that covers handsets imported for use on Verizon’s or Sprint’s network should not issue.³⁸⁸

(e) The IA’s Position

The IA notes that the evidence shows that Qualcomm holds a 100 percent market share for EV-DO baseband processor chips and a 16 percent market share for WCDMA baseband processor chips.³⁸⁹ The IA submits, therefore, that EV-DO handsets are certain to contain infringing EV-DO chips, and there is a significant likelihood that GSM/WCDMA handsets contain infringing 62XX

³⁸⁶ Intervenor’s Remedy Brief at 90.

³⁸⁷ Intervenor’s Remedy Brief at 90 (citing *Display Controllers*, 2005 WL 996252, at 29).

³⁸⁸ Intervenor’s Remedy Brief at 91. Intervenor argue that in *Display Controllers*, although certain television monitors and certain computer monitors contained the same chip that was at issue in the case, the complainant did not prove infringement by other television monitors and for that reason, the Commission excepted those television monitors from the downstream exclusion order. Intervenor’s Brief at 90 (citing *Display Controllers*, 2005 WL 996252, at 29).

³⁸⁹ OUII’s Remedy Brief at 56 (citing ALJ Remedy Hearing Transcript at 408, 453 (Hausman), 995-96 (Zeran), 934 (Gralak); CX-2350 at BCMITC 000309296). See also our discussion of the factual discrepancy regarding Qualcomm’s share of the WCDMA baseband processor chip market *supra*.

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chips, although it is more likely that they do not.

The IA further points out, however, that these two technologies do not represent the entirety of the products imported into the United States under Harmonized Tariff Schedule (“HTS”) number 8525.20.90.70 for cellular telephone handsets. The IA notes that, while in 2005 the Intervenor imported [[]], more than 174 million articles were imported under that HTS number. Therefore, for any particular article imported under the HTS number, the likelihood that it contains an infringing chip is quite low.³⁹⁰ Nevertheless, the IA argues, the fact that an HTS category may be broader than the articles to be excluded should not in itself preclude the Commission from entering relief to which a complainant is otherwise entitled.³⁹¹

The IA concludes that, on the whole, *EPROMs* Factor 7 weighs slightly against providing downstream product relief. She submits, however, that the strategies that exist to more narrowly define the categories of importation and to provide more mechanisms to certify imported products tend to neutralize this factor.

(f) Analysis and Finding

Many of the arguments raised by the parties with respect to *EPROMs* Factor 7 were considered with respect to the *EPROMs* factors treated above. The central issue with respect to Factor 7 is the effect of a downstream exclusion order on products entered under the same HTS number that do not contain infringing chips.

We find that this factor weighs somewhat against the issuance of downstream relief, but that there are mechanisms that could be put in place that would significantly reduce the impact on

³⁹⁰ OUII’s Remedy Brief at 57.

³⁹¹ OUII’s Remedy Brief at 57 (citing *Telecommunications Chips* at 33-34).

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non-infringing products. We recognize that handsets and other devices containing the infringing chips do not represent the entirety of the products imported into the United States under the HTS number for cellular telephone handsets which is now 8517.12.00.50. Indeed, based on the data provided by Broadcom, “as a percent of total handset shipments in North America, EV-DO handsets were estimated to be [[]] of the total in 2006 and [[]] in 2007; WCDMA was estimated to be [[]] of the total in 2006 and [[]] in 2007.”³⁹² Accordingly, for any particular article imported under the HTS number, there is only a limited likelihood that it contains an infringing chip. The certification requirement in our order substantially lessens the possibility that legitimate commerce in non-infringing downstream products would be impacted and is discussed in greater detail below.

8. EPROMs Factor 8: The opportunity for evasion of an exclusion order that does not include downstream products.

This factor deals with whether an exclusion order pertaining to the infringing product would likely be evaded if the exclusion is not extended to downstream products. If there is a clear opportunity for evasion such that relief would essentially be denied if the exclusion is not extended to the downstream market, then this factor weighs heavily in favor of downstream relief.³⁹³

(a) The ALJ’s Recommended Determination

The ALJ found that the eighth *EPROMs* factor weighs in favor of including downstream products in the exclusion order because the effectiveness of a limited exclusion order barring entry of accused chips would be minimal if it did not extend to downstream handsets. The ALJ

³⁹² Broadcom’s Post-Commission Hearing Submission at 2.

³⁹³ See, e.g., Telecommunication Chips at 30-31.

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noted that the accused chips are not imported in any significant amount except in combination with another component.³⁹⁴

(b) Broadcom's Position

Broadcom agrees with the ALJ's conclusion that the opportunity for evasion is high in this case because, without a downstream exclusion order, virtually all of the infringing chips that currently enter the country will continue to do so. Broadcom further submits that any relief that does not include downstream products will effectively be "no relief."³⁹⁵

(c) Qualcomm's Position

Qualcomm argues that the ALJ's finding that Qualcomm would evade an exclusion order is unwarranted and reflects a misunderstanding of what the factor was meant to encompass.³⁹⁶ Qualcomm contends that there is no evidence that it could or would hide its chips in decoy packaging or do anything else to evade the Commission's order. According to Qualcomm, the mere fact that known third parties import Qualcomm's chips does not show evasion.³⁹⁷

(d) Intervenors' Position

Intervenors contend that the ALJ's finding was legally incorrect and argue that "evasion" occurs only when a respondent can avoid an exclusion order by continuing to import infringing articles in its own downstream products.³⁹⁸ Intervenors contend that there is no evidence that Qualcomm: (1) imports downstream products or (2) has plans to import downstream products.

³⁹⁴ RD at 306-07.

³⁹⁵ Broadcom's Remedy Brief at 61 (citing *Display Controllers*, at 62-63).

³⁹⁶ Qualcomm's Remedy Brief at 61-62 (citing *EPROMs*, at 71).

³⁹⁷ Qualcomm's Remedy Brief at 62.

³⁹⁸ Intervenors' Remedy Brief at 91 (citing *EPROMs*, 1989 WL 608791, at 53-54).

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Intervenors submit that there is no evidence that Qualcomm has any method, means, or intent to import chips in violation of an exclusion order, and conclude that this factor should, therefore, count against entry of a downstream order.³⁹⁹

(e) The IA's Position

The IA asserts that virtually all importation of the infringing products will be as components of wireless products and data cards. The IA submits that in this regard, the present investigation is similar to the *Electrical Connectors* investigation, where the Commission extended the limited exclusion order to the downstream products, reasoning that in the absence of downstream relief there would be a significant opportunity to evade an exclusion order because the connectors were typically imported only attached to the motherboard.⁴⁰⁰ Thus, the IA concludes that *EPROMs* Factor 8 weighs heavily in favor of an exclusion order covering downstream handsets.⁴⁰¹

(f) Analysis and Finding

As noted, the parties dispute what conduct constitutes evasion for purposes of *EPROMs* Factor 8. While evasive conduct would certainly include Customs fraud and any other form of deception, the concept extends to actions not involving misleading conduct or bad faith. The purpose of the analysis is to evaluate the likelihood of whether, without the issuance of downstream relief, infringing articles will be imported despite the issuance of an exclusion order. Where an infringing article was imported in a stand-alone form prior to an investigation, and a

³⁹⁹ Intervenors' Remedy Brief at 91.

⁴⁰⁰ OUII's Remedy Brief at 58 (citing *Electrical Connectors* at 11-12; *Power Supply Controllers* at 9).

⁴⁰¹ OUII's Remedy Brief at 59.

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Commission order excludes only the infringing article itself, then the subsequent incorporation of such article into a downstream product prior to importation would constitute an evasive act for purposes of our *EPROMs* analysis. If instead, however, there is a pre-existing practice whereby virtually all infringing articles are incorporated into downstream products prior to importation, then the continuation of that practice would not constitute evasion for purposes of *EPROMs* Factor 8. Although Factor 8 would be inapplicable under such circumstances, the same facts would be germane to our analysis under Factor 3 (incremental benefit of downstream relief to Complainant).⁴⁰²

In the present investigation, virtually all infringing Qualcomm chips are imported only after being incorporated into downstream products. We consider Factor 8 to be inapplicable, therefore, and give the factor no weight in our analysis. As described above, however, we give due weight to the operative facts in our analysis of Factor 3.

9. ***EPROMs* Factor 9: The enforceability of an order by Customs.**

This factor assesses the enforceability of any exclusion order by Customs. Generally, this assessment has not been determinative in our decision on whether to issue a downstream exclusion order but it has been used to more narrowly tailor the Commission's remedy to assist Customs in enforcement of any remedial order issued.

(a) **The ALJ's Recommended Determination**

The ALJ determined that *EPROMs* Factor 9 weighs against including downstream products in any exclusion order because of the significant burdens such an order will place on

⁴⁰² In some past investigations, we reached a different conclusion, finding that where the infringing article is routinely incorporated into a downstream product prior to importation, then Factor 8 favors downstream relief. E.g., Power Supply Controllers at 9. In our discretion, we clarify our practice under *EPROMs*, in order that our analysis under Factor 8 is not redundant of our analysis under Factor 3.

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Customs and importers. The ALJ found that the evidence shows that approximately 174 million handsets were imported in 2005, and that ordering Customs to check through this many handsets would cause an extraordinary amount of delay for importers and an undue burden on Customs.

The ALJ noted that an alternate certification for converged devices would alleviate the burden, but found that certification for PDAs and smartphones would be impractical considering that there is no agreement as to what constitutes a PDA or smartphone. Accordingly, the ALJ found that *EPROMs* Factor 9 weighs against including downstream products in the exclusion order.⁴⁰³

(b) Broadcom's Position

Broadcom disagrees with the ALJ's conclusion that Factor 9 weighs against Broadcom's proposed downstream exclusion order. Broadcom contends that the ALJ's recommendation on this issue is based on two factual errors regarding how such an order would be implemented. According to Broadcom, the ALJ erroneously assumed that Broadcom's proposed downstream order would require Customs to "check[] through" millions of handsets, and misread Broadcom's proposed certification provision to require universal agreement on the definition of PDAs and smartphones.⁴⁰⁴

Broadcom argues that its proposed certification provision will greatly reduce any burden on Customs. Broadcom's provision requires an importer to certify that any wireless device to be imported under HTS 8525.20.90.70 either (1) does not contain an infringing Qualcomm baseband chip, or (2) does include a fixed, physical QWERTY keyboard. Broadcom contends that its proposed certification does not require agreement as to what constitutes a PDA or smartphone. Instead, Broadcom argues, an importer need only be able to identify the MSM chip included in its

⁴⁰³ RD at 308.

⁴⁰⁴ Broadcom's Remedy Brief at 62 (citing RD at 308).

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imported product and recognize a QWERTY keyboard.⁴⁰⁵

Broadcom explains that it does not contend that the presence of a QWERTY keyboard provides a perfect delineation between handsets, on the one hand, and PDAs and smartphones, on the other. Broadcom states that two other factors, *i.e.*, the presence of more sophisticated operating systems like Windows Mobile and the ability to run business applications such as Microsoft's Office software, distinguish PDAs and smartphones from handsets. Broadcom acknowledges that a small number of existing PDAs or smartphones could be excluded by Broadcom's proposed bright-line rule and that some traditional handsets might be permitted entry under the certification provision. Broadcom states, however, that its proposed certification reasonably balances Broadcom's need for an effective remedy with the potential impact on legitimate trade, while providing a workable bright-line distinction for importers and Customs. Broadcom also explains that it does not propose excluding PDAs and smartphones because it believes the Intervenor or others have a right to import such devices. Rather, it proposes the distinction to lessen whatever burdens on Intervenor and the public would otherwise be imposed by a downstream exclusion order, while still securing effective relief and the incremental benefit of excluding the many millions of chips that are currently imported in handsets.⁴⁰⁶

Broadcom states that it is unaware of any situation in which Customs has had difficulty enforcing an exclusion order covering downstream products.⁴⁰⁷ It notes that wireless devices under HTS 8517.12.00, which includes handsets, PDAs, and smartphones, already have to be

⁴⁰⁵ Broadcom's Remedy Brief at 63.

⁴⁰⁶ Broadcom's Remedy Brief at 64.

⁴⁰⁷ Broadcom's Post-Commission Hearing Submission at 52.

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certified to comply with FCC regulations.⁴⁰⁸

(c) Qualcomm's Position

Qualcomm supports the ALJ's conclusion that Factor 9 weighs against a downstream exclusion order. Qualcomm argues that such an order would impose a massive burden on Customs and would make it virtually impossible for Customs to render decisions with any accuracy. Qualcomm argues that such a situation would lead to the exclusion of products not covered by the order.⁴⁰⁹ Qualcomm specifically points to the lack of clarity concerning the way in which a handset would be distinguished from a converged device. Qualcomm also points to the enormous volume of products that would have to be inspected by Customs.⁴¹⁰

Qualcomm contends that an exclusion order would be difficult for Customs to administer because the presence of a QWERTY keyboard does not distinguish a PDA, converged device, or smartphone.⁴¹¹ Moreover, Qualcomm argues that since millions of handsets and wireless devices are imported each week under HTS subheading 8517.12.00, importation could become a choke point in international commerce. Qualcomm argues that a certification system is not a panacea because Customs will choose how to enforce the order, and Qualcomm argues that an "end use" driven exclusion order would be particularly difficult to administer.⁴¹²

(d) Intervenor's Position

Intervenors agree with the ALJ that this factor weighs against including downstream

⁴⁰⁸ Broadcom's Post-Commission Hearing Submission at 53.

⁴⁰⁹ Qualcomm's Remedy Brief at 62-63.

⁴¹⁰ Qualcomm's Remedy Brief at 63-64.

⁴¹¹ Qualcomm's Post-Commission Hearing Submission at 55.

⁴¹² Qualcomm's Post-Commission Hearing Submission at 56-57.

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products in the exclusion order because of the significant burdens it would place on Customs and importers.⁴¹³ They submit that an exclusion order that covers downstream products should be avoided if that order has a significant risk of interfering with legitimate commerce and if it results in a certification procedure that would be unreasonable.⁴¹⁴ In this case, Intervenors argue that a certification requirement imposed on all handset manufacturers would place an undue burden on legitimate trade.

Intervenors point out that all handsets (and smartphones, PDAs, and hand-held e-mail devices) enter the United States under the same HTS subheading, and that more than 15 million devices are imported under this subheading per month. Intervenors contend that, not only is it unclear whether importers would be able to determine whether a particular device is a handset subject to the exclusion order proposed by Broadcom, but importers also would have to sort through millions of these units to determine whether the device used an accused Qualcomm chipset. Intervenors submit that, given that most handset manufacturers import a large number of models into the United States, they would have to certify a significant number of devices even though they are not related to this case. Accordingly, they argue that a certification procedure in this instance would impose an undue burden on an immense volume of legitimate commerce and could unnecessarily disrupt legitimate trade in articles not actually covered by the exclusion order.⁴¹⁵

Intervenors also submit that neither Customs nor the importers will be able to distinguish

⁴¹³ Intervenors' Remedy Brief at 83 (citing RD at 308).

⁴¹⁴ Intervenors' Remedy Brief at 83 (citing *Certain Light-Emitting Diodes And Products Containing Same*, Inv. No. 337-TA-512, Initial Determination, 2005 WL 2178981 (May 10, 2005)).

⁴¹⁵ Intervenors' Remedy Brief at 84.

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infringing devices from other devices that are not excluded by the order.⁴¹⁶ Intervenor argue that the devices subject to the proposed exclusion order are not always clearly distinguishable from those that are not. Intervenor point out that Broadcom has proffered several definitions of smartphones, PDAs, and hand-held e-mail devices, and each definition is subject to dispute and interpretation. Intervenor note that in the present investigation Broadcom cannot rely on the HTS to clarify the issue because the HTS does not draw a distinction between smartphones, PDAs, hand-held e-mail devices, and wireless handsets, and there is no generally accepted distinction among these various devices.⁴¹⁷ Intervenor contend that because manufacturers in the industry, and even Broadcom's two expert witnesses, cannot agree on what constitutes a smartphone, PDA, or hand-held e-mail device, Customs would find it difficult to administer Broadcom's proposed downstream exclusion order. Customs would have to rely exclusively on the representations of the importers, and it would have no way to verify whether a given device was a smartphone, PDA, or hand-held e-mail device. Moreover, with such varied definitions, there is no reasonable possibility that Customs would be able to determine what should and what should not be excluded from importation.⁴¹⁸

(e) The IA's Position

The IA notes that, with respect to *EPROMs* Factor 9, the evidence shows that all cellular telephone handsets appear to enter the United States under the single HTS number 8525.20.90.70, and that current importation levels for handsets under this HTS are over 15 million units per

⁴¹⁶ Intervenor's Remedy Brief at 85.

⁴¹⁷ Intervenor's Remedy Brief at 86.

⁴¹⁸ Intervenor's Remedy Brief at 86.

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month.⁴¹⁹ The IA further notes that many of these handsets would not be subject to exclusion as they do not contain any infringing Qualcomm chips. While the IA agrees that the potential burden of such a certification procedure is substantial, she notes that there are some mechanisms available to minimize the actual burden placed upon Customs. For instance, the Commission has previously noted that HTS numbers are subject to change by administrative action and that “Customs may be able to request a separate statistical breakout for telephones which coincides with the definition in the order.”⁴²⁰

In addition, the IA notes that in *Telecommunications Chips*, the Commission incorporated an additional certification provision in the limited exclusion order to allow for importation if the articles sought to be entered contained certain features that were not characteristics of the excluded class of items. This certification was separate from the provision allowing importation of telephones certified not to contain an infringing dialer chip.⁴²¹ The IA suggests that, likewise, in the present case, a separate certification that the articles sought to be entered are not cellular telephone handsets, but rather converged devices having full QWERTY-style keyboards may lessen some of the burden on importers and Customs. The IA contends that this criterion, while perhaps excluding some converged devices and exempting some handsets, is easy to apply.

The IA submits that even with the proposed certification provisions, a downstream order would likely result in Customs delays for importers and a substantial administrative burden on Customs, particularly in comparison with an order that did not reach downstream products. The IA concludes that, accordingly, the *EPROMs* Factor 9 weighs against extending the exclusion

⁴¹⁹ OUII’s Remedy Brief at 60 (citing SX-7 at 1-3, 6 (cell 122Z)).

⁴²⁰ OUII’s Remedy Brief at 62 (relying on *Telecommunications Chips* at 33-34).

⁴²¹ OUII’s Remedy Brief at 62.

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order to downstream products, although the weight of this factor can be lessened by the mechanisms she suggests.

(f) Analysis and Finding

The vast majority of the affected downstream products, including handsets and PDAs, fall under a single HTS number, while a smaller subset, consisting of data cards, falls under a different one.⁴²² These two HTS numbers encompass a large volume of imported products: current importation levels for handsets alone may exceed 15 million units per month.⁴²³ Although all exclusion orders issued by the Commission impose an administrative burden on Customs, that burden appears substantial here given the implication of two HTS numbers and the large volumes of both infringing and noninfringing articles imported under them.

In these circumstances, Commission precedent supports the use of a certification provision to reduce the burden placed on Customs by an exclusion order.⁴²⁴ Parties importing noninfringing products falling under the two HTS numbers would thus be able to certify that their products are not excluded by the order. Still, even a certification procedure entails some burden itself, given the large volume of products imported under the two HTS numbers in question. We conclude that Factor 9 weighs against downstream relief in this investigation, but that burden is not, in and of itself, sufficient reason to deny complainant the relief to which it is otherwise entitled. The specific certification provisions and exemptions associated with our remedial order in this case are discussed *infra*.

⁴²² See SX-16C at 3 and Statistical Subheadings 8517.12.00.50 and 8517.62.00.50 of the HTSUS (2007) (Rev. 1).

⁴²³ SX-7 at 1-3, 6 (Cell 122Z).

⁴²⁴ See, e.g., Power Supply Controllers at 9.

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10. Analysis and Conclusion Regarding *EPROMs* Factors

Having examined the *EPROMs* factors individually, we now consider them as a whole in order to weigh the complainant's interest in obtaining maximum protection from all infringing imports against the potential of such relief to harm third parties and disrupt legitimate trade in products that were not found to violate Section 337.⁴²⁵ Our inquiry is not mechanical, and we may determine to exclude downstream products even if some factors do not weigh in favor of doing so.⁴²⁶ Our analysis is fact-specific and has yielded various outcomes in the past.

Several factors, in this case, weigh heavily in our evaluation while others are of lesser import. Factor 4 (incremental detriment to respondent), Factor 8 (opportunity for evasion), and Factor 9 (enforceability by Customs) have limited significance for the reasons described above. Factor 2 (the identity of the manufacturer of the downstream product) weighs against downstream relief, while Factors 1 (the value of the infringing articles compared to the value of the downstream product) and Factor 7 (likelihood that downstream products contain the infringing products) weigh in favor of downstream relief. None of these, however, is of decisive significance to us on this record. The remaining factors weigh heavily for the reasons that follow.

The incremental value to complainant (Factor 3) is very important on this record because there are virtually no imports of infringing chips that are not incorporated into downstream articles. For that reason, an order excluding only the chips themselves would have little or no benefit to the Complainant in the sense that it would do nothing to vindicate the patentee's right to exclude. Notwithstanding our discretion to select "the form, scope, and extent of the remedy,"⁴²⁷

⁴²⁵ *EPROMs* at 125.

⁴²⁶ *Electrical Connectors* at 11; *EPROMs* at 127.

⁴²⁷ *Hyundai*, 899 F.2d at 1209 (quoting *Viscofan, S.A. v. United States Int'l Trade Comm'n*, 787 F.2d 545, 548 (Fed. Cir. 1986)).

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Congress has provided that the Commission “shall direct that the articles concerned . . . be excluded from entry” (unless consideration of the public interest counsels otherwise).⁴²⁸ We are also mindful that the very purpose of Section 337 is to enforce intellectual property rights against unfair acts. Although we have the discretion to limit the scope of relief, we generally exclude all infringing articles, including those contained in downstream products, unless there is a strong contrary showing.

Such a contrary showing has been made in this investigation. In reaching this conclusion, we find it useful to consider the effects of downstream relief on three general groups of affected third parties, as discussed above in relation to *EPROMs* Factor 5. As noted, the three groups are distinguished from each other by their proximity to Qualcomm and the conduct found in violation of Section 337. Although we find that third parties have no duty to mitigate harm from conduct in violation, it remains that “[o]ne who elects to build a business on a product found to infringe cannot be heard to complain if an injunction against continued infringement destroys the business so elected.”⁴²⁹ Accordingly, in our evaluation of the burdens imposed on third parties, we consider that the further removed that a party is from Qualcomm and its conduct in violation of Section 337, the more heavily the burden that a downstream remedy imposes on it weighs against downstream relief.

As providers of services, software, and content for use on EV-DO and WCDMA handsets, market participants like PacketVideo and Warner Music have little or no influence over Qualcomm or the design of handsets and other downstream devices. As discussed in relation to Factor 5, an exclusion order would severely impede the growth of the EV-DO and WCDMA

⁴²⁸ 19 U.S.C. § 1337(d)(1).

⁴²⁹ *Windsurfing Int’l Inc. v. AMF, Inc.*, 782 F.2d 995, 1003 n.12 (Fed. Cir. 1986).

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customer bases, with substantial adverse consequences for entities supplying services, software, and content to users of EV-DO and WCDMA handsets and other devices.⁴³⁰

The next group of third parties in our analysis are the network operators. There is some coordination between network operators and Qualcomm, in terms of planning product features, the provision of system specifications, and in the testing of handset models for operability under the wireless networks.⁴³¹ In general, however, the primary business of the network operators is the development and deployment of wireless network infrastructure, an effort into which Verizon and Sprint alone have invested over [[]].⁴³² The network operators do not produce the products that contain the infringing chips, and they rely on the product manufacturers to ensure compliance with intellectual property rights.⁴³³ In contrast, Qualcomm [[]].⁴³⁴

Downstream relief is likely to cause very substantial harm to network providers, including Verizon, Sprint, and AT&T. Like the manufacturers, they would lose revenue streams from device sales, but would also incur greater losses from the inability to sell the associated service contracts.⁴³⁵ The loss of these two revenue sources would imperil the network operators' efforts

⁴³⁰ February 28, 2007 Letter to the Commission from James C. Brailean of PacketVideo; March 22, 2007 Statement of Howard M. Singer of Warner Music to the Commission; and Transcript of Commission Hearing at 657-62 (Kull), 668-74 (Singer), and 710 (Kull).

⁴³¹ Broadcom's Remedy Brief at 27-28 (joint planning as to product features) and Qualcomm's Post-Commission Hearing Submission at 32 (provision of system specifications and coordination in testing).

⁴³² Transcript of Commission Hearing at 440 (Lynch) and 449-50 (Elliott).

⁴³³ Transcript of Commission Hearing at 479-81 (Hansen and Lynch).

⁴³⁴ E.g., ID at 147-50.

⁴³⁵ Broadcom's Remedy Brief at 58 and Intervenors' Remedy Brief at 30- 32.

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to generate returns on their multi-billion dollar investments in the EV-DO and WCDMA networks.⁴³⁶ As an illustration of that impact, Verizon alone is expected to lose about [[]] in revenue from the sale of consumer EV-DO services from 2007 through the expiration of the infringed patent in 2010.⁴³⁷ Similarly, Sprint estimates that in 2006 its handset customers spent between [[]] on Sprint data services delivered over the EV-DO network.⁴³⁸ Moreover, these networks represent not only a vehicle through which to sell innovative and profitable services, but they also feature lower transmission costs and the more efficient use of spectrum.⁴³⁹ On these bases, we conclude that the exclusion of downstream products containing the infringing chips would impose very large burdens on the network operators.

We consider finally the manufacturers of handsets and other devices. These manufacturers control what chips are employed in their products, and in the case of the WCDMA technology, there exists at least one fully functional noninfringing chip.⁴⁴⁰ Of all the third parties, these manufacturers, while not found directly to infringe the '983 patent in this proceeding, had the greatest involvement with Qualcomm and its conduct in violation of Section 337.

As described in relation to Factor 5, downstream relief is projected to have a substantial

⁴³⁶ E.g., Transcript of Commission Hearing at 440 (Lynch), 449-50 (Elliott) and OUII's Remedy Brief at 41-42 (on sums invested) and Transcript of Commission Hearing at 440-43 (Lynch), 453 (Elliott); Verizon's Post-Commission Hearing Submission at 15-16 (on expectation to use revenues to justify multi-billion dollar investments).

⁴³⁷ This figure was agreed by Complainant's expert. ALJ Remedy Hearing Transcript at 126-28 (Mulhern).

⁴³⁸ JX-452C at 55:2-17, 56:1-14.

⁴³⁹ Intervenors' Remedy Brief at 25-27 and Transcript of Commission Hearing at 440 (Lynch).

⁴⁴⁰ Manufacturer Intervenors' Post-Commission Hearing Submission at 6.

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adverse effect on manufacturers of handsets and other downstream products that contain the infringing chips. These manufacturers would experience the loss of large and growing revenue streams from the sale of the infringing devices. The manufacturers would also experience delays and financial and opportunity costs in connection with redesign efforts. In evaluating the burdens imposed on these manufacturers, however, we do not consider the costs associated with product redesign to weigh heavily against downstream relief.

In considering third parties as a whole, we give less weight to costs incurred by product manufacturers in their redesign of handsets to function without the infringing chips. We give more weight to losses incurred by network operators in relation to revenue stream flowing from the sale of service contracts and the resulting impact on their return on investment in the networks, which costs are less directly tied to the infringement and which, as described below raise serious public safety issues. We also give more weight to the adverse effects on third party providers of services, software, and content.

These losses would be greatly ameliorated if there were readily available alternative downstream products (Factor 6). As discussed, however, there are no known alternatives for EV-DO chips or the downstream products that contain them, and only limited alternatives for WCDMA chips and the products containing them. Assertions that alternatives will be available in the near future are not established on the record. Existing 1xRTT handsets are markedly inferior to EV-DO handsets in the delivery of data services⁴⁴¹ and fourth generation technology is not widely available if at all.⁴⁴²

In evaluating an exclusion of all downstream products, we find that the substantial burden

⁴⁴¹ In addition to the discussion in Factor 6, see Intervenor's Remedy Brief at 25-26.

⁴⁴² See OUII's Remedy Brief at 26; OUII's Remedy Brief, Attachment 2.

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imposed on third parties and the lack of alternative products collectively outweigh the value to Complainant of obtaining a complete exclusion of the infringing articles. In our discretion, we decline to grant an order excluding all downstream products that contain the infringing chips.

The question then is whether we can, in our discretion, fashion a narrower exclusion order that affords meaningful relief to the Complainant while ameliorating the large impact on third parties generally, and the network providers in particular.⁴⁴³ Complainant Broadcom proposed that the exclusion order exempt handheld wireless communications devices featuring QWERTY-style keypads (“QWERTY”), asserting that the exemption would allow the network providers to continue to sell a large portion of their EV-DO services.⁴⁴⁴ More importantly, Broadcom argued that the QWERTY devices would serve as alternative products for handset users wishing to use data services delivered over the EV-DO and WCDMA networks.⁴⁴⁵

We conclude that Broadcom’s exemption does not go far enough to address the burdens imposed on third parties. Network providers report that traditional handsets without QWERTY-keypads make up the vast majority of their EV-DO enabled devices,⁴⁴⁶ and that an increasing

⁴⁴³ Commissioner Lane has considered the effects of Broadcom’s proposed exclusion order on the public health and welfare, competitive conditions in the United States economy, the production of like or directly competitive articles in the United States, and United States consumers as described in Section 337(d)(1) and has determined that the proposed exclusion order is contrary to the public interest. She has determined that a narrower exclusion can be fashioned that is not contrary to the public interest. See Separate and Concurring Views of Commissioner Charlotte R. Lane.

⁴⁴⁴ Broadcom’s Remedy Brief at 37.

⁴⁴⁵ Broadcom’s Remedy Brief at 57.

⁴⁴⁶ Verizon’s Post-Commission Hearing Submission at 14, Exhibit D; Sprint’s Post-Commission Hearing Submission at 4-6.

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share of their EV-DO revenues are generated through handsets.⁴⁴⁷ More importantly, we disagree that QWERTY devices represent good alternatives to handsets, for the reasons addressed above in relation to *EPROMs* Factor 6. We conclude that, even with an exemption for QWERTY devices, Broadcom's proposed downstream relief will impose a great burden on third parties, in particular the network providers and suppliers of services, software, and content.

We have considered a second proposal as well. The IA supported the order proposed by Broadcom, but in the alternative suggested that the order exempt all downstream products containing infringing EV-DO chips.⁴⁴⁸ That proposal was based largely on the understanding that WCDMA-compliant downstream products with non-infringing chips were available at the time of the trial on remedy issues, given that the infringing Qualcomm chips reportedly made up only 16 percent of the market for WCDMA chips.⁴⁴⁹ The availability of alternative products would lessen the impact that an exclusion would have on WCDMA network providers and handset makers. As discussed in relation to *EPROMs* Factor 6, however, subsequent information placed on the record establishes to our satisfaction that Qualcomm's infringing chips now command the vast majority of the market for WCDMA chips, and that the vast majority of WCDMA handsets also contain the infringing chips. Based on the new facts available, we find that there is only limited availability of alternative products in the WCDMA market, which undermines the premise of the IA's proposal.

An order exempting downstream products containing infringing EV-DO chips would also have the effect of heightening the burden placed on providers of the WCDMA network. Not only

⁴⁴⁷ Verizon's Post-Commission Hearing Submission at 22; Sprint's Post-Commission Hearing Submission at 8.

⁴⁴⁸ OUII's Remedy Brief at 65-66.

⁴⁴⁹ OUII's Remedy Brief at 56-57, 65-66.

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would the providers suffer the loss of revenues described above, but the exemption for the EV-DO standard would allow that technology to advance while the competing WCDMA standard would be greatly inhibited. In a competitive environment, such a result would intensify the burdens imposed on the providers of the WCDMA network. For this additional reason, we conclude that the IA's alternative proposal does not sufficiently address our concerns.

The Manufacturer Intervenors advanced a variant of the IA's proposal, suggesting that if downstream relief is directed against products containing infringing WCDMA chips, the exclusion date be delayed for a period of "at least twelve months."⁴⁵⁰ They imply that such a "re-design" period will allow handset manufacturers to develop handsets utilizing non-infringing chips.⁴⁵¹ While the proposal would lessen the burden on WCDMA network providers and handset manufacturers, it would afford no immediate relief to the Complainant. Nor does it alleviate the problem that an exemption for infringing EV-DO chips and products containing them heightens the burdens imposed on WCDMA network providers and handset manufacturers. For these reasons, we cannot adopt the suggestion of the Manufacturer Intervenors either.

Although none of the parties' proposals addresses our concerns sufficiently, the problem is not insoluble. In our discretion, we have searched for an alternative exclusion order that would provide meaningful relief to the Complainant, yet substantially ameliorate the burdens imposed on third parties. That objective can be achieved by exempting a sufficiently large body of downstream products such that the network providers can continue to sell EV-DO and WCDMA handsets and other downstream devices, and the services dependent on them, yet provide meaningful relief to Broadcom both by excluding some portion of the infringing articles and by

⁴⁵⁰ Manufacturer Intervenors' Post-Commission Hearing Submission at 12.

⁴⁵¹ Manufacturer Intervenors' Post-Commission Hearing Submission at 11-12.

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creating a strong economic incentive for downstream parties to seek or develop alternative technologies. Although it is not our function to equalize competitive conditions among competing network providers, for reasons discussed further with respect to the public interest, we believe our remedy should be applied in a technology-neutral fashion to avoid heightening the burdens imposed on the providers of either type of network.

In our discretion, we determine to issue an exclusion order barring from importation all downstream products that contain an infringing Qualcomm chip and are imported under HTS number 8517.12.00.50,⁴⁵² with an exemption for any model of handset or other downstream product that was being imported into the United States for sale to the general public on or before June 7, 2007. In effect, therefore, the order would exclude only newly designed handsets and downstream products that contain the infringing chip, while “grandfathering” models already on the market. For the following reasons, we believe this remedy satisfies the above criteria and shifts the balance of the *EPROMs* factors in favor of downstream relief.⁴⁵³

In seeking a means to alleviate the burdens on third parties, our principal concern is those parties with little or no ability to limit their exposure to the consequences of conduct found in violation of Section 337. Accordingly, our primary interests are in the providers of services, software, and content that are dependent on the existence of an EV-DO or WCDMA network, as well as the network operators’ service contract revenues and their ability to operate and receive a return on their investment in their 3G networks. We view handset redesign costs alone as a not

⁴⁵² This HTS number reflects the renumbering effective February 3, 2007.

⁴⁵³ Commissioner Lane concurs with this remedy but not based on consideration of the *EPROMs* factors. She believes that this remedy will ameliorate the negative impact of an order excluding downstream articles from entry on the public interest and she finds that this remedy is not contrary to the public interest. See Separate and Concurring Views of Commissioner Charlotte R. Lane.

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unreasonable imposition in light of the wide scale infringement. Our exemption from exclusion also reduces short term costs to the handset manufacturers, but more importantly gives them a strong incentive to innovate (or license) so they can market new models.

While there is some conflicting evidence, the record indicates on balance that the number of EV-DO and WCDMA subscribers is likely to grow substantially if our exclusion order contains an exemption for existing handsets and other downstream products. On the one hand, the order could discourage some new subscribers, as manufacturers are temporarily unable to offer new products with attractive features that may generate sales. Some customers that might otherwise opt for EV-DO or WCDMA handsets may choose instead to keep their existing handsets.⁴⁵⁴ On the other hand, the Intervenor report that sales have increased sharply in recent years and they project strong growth during the remaining term of the patent.⁴⁵⁵ The Intervenor hold up evidence as to an S-curve, a model illustrating technology adoption rates in different markets.⁴⁵⁶ The evidence as to the present market for EV-DO and WCDMA handsets in the United States indicates that sales are poised for a very large increase in future years.⁴⁵⁷ While the appeal of existing handset models may fade for early adopting consumers already subscribing to the EV-DO or WCDMA networks, the existing product lines will continue to offer novel functionality to the many users poised to change to the EV-DO and WCDMA standards. In sum, the number of EV-DO and WCDMA subscribers is likely to grow substantially if the order contains an exemption for existing handsets and other downstream products.

⁴⁵⁴ See Transcript of Commission Hearing at 518 (Hausman) (consumers want “the latest and greatest”).

⁴⁵⁵ Intervenor’s Remedy Brief at 30-31, 48-51, 57, 61-62, 66.

⁴⁵⁶ Intervenor’s Remedy Brief at 50-51.

⁴⁵⁷ Intervenor’s Remedy Brief at 49-51.

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As a result, the exemption will greatly ameliorate the effects that an exclusion order would otherwise have on providers of EV-DO- and WCDMA-related services, software, and content. These providers require a large and growing base of potential customers. They describe strong growth in their sales to owners of existing handsets and other products, and none indicated that future sales growth was predicated on the availability of new products not currently available. This group of affected third parties will have an opportunity to continue to grow sales under our order.

For many of the same reasons, the exemption will greatly reduce the burdens imposed on network operators. While the order will delay some attractive new product offerings, demand for EV-DO and WCDMA services is projected to grow, and network operators can meet that demand with existing models. With a greater number of customers, the network operators will continue to sell increasing numbers of the more financially important service contracts. With an increasing revenue stream and customer base, the continued operation of the EV-DO and WCDMA networks are not placed in jeopardy, allowing the network operators an opportunity to recoup their investments and take advantage of the lower costs of transmission and more efficient use of spectrum. It will also allow Sprint to move existing customers from the older 1xRTT network to the EV-DO network.⁴⁵⁸ In sum, the exemption allows the network operators an opportunity to generate a reasonable return on investment.

Finally, while it has less weight in our analysis, the exemption for existing handsets and other downstream devices will greatly ameliorate the impact of the exclusion on the manufacturers. In 2006, Motorola reported net revenue of nearly [[]] from the sale of

⁴⁵⁸ Manufacturer Intervenors' Post-Commission Hearing Submission at 24-25.

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three handset models, while Samsung had revenues of [[]].⁴⁵⁹ With the exemption for existing models, there will be no abrupt interruption of the revenue streams from these products.

Handset makers will likely incur substantial redesign costs, although the sums involved [[

]].⁴⁶⁰ With the exemption for existing models, however, handset manufacturers will not be forced to engage in redesign in order to participate in the EV-DO and WCDMA markets. They may instead do so based on their own evaluation of technological and market factors.

Moreover, the effects of the order will diminish as handset manufacturers succeed in designing new products using noninfringing chips. In the case of the WCDMA network, the handset manufacturers indicated that such a redesign would require approximately [[

]] if alternative non-infringing chips are available.⁴⁶¹ Separately, the Manufacturer Intervenors represented that there is already one WCDMA handset on the market with a non-infringing chip, indicating that alternative non-infringing chips are available already.⁴⁶² Further, as noted, the Manufacturer Intervenors represent that a delay of at least [[]] in the order as to WCDMA products “would minimize the huge burden placed on innocent third parties”⁴⁶³ These assertions indicate that the Intervenor Manufacturers believe that a substantial number of redesigned handsets could be available within a period of approximately [[]]. This indicates in turn that whatever the burdens imposed by the order on WCDMA product availability,

⁴⁵⁹ Manufacturer Intervenors’ Post-Commission Hearing Submission at 24-25.

⁴⁶⁰ Manufacturer Intervenors’ Post-Commission Hearing Submission at 7. Sums invested in yet-to-be sold models will also be lost.

⁴⁶¹ Manufacturer Intervenors’ Post-Commission Hearing Submission at 12.

⁴⁶² Manufacturer Intervenors’ Post-Commission Hearing Submission at 6.

⁴⁶³ Manufacturer Intervenors’ Post-Commission Hearing Submission at 12.

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they will be minimized within a period of approximately twelve months.

Redesign times for EV-DO handsets are less certain, since we have no evidence that non-infringing EV-DO chips have been developed. Although the evidence as to redesign times arguably indicates that our order could have a potentially greater impact on EV-DO providers, the record also indicates that a larger variety of handsets are currently sold to end use consumers under the EV-DO standard than under the WCDMA standard. Until new handsets are developed, the facts as to the number of presently available models suggests a countervailing effect. As indicated previously, however, our intent is not to equalize competitive conditions between the two networks or the various manufacturers and network providers, but to issue a remedy that is applied in a technology-neutral manner.

While an exclusion order exempting existing models may afford a limited benefit to Broadcom initially, the effect would grow substantially over time. The record indicates that the market for handsets and other downstream products is undergoing rapid change, and that innovative offerings are a powerful sales driver. The desire to offer new products to consumers will create a strong incentive for chipmakers and the handset manufacturers to design around the patent (or license Broadcom's technology) in order to offer new products. Over the course of the approximately three years until the patent expires in 2010, that pressure will grow substantially. Although the exclusion order will still impose burdens on handset manufacturers, network providers, and providers of services, software, and content, even with the exemption for existing models, those burdens are greatly ameliorated by allowing sales of existing infringing products to continue. In our discretion, we determine that the exclusion order as limited by the exemption described provides substantial benefit to the patent holder Broadcom, while reducing the burdens imposed on third parties to a level that does not preclude the issuance of downstream relief.

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As discussed above in relation to *EPROMs* Factor 9, an exclusion order as to all downstream products containing infringing chips would impose a substantial administrative burden on Customs. As also discussed, the vast majority of the downstream products that contain infringing chips fall under a single HTS number, while a smaller subset encompassing data cards falls under a second HTS number. While burdens imposed on Customs do not ordinarily shape the relief granted in a section 337 investigation, we determine in the present investigation to narrow the scope of relief in order to reduce the burdens imposed on Customs and third parties. Therefore, our exclusion order does not bar the importation of data cards, with the effect that the excluded downstream products fall under a single HTS number. This narrowing of the downstream relief granted will reduce the administrative burden on Customs and on importers of noninfringing products by limiting the scope of excluded products to those falling under a single HTS number and by reducing the volume of noninfringing products potentially subject to certification requirements. This narrowing will further reduce burdens imposed on third parties, yet not substantially undermine the relief afforded to Broadcom.⁴⁶⁴

Although the exclusion order will continue to represent an administrative burden on Customs, that burden is reduced by allowing importers to certify that their products do not infringe. Consistent with the exemption described above, importers may file such a certification not only if their products do not contain an infringing chip, but also if their products are exempted from exclusion because they do not differ in terms of model number or product specifications, features, or functions from downstream products being imported into the United States for sale to the general public on or prior to June 7, 2007. In the event of a dispute as to which downstream products were being imported for sale to the general public of as that date,

⁴⁶⁴ Broadcom itself urged the Commission to exempt data cards from any exclusion order. Broadcom's Remedy Brief at 10.

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Customs may in its authority examine the evidence. To assist Customs in that respect, and to aid importers seeking a good faith basis on which to certify, we encourage importers and parties that sell downstream devices to members of the general public to supply Customs as soon as practicable information and supporting documentation as to those handset models that contain the infringing chips and that were being imported for sale to the general public on or before June 7, 2007. That submission should include a complete list of the product specifications, features, and functions associated with each exempted model number. Imports of prototypes, or downstream devices for use in testing, for limited-scale distribution for marketing or other purposes, or for any purpose other than widespread sales to end use consumers, do not constitute imports for sale to the general public.

IV. CEASE AND DESIST ORDER

A. THE ALJ'S RECOMMENDED DETERMINATION

The ALJ observed that under Section 337(f)(1), the Commission may issue a cease and desist order in addition to, or instead of, an exclusion order. The ALJ stated that cease and desist orders are warranted primarily when the respondent maintains a commercially significant inventory of infringing goods in the United States.⁴⁶⁵

The ALJ found that Qualcomm maintains significant inventories of accused chips in the United States. He found that “Qualcomm still [has] [[

]] in its possession in the United States, though there is no evidence regarding how many of Qualcomm’s US inventoried chips are programmed to enable power-saving features at issue.”⁴⁶⁶ The ALJ also found that “Qualcomm has a commercially

⁴⁶⁵ RD at 310 (citing *Crystalline Cefadroxil Monohydrate*, 15 U.S.P.Q.2d at 1277-79).

⁴⁶⁶ RD at 312 (citing SIBR 14-15).

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significant inventory of imported product in the United States and . . . a cease and desist order against Qualcomm's importations and sales, and also barring Qualcomm from converting the imported chips to infringing articles and marketing such infringing chips is appropriate."⁴⁶⁷

The ALJ concluded that a cease and desist order is warranted barring Qualcomm from (i) programming or encouraging or enabling others in the U.S. to program chips with software that enables the patented features at issue ("covered product") except under license of the patent owner; (ii) importing or selling for importation into the United States covered product except under license; (iii) marketing, distributing, offering for sale, selling, consigning, or otherwise transferring (except for exportation) in the United States imported covered product except under license; (iv) soliciting U.S. agents or distributors for covered products except under license; and (v) aiding or abetting other entities in the importation, sale for importation, sale after importation, transfer, or distribution of covered product in the United States except under license.⁴⁶⁸

B. BROADCOM'S POSITION

Broadcom agrees with the ALJ's recommendation that a cease and desist order be issued against Qualcomm. Broadcom requests that in addition to the ALJ's recommended cease and desist order, the Commission should also order Qualcomm to cease and desist from testing covered products in the United States except under license of the patent owner.⁴⁶⁹ Broadcom argues that Qualcomm maintains a commercially significant U.S. inventory of accused devices for research and development, and for marketing purposes. Broadcom submits that while the ALJ's recommendation of a cease and desist order is proper and should be adopted, its language should

⁴⁶⁷ RD at 312 citing SIBR 14.

⁴⁶⁸ RD at 312-13.

⁴⁶⁹ Broadcom's Remedy Brief at 18.

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be broadened to prevent further Qualcomm actions in violation of Section 337. Broadcom argues specifically that the Commission should order Qualcomm to cease and desist from performing tests on any chips programmed with software that enables the patented features at issue.

Broadcom also contends that any cease and desist order should extend to Qualcomm's proposed FTZ subzones so that Qualcomm cannot evade the terms of the cease and desist order by arguing that its commercially significant inventory lies within the boundaries of an FTZ, and thus falls beyond the scope of any remedial order. Broadcom argues that the Commission has broad discretion in selecting the form, scope and extent of cease-and-desist orders and should include in its order any prohibited activities that occur in Qualcomm's proposed FTZ subzones.⁴⁷⁰

Broadcom further argues that Qualcomm should not be permitted to evade the appropriate remedy by continuing to infringe Broadcom's patent rights as to chips already in the United States, whether or not they are contained in a yet-to-be-granted FTZ subzone.⁴⁷¹ Broadcom submits that the prohibition on activities concerning chips not yet inside the United States should extend to those chips already imported.⁴⁷²

C. QUALCOMM'S POSITION

Qualcomm submits that no cease-and-desist order at all should be issued in this investigation. Qualcomm contends that Broadcom did not prove that Qualcomm itself imports any infringing hardware-and-software combined chips or that once imported into the United States, Qualcomm combines a non-infringing chip with software to enable the infringing functionality. Qualcomm states that there is no evidence of any unfair conduct in the U.S. by

⁴⁷⁰ Broadcom's Remedy Brief at 17-18.

⁴⁷¹ Broadcom's Remedy Brief at 18.

⁴⁷² Broadcom's Remedy Brief at 18.

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Qualcomm to which a cease-and-desist order could reasonably relate.⁴⁷³ Furthermore, Qualcomm argues that while entitlement to a cease and desist order hinges on an evidentiary showing by Broadcom that Qualcomm has commercially significant inventories of chips that are software-enabled to perform the accused functionality, Broadcom failed to meet this burden and thus is entitled to no cease-and-desist order.⁴⁷⁴

Qualcomm also contends that if the Commission decides to issue a cease-and-desist order, any such order should not include testing. Qualcomm submits that its testing activities in the United States do not involve the combination of chips with software that enables the accused functionality.⁴⁷⁵ Qualcomm contends that it does not seek any “testing exception” to any cease-and-desist order with respect to testing activities that employ devices found to be infringing in the liability phase of the investigation. Rather, Qualcomm argues, it seeks to ensure that any remedial order does not prohibit its lawful testing activities that do not use the hardware-and-software combination found to be infringing.⁴⁷⁶

Qualcomm argues that if any cease-and-desist order is issued, it should be no broader than the scope recommended by the ALJ.⁴⁷⁷ Qualcomm further argues that any request by Broadcom to expand the cease-and-desist order to cover Qualcomm’s testing, research and development, and other activities that do not involve enablement of the accused functionality with particular enabling software would be impermissibly overbroad. Qualcomm submits that any broader order

⁴⁷³ Qualcomm’s Remedy Brief at 36.

⁴⁷⁴ Qualcomm’s Remedy Brief at 37.

⁴⁷⁵ Qualcomm’s Remedy Brief at 33-35.

⁴⁷⁶ Qualcomm’s Remedy Brief at 35.

⁴⁷⁷ Qualcomm’s Remedy Brief at 33-34 (citing RD at 310-313).

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would improperly impinge on Qualcomm's legitimate activities relating to non-infringing chips. Qualcomm contends that such a remedy would improperly proscribe Qualcomm's legitimate activities and would prohibit conduct not reasonably related to the importation of infringing articles underlying the section 337 violation found in this investigation.⁴⁷⁸

D. THE IA'S POSITION

The IA agrees with the ALJ that a cease and desist order against Qualcomm is appropriate in this case. The IA notes that by May 31, 2006, Qualcomm had [[]] accused baseband processor chips, worth [[]], in its possession in the United States.⁴⁷⁹ While the record does not contain any information as to how many of those chips are programmed to enable the power-saving features at issue in the patents, the IA believes that because Qualcomm is the owner and originator of the chip source code, it may convert any or all of the chips into infringing articles at will. Accordingly, the IA submits that Qualcomm has a commercially significant inventory of imported product in the United States and that a cease and desist order that bars Qualcomm from importing, marketing, and selling its current inventory of infringing chips in the United States and from converting imported chips into infringing articles and marketing and selling such products in the United States is appropriate.⁴⁸⁰ The IA's position is consistent with the ALJ's RD.

E. ANALYSIS AND FINDING

Under section 337(f)(1), the Commission has discretion to issue cease and desist orders in addition to, or instead of, an exclusion order. The Commission issues cease and desist orders

⁴⁷⁸ Qualcomm's Remedy Brief at 34 (citations omitted).

⁴⁷⁹ OUII's Remedy Brief at 15.

⁴⁸⁰ OUII's Remedy Brief at 16.

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where “commercially significant” inventories of infringing products are present in the United State, and complainants bear the burden of proving that respondent has such an inventory.

We agree with the ALJ’s recommendation that a cease and desist order against Qualcomm is appropriate in this case. It is undisputed that as of May 31, 2006, Qualcomm had in its possession in the United States an inventory of [[]]accused baseband processor chips worth [[]].⁴⁸¹ We agree with the IA that these chips represent a commercially significant inventory of the accused chips that warrants the issuance of the ALJ’s cease and desist order. Because Qualcomm owns the chip source code and may, therefore, convert any number of the accused chips into infringing articles at will, we determine to issue a cease and desist order that bars Qualcomm from importing, marketing, and selling its current inventory of infringing chips in the United States and from converting imported chips into infringing articles and marketing and selling such products in the United States, as recommended by the ALJ.⁴⁸²

We also agree with the IA that the scope of Section 337 is broad enough to prevent various types and forms of unfair practice. Thus, as the IA points out, “[t]he Commission has in the past issued remedial orders ‘covering activities that, viewed in isolation, might be permissible, but which could easily be conducted in association with infringing activities.’”⁴⁸³ In the present investigation, a cease and desist order that does not prohibit Qualcomm from programming the accused chips after importation into the United States would “allow for an obvious method of circumvention” of the Commission’s remedial orders such that the remedial orders “would be

⁴⁸¹ See OUII’s Remedy Brief at 15.

⁴⁸² OUII’s Remedy Brief at 16; RD at 312-13.

⁴⁸³ OUII’s Remedy Brief at 15-17 (citing *Hardware Logic* at 31; *Certain Digital Satellite System Receivers*, Inv. No. 337-TA-392, USITC Pub. 3418, Initial Determination at 239-44 (Oct. 1997)).

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rendered ‘meaningless.’”⁴⁸⁴ Therefore, we determine to prohibit Qualcomm from programming imported chips with power-saving feature-enabling software to create an infringing chip, and issue the attached proposed cease and desist order which was submitted by the IA.⁴⁸⁵

V. PUBLIC INTEREST FACTORS

A. INTRODUCTION

Having formulated a remedy that is appropriate under the *EPROMs* factors, we must now examine whether that remedy would have an adverse impact with respect to the statutory public interest factors and, if so, we must balance the patent holder’s rights and the public interest in enforcing intellectual property rights against the impact on these other enumerated public interests.⁴⁸⁶

In conducting this balancing, we must take into account the strong public interest in

⁴⁸⁴ *Id.* at 17 citing *Viruses* at 5; *Hardware Logic* at 28 (“[A] cease and desist order that did not prohibit electronic transmission would be meaningless as to the software since respondents would be free simply to transmit the software electronically to a U.S. customer, who could then copy it onto a diskette or other tangible medium for use with an infringing emulation system.”).

⁴⁸⁵ We considered Broadcom’s request to bar Qualcomm from “importing, selling for importation, assembling, testing, performing manufacturing steps with respect to using, marketing, distributing, offering for sale, or selling, any of the infringing Qualcomm chips that are produced abroad.” BCRB at 51. We note, however, that there is no evidence in the record that Qualcomm assembles, or performs any manufacturing steps with respect to, infringing chips in the United States. Accordingly, we agree with the IA that to the extent that Broadcom is attempting to restrain Qualcomm from programming imported chips with the power-saving features of the ‘983 patent and subsequent testing of the programmed chips, the limited exclusion order proposed by the IA, which bars the importation of programmed chips, in combination with the proposed cease and desist order barring Qualcomm from programming or encouraging or enabling others in the United States to program chips with software that enables the patented features, is sufficient to address Broadcom’s concern.

⁴⁸⁶ See, e.g., *Certain Inclined-Field Acceleration Tubes and Components Thereof, Inv. No. 337-TA-67*, USITC Pub. 1119, Comm’n. Op. at 22 (December 1980).

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enforcing intellectual property rights.⁴⁸⁷ We must also ensure that, in conducting our public interest analysis, we do not improperly impose an injury requirement. When the statute was amended in 1988, as part of the Omnibus Trade and Competitiveness Act, to remove the injury test in patent-based cases, the legislative history made it clear that the Commission is not to reintroduce an injury test in its consideration of the public interest factors.^{488 489}

The Commission has found that public interest considerations outweigh the need for protection of the intellectual property rights at issue in only three investigations: *Certain*

⁴⁸⁷ See, e.g., *Electrical Connectors*, Comm'n. Op. at 19; *Power Supply Controllers*, Comm'n. Op. at 10. The Senate report makes clear that there is a public interest in the enforcement of intellectual property:

The owner of intellectual property has been granted a temporary statutory right to exclude others from making, using, or selling the protected property. The purpose of such temporary protection, which is provided for in Article I, Section 8, Clause 8 of the United States Constitution, is “to promote the Progress of Science and Useful Arts, by securing for limited Times to Authors and Inventors the exclusive Rights to their respective Writings and Discoveries.” In return for temporary protection, the owner agrees to make public the intellectual property in question. This trade-off creates a public interest in the enforcement of protected intellectual property rights. Any sale in the United States of a product covered by an intellectual property right is a sale that rightfully belongs only to the holder or licensee of that property. The importation of any infringing merchandise derogates from the statutory right, diminishes the value of the intellectual property, and thus indirectly harms the public interest. Under such circumstances, the Committee believes that requiring proof of injury, beyond that shown by proof of the infringement of a valid intellectual property right, should not be necessary.

S. Rep. 100-71 at 128-29 (1987); accord H. R. Rep. 100-40 at 156 (1987).

⁴⁸⁸ S. Rep. 100-71 at 129 (1987) (“The Committee notes that in adopting section 401, it is effectively eliminating the requirements that the domestic industry be “economically and efficiently operated” and that the infringement have the tendency or effect of destroying or substantially injuring the domestic industry from Section 337 insofar as they apply to intellectual property cases. The Committee does not intend that the ITC, in considering the public health and welfare, or the President, in reviewing the ITC’s determination on policy grounds, will reintroduce these requirements.”); accord H.R. Rep. 100-40 at 156 (1987).

⁴⁸⁹ We note that the Commission has already determined that there is a domestic industry as required by the statute. Order No. 19 (January 24, 2006) (economic prong); ID at 174 (technical prong).

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Automatic Crankpin Grinders, Inv. No. 337-TA-60, USITC Pub. 1022 (December 1979); *Inclined Field Acceleration Tubes*, *supra*; and *Certain Fluidized Supporting Apparatus and Components Thereof*, Inv. Nos. 337-TA-182/188, USITC Pub. 1667 (October 1984) (determination on temporary relief).

In this investigation, there are three types of public interests that would be negatively impacted by downstream relief. First is the public health and welfare. In this investigation, many parties have made arguments related to the importance of 3G cellular telephone networks and services to emergency response personnel and other public safety workers, and the role these services can play in enhancing public safety in the event of natural or man-made disasters or medical emergencies. Second is the interest of U.S. consumers, who may be adversely impacted by lack of availability of 3G cellular telephones or services. Third is competitive conditions in the United States economy, as exclusion of 3G handsets could hinder important advances in telecommunications technology and adoption of that technology by consumers.⁴⁹⁰

The ALJ bifurcated his investigation, conducting a separate remedy phase with briefing and an evidentiary hearing on remedy from June 6-11, 2006. The Commission held a two-day hearing on remedy on March 21-22, 2007. The Commission received written submissions and live testimony from numerous parties and other interested persons and organizations regarding the effect of downstream relief on the public interest. We note that the arguments on the record were

⁴⁹⁰ In this investigation, there is little indication that the grant of downstream relief will affect the production of articles produced in the United States that are like or directly competitive with those subject to the investigation. We previously adopted the ALJ's findings that Broadcom meets the domestic industry requirement of the statute, Order No. 19 (January 24, 2006) (economic prong), ID at 174 (technical prong). However, the economic prong was met under 19 U.S.C. § 337(a)(3), due to Broadcom's investment in exploitation of the patent through domestic engineering and research and development, and not by actual domestic production of chips or handsets. We do not find any indications on the record that there is any domestic production of Broadcom's or Qualcomm's chips, nor domestic production of downstream handsets.

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to some extent directed at Broadcom's proposed remedy, which would carve out "converged devices" containing a fixed QWERTY keypad and allow them to be imported. However, many of the arguments on the record are generally applicable to any form of downstream relief.

B. ARGUMENTS OF THE PARTIES

1. Broadcom's Position

Broadcom stresses the Commission's past statements that the public interest favors the protection of U.S. intellectual property rights.⁴⁹¹ Broadcom argues that, as the ALJ found, "the effectiveness of a limited exclusion order barring entry of accused chips would be minimal if it did not extend to downstream handsets since accused chips are not imported in any significant amount except in combination with another component."⁴⁹² Broadcom contends that to deprive it of meaningful relief under these circumstances would be adverse to the public's interest in protecting intellectual property rights and "would discourage investment in the development of technological innovations, which, in turn, would have a negative effect on competition in the marketplace."⁴⁹³ Broadcom contends that its proposed relief will have no significant negative effect on the public interest factors that the Commission is required to consider.⁴⁹⁴

Broadcom argues that the downstream products that would be excluded under Broadcom's proposed order do not rise to a heightened level of national importance. Broadcom contends that the only services offered by Verizon and Sprint that could potentially be affected are music and

⁴⁹¹ Broadcom's Remedy Brief at 65 (citing *Electrical Connectors*, Comm'n. Op. at 19; *Power Supply Controllers*, Comm'n. Op. at 10).

⁴⁹² Broadcom's Remedy Brief at 65-66 (citing RD at 306-07).

⁴⁹³ Broadcom's Remedy Brief at 66 (citing *Display Controllers*, Comm'n. Op. at 66).

⁴⁹⁴ Broadcom's Remedy Brief at 66.

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video downloads.⁴⁹⁵ Broadcom argues that its proposed exclusion order would not adversely affect emergency response because the order does not cover 1xRTT CDMA phones, which contain assisted GPS technology.⁴⁹⁶ Nor would it prevent emergency responders from using GSM and WCDMA phones that do not contain the infringing Qualcomm chips.⁴⁹⁷ Broadcom cites testimony that first responders in San Diego, San Jose, Fremont, and Mountain View, California, and in the National Capital Region use PDAs, smartphones, and data cards, which also would not be excluded under Broadcom's proposed order.⁴⁹⁸ Broadcom asserts that there is no evidence that first responders rely on EV-DO technology and states that 1xRTT handsets are capable of taking and sending photographs.⁴⁹⁹ Moreover, Broadcom states that only 10-13 percent of users with EV-DO handsets use the EV-DO technology.⁵⁰⁰

2. Qualcomm's Position

Qualcomm contends that the public interest overrides the interest of the patent holder when the domestic patent holder or his licensees cannot supply the demand in the United States for articles that are necessary for public health and welfare interests, which they submit is the case here.⁵⁰¹ Qualcomm points out that the record shows that secure high-speed wireless telecommunication through EV-DO networks is essential to ensuring public safety and welfare and to national security. Qualcomm argues that the Commission should not take a narrow view of

⁴⁹⁵ Broadcom's Remedy Brief at 67.

⁴⁹⁶ Broadcom's Post-Commission Hearing Submission at 50.

⁴⁹⁷ Broadcom's Post-Commission Hearing Submission at 50.

⁴⁹⁸ Broadcom's Post-Commission Hearing Submission at 51.

⁴⁹⁹ Broadcom's Post-Commission Hearing Submission at 51.

⁵⁰⁰ Broadcom's Post-Commission Hearing Submission at 4.

⁵⁰¹ Qualcomm's Remedy Brief at 4.

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who constitutes the class of first responders to emergencies; there are thousands of volunteers who support the professionals by assisting victims in emergencies and EV-DO technology is crucial to this support.⁵⁰² Qualcomm states that land mobile radios are inadequate to convey video information, maps, mug shots, and other graphical information,⁵⁰³ and that redundancy in its system allows first responders to have “wireless priority access.”⁵⁰⁴ Qualcomm notes that starting June 1, 2007, FEMA will use EV-DO or WCDMA handsets to send video messages and photos, track emergency workers using GPS technology, and allow first responders to receive messages and videos while simultaneously on a call, such as a 911 call.⁵⁰⁵ Undercover police currently use the GPS technology in EV-DO phones to have their movements tracked.⁵⁰⁶

Qualcomm further argues that competition is critical to the further advancement of telecommunications technology in the United States. Qualcomm contends that billions of dollars in technology and infrastructure investments in the United States would be wasted, and consumers across the country would be deprived of choices and services available through EV-DO technology, if broad downstream relief is granted in this case.⁵⁰⁷ Qualcomm further argues that the U.S. economy would be harmed by downstream relief, which would threaten billions of dollars of investments in U.S. assets and in leading edge R&D, as well as thousands of high-paying engineering jobs in this country.⁵⁰⁸

⁵⁰² Qualcomm’s Post-Commission Hearing Brief at 1.

⁵⁰³ Qualcomm’s Post-Commission Hearing Brief at 3.

⁵⁰⁴ Qualcomm’s Post-Commission Hearing Brief at 4.

⁵⁰⁵ Qualcomm’s Post-Commission Hearing Brief at 5.

⁵⁰⁶ Qualcomm’s Post-Commission Hearing Brief at 7.

⁵⁰⁷ Qualcomm’s Remedy Brief at 20-25.

⁵⁰⁸ Qualcomm’s Remedy Brief at 26-28.

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3. Intervenor's Position

Intervenors argue that a downstream exclusion order would be contrary to the public interest. They argue that, first, any action that would impair the development of broadband service in the United States would hurt the economy and the competitiveness of American industry and harm American consumers; second, any action that would delay deployment or adversely affect the availability and affordability of wireless broadband service would harm the public welfare; and third, because U.S. public safety officials are increasingly relying on EV-DO infrastructure, any action that would impair EV-DO development would likewise adversely affect U.S. public safety. Intervenors submit that those harms to the public interest far outweigh any alleged damage to Broadcom's rights.⁵⁰⁹

Intervenors contend that development of EV-DO wireless broadband is critical to the U.S. economy, competitiveness, and consumers. Intervenors argue that the Commission's prior decisions make clear that when a product is essential to U.S. businesses and no domestic substitutes are available, an exclusion order is contrary to the public interest and should not issue.⁵¹⁰ Intervenors submit that the same is true in the present investigation., *i.e.*, not only does Broadcom not offer an alternative EV-DO-capable baseband chip to Qualcomm's, but there also is no domestic producer of EV-DO capable chips or handsets. Intervenors contend that if imported EV-DO handsets are barred from entry, there will be no EV-DO handsets in the United

⁵⁰⁹ Intervenors' Remedy Brief at 92-93.

⁵¹⁰ Intervenors' Remedy Brief at 94 (citing *Automatic Crankpin Grinders; Inclined-Field Acceleration Tubes; Fluidized Supporting Apparatus*). Intervenors argue that in cases where the Commission has rejected public interest arguments, it notes the availability of substitute products for the excluded articles. Intervenors' Remedy Brief at 95 n.32 (citing EPROMs II at 64, 87; *Certain Lens Fitted Film Packages*, Inv. No. 337-TA-406, Commission Notice, 1999 WL 731020, at 19 (June 2, 1999); *Condensers*, 1997 WL 599891, at 17).

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States.⁵¹¹

Intervenors also argue that an exclusion order would have a longer-term impact as well, by deadening innovation in EV-DO broadband technology in particular and in mobile broadband generally. They contend that the impact of a downstream exclusion order on innovation and investment would extend beyond handset manufacturers and wireless carriers. Intervenors submit that “[t]he exclusion of EV-DO-enabled handsets . . . would have a ripple effect extending far beyond cellular network providers and handset manufacturers,” and that “[a] wireless ecosystem is now forming to exploit the new methods of content and applications delivery based on EV-DO technology.”⁵¹² Intervenors state that a downstream exclusion order will have far-reaching consequences for businesses that work with and depend on the handset manufacturers and wireless carriers. Intervenors additionally argue that a downstream exclusion order would conflict with the national policy in favor of wireless broadband service.⁵¹³

4. The IA’s Position

The IA argues that an exclusion order that would cover all non-QWERTY handsets with infringing chips would not raise any public interest concerns significant enough to preclude the proposed remedy. The IA argues that the evidence indicates that alternative downstream products, including 1x RTT handsets, EV-DO capable converged devices with QWERTY keyboards, and WCDMA handsets containing non-infringing processor chips operating on GSM networks, would be available to satisfy the U.S. demand for cellular telephones. The IA further argues that the needs of various first responders and public safety agencies would be adequately

⁵¹¹ Intervenors’ Remedy Brief at 95.

⁵¹² Intervenors’ Remedy Brief at 99 (citing VX-302C (Straight Dir.) at 33).

⁵¹³ Intervenors’ Remedy Brief at 101.

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met by devices that would not be excluded: (i) GSM/WCDMA handsets, converged devices, data cards, or any other telecommunications device incorporating available non-infringing chips, (ii) EV-DO converged devices that have greater capabilities than handsets, and (iii) EV-DO data cards for data-intensive applications delivered to portable laptop computers.

The IA further argues that to the extent that issues may be raised regarding the future development and universal distribution of broadband technology, there is no reason why the non-excluded devices will not support such progress. She believes that developing an alternative to the infringing EV-DO chips may actually spur innovation in this regard. Thus, the IA submits that she is not aware of any public safety or public interest concerns that would be sufficient to warrant declining to enter the proposed remedial orders.⁵¹⁴

5. The Views of Other Federal Agencies

The statute expressly requires the Commission to consider the views of other interested federal agencies when considering the public interest. In this case, the Commission received the views of two federal government agencies, the Federal Communications Commission (“FCC”) and Federal Emergency Management Agency (“FEMA”), regarding public interest factors.

The FCC opines that exclusion of downstream products would have a considerable impact on American consumers by dramatically curtailing their choice of mobile broadband handsets and services. The FCC believes that customers wishing to subscribe to EV-DO-based mobile broadband services would be able to do so only through use of non-excluded devices, such as PDAs or special modem cards inserted into laptop computers. The FCC submits that non-excluded devices tend to be bulkier and more expensive than ordinary mobile telephone handsets, and most consumers do not view them as substitutes for mobile handsets. The FCC notes that

⁵¹⁴ OUII’s Remedy Brief at 68.

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existing mobile broadband subscribers would be unable to upgrade or replace their handsets, and would run the risk of losing service if their handsets are lost, or broken and cannot be repaired.⁵¹⁵

The FCC further states that in markets where at least one competing WCDMA network has been deployed, consumers wishing to subscribe to handset-based mobile broadband service would be able to do so by choosing a WCDMA provider, or switching to one (with the added cost of a new handset and possible early termination fees), as there are at least some WCDMA handsets available that do not use the infringing Qualcomm chips. The FCC points out, however, that lack of competition from EV-DO providers would diminish incentives for WCDMA providers to keep prices low, maintain high service quality, and continue to develop new services and capabilities in order to attract and retain customers. The FCC submits that, in turn, higher prices, lower quality, and less innovation in service would tend to depress the growth of subscribership and usage, slowing the adoption of mobile broadband services by U.S. consumers.⁵¹⁶ Finally, the FCC notes, the exclusion of handsets would further delay the deployment of mobile broadband networks in markets where neither technology has yet been deployed, as well as consumer uptake of mobile broadband services in these markets.⁵¹⁷

The FCC concludes that the proposed exclusion of all mobile handset incorporating EV-DO technology, and certain mobile handsets incorporating WCDMA technology, has the potential to cause significant harm to U.S. consumers by limiting competition in the market for mobile broadband services and impeding the widespread adoption of mobile broadband services.⁵¹⁸

⁵¹⁵ FCC Comments at 8-9.

⁵¹⁶ FCC Comments at 9-10.

⁵¹⁷ FCC Comments at 10-11.

⁵¹⁸ FCC Comments at 11.

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A representative of FEMA testified that the Integrated Public Alert Warning System (“IPAWS”) will give local governments the ability to send alerts to their local jurisdictions and regions; one of the methods used to send such alerts is through wireless networks.⁵¹⁹ Such messages could come with audio, video, and/or text. EV-DO allows the system to send pictures, maps, or other meaningful information in a disaster or emergency situation.⁵²⁰ FEMA states that EV-DO is critical to allow IPAWS to enhance its response capability. Moreover, FEMA wants IPAWS to advance along with improvements in technology such as EV-DO advances;⁵²¹ such third-generation technology is critical to provide information during disasters and terrorist events.⁵²²

6. Other Public Interest Witnesses

The Commission also heard testimony or received submissions from several other entities and interested members of the public regarding the impact of downstream relief on the public interest. Specifically, the Commission heard testimony from: Robert LeGrande II, representing the government of the District of Columbia (testifying that limiting or banning downstream products would hamper his efforts to deploy a seamless band of networks dedicated to public safety); David K. Aylward, representing the Comcare Emergency Response Alliance (testifying that the group’s main concern is that the Commission may reverse progress made in emergency response); Patrick Halley, representing the National Emergency Number Association (testifying that EV-DO technology allows 911 call centers to more easily and effectively locate and

⁵¹⁹ See Transcript of Commission Hearing at 754-55.

⁵²⁰ Transcript of Commission Hearing at 755-56.

⁵²¹ Transcript of Commission Hearing at 757.

⁵²² Transcript of Commission Hearing at 758.

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communicate with cell-phone callers); and Wanda McCarley, representing the Association of Public Safety Communications Officials-International, Inc. (testifying that banning the devices at issue would have a heavy impact on public safety due to technology issues with cellular 911 calls and the public's access to technology advances in wireless communications).⁵²³ A number of concerns were expressed. Several argued, as did FEMA, that the advanced technology represented by EV-DO and WCDMA was critical to improving the abilities of emergency responders and public safety officials. Among the advantages of EV-DO technology were ability to access the internet and to quickly transmit large amounts of data, better ability to locate callers through Global Positioning Satellite methods, and elimination of "voice blanking," a period of loss of voice communication that occurs in non-EV-DO systems when the handset is transmitting location information. Some of the entities also discussed the importance of interoperability in public-safety personnel communications systems, which could be achieved by operating over EV-DO networks, and expressed concern regarding investments in time and money already made in public EV-DO-based communications systems. In addition, it was pointed out that members of the public and volunteers were also important participants in public safety and emergency response situations, and that most carry commercial handsets. Finally, representatives from both a software producer and a music company testified as to the detrimental result downstream relief would have on their companies and industries.⁵²⁴

The Commission also heard testimony from a member of the academic community, Professor Christopher Cotropia,⁵²⁵ regarding policies underlying intellectual property protection

⁵²³. Transcript of Commission Hearing at 635-659.

⁵²⁴ Transcript of Commission Hearing at 659-661 (Kull) and 668-674 (Singer).

⁵²⁵ Prof. Cotropia is on the faculty at T.C. Williams School of Law, University of Richmond, but appeared in his individual capacity.

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and their application to this investigation. He argued that downstream relief was appropriate in light of the beneficial incentives provided by the patent system. These benefits, he argued, require that inventors, investors, and possible infringers believe that the right to exclude will be enforced.⁵²⁶

C. ANALYSIS AND FINDINGS

After considering the information and views on our record, including the testimony and responses to Commissioners' questions at our public hearing on remedy and the public interest, we find that downstream relief, that is, extending an exclusion order to downstream handheld wireless communications devices containing infringing chips, including cellular telephone handsets, would have some adverse impact on the public interest factors we are directed to consider.

With respect to public health and welfare, there is evidence that the data capabilities of EV-DO and WCDMA networks provide some enhancement to the ability of first responders and other public safety officials to perform their duties, and that such benefits are expected to increase in the near future.⁵²⁷ In particular, public safety officials appear to be increasingly relying on the data capabilities of 3G telecommunications networks in carrying out their functions, and anticipate that this reliance will greatly increase in the near future. If some 3G handsets are excluded from the U.S. market, the public would lose some of the public health and safety benefits that could flow from enhanced data transmission capabilities, improved ability to locate a caller, and elimination of voice blanking as more members of the public move to phones with 3G technology. Moreover, it is possible that network service providers might not maintain or expand

⁵²⁶ Transcript of Commission Hearing at 664.

⁵²⁷ See, e.g., Transcript of Commission Hearing (Le Grande) at 637, (Aylward) at 646-647, (Halley) at 649-650, 652, 653, (McCarley) at 655-659, 688, (Webb) at 758.

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EV-DO networks absent sufficient consumer interest and usage, which in turn are dependent upon consumers' access to EV-DO-capable handsets.⁵²⁸

With respect to consumers' interests, the record indicates that excluding at least some 3G devices could limit consumers' access to enhanced services offered by 3G networks. While Broadcom has argued that the only benefits of 3G networks are the ability to "waste time" by downloading music and videos, the record indicates that there is a wide array of existing and potential services that would be either only available on, or would be significantly enhanced by, 3G networks and handsets. It is not the role of the Commission to make a value judgement regarding consumers' interests. Rather, given the growing market for these services, we find that there would be at least some negative impact on consumers if some 3G devices were barred from the U.S. market.

As to competitive conditions in the U.S. economy, exclusion would likely result in some adverse impact on the development of advanced telecommunications technology and on expansion of broadband internet access. These technologies are important in their own right, but they also have significant effects on other economic activity in the United States. Downstream relief would make it more difficult for telecommunications companies to expand 3G cellular telephone services and broadband internet access, and make it more difficult for consumers, including businesses, to access these services.

Having found that downstream relief would have some negative impact on the public interest,⁵²⁹ we must therefore determine whether this adverse impact is great enough that the

⁵²⁸ Transcript of Commission Hearing at 442-43, 533-34, 625 (Lynch).

⁵²⁹ We find no public interest concerns with respect to the exclusion order on the chips and chipsets themselves. The record indicates that they are not imported in significant quantities outside downstream products, and the record does not indicate any public interest concerns with respect to them.

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downstream relief we are considering should not issue. In particular, we must balance the negative impact against the important public interest of protecting intellectual property rights. We note that, in assessing public interest factors when granting relief, the Commission relies on the strong public interest in enforcing intellectual property rights,⁵³⁰ and as stated earlier, has denied relief on public interest grounds only three times in the history of Section 337.

We also note that this investigation presents potentially more concerns with respect to the public interest than most Section 337 investigations due to the limited availability of non-infringing alternatives. With respect to EV-DO handsets, there are no available non-infringing alternatives; all EV-DO handsets currently available in the U.S. market use infringing Qualcomm baseband processor chips. With respect to WCDMA handsets, the record indicates the existence of only one currently available handset that contains a non-infringing baseband processor chip.⁵³¹ We take these factors into account in assessing the public interest impact of our proposed remedy.

On balance, we find that the exemption contained in our exclusion order would adequately address public interest concerns such that the public interest factors do not preclude the issuance of the remedy we have determined to be appropriate under our EPROMs analysis. Thus, this form of exclusion order provides an appropriate balance between, on the one hand, the strong public interest in enforcing intellectual property rights and, on the other hand, the other public interest factors enumerated in the statute that we find would be impacted by a complete downstream exclusion order.

By continuing to allow into the U.S. market all models of devices currently imported into the United States for sale to the general public on or before June 7, 2007, public safety personnel

⁵³⁰ See, e.g., Electrical Connectors at 19; Power Supply Controllers at 10; S. Rep. 100-71 at 128 (1987); H. R. Rep. 100-40 at 156 (1987).

⁵³¹ Manufacturer Intervenors' Post-Commission Hearing Submission at 6.

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would be able to continue accessing the existing data features of the EV-DO and WCDMA networks. Thus, these personnel can rapidly transmit and receive pictures, video, warrants, and other documents, and access web pages. Existing models on the market will allow more accurate location through GPS and not suffer from the voice blanking problem. To the extent that widespread use of such handsets by the general public will also facilitate mass transmission of important information in an emergency situation, this order will permit such usage to continue.

Similarly, allowing consumers to obtain existing models of handsets will significantly reduce any adverse impact on their interests. Consumers will be able to access data-intensive services that are already available, such as browsing the internet and downloading audio, video, photographs, and other information.

Finally, the grandfathering exception would significantly lessen negative effects on competitive conditions in the U.S. economy. Service providers would be able to continue offering existing services, and expand those services geographically. Consumers would be able to continue accessing these services as they currently do.

We recognize that improved handsets containing infringing chips, as well as handsets with infringing chips that provide features not yet available on the U.S. market, will be foreclosed by our remedy in the short term (until the patent at issue expires on June 8, 2010).⁵³² However, we view this result as striking an appropriate balance between Broadcom's intellectual property rights and the statutory public interest factors discussed above. In particular, we note that the impact of an exclusion order containing a grandfathering exception will be relatively small initially but will grow over time due to the exclusion of new models of handsets. Given the fast-moving nature of this market and technology, the benefit to Broadcom will increase gradually over time, as new

⁵³² Broadcom's Post-Commission Hearing Submission at 46.

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handset models that could have been introduced into the U.S. market absent the order are instead excluded. Simultaneously, the impact on the public interest will increase gradually. Finally, the order will provide increasing market-based incentives to Qualcomm, handset manufacturers, and service providers to either design around Broadcom's patent, obtain a license to it, or utilize non-infringing products.⁵³³ By providing these incentives, the order will also promote innovation and enhance competitive conditions in the United States.

As discussed earlier, we recognize that our proposed remedy might have a greater adverse impact on WCDMA network users than on EV-DO network users. EV-DO was launched in the United States in October 2003,⁵³⁴ while WCDMA was not launched until December 2005, and there is currently only one such network in the United States, operated by AT&T.⁵³⁵ EV-DO networks are currently more widespread geographically than AT&T's WCDMA network.⁵³⁶ Thus, it is possible that the users of the WCDMA network, which is further behind on the adoption curve, would be hurt more by an inability to import new handset models. On the other hand, the record indicates that at least one non-infringing baseband processor is available for WCDMA handsets,⁵³⁷ but there are currently none for EV-DO handsets. Thus, it is likely that new WCDMA handsets with non-infringing chips will be available before new EV-DO handsets with non-infringing chips. In any event, in weighing the public interest, we are not required to ensure that a remedy would have equal impact on all handset manufacturers, network operators, or

⁵³³ The record indicates that redesigning a handset typically takes on the order of 12 to 24 months, although there is also argument that it can be done more rapidly. RD at 300-01.

⁵³⁴ FCC Submission at 4.

⁵³⁵ FCC Submission at 7.

⁵³⁶ FCC Submission at 7.

⁵³⁷ Manufacturer Intervenors' Post-Commission Hearing Submission at 6.

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consumers. Rather, we have assessed whether our proposed remedy's adverse impact on the public interest in general outweighs Broadcom's interest in enforcement of its intellectual property rights, and have concluded that it does not.

We also note that our analysis of the public interest factors under the statute is properly limited to the public interests enumerated in the statute. The potential harm to economic actors, in this case including handset manufacturers and telecommunications service providers, is properly part of our *EPROMs* analysis, and we have indeed fully weighed potential harm to third parties and to legitimate trade in that prior analysis. In fact, under our *EPROMs* analysis, we found that full downstream relief was *not* permitted in this investigation due to, among other things, the magnitude of the impact on third parties.

We also note that it has been argued that, due to the severity of potential harm to the public interest, downstream relief is not appropriate in a case such as this where there are only limited or no non-infringing alternatives available for an important product or technology. As discussed above, the relief we propose has a much more limited impact on availability of 3G-capable handsets, and thus a lesser impact on the public interest. However, we do not accept the general proposition that, if the infringing activity is great enough, the public interest forbids a remedy. The statute directs that, if the Commission finds a violation of Section 337, "it shall direct that the articles concerned, imported by any person violating the provision of this section, be excluded from entry into the United States, unless, after considering the effect of such exclusion upon the [public interest factors], it finds that such articles should not be excluded from entry."⁵³⁸ Thus, the statute requires relief for an aggrieved patent holder, except in those limited circumstances in which the statutory public interest concerns are so great as to trump the public

⁵³⁸ 19 U.S.C. § 1377(d)(1).

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interest in enforcement of intellectual property rights. As discussed above, we have determined that a downstream remedy with a grandfathering exception does not raise public interest concerns sufficient to outweigh the intellectual property rights at issue.

We also considered whether any public interest concerns preclude the issuance of a cease and desist order in the present investigation. Thus, Qualcomm argues that any cease-and-desist order restricting its research, development, and testing activities would severely impair Qualcomm's ability to compete in the cellular baseband processor business, both in the United States and worldwide.⁵³⁹ The IA submits that her cease and desist order would not raise any public interest concerns under 19 U.S.C. § 1337(d) or (f) that are significant enough to preclude the proposed remedy.⁵⁴⁰

We agree with the IA's position on this issue and determine that the public interest considerations do not preclude the issuance of the cease and desist order proposed by the IA.

VI. BONDING

A. THE ALJ'S RECOMMENDED DETERMINATION

At the outset, the ALJ observed that if the Commission enters an exclusion order or cease and desist order, parties may continue to import and sell their products during the pendency of the Presidential review under a bond in an amount determined by the Commission to be "sufficient to protect the Complainants from any injury."⁵⁴¹

The ALJ further observed that while the Commission frequently sets its bond by attempting to eliminate the difference in sales prices between the patented domestic product and

⁵³⁹ Qualcomm's Post-Commission Hearing Submission at 27-28.

⁵⁴⁰ IA's Remedy Brief at 66.

⁵⁴¹ RD at 313 (citing 19 U.S.C. § 1337(e); 19 C.F.R. § 210.50(a)(3)).

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the infringing product, in the absence of reliable price information, the Commission has used other methods to determine an appropriate bond. Thus, the ALJ noted, “where a price comparison is unworkable, the Commission has determined that a bond of 100 percent is appropriate.”⁵⁴² The ALJ further noted that in other instances where a direct comparison between a patentee’s product and the accused product was not possible, the Commission has set the bond at a reasonable royalty rate.⁵⁴³

The ALJ observed that, in the present investigation, the parties did not introduce any evidence of current sales or pricing information that would permit him to determine a price differential, and did not introduce any evidence of a reasonable royalty rate. The ALJ stated that in the absence of such information, a 100 percent bond per accused infringing imported chip is appropriate and recommended. Because the ALJ did not recommend that the exclusion order cover downstream products, he made no recommendation regarding an appropriate bond for downstream products.

B. BROADCOM’S POSITION

Broadcom agrees with the ALJ’s recommendation to set the bond on the infringing Qualcomm chips at 100 percent of their entered value because there is no evidence of current sales or pricing information that would permit the Commission to determine a price differential, or any evidence of a reasonable royalty rate.⁵⁴⁴

⁵⁴² RD at 314 (citing *Certain Variable Speed Wind Turbines and Components Thereof*, Inv. No. 337-TA-376, U.S.I.T.C. Pub. No. 3003, Comm’n. Op. at 27-28, 40 (September 23, 1996)).

⁵⁴³ RD at 314-315 (citing *Certain Digital Satellite System (DSS) Receivers and Components Thereof*, Inv. No. 337-TA-392, U.S.I.T.C. Pub. No. 3418, Initial and Recommended Determinations at 245, vacated on other grounds, Comm’n. Determination (May 13, 1999), 2001 WL 535427 (October 20, 1997)).

⁵⁴⁴ Broadcom’s Remedy Brief at 67 (citing RD at 315).

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Broadcom further argues that with respect to the downstream handsets, the cost of the Qualcomm infringing chips ranges from approximately [[]] of the value of the handsets in which they are incorporated and, therefore, if the Commission decides to issue a downstream exclusion order in order to prevent injury to Broadcom, a bond of [[]] of the entered value of each handset is appropriate.^{545 546}

C. QUALCOMM'S POSITION

Qualcomm contends that the Commission should reject the ALJ's recommendation that the bond on accused chips imported by Qualcomm should be 100 percent of imported value.⁵⁴⁷ Qualcomm argues that Broadcom failed to prove that Qualcomm would enjoy any "competitive advantage" that would justify the imposition of a bond, and argues that the bond should be set at zero or a *de minimis* amount. Qualcomm points out that Broadcom has never made, and has no plans to make, a product with which Qualcomm competes.⁵⁴⁸

Qualcomm argues that Broadcom could offer no reliable price information because it sells no competing products. Qualcomm contends that Broadcom also offered no evidence to show that the technology has been of competitive value. Qualcomm points out that, other than in connection with the settlement of litigation, Broadcom has never licensed the patents, nor is it currently negotiating any licenses for these patents. Qualcomm concludes that Broadcom

⁵⁴⁵ Broadcom argues that a bond of [[]] of the total handset price is necessary to prevent any injury because under Broadcom's method of calculating value, the chips accused of infringing both the '983 and '311 patents represent [[]] of the total cost of goods sold for certain handsets. See Broadcom's Remedy Brief at 65.

⁵⁴⁶ Broadcom's Brief at 67 *citing Certain Integrated Circuits, Processes for Making Same, and Products Containing Same*, Inv. No. 337-TA-450, USITC Pub. No. 3624, Comm'n. Op. at 118 (July 23, 2003).

⁵⁴⁷ Qualcomm's Remedy Brief at 67 (citing RD at 315).

⁵⁴⁸ Qualcomm's Remedy Brief at 68.

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therefore failed to meet its burden of proof and cannot justify the imposition of any bond. Qualcomm also contends that, as a policy matter, imposing a 100 percent bond here would discourage complainants from ever coming forward with evidence if such litigation tactic would automatically result in a 100 percent bond.⁵⁴⁹

D. INTERVENOR'S POSITION

Intervenors argue that in the event the Commission determines that any downstream products should be excluded, no bond would be appropriate.⁵⁵⁰ Intervenors point out that Broadcom not only does not manufacture or sell accused chips, but it also does not manufacture or sell any cellular telephone handsets that compete with those sold by the Manufacturing Intervenors. Intervenors conclude, accordingly, that Broadcom will not incur any injury during the Presidential review period for which it needs to be protected by a bond.⁵⁵¹

E. THE IA'S POSITION

The IA observes that pursuant to Section 337(j), the infringing products are entitled to entry under bond during the Presidential review period,⁵⁵² and that, to the extent possible, the bond should be in an amount that would be sufficient to protect the Complainant from any injury.⁵⁵³ The IA further observes that the Commission frequently sets the bond by attempting to eliminate the difference in sales prices between the patented domestic product and the infringing

⁵⁴⁹ Qualcomm's Remedy Brief at 70.

⁵⁵⁰ Intervenors' Remedy Brief at 123.

⁵⁵¹ Intervenors' Remedy Brief at 123.

⁵⁵² OUII's Remedy Brief at 68 (citing 19 U.S.C. § 1337(j)).

⁵⁵³ OUII's Remedy Brief at 68 (citing 19 C.F.R. § 210.50(a)(3)).

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product.⁵⁵⁴ The IA notes that in the absence of reliable price information, the Commission has used other methods to determine an appropriate bond, such as a reasonable royalty rate.⁵⁵⁵ The IA further notes that in cases where other methods of formulating the bond amount are unreliable, the Commission has imposed a bond of 100 percent.⁵⁵⁶

The IA argues that because Broadcom does not manufacture EV-DO baseband processor chips and no manufacturer currently incorporates Broadcom's GSM/WCDMA baseband processor chip into telephone handsets, the record does not permit the use of price comparisons to set the bond on the infringing Qualcomm baseband processor chips.⁵⁵⁷ The IA points out that there are no reasonable royalty rates from Broadcom's license agreements in the record on which to set the bond for the infringing Qualcomm baseband processor chips, and that she is not aware of any other evidence in the record that would provide a reasonable means to calculate an amount sufficient to protect Broadcom from injury as required by 19 U.S.C. §1337(e)(1). Accordingly, the IA submits that the bond on infringing processor chips, imported either separately or in carriers or circuit boards during the Presidential review period should be set at 100 percent of the entered value.

The IA further submits that in the event that the limited exclusion order extends to downstream handsets, the bond amount on the handsets should be set at five percent of their

⁵⁵⁴ OUII's Remedy Brief at 68 (citing Certain Microsphere Adhesives, Process for Making Same, and Products Containing Same, Including Self-stick Repositionable Notes, Inv. No. 337-TA-366, USITC Pub. 2949, Comm'n. Op. at 24 (January 1996)).

⁵⁵⁵ OUII's Remedy Brief at 68 (citing Telecommunication Chips at 41).

⁵⁵⁶ OUII's Remedy Brief at 68 (citing Certain Neodymium-Iron-Boron Magnets, Magnet Alloys, and Products Containing Same, Inv. No. 337-TA-372, USITC Pub 2964, Comm'n. Op. at 15 (May 1996)).

⁵⁵⁷ OUII's Remedy Brief at 69 (citing JX-203C at 16:2-11, 114:3-16, 174:15-16, 19; JX-242C at 59:20-60:5, 60:10-61:1, 190:1-3, 190:10-15; Mulhern HT at 74-75).

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entered value. [[

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560

]].⁵⁶¹

In sum, the IA submits that a 100 percent bond on programmed infringing chips and a 5 percent bond on handsets containing infringing chips are appropriate for the period of Presidential Review.

F. VIEWS OF THE COMMISSION

We agree with the ALJ and the IA that a bond equal to 100 percent of entered value should be set on programmed infringing chips during the Presidential review period. We note that, consistent with the ALJ's and the IA's position, where, as in the present investigation, the record lacks any evidence of current sales or pricing information that would permit determination of a price differential or a reasonable royalty rate, a 100 percent bond per accused infringing imported chip is appropriate.

As for the downstream products subject to exclusion under the proposed limited exclusion

⁵⁵⁸ OUII's Remedy Brief at 69-70 (citing SX-16C at 3, JX-319C at MOT/BQ 60400).

⁵⁵⁹ OUII's Remedy Brief at 69.

⁵⁶⁰ OUII's Remedy Brief at 70 (citing SX-5 at 128).

⁵⁶¹ OUII's Remedy Brief at 70 (citing CX-2350 at BCMITC 000309289).

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order, we agree with the IA's analysis and her conclusion that the bond amount on the handsets should be set at five percent of their entered value.⁵⁶² [[

]].⁵⁶³ Consistent with the IA's position, we believe that such a bond is excessive. In any event, we expect relatively few imports to be subject to bonding during the Presidential review period because models already being imported for sale to the general public are exempt from exclusion.

VI. PENDING MOTIONS

In addition to resolving the issues of remedy, the public interest, and bonding, we must address several pending motions, all of which were filed after the Commission's public hearing and after the deadline for post-hearing submissions. For the reasons discussed below, we deny all of the pending motions, except Qualcomm's motion to strike.

A. QUALCOMM'S MOTION TO STRIKE

On April 3, 2007, Qualcomm filed an Emergency Motion to Strike Broadcom's Submission of Confidential Settlement Communications, for Shortened Response Time, and for Expedited Consideration. Qualcomm states that settlement discussions between the parties were subject to a written Mutual Non-Disclosure agreement (hereinafter "NDA"). The NDA provides:

Neither Party shall use the Information of the other Party for any purpose other than the Discussions contemplated herein. Except as may be compelled by legal process notwithstanding the existence of this Agreement or otherwise mutually agreed in writing, the Information of the disclosing Party shall not be discoverable or admissible by the receiving Party in any action or proceeding between the Parties.

⁵⁶² See OUII's Remedy Brief at 69 (citing SX-16C at 3, JX-319C at MOT/BQ 60400, SX-5 at 128, CX-2350 at BCMITC 000309289).

⁵⁶³ See OUII's Remedy Brief at 69 (citing BRB at 52-53; BRRB at 68-70; CX-2409C at 12; CX-2545 at 1).

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NDA, para. I (Exhibit 2). Qualcomm argues that Broadcom's post-hearing submission to the Commission violates this agreement and asks the Commission to strike the portions of Broadcom's submission which violate the NDA, including the argument at pages 44-46 and Exhibits 41, 43, 44, 55, and 60.⁵⁶⁴ Qualcomm cites the public policy of encouraging settlement of litigation, explaining that parties must be encouraged to negotiate candidly without worrying that their candor will be used against them before the presiding tribunal. Qualcomm also cites Federal Rule of Evidence 408, which prohibits the use of statements made in negotiation to prove liability or the amount of a claim.

Broadcom responds that the settlement information that it submitted directly responds to questions from the Commission and allegations of Qualcomm and Intervenors. In particular, Broadcom asserts that its submission responds to Qualcomm's allegation that Broadcom had refused to license the '983 patent, Qualcomm's statement that "[i]f it were simply an issue of Qualcomm paying a royalty, we would not be here," and Verizon's assertion that Broadcom was simply seeking a downstream order to "hold people over a barrel and try to get a royalty..."⁵⁶⁵ Broadcom states further that its submission was in response to the following questions posed by the Commission at its hearing:

Do you license your patents to third parties for production, or do you enter into joint production ventures? Did you ever attempt to enter into license agreements with Qualcomm or any of the Intervenors?

Did Qualcomm consider getting a license from Broadcom to use the patent that is at issue here.

Is there any possibility for manufacturers to negotiate some kind of an agreement with Broadcom with regard to licensing or striking any other agreement, to have an

⁵⁶⁴ Qualcomm's Emergency Motion to Strike at 2.

⁵⁶⁵ Transcript of Commission Hearing at 486:21-25 (Hansen)

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ability to use legally the infringing technology.⁵⁶⁶

Moreover, Broadcom cites a deposition at which Qualcomm waived an objection to the use of settlement information on the theory that the deposition was under the protective order.⁵⁶⁷ Similarly, Broadcom states that Qualcomm did not object to notices of deposition in which the Intervenor sought testimony on the communications between Broadcom and Qualcomm and on communications concerning licensing, assignment, or grant of rights of the '983 patent.⁵⁶⁸ Furthermore, Broadcom states that Federal Rule of Evidence 408 does not apply because Broadcom does not seek to prove liability or damages. Moreover, Broadcom submits that its submission does not prejudice Qualcomm as the submission is under the protective order.

In the IA's view, Broadcom's submission is responsive to questions posed by the Commission, and the submission is subject to the protective order. The IA argues that the Commission is without power to enforce the agreement between the parties not to disclose the content of their settlement discussions,⁵⁶⁹ but in any case Federal Rule of Evidence 408 does not apply, as neither liability nor amount of damages is at stake.⁵⁷⁰ The IA contends that the unique circumstances here do not violate the usual public policy of promoting settlement.⁵⁷¹

We find that the strong public policy of encouraging parties to settle disputes through

⁵⁶⁶ Transcript of Commission Hearing at 73:9-14 (Commissioner Lane); 292:4-6 (Commissioner Lane); 628:16-20 (Attorney-Advisor Liberman).

⁵⁶⁷ Broadcom Response to Emergency Motion at 4 (citing Brazeal Deposition at 180:16-17).

⁵⁶⁸ Broadcom's Response to Emergency Motion at 4-5.

⁵⁶⁹ OUII's Response to Emergency Motion at 4.

⁵⁷⁰ OUII's Response to Emergency Motion at 5.

⁵⁷¹ OUII's Response to Emergency Motion at 6.

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negotiation favors granting the motion to strike those portions of Broadcom's post-hearing submission that are not responsive to any particular Commission question and which unnecessarily reveal the content of settlement discussions. Although Federal Rule of Evidence 408 does not apply on its terms to the matter at hand, the public policy remains the same. Accordingly, we have struck from the record the argument presented on pages 44-46 of Broadcom's Post-Commission Hearing Submission (from "Finally the record..." to "Qualcomm technology.") and Exhibits 41, 43, 44, 55, and 60 attached thereto, and do not rely on this information in reaching our determination on remedy, the public interest, and bonding in this investigation. We also deny Qualcomm's motion for leave to reply to Broadcom's and the IA's responses.

B. QUALCOMM'S NOTICE OF NEW AUTHORITY AND PETITION FOR RECONSIDERATION

On May 9, 2007, respondent Qualcomm filed a Notice of New Authority of the U.S. Supreme Court; Petition to Reconsider the Commission's Final Determination Based on *KSR International Co v. Teleflex Inc.* and *Microsoft v. AT&T*; and to Re-Open the Proceedings to Establish a Briefing Schedule for Same. Qualcomm submits that on April 30, 2007, the United States Supreme Court issued two decisions, *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. ___ (2007) and *Microsoft v. AT&T*, 550 U.S. ___ (2007), that undermine the key findings of validity and infringement of the '983 patent that form the basis for the Commission's Final Determination of a Section 337 violation in this investigation.⁵⁷²

Qualcomm argues that *KSR* requires that the Commission revisit its determination that the '983 patent is not obvious under 35 U.S.C. § 103 and invalid because the ALJ "improperly

⁵⁷² Qualcomm's Petition for Reconsideration at 1.

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applied the Federal Circuit's rigid *TSM* test that the Supreme Court has now disapproved."⁵⁷³ In particular, Qualcomm argues that the ALJ applied "the rigid and formulaic *TSM* test to find nonobviousness because of the lack of specific evidence of a motivation to combine."⁵⁷⁴ Qualcomm submits that the '983 patent claims nothing more than an obvious combination of certain well-known features in the prior art and urges the Commission to conduct further proceedings to determine whether the asserted claims of the '983 patent are obvious under the KSR standard.

Qualcomm further contends that the Commission should revisit its findings on inducement of infringement under 35 U.S.C. § 271(b) in light of *Microsoft*. Qualcomm argues that in addressing a claim under the companion inducement provision of section 271(f)(1), the Supreme Court held in *Microsoft* that the patent laws should not be given extraterritorial effect absent a clear expression of Congressional intent.⁵⁷⁵ Qualcomm submits that the "direct infringement" on which the ALJ based his inducement finding - making handsets that incorporated QUALCOMM's system determination code - cannot serve as a predicate for an inducement finding because it occurs outside of the United States. Qualcomm also argues that the inducing acts, on which the ALJ relied to find infringement, involve conduct outside the United States and beyond the reach of the United States patent laws.

Qualcomm asserts that Commission Rule 210.47 provides authority for reconsideration of a final determination where the subject matter of the petition for reconsideration relates to "new

⁵⁷³ Qualcomm's Petition for Reconsideration at 1.

⁵⁷⁴ Qualcomm's Petition for Reconsideration at 2 (citing ID at 202).

⁵⁷⁵ Qualcomm's Petition for Reconsideration at 2 (citing *Microsoft* at 15).

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questions” as to which the party “had no opportunity to submit arguments.”⁵⁷⁶ Qualcomm contends that reconsideration is justified in the present case because the legal rules applied in the Final Determination are contrary to the foregoing precedents. Broadcom and the IA oppose Qualcomm’s petition.

We find that *KSR* does not provide a sufficient reason to reconsider our violation determination or to re-open the proceeding. As the IA correctly points out, Qualcomm did not set forth an obviousness analysis for the independent claims of the ‘983 patent until it filed a petition for review of the final ID.⁵⁷⁷ As discussed in the ID, Qualcomm had asserted before the ALJ that independent claims 1 and 14 were anticipated and put forth an obviousness argument only with respect to the dependent claims.⁵⁷⁸ Since Qualcomm failed to present an obviousness case with respect to independent claims 1 and 14 of the ‘983 patent until after the ALJ had ruled, we find that Qualcomm waived this argument.⁵⁷⁹ As the IA correctly points out, *KSR* does not require that the ALJ or the Commission engage in an inquiry that Qualcomm did not assert at the appropriate

⁵⁷⁶ Qualcomm’s Petition for Reconsideration at 3 (citing 19 C.F.R. § 210.47).

⁵⁷⁷ OUII’s Response to Petition for Reconsideration at 2 (citing Qualcomm’s Petition for Reconsideration at 5-8).

⁵⁷⁸ RD at 201; Qualcomm Post-hearing Brief at 121-22 (April 3, 2006). *See also* Qualcomm Petition for Review at 44-49 (October 20, 2006).

⁵⁷⁹ See OUII’s Response to Petition for Reconsideration at 2 (citing *Certain Display Controllers with Upscaling Functionality and Products Containing Same and Certain Display Controllers and Products Containing Same*, consolidated Inv. Nos. 337-TA-481 and 337-TA-491, Comm’n. Op. at 36 (February 4, 2005); *Certain Integrated Circuits, Processes for Making Same, and Products Containing Same*, Inv. No. 337-TA-450 (Comm’n. Op. at 32, 44-45, 54-55 (July 24, 2005); *Hazani v. U.S.I.T.C.*, 126 F.3d 1473, 1476-77 (Fed. Cir. 1997) (“We find no legal error in the administrative law judge’s determination that the arguments that [complainant] raised for the first time on reconsideration were untimely and could properly be rejected on that ground alone.”); *Meglio v. Merit Systems Protection Board*, 758 F.2d 1575, 1577 (Fed. Cir. 1984) (“Where petitioner fails to frame an issue before the presiding official and belatedly attempts to raise that same issue before the full board, and the board properly denies review of the initial decision, petitioner will not be heard for the first time on that issue in the Federal Circuit.”)).

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time.

As for the dependent claims, the ALJ found that Qualcomm's obviousness analysis was premised on references that allegedly anticipated the independent claims, a position that was rejected by the ALJ and the Commission.⁵⁸⁰ *KSR* does not affect the Commission's anticipation determination, and because Qualcomm provided only the analysis that was reliant upon finding the references anticipatory, its analysis remains insufficient.

Likewise, *Microsoft* does not provide a reason to reconsider the liability determination or to re-open the proceeding. While Qualcomm asserts that the Supreme Court's decision in *Microsoft* addresses "inducement of infringement in the context of a hardware and software combination,"⁵⁸¹ *Microsoft*, in fact, concerns infringement under 35 U.S.C. §271(f) only, a statutory provision that is not, and has never been, at issue in this investigation.

Accordingly, we deny Qualcomm's request for reconsideration of the violation determination based on the Supreme Court's decisions in *KSR* and *Microsoft*.

C. VERIZON'S PETITION FOR RECONSIDERATION

Intervenor Verizon petitioned for reconsideration of the Commission's decision to deny review of Order No. 29, which denied its motion to intervene in the liability phase of the investigation.⁵⁸² Verizon argues that the Supreme Court's decision in *KSR* altered the standard for obviousness under Section 103 of Title 35, and, for that reason, Verizon should be allowed to

⁵⁸⁰ See RD at 202; Commission Decision to Review and Modify in Part at 3 (December 8, 2006) (ID's determination of validity of the '983 patent was adopted without modification).

⁵⁸¹ Qualcomm's Petition for Reconsideration at 8.

⁵⁸² On March 16, 2006, Verizon filed an application for interlocutory review of Order No. 29 (March 9, 2006), which denied Verizon's motion to intervene in the liability phase of the investigation. The Commission denied Verizon's petition. Notice of Commission Determination to Deny an Application for Review of ALJ Order No. 29 (May 24, 2006).

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intervene in the liability phase of this investigation and present evidence of a new combination of references with the purpose of invalidating the '983 patent.⁵⁸³

Verizon contends that its “petition [to intervene] rested, in part, on a proffer of evidence that Broadcom’s ‘983 patent – the only patent held to be valid and infringed in this investigation – is invalid on grounds of obviousness under 35 U.S.C. § 103.”⁵⁸⁴ Verizon submits that the Commission should revisit its decision to deny Verizon’s application for review of the ALJ’s Order No. 29 in light of the Supreme Court’s recent decision in *KSR*. Verizon contends that under the standard articulated in *KSR*, the evidence that Verizon sought to present that was not presented by Qualcomm renders the ‘983 patent invalid. In support, Verizon submits that the Commission has recognized that *KSR* requires reconsideration of prior decisions where obviousness arguments “may have been given short shrift.”⁵⁸⁵ Verizon argues that the Commission should reconsider its decision on intervention here and direct the ALJ to reopen the liability phase of this investigation to allow Verizon Wireless to present evidence that Broadcom’s ‘983 patent is invalid. Qualcomm supports Verizon’s petition; Broadcom and the IA oppose it.

For the reasons that follow, we deny Verizon’s petition. In particular, we note that ALJ Order No. 29 did not rely upon the standard for obviousness under the Patent Act, but rather on the untimeliness of Verizon’s motion to intervene. Accordingly, *KSR*’s guidance regarding the obviousness standard does not justify reconsideration of Order No. 29 or present any “new question[] raised by the determination or action ordered to be taken thereunder” under

⁵⁸³ Verizon’s Petition for Reconsideration at 1-2.

⁵⁸⁴ Verizon’s Petition for Reconsideration at 1.

⁵⁸⁵ Verizon’s Petition for Reconsideration at 2 (citing *Certain Automotive Parts*, Inv. No. 337-TA-557, Notice of Commission Determination to Waive Reconsideration Rule Deadline and to Extend Target Date (May 4, 2007) (extending target date in an ongoing investigation in order to permit the parties to raise arguments relating to *KSR*)).

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Commission Rule 210.47.

As the IA correctly points out, Order No. 29 held that Verizon did not meet the requirements for intervention because:

- Verizon's motion was untimely;
- Verizon did not demonstrate that it had an interest relating to the property or the transaction which is the subject of the action apart from its interest in the scope of the remedy (and noting that Verizon had already been granted permission to intervene in the remedy phase); and
- Verizon was adequately represented in the liability phase by respondent Qualcomm⁵⁸⁶.

We agree with the IA that each of these determinations is sufficient as a separate and independent basis upon which to deny intervention, and that the Supreme Court's obviousness decision in *KSR* does not affect any of them. Therefore, there is no basis for reconsideration of Order No. 29 based on *KSR*. We also deny Verizon's motion for leave to file a reply to the oppositions to its motion.

D. T-MOBILE'S MOTION TO INTERVENE

On May 10, 2007, T-Mobile filed a motion to intervene in the remedy phase of the investigation. This filing was made seven weeks after the Commission's public hearing, five months after the Commission's first request for public comment on the remedy issues, and just two weeks before the May 25, 2007, the target date operative at that time for completion of this investigation.

T-Mobile submits that in the event the Commission considers issuing any downstream

⁵⁸⁶ See OUII's Response to Verizon's Petition at 2 (citing Order No. 29 at 8-13).

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exclusion order directed to WCDMA handsets, it should allow T-Mobile to intervene.⁵⁸⁷ T-Mobile argues that, from the outset, this proceeding has always been about EV-DO technology, and not about WCDMA technology.⁵⁸⁸ T-Mobile contends that Broadcom focused primarily on EV-DO throughout the investigation, and has not come close to justifying a downstream exclusion with respect to WCDMA handsets. T-Mobile further contends that the information in the record regarding WCDMA is speculative, incomplete, largely wrong, and therefore cannot justify an exclusion order against WCDMA technology. T-Mobile points out that as one example, Broadcom incorrectly claims that there are alternatives to Qualcomm based WCDMA handsets available now. T-Mobile states that it has no alternative handsets available to it at this time, and that any WCDMA exclusion order would delay the scheduled launch of T-Mobile's WCDMA network.⁵⁸⁹ T-Mobile further argues that, while there is very little information regarding WCDMA in the record, there appears to be absolutely no information regarding the appropriateness and impact of an order applied only to WCDMA (and not EV-DO) handsets. T-Mobile contends that such a one sided remedy would not only adversely affect T-Mobile, but would also badly harm the public interest by, *inter alia*, reducing competition in these new, third generation technologies.⁵⁹⁰ T-Mobile submits that it would be unreasonable and unfair for the Commission to implement a downstream exclusion order encompassing WCDMA, and certainly a downstream exclusion order covering WCDMA exclusively, based on a record bereft of evidence.⁵⁹¹

T-Mobile argues that its motion to intervene is timely because neither T-Mobile nor other

⁵⁸⁷ T-Mobile Memorandum at 1.

⁵⁸⁸ T-Mobile Memorandum at 1.

⁵⁸⁹ T-Mobile Memorandum at 2.

⁵⁹⁰ T-Mobile Memorandum at 2.

⁵⁹¹ T-Mobile Memorandum at 3.

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non-parties knew or could have known until very recently that a WCDMA only downstream exclusion order was even possible, much less under serious consideration.⁵⁹² T-Mobile contends that until the Commission's March 21-22 hearing and the related briefing, this investigation had focused on EV-DO, not WCDMA, and the record dealt almost exclusively with EV-DO and not WCDMA technology. T-Mobile points out that, for example, Broadcom subpoenaed 25 non-parties, including all of the major wireless carriers in the United States who had deployed or were planning on using EV-DO technology. T-Mobile points that, in contrast, Broadcom did not subpoena or take any discovery from any carriers (*e.g.*, T-Mobile and AT&T Mobility) who had opted to use WCDMA instead of EV-DO. T-Mobile further points that none of the subpoenas that are publicly available even mentions WCDMA.⁵⁹³

Broadcom and the IA oppose T-Mobile's motion, whereas Qualcomm supports it.

We find T-Mobile's motion to be untimely. While T-Mobile asserts that its motion is timely because it was only made aware that an exclusion order in this investigation could affect WCDMA handsets at the March 21-22, 2007 public hearing,⁵⁹⁴ it fails to explain the seven week delay between the public hearing, when it acknowledges that it became aware that an exclusion against WCDMA was being considered, and the filing of its motion to intervene.

In any event, we find that T-Mobile's assertions that "[f]rom the outset, this proceeding has always been about EV-DO technology,"⁵⁹⁵ ⁵⁹⁶ and that neither it nor other non-parties "knew

⁵⁹² T-Mobile Memorandum at 7.

⁵⁹³ T-Mobile Memorandum at 8.

⁵⁹⁴ *See* T-Mobile Memorandum at 1, 10.

⁵⁹⁵ T-Mobile Memorandum at 1.

⁵⁹⁶ *See also* T-Mobile Memorandum at 2 ("having focused on EV-DO throughout the investigation"), 4 ("after nearly two years of litigation focused on EV-DO"), 5 ("this EV-DO-

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or could have known” that WCDMA technology was even at issue,⁵⁹⁷ are flatly contradicted by the record. As early as May of 2005, the Complaint identified baseband processor chips operating on the GSM/GPRS standard as products accused of infringing the ‘983 patent.⁵⁹⁸ Furthermore, as the IA correctly points out, a number of the chip models accused under the ‘983 patent (*e.g.*, MSM 6200, 6225, 6245, 6250, 6255, 6275, and 6280 chips) can not be programmed to implement the EV-DO protocol, whereas models MSM 6250, 6255, 6275, and 6280 can be programmed to implement the WCDMA protocol in addition to the GSM and GPRS standards.⁵⁹⁹ Therefore, the Complaint unequivocally indicated that this investigation was not limited to EV-DO technology, but rather also encompassed WCDMA protocol.

Moreover, the ID’s infringement analysis with respect to the ‘983 patent was performed using a representative MSM 6250 chip that does not support the EV-DO protocol. This analysis was public at least as early as May 15, 2006, with the filing of the public version of OUII’s Posthearing Brief:

The MSM 6250 chipset is adapted to transmit data to access points across GSM, GPRS or WCDMA networks.

* * *

For example, the MSM 6250 chipset includes an embedded ARM microprocessor to “handl[e] WCDMA 3G wireless applications.” Accordingly, the MSM 6250 chipset has processing circuitry arranged to handle or process data received from the

centric proceeding”), 8 (“this investigation had focused on EV-DO, not WCDMA” and “the EV-DO focus of this proceeding”); 10 (“focusing instead (as it has throughout this investigation) on EV-DO”).

⁵⁹⁷ T-Mobile Memorandum at 7-8.

⁵⁹⁸ Complaint ¶ 12.

⁵⁹⁹ See Complaint ¶ 62. See also OUII’s Response to T-Mobile Memorandum at 4; RD at 264.

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communication circuitry over the WCDMA link.⁶⁰⁰

Similarly, it is clear on the face of the Complaint that Broadcom, from the beginning, was seeking exclusion of all handsets containing infringing Qualcomm chips, regardless of whether those handsets operated on EV-DO or WCDMA networks.⁶⁰¹ Accordingly, T-Mobile could have intervened in the remedy phase of the trial to protect its interests. Having failed to do so, it could still have sought to testify at the Commission's public hearing or submitted written comments on remedy. It did not.

T-Mobile's only excuse for its untimely decision to participate in this proceeding is premised on its assertion that the idea of a remedy that would exclude WCDMA handsets, but not EV-DO handsets, first came up at the public hearing. This is not true. The Commission has broad discretion to fashion remedial orders, and exclusion of WCDMA handsets was a possibility from the outset in this investigation.

Moreover, it is undisputed that both the public version of the ID dated January 3, 2007, and the public version of the IA's Submission on Remedy, the Public Interest, and Bonding dated February 16, 2007, expressly contemplate the possibility of a WCDMA-only exclusion order.⁶⁰²

Accordingly, the record in this investigation does not support T-Mobile's assertion that "based on the available record, the public would have assumed (correctly) that this investigation was about EV-DO and would have had no reason to believe that a WCDMA-only order could be

⁶⁰⁰ OUII's Post-ALJ-Remedy-Hearing Brief at 78 (Public Version: May 15, 2006) (citations omitted).

⁶⁰¹ Complaint ¶ 3; ¶ 62.

⁶⁰² See RD at 277-278; OUII's Remedy Brief at 41, 55-57, 65; and OUII's Remedy Reply Brief at 28-29.

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suggested, let alone seriously considered.”⁶⁰³ Therefore, T-Mobile has failed to provide sufficient justification to intervene at this late stage in the proceeding, and its motion is therefore denied.

We also deny T-Mobile’s motion for leave to file a reply to the oppositions to its motion.

E. ATTM’S PUBLIC STATEMENT AND REQUEST TO FILE OUT OF TIME

ATTM filed its request on May 18, 2007. ATTM’s assertions are substantially similar to those made by T-Mobile, *see supra*. ATTM argues that recent public submissions show that Sprint and Verizon have “opportunistically urged the [the Commission] to limit any downstream exclusion order to GSM/GPRS/WCDMA compatible handsets used on the network of their primary 3G competitor, [ATTM].”⁶⁰⁴ ATTM contends that because Sprint and Verizon operate EV-DO 3G networks, they would be unaffected by the narrower exclusion order (the “split remedy”), which would give the EV-DO carriers an advantage over ATTM, one of the WCDMA carriers competing with Sprint and Verizon. ATTM argues that previously it had no reason to participate in this litigation.

ATTM submits that in December 2005, ATTM launched its HSDPA/WCDMA network based on 3G wireless technology, and that this network is the only North American WCDMA network fast enough to compete directly with the EV-DO carriers’ 3G platforms.⁶⁰⁵ ATTM contends that there are very few, if any, commercially available HSDPA/WCDMA chipsets that are feasible substitutes for the Qualcomm chips. ATTM states that the current record is replete with inaccurate WCDMA evidence, and that while reliable and accurate WCDMA information is available, it is not in the record before the Commission because no party has ever asked ATTM to

⁶⁰³ T-Mobile’s Memorandum at 9.

⁶⁰⁴ ATTM Submission at 1 (citing Verizon Post-Commission Hearing Submission at 18; Sprint Post-Commission Hearing Submission at 2-3).

⁶⁰⁵ ATTM Submission at 2 (citing FCC Comments at 8).

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provide it and because, until recently, ATTM had no reason to believe the information was relevant.

ATTM argues that the reason the record lacks reliable evidence on HSDPA/WCDMA technology is that Broadcom did not name the manufacturers or carriers as respondents and confused parties as to its intentions concerning a potential downstream remedy. ATTM asserts that from the start, Broadcom has been making this case about EV-DO technology, and “was particularly guarded about its position on HSDPA/WCDMA-compatible handsets.”⁶⁰⁶ ATTM contends that Broadcom sought discovery from EV-DO carriers, but not from ATTM, and that, until recently, the remedial phase had focused almost exclusively on EV-DO technology.

ATTM argues that Broadcom should not be permitted to obtain an exclusion order targeting WCDMA handsets. ATTM points out that Broadcom has never attempted to discover evidence relevant to that remedy, thereby creating the impression throughout the litigation that it had no intention to seek such a remedy.⁶⁰⁷ ATTM further argues that Broadcom's approach has denied ATTM an opportunity to inform the debate and defend its interests. ATTM urges the Commission to accept ATTM's submission to afford ATTM the opportunity to set the record straight rather than be misled by the Verizon and Sprint into effectively choosing which carriers will be allowed to compete in the 3G space.⁶⁰⁸

ATTM submits that the current competitive environment, in which ATTM's HSDPA/WCDMA network exists alongside the EV-DO networks of Sprint and Verizon, creates incentives for further innovation, provides more differentiated mobile service at a lower cost to

⁶⁰⁶ ATTM Submission at 2 (citing Manufacturer Intervenors' Post-Commission Hearing Submission at 3-5).

⁶⁰⁷ ATTM Submission at 3.

⁶⁰⁸ ATTM Submission at 3 (citations omitted).

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American consumers, ensures the technological redundancy critical to public safety, and has given domestic industry a competitive edge over Europe for the first time in years.⁶⁰⁹ ATTM contends that imposing a split remedy could adversely impact that robust competitive environment, which remains critical to the public interest.

ATTM submits that, given the potential consequences of a split remedy, “the paucity of valid record evidence relating to WCDMA technology, and the myriad inaccuracies in the briefing and record that does exist, we request that the Commission grant ATTM's request to file this statement out of time.”⁶¹⁰ ATTM argues that the public interest will be best served if the Commission has before it as complete and accurate a record as possible, and that “[o]n the basis of the full record, particularly as supplemented by this statement, it is readily apparent that, in the interests of public safety, American consumers and the mobile communications industry, the Commission should decline to issue the split remedy proposed by the EV-DO carriers.”⁶¹¹

ATTM further argues that the Commission cannot reasonably conclude that a split remedy is warranted under *EPROMs* or is in the public interest. ATTM provides its analysis of the third, fifth, and sixth *EPROMs* factors, as well as the public interest factors. Based on its analysis, ATTM concludes that “the only reasonable conclusion the Commission can reach is that a split remedy is not warranted or appropriate in this case.”⁶¹²

Qualcomm supports ATTM's submission, whereas Broadcom opposes it.

⁶⁰⁹ ATTM Submission at 3 (citing FCC Comments at 8-11; Manufacturers' Post-Hearing Submission at 21).

⁶¹⁰ ATTM Submission at 3-4.

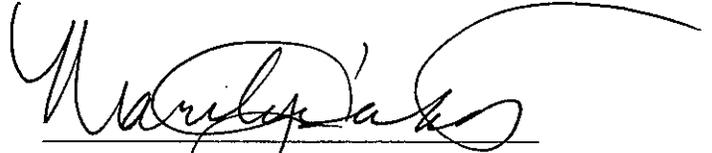
⁶¹¹ ATTM Submission at 4.

⁶¹² ATTM Submission at 15.

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We find ATTM's submission to be untimely. We deny ATTM's request to file out of time for the reasons substantially similar to the ones discussed *supra* with regard T-Mobile' motion.

BY ORDER OF THE COMMISSION.

A handwritten signature in black ink, appearing to read "Marilyn R. Abbott", written over a horizontal line. The signature is highly stylized with large loops and a long horizontal flourish extending to the right.

Marilyn R. Abbott
Secretary to the Commission

Date: June 19, 2007

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ADDITIONAL AND DISSENTING VIEWS OF CHAIRMAN DANIEL R. PEARSON AND COMMISSIONER DEAN A. PINKERT

I. Introduction

This case raises the fundamental issues of how the Commission should approach the question of whether a downstream remedy – or any remedy at all – is in the public interest, and how the Commission should exercise its discretion to craft suitable remedies. In this opinion, we seek to clarify the legal relationship between the statutory public interest criteria and the Commission’s authority to craft remedies.

Our analysis leads us to conclude that the remedy proposed by the complainant Broadcom Corporation (“Broadcom”) is not in the public interest. Further, for reasons discussed below, we decline to endorse the majority’s “grandfathering” remedy. Consequently, we dissent from the majority’s views concerning remedy.

Instead, we determine that the appropriate remedy in this investigation is an exclusion order that would bar the importation of multimode baseband processor chips with software enabling the battery-saving features of the ‘983 patent, and a cease and desist order that would bar the testing of infringing chips, including chips that are incorporated into cellular telephone handsets. As detailed elsewhere in this opinion, such an exclusion order would recognize and protect the intangible intellectual property rights of Broadcom, while imposing meaningful costs and restrictions on the infringing party, Qualcomm, Inc. (“Qualcomm”). It also would avoid the harmful and inequitable costs that would be imposed by a downstream exclusion order on cell phone manufacturers, mobile service providers, public safety officials and the many people who depend on sophisticated cell phone service.

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II. Background

Under the patent law, a good that is infringing does not become non-infringing merely because it is incorporated into another good.¹ This aspect of the patent law is particularly important in cases under section 337, which provides for the exclusion of infringing products from the United States. The fact that an infringing product is incorporated into another, “downstream,” product does not render the infringing item any less infringing or any less in violation of section 337. Section 337(d) states:

“[I]f the Commission determines as a result of an investigation under this section, that there is a violation of this section, it shall direct that THE ARTICLES CONCERNED, imported by any person violating the provisions of this section, be excluded from entry into the United States.” (19 U.S.C. 1337(d)) (emphasis added).

The scope of an exclusion order therefore has the potential to reach many downstream products, particularly in cases involving high-technology electronic components, which frequently are imported as an integral part of another product. In this case, the Commission determined that certain baseband processor chips manufactured by Qualcomm infringe the ‘983 patent owned by Broadcom. The statutory reference to the “articles concerned” is reflected in the Commission’s notice of the scope of this investigation set forth in the Federal Register, *i.e.*, “baseband processor chips . . . and products containing same, including telephone cellular handsets.”² Thus, the scope of this investigation includes every product containing the infringing

¹ See, generally, 35 U.S.C. §271.

² 70 Fed. Reg. 35,707 (June 21, 2005).

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chip, which includes almost all EV-DO and WCDMA-capable communications devices sold in the United States today.

Mindful of the potentially disruptive effect on the U.S. economy that a broad exclusion order could have, Congress provided the Commission with the discretion not to impose such a broad exclusion if the Commission found that it would not be in the public interest. Section 337(d) grants the Commission the authority to limit the scope of an exclusion order that otherwise would reach all the “articles concerned.” That section provides that the Commission shall issue relief that extends to all articles concerned unless:

after considering the effect of such exclusion upon the public health and welfare, competitive conditions in the United States economy, the production of like or directly competitive articles in the United States, and United States consumers, it finds that such articles should not be excluded from entry.³

The existence of this statutory language reflects Congress’s intention that unless public interest considerations counsel otherwise, all infringing goods, including articles containing those goods, should be excluded when the Commission finds a violation of section 337.

Agencies are creatures of statute and cannot alter the statutes they administer, although they are called upon to construe them in a reasonable manner in order that the law may be properly administered.⁴ Here, our statute requires the Commission to undertake a public interest analysis in which it examines the default remedy of total exclusion, and to consider whether such

³ 19 U.S.C. §1337(d)(1).

⁴ *Chevron U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984).

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broad exclusion is in the public interest.⁵ The statute, in other words, requires that the public interest analysis be performed in the first instance with respect to the default remedy. This reflects Congress's intent that the complainant, having prevailed in the violation phase of the investigation, is entitled to broad relief, including downstream relief, unless the Commission in a reasoned analysis expressly finds that such relief is inappropriate in light of the public interest factors. In this case, the Commission took an unusual step to ensure that it had the information necessary to consider whether a broad exclusion order was in the public interest by convening a public hearing on March 21-22, 2007, to hear testimony on the issues of remedy and the public interest.⁶

If the Commission determines that a broad exclusion order is not in the public interest, it may then consider whether there are alternative remedies available that would be consistent with the public interest. The Supreme Court has recognized an agency's authority to craft suitable remedies ("the courts will not interfere except where the remedy selected has no reasonable relation to the unlawful practices found to exist").⁷ The Federal Circuit, accordingly, has recognized that the Commission "has broad discretion in selecting the form, scope and extent of

⁵ The Commission's longstanding policy, however, is to grant relief no broader than that requested by the complainant, the rationale being that there is no reason to disrupt trade to an extent greater than is necessary to afford the complainant the relief it requests. In cases such as this, where the complainant has proposed relief narrower than a general exclusion, the Commission has used the complainant's proposed relief as a starting point for its analysis.

⁶ 72 Fed. Reg. 7456 (Feb. 15, 2007).

⁷ *Jacob Siegel Co. v. Federal Trade Comm'n*, 327 U.S. 608, 613 (1946).

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the remedy, and judicial review of its choice of remedy is necessarily limited.”⁸ The standard of review applied to the Commission in its remedy determinations, the Federal Circuit has found, is “equivalent to the arbitrary, capricious, abuse of discretion standard” mandated by the Administrative Procedures Act (“APA”).⁹

In undertaking this discretionary second step, Commission practice in cases involving downstream products has been to evaluate alternative remedies using a non-exhaustive list of factors first outlined nearly two decades ago in an investigation involving semiconductor chips, *Certain Erasable Programmable Read Only Memories, Components Thereof, Products Containing Such Memories, and Processes for Making Such Memories*.¹⁰ This analytical framework, which has come to be known as the “*EPROMs* factors,” was developed in response to Presidential disapproval of a remedy in an earlier investigation, in which the President expressed his belief that the Commission’s order, which excluded all downstream products, was too broad.¹¹ We view the *EPROMs* factors as an exercise of the Commission’s broad discretion

⁸ *Viscofan, S.A. v. USITC*, 787 F.2d 544, 548 (Fed. Cir. 1986).

⁹ *Hyundai Electronics Ind. v. USITC*, 899 F.2d 1204, 1209 (Fed. Cir. 1990)(finding that the appropriate standard of review in cases involving Commission remedies is the arbitrary and capricious and abuse of discretion standard, and recognizing that the *EPROMs* factors listed by the Commission were reasonably related to the question of the choice of remedy).

¹⁰ Inv. No. 337-TA-276, USITC Pub. No. 2196 (Mar. 16, 1989)(*EPROMs*).

¹¹ The history of the *EPROMs* factors began in 1987, with the Commission’s determination in *Certain Dynamic Random Access Memories, Components Thereof and Products Containing Same*, Inv. 337-242 (“*DRAMs*”). In that case, the Commission found that Samsung *DRAMs* infringed certain patents owned by Texas Instruments, and issued a limited exclusion order barring the importation of the “specified *DRAMs* incorporated into a carrier of any form.” President Reagan disapproved that determination for policy reasons. Accordingly, the

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to determine alternative remedies – remedies that, although narrower in scope than the default remedy contemplated by the statute, still may afford effective relief to the complainant. In our view, we are free to take into account third party and public interest considerations outside the *EPROMs* factors in determining the scope of an appropriate remedy.¹² Moreover, we note that several of the *EPROMs* factors do include considerations that relate to the public interest, albeit in narrower commercial terms than the broader statutory public welfare and safety analysis.

Commission subsequently issued a modified limited exclusion order, in which it limited the exclusion order to DRAMs themselves and to downstream products manufactured by Samsung (rather than to all downstream products from all manufacturers). Commission Action and Order, *Certain Dynamic Random Access Memories, Components Thereof and Products Containing Same* (Dec. 10, 1987) at 4-5.

Two years later the Commission issued its determination in *Certain Erasable Programmable Read Only Memories, Components Thereof, Products Containing Such Memories, and Processes for Making Such Memories*, Inv. No. 337-TA-279, USITC Pub. No. 2196 (Mar. 16, 1989) (“*EPROMs*”), in which it found violations of section 337 by Hyundai Corp. and six other named respondents in their importation and sale of certain EPROMs. With the President’s disapproval in the earlier investigation in mind, the Commission set forth a framework for devising a remedy that excluded downstream goods. The Commission issued a limited exclusion order that covered the EPROMs themselves, as well as Hyundai computers, computer peripherals, telecommunications equipment, and other electronic equipment containing infringing EPROMs. The limited exclusion order, like the modified order in *DRAMs*, did not extend to products of third party manufacturers that contained infringing EPROMs.

¹² In this regard, we do not agree with the Commission’s observation in its opinion in the original *EPROMs* investigation that, “the statutory public interest factors do not really come into play in initially determining the scope of a remedy in a section 337 investigation.” *EPROMs* at 124. To require the Commission first to determine a remedy – without having found that application of the default remedy of total exclusion of the infringing articles (or, alternatively, of the complainant’s proposed remedy) is not in the public interest – is inconsistent with the statutory scheme. The Commission has no authority to consider alternative remedies to a broad exclusion order unless it has first determined that such an order would not be in the public interest.

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In sum, therefore, our analytical framework is as follows. First, we determine whether the “default” remedy of a broad exclusion order of the articles concerned (including downstream products) is in the public interest.¹³ Second, if we determine that such a remedy is not in the public interest, we evaluate whether alternative remedies are appropriate, using the *EPROMs* factors as a guide in considering exclusion of certain downstream products. Third, if we determine that certain downstream relief may be appropriate, we consider whether that relief is in the public interest.

In this investigation, we find that the remedy proposed by Broadcom, which is to exclude all handsets that incorporate the infringing chips and to permit the entry only of “converged devices” containing full “QWERTY” keyboards, is not in the public interest.¹⁴ In addition, mindful of the extensive briefing that the Commission received on the *EPROMs* factors and in order to take into account all relevant information in the record, we evaluate Broadcom’s proposed remedy using the *EPROMs* factors. We also find, on the basis of that analysis, that downstream relief of the type proposed by Broadcom is not appropriate. Finally, we examine the remedy proposed by the Commission majority, which is exclusion of only those handsets that were not imported into the United States for sale to the general public as of a particular date (the “grandfathering” remedy). Chairman Pearson determines that this proposed remedy would not

¹³ Alternatively, as in this investigation, we assess whether the remedy proposed by the complainant is in the public interest. As noted *supra*, in investigations under section 337 the Commission’s policy is to grant relief no broader than that requested by complainant.

¹⁴ See Broadcom Corporation’s Amended Proposed Limited Exclusion Order and Cease and Desist Order (Feb. 1, 2007).

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serve the public interest. Commissioner Pinkert finds that the record with respect to this proposed remedy is insufficiently developed to permit him to analyze it under the applicable legal standards. Finally, we recommend an alternative remedy that we believe could provide the complainant with meaningful relief consistent with the public interest: an exclusion order limited to the infringing chips manufactured by respondent Qualcomm, and a cease and desist order that restricts Qualcomm's testing activities in the United States with respect to both infringing baseband chips and certain downstream products that contain those chips.

III. Whether The Downstream Remedy Requested by Broadcom is in the Public Interest

The Commission must consider the effect that a remedy would have on one or all of the following public interest factors: (1) the public health and welfare; (2) the competitive conditions in the United States economy; (3) the production of articles in the United States that are like or directly competitive with those subject to the investigation; or (4) United States consumers. 19

U.S.C. § 1337(d)(1). As the Commission has explained:

There are two issues in any consideration [of] whether public interest factors preclude imposition of a remedy for a section 337 patent violation. The threshold question is whether there is a public health and welfare interest in the invention, that is, whether a remedy under section 337 would have an impact on the public health and welfare. Once that is established, the Commission must balance the damage to the patent holder's rights against the adverse impact of the remedy on "the public health and welfare and the assurance of competitive conditions in the United States economy."¹⁵

¹⁵ *Certain Inclined-Field Acceleration Tubes and Components Thereof*, Inv. No. 337-TA-67, USITC Pub. 1119, Commission Opinion at 22 (December 1980) ("Inclined Field Acceleration Tubes"), (quoting S. Rep. 93-1298, 93d Cong., 2d Sess. 197 (1974)).

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This analysis is consistent with the legislative history of the public interest factors. As the Senate Report explains:

The Committee believes that the public health and welfare and the assurance of competitive conditions in the United States economy must be the overriding considerations in the administration of this statute. Therefore, under the Committee bill, the Commission must examine (in consultation with the other Federal agencies) the effect of issuing an exclusion order or a cease and desist order on the public health and welfare before such order is issued. Should the Commission find that issuing an exclusion order would have a greater adverse impact on the public health and welfare; on competitive conditions in the United States economy; on production of like or directly competitive articles in the United States; or on the United States consumer, than would be gained by protecting the patent holder (within the context of the U.S. patent laws) then the Committee feels that such exclusion order should not be issued. This would be particularly true in cases where there is any evidence of price gouging or monopolistic practices in the domestic industry.

S. Rep. No. 93-1298, 93rd Cong., 2d Sess. 197 (1974).

The Commission has found that public health and welfare considerations outweigh the public interest in the protection of intellectual property rights in only three investigations.¹⁶

A. Considerations of Public Health and Welfare

We believe that public interest considerations preclude issuance of the limited exclusion order proposed by Broadcom, which would exclude all handsets that incorporate the infringing chips, and permit entry only of Personal Digital Assistants (“PDAs”) and “converged devices”

¹⁶ See *Certain Automatic Crankpin Grinders*, Inv. No. 337-TA-60, USITC Pub. 1022 (December 1979); *Inclined Field Acceleration Tubes*, supra; and *Certain Fluidized Supporting Apparatus and Components Thereof*, Inv. Nos. 337-TA-182/188, USITC Pub. 1667 (October 1984)(determination on temporary relief) (“*Fluidized Apparatus*”).

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containing full QWERTY keyboards.¹⁷ The record shows, contrary to Broadcom's assertions, that the overwhelming majority of consumers prefer to purchase handsets and not converged devices; [[]] of the wireless devices sold in the United States in 2006 were "converged devices."¹⁸ In our view, the continued widespread dissemination of EV-DO and WCDMA-capable handsets – particularly the highly accurate GPS technology contained in many such devices – is of great importance to public health and welfare in the United States.

At the Commission hearing, federal, state and local governments and organizations representing "first responders"¹⁹ testified to the adverse effect that exclusion of the handsets would have on their ability to protect the public in case of an emergency such as a terrorist attack or a natural disaster. These organizations included the Federal Emergency Management Agency, the Government of the District of Columbia, the Comcare Emergency Response Alliance, the National Emergency Number Association, and the Association of Public Safety Communications Officials.²⁰ The concerns articulated by these groups fell into two categories: (1) that the exclusion of EV-DO/WCDMA handsets containing infringing chips would adversely affect the

¹⁷ Broadcom Corporation's Amended Proposed Limited Exclusion Order and Cease and Desist Order (Feb. 1, 2007).

¹⁸ See Sprint Nextel's Post-Commission Hearing Submission at 4.

¹⁹ First responders are the personnel likely to be first on the scene of a disaster. They include organizations such as local police and fire departments, but also may include volunteer members of the public. See, e.g., Transcript of Commission Remedy Hearing (Tr.) at 454 (D'Agata); Tr. at 640 (Le Grande); Hearing Testimony of Anthony D'Agata, Sprint Nextel Corporation (full version) at 1.

²⁰ See, e.g., Tr. at 637 (Le Grande); Tr. at 646-647 (Aylward); Tr. at 649-650, 652, 653 (Halley); Tr. at 655-659, 688 (McCarley); Tr. at 758 (Webb).

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ability of “first responders” to communicate between themselves, as they would not have access to needed handsets, whether purchased by their organizations or purchased by first responders for their own use;²¹ and (2) that exclusion would hamper the public’s ability to communicate with first responders, particularly with respect to the location of individuals requiring emergency assistance using the enhanced accuracy of the GPS positioning technology incorporated in many of the infringing handsets.²²

We find that Broadcom’s proposed remedy would have a significant adverse effect on public safety in the United States. U.S. public health and safety officials have become heavily dependent on EV-DO infrastructure.²³ Converged devices are often not seen as being practical substitutes for handsets. Converged devices are generally more expensive than handsets and, through their complexity, do not appeal to the majority of consumers.²⁴ To require public safety personnel throughout the United States to purchase more expensive converged devices in lieu of the handsets would likely lead to reduced access by emergency service personnel to these devices.²⁵ Many first responders, moreover, purchase their own communications devices and are therefore highly price sensitive.²⁶ Higher prices for EV-DO devices would likely lead to lower

²¹ See, e.g., Tr. at 762-63 (Webb).

²² See, e.g., Tr. at 684 (Aylward); Tr. at 763-64 (Webb).

²³ See Intervenors’ Remedy Brief at 102; Qualcomm’s Remedy Brief at 11-15; Tr. at 636, 642 (LeGrande).

²⁴ See, e.g., Tr. at 447, 549-50 (Garavaglia).

²⁵ See, e.g., hearing testimony of David Webb, FEMA (full version) at 4.

²⁶ See, Tr. at 646-7 (Aylward).

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acquisition rates by these personnel, which would tend to degrade the ability of these first responders to communicate with their colleagues.

Similarly, the general public would be less likely to purchase the more expensive converged devices than handsets, and would likely retain their older technology wireless devices. As representatives of the National Emergency Number Association and the Association of Public Safety Communications Officials testified, handsets, not converged devices, are what the public uses to communicate with first responders.²⁷ The ability of the older technology in the previous generation handsets to help first responders locate people needing assistance, as numerous emergency responders testified, is dramatically inferior to the GPS capability of many of the infringing EV-DO/WCDMA handsets.²⁸ In particular, the accuracy of the GPS technology in many EV-DO/WCDMA devices is an order of magnitude greater than the “triangulation” approach used to locate older phones, and permits responders to locate those needing assistance to within a few yards, compared to several city blocks as is the case with the older technology.²⁹ Also, EV-DO/WCDMA handsets permit 911 operators with appropriate equipment both to locate the caller using data transmission and GPS and simultaneously to communicate by voice with the caller. Older handsets are able to support only one or the other function at the same time, leading

²⁷ Tr. at 691.

²⁸ Tr. at 649 (Halley).

²⁹ Tr. at 687-88 (McCarley).

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to disrupted conversations (“voice blanking”) that cause many callers to disconnect the call before the emergency call center has had time to locate them.³⁰

In sum, we find that the public health and welfare is best served by the continued expansion of availability to first responders, as well as members of the public, of the enhanced GPS and emergency-number capabilities offered by handsets that incorporate EV-DO and WCDMA technology. The universe of first responders is broad and includes many individuals who do not formally work for traditional public safety agencies, such as medical professionals, because “[t]here is no clear line between emergency agencies and the public. . . .”³¹ The wireless spectrum is a public good that the Federal government licenses to wireless communications companies. In return for that license, wireless service providers are required to provide certain public services, including GPS locator services. These services play an increasingly important role in the provision of emergency services in the United States. The proliferation of EV-DO and WCDMA wireless communications devices, particularly handsets, therefore plays a significant role in advancing public health and welfare in the United States.³²

³⁰ Tr. at 650 (Halley).

³¹ Tr. at 646-7 (Aylward).

³² See *Inclined Field Acceleration Tubes* at 30 (“The competing interest [against the patent monopoly] here is the continued availability of tubes essential to research programs affecting the public health and welfare.”) *Accord, Crankpin Grinders* at 20 (“There are overriding public interest considerations in not ordering a remedy . . . This is not merely a matter of meeting the demands of individual consumers for fuel efficient automobiles. *The public as a whole* has an interest in conserving the fuel . . .”) (emphasis added); see *id.* at 21 (“Public interest considerations, where they are present in section 337 investigations, are not meant to be given mere lip service.”)

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We find that issuing an exclusion order on EV-DO and WCDMA handsets that contain the infringing chips would have an adverse impact on the public health and welfare in the United States.

B. Economic Considerations

We find additionally that Broadcom's proposed remedy would have significant adverse effects on the public welfare in terms of economic welfare. The economic losses of Broadcom's proposed remedy would not fall evenly on all parts of the U.S. cellular phone system. The infringing party, Qualcomm, would carry a modest portion of the burden due to lost sales. A much larger portion would be borne by cell phone manufacturers. The infringing chips account for only [[]] of a cell phone's wholesale price.³³ For each phone not sold, Qualcomm would lose that percentage of the revenues, while the cell phone manufacturers would forfeit the entire revenue of the lost sale.

The burden of Broadcom's proposed remedy would fall most severely on service providers such as Intervenor Sprint and Verizon. The service providers' primary business, providing wireless services to its customers, does not include any directly infringing activity. In addition, they have little influence over Qualcomm or the cell phone manufacturers' sale of infringing products. Yet Broadcom's proposed order has the potential to cost them billions of dollars in revenues, dwarfing the damage accruing to Qualcomm and the cell phone

³³ Intervenor's Remedy Brief at 89.

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manufacturers.³⁴ Moreover, the business of service providers such as Sprint and Verizon is linked inextricably to the United States. They cannot expect to gain any sales in other countries to make up for revenues they would lose in the United States. They have invested heavily in infrastructure to utilize broadband technology that supports the excluded handsets.³⁵ Moreover, once a downstream order issues, the service providers would be dependent on Qualcomm and the handset manufacturers to resolve their dispute with Broadcom. The only other alternatives would be to wait until: (1) a chip manufacturer develops a “work-around” to the ‘983 patent, which leads to the production of non-infringing handsets; or (2) the ‘983 patent expires in 2010. In any case, manufacturers would face delays in offering new handsets and wireless communication networks, which are critical to the U.S. economy, and would thus be significantly harmed by Broadcom’s proposed exclusion order banning the import of handsets containing the infringing baseband chips.³⁶

³⁴ Qualcomm and Intervenor’s Proposed Findings of Fact Regarding Remedy Issues (QIFF) at 336-337.

³⁵ QIFF at 11, 119, 321.

³⁶ Chairman Pearson further observes that issuing a downstream exclusion order does little more to protect complainant’s intangible patent rights than issuing an order that only excludes respondent’s infringing products. He believes that Broadcom’s patent rights have been vindicated by our infringement finding and would be adequately protected by an exclusion order that does not extend to downstream products. [[

]]. Qualcomm Post-Commission Hearing Submission at 28; QIFF at 259-272; Transcript of ALJ Remedy Hearing at 116 (Ms. Mulhern). Furthermore, as the ALJ pointed out, complainant will see almost no economic benefit from a downstream order. ALJ Recommended Determination (RD) at 279. On the other hand, a downstream order would inflict harm to the United States economy and to United States consumers disproportionate to any additional protection of complainant’s intangible patent rights.

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C. Competitive Conditions

Regarding competitive conditions in the United States economy, a downstream exclusion order in this case could favor service providers that support the WCDMA network, such as Cingular and T-Mobile. Although the record is unclear, it appears that there are some available non-infringing handsets that operate on the WCDMA network in the United States.³⁷ If this is indeed the case, service providers supporting EV-DO technology would be dealt a significant blow because consumers who desired third-generation (3G) data services through handsets would have no alternative but to choose service providers supporting the WCDMA network in order to take advantage of desired handset technology. Investment and innovation in EV-DO technology could be negatively affected. Lack of competition would likely result in higher prices and potentially diminished service quality in the WCDMA network, which already has more limited capacity and coverage in the United States than EV-DO. In areas where the EV-DO network is the only available network, consumers would be forced to use inferior handset technology or forgo any 3G wireless service at all. Thus, a downstream exclusion order would contravene the policy of the United States of promoting the use of broadband technologies.³⁸

D. Consumers

Regarding the effect on consumers, as instructed by the statute, we give weight to the submission filed by the Federal Communications Commission.³⁹ The FCC contends that a

³⁷ Manufacturer Intervenors' Post- Commission Hearing Submission at 6.

³⁸ Intervenors' Remedy Brief at 101.

³⁹ See 19 U.S.C. §1337(b)(2); 19 C.F.R. §210.50(a)(4).

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downstream exclusion order will dramatically limit a consumer's choice of mobile broadband handsets and services.⁴⁰ In particular, the FCC notes that in areas where only EV-DO networks have been deployed, the exclusion of handsets would effectively make mobile broadband services unavailable to consumers who do not already have EV-DO handsets. Also, those who do have handsets would be unable to upgrade or replace their handsets, and would run the risk of losing service if their handsets are lost or broken.

Furthermore, if the network service providers were to abandon the EV-DO network because all EV-DO handsets are excluded, as they have suggested they may, EV-DO related services would not be operable. Devices already in the United States as well as converged devices would not be operable. Without the EV-DO network, first responders would be unable to coordinate their services or communicate with the public, resulting in further negative consequences to the health and welfare as described above. The impact on wireless communication networks in the United States would be devastating because many consumers would be left without any wireless services and, with only one network available to others, service would be greatly diminished and prices could be expected to increase.

E. Conclusion

Therefore, for the foregoing reasons, the issuance of a broad exclusion downstream order such as the order suggested by Broadcom is precluded by the public interest considerations. We

⁴⁰ See Comments of Fred B. Campbell, Jr., Chief, Wireless Telecommunications Bureau, Federal Communications Commission.

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believe that such an order would inflict significant harm on the public health and welfare, competitive conditions in the United States economy, and United States consumers.

IV. Analysis of Broadcom's Proposed Remedy in Light of EPROMs Considerations

In our view, having found that Broadcom's proposed remedy is not in the public interest, we believe that the Commission is under no obligation to analyze the *EPROMs* factors in connection with that remedy. Indeed, consideration of whether Broadcom's downstream remedy should issue is moot, as the public interest factors preclude issuance of that exclusion order. Nevertheless, given the ALJ's and the Commission's discussion of the *EPROMs* factors in the remedy proceedings in this case, and the extensive commentary and briefing from the parties on this subject, we consider these factors in the following discussion. In our view, consideration of Broadcom's proposed relief in the framework of the *EPROMs* factors underscores the inappropriateness of Broadcom's proposed exclusion order.

In this investigation, Broadcom proposes that the Commission issue a limited exclusion order covering the infringing chips themselves and a majority of the downstream products imported by the manufacturer Intervenor that contain Qualcomm's infringing chips. Qualcomm and the Intervenor oppose a broad exclusion order that would cover downstream products.

The Commission's approach to determining whether to provide an exception to the default rule of a broad exclusion order that would cover downstream products can be traced to the Commission's *EPROMs* decision in 1989.⁴¹ Focused on the disruption of legitimate trade,

⁴¹ *Certain Erasable Programmable Read-Only Memories, Components Thereof, Products Containing Such Memories, and Processes for Making Such Memories*, Inv. No. 337-TA-276, USITC Pub. 2196, Commission Opinion at 124-26 (May 1989) ("*EPROMs*"), *aff'd*

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the *EPROMs* factors are narrower in scope than the statutory public interest factors, which focus on broader public health and welfare considerations.⁴² Under this approach, the Commission considers nine factors in balancing the complainant's interest in obtaining maximum protection from all infringing imports against the potential of such an exclusion order to disrupt legitimate trade in products that were not found directly to violate section 337.⁴³

A. *EPROMs* Factors Nos. 1 & 2

With respect to the relative value of the infringing goods, the first *EPROMs* factor, most parties in this investigation agree that the Commission should compare the total cost of the chip (the infringing product) to the total cost of the downstream handset. The record indicates that the

sub nom. Hyundai Elec. Indus. Co. v. U.S. Int'l Trade Comm'n, 899 F.2d 1024, 14 USPQ2d 1396 (Fed. Cir. 1990) (“*Hyundai*”).

⁴² The Commission has considered nine factors (the “*EPROMs* factors”) when determining whether to issue a downstream exclusion order: (1) the value of the infringing articles compared to the value of the downstream products in which they are incorporated; (2) the identity of the manufacturer of the downstream products, *i.e.*, whether it can be determined that the downstream products are manufactured by the respondent or by a third party; (3) the incremental value to the complainant of the exclusion of downstream products; (4) the incremental detriment to respondents of exclusion of such products; (5) the burdens imposed on third parties resulting from exclusion of downstream products; (6) the availability of alternative downstream products that do not contain the infringing articles; (7) the likelihood that the downstream products actually contain the infringing articles and are thereby subject to exclusion; (8) the opportunity for evasion of an exclusion order that does not include downstream products; and (9) the enforceability of an order by Customs. *EPROMs* at 125-26. The list is not exclusive, because “the Commission may identify and take into account any other factors which it believes bear on the question of whether to extend remedial exclusion to downstream products.” *EPROMs* at 125-26. The Commission has broad discretion to determine the relative weight to be given to each factor, and may determine to exclude downstream products even if some factors do not weigh in favor of doing so.

⁴³ *EPROMs* at 125.

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accused chips comprise, at a minimum, [[]] of the wholesale price of a cellular telephone handset, depending on the type of phone and the downstream producer.⁴⁴ We find this cost share to be significant.⁴⁵ More important, we find that the value of the infringing good is significant because it is essential to the operation of that product. Accordingly, we conclude that this factor weighs in favor of exclusion of the downstream products.

With respect to the second *EPROMs* factor (the identity of the manufacturer of the downstream products), it is clear that all of the downstream products are manufactured by parties other than Qualcomm, which alone was found to have infringed the complainant's patent. This factor weighs against exclusion of downstream products in this case, as they are manufactured by parties not named in this investigation.⁴⁶

B. EPROMs Factor No. 3

The third *EPROMs* factor concerns the degree to which the complainant will benefit if the order extends to all infringing products. The Commission in past cases has defined the concept of "benefit" in two different ways. The first aspect of "benefit" can be characterized as the maintenance or enhancement of the patent holder's rights; *i.e.*, the right to exclude others from

⁴⁴ Intervenors' Remedy Brief at 89.

⁴⁵ *Id.* at 24. Using a different methodology, complainant Broadcom provides a slightly higher estimate, arguing that the cost of the infringing chips account for [[]] of the cost of the materials in a handset. Broadcom's Remedy Brief at 22. Under either approach, we find these shares to be significant.

⁴⁶ *See, e.g., Power Supply Controllers* at 7.

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practicing the patent.⁴⁷ The second aspect is more narrowly economic in nature, and concerns the degree to which the complainant will benefit financially, through, for example, increased sales of the patented product.⁴⁸ With regard to the first aspect, it is clear that Broadcom will realize an intangible benefit to its intellectual property rights from the exclusion of all infringing products, because it is undisputed that virtually all infringing chips that enter the United States are contained in downstream wireless devices.⁴⁹ With regard to the economic aspect of incremental benefit, we agree with the ALJ that the record does not indicate that Broadcom would likely gain market share in its sales of baseband chips, or receive any other financial benefit from the exclusion of handsets operating on either the EV-DO or the WCDMA standards.⁵⁰ [[

]]. Hence, we

find that there would be very little incremental benefit, in an economic sense, to Broadcom through exclusion of downstream products. On balance, we find that while Broadcom would

⁴⁷ See *Certain Integrated Circuit Telecommunication Chips and Products Containing Same, Including Dialing Apparatus ("Telecommunication Chips")*, Inv. No. 337-TA-337, Commission Opinion (Aug. 1993) at 29-31.

⁴⁸ See *Certain EPROM, EEPROM, Flash Memory, and Flash Microcontroller Semiconductor Devices and Products Containing Same*, Inv. No. 337-TA-395, Commission Opinion (Dec. 2000), at 83.

⁴⁹ RD at 277, citing Broadcom's Post-Remedy-Hearing Brief at 20.

⁵⁰ RD at 279.

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benefit from a broad exclusion order in terms of its continued ability to enforce its patent rights, this benefit is unaccompanied by a clear economic benefit.⁵¹ Consequently, in terms of weighing in favor or against downstream relief, we see this factor as inconclusive.

C. EPROMs Factors Nos. 4 & 5

With respect to the fourth *EPROMs* factor (the incremental detriment to respondent of the exclusion of the downstream products) the Commission in the past has evaluated this factor by assessing the probability of “collateral damage” to the non-infringing business of respondent through exclusion of downstream products.⁵² We find that if all infringing products are excluded, Qualcomm will likely lose sales, not only of the infringing chips, but [[

⁵¹ Broadcom and other parties have alleged that the Commission, in evaluating this factor, has no authority to examine the economic benefit to the complainant resulting from downstream relief, because to do so would be to re-introduce an injury requirement into section 337. We disagree. In amending section 337 of the Act in 1988, Congress clarified that, in patent-based investigations, in order to obtain a finding of violation and a remedy, a patent holder would no longer have to prove that the infringing articles had caused injury to its operations. In other words, the Commission would no longer be able to deny a remedy, **of whatever type**, to a complainant on the basis that it had not shown itself to have been injured. H.R. Rep. No. 100-40, 100th Cong., 1st Sess. 156 (Apr. 6, 1987). Our inquiry into whether downstream relief is appropriate, however, is very different. Here we are concerned with the **nature and extent** of the remedy (*i.e.*, whether it should include downstream products), rather than whether a remedy is justified as a threshold matter. Hence, we do not believe that we have improperly re-introduced an injury requirement into the statute through our analysis of this factor. Moreover, the Federal Circuit has upheld Commission methodology in which it calculated incremental benefit in terms of sales gained by complainant. *Hyundai Elec. Indus. v. United States Int’l Trade Comm’n*, 899 F.2d 1204 (Fed. Cir. 1990).

⁵² *Certain Power Supply Controllers and Products Containing Same and Certain Display Controllers with Upscaling Functionality and Products Containing Same*, Inv. Nos. 337-TA-491 and 481, Commission Op., 2005 WL 996252 at 28 (Feb. 4, 2005) (“*Power Supply Controllers*” and “*Display Controllers*”).

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]].⁵³ Consequently, we find that this factor weighs against provision of downstream relief.

As to the burdens imposed on third parties resulting from exclusion of downstream products (the fifth *EPROMs* factor), the Commission in previous cases has examined the availability of non-infringing alternatives in weighing the burdens to third parties from a remedy that would exclude downstream products.⁵⁴ The Commission has also considered whether the burden on third parties from a downstream exclusion order would outweigh the incremental benefit to complainant.⁵⁵ When it has found that the burden on third parties would be substantial and would outweigh any benefit to the complainant, the Commission has declined to issue downstream relief.⁵⁶

Here, the wireless carriers have demonstrated that they would likely suffer from severe adverse impacts if they were deprived of WCDMA/EV-DO capable handsets. The business plans of all of the U.S. wireless carriers depend on the continued steep growth in revenues from high speed data services, which require the infringing baseband chips.⁵⁷ The U.S. carriers using EV-DO testified that the potential cumulative lost revenues that would result from a lack of

⁵³ RD at 280-81; OUII's Remedy Brief at 35-36.

⁵⁴ *See, e.g., Display Controllers and Products Containing Same*, Invs. Nos. 337-TA-481 & 337-TA-491, Commission Opinion at 61.

⁵⁵ *See Certain Audio Digital-to-Analog Converters and Products Containing Same*, Inv. No. 337-TA-499, Commission Opinion at 20-21.

⁵⁶ *See, e.g., EPROMs*.

⁵⁷ Intervenor's Remedy Brief at 23-24.

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access to EV-DO handsets would reach the [[]] of dollars.⁵⁸ The carriers enjoyed significant increases in revenue in late 2006 and early 2007 as the result of growing consumer use of high speed data services.⁵⁹ A very substantial proportion of these services was delivered over handsets that contain the infringing chips.⁶⁰ These handsets, and the networks on which they operate, represent billions of dollars in investment by third parties.⁶¹

Consequently, we believe that the burden on third parties of a downstream exclusion order covering handsets would be considerable. In light of the absence of evidence of any economic benefit to Broadcom from a downstream exclusion order, the absence of meaningful substitutes in the U.S. market for WCDMA/EV-DO baseband chips (as discussed below), and evidence of likely substantial harm to U.S. wireless carriers from the imposition of downstream relief, we find that the fifth *EPROMs* factor points strongly away from the downstream relief proposed by Broadcom.

D. EPROMs Factor No. 6

In applying the sixth *EPROMs* factor, the Commission has focused mainly on the availability of alternative downstream products.⁶² When alternative downstream products are

⁵⁸ *Id.* at 27-34.

⁵⁹ Verizon Wireless' Post-Commission Hearing Submission at 15-16.

⁶⁰ Tr. at 308-309 (Gonzalez).

⁶¹ Intervenors' Remedy Brief at 23-24.

⁶² *See, e.g., EPROMs* at 125 (“[T]he availability of alternative downstream products which do not contain the infringing articles”); *Power Supply Controllers* at 9 (“With regard to the sixth *EPROMs* factor, there are several alternative downstream products that do not contain

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available, this factor weighs in favor of downstream exclusion. The record indicates that in the case of the EV-DO-capable handsets, there are no alternatives to the infringing Qualcomm baseband chips in the marketplace today. Broadcom does not produce EV-DO-compatible baseband chips. While non-infringing baseband 1xRTT chips are available, these previous generation chips are not substitutable for the infringing chips. They are not substitutable because the speed and bandwidth of data transmission possible through EV-DO baseband chips is an order of magnitude greater than that available in 1xRTT baseband chips. The purpose of the EV-DO baseband chip is to permit the transmission of video, access to the internet, and other speed- and bandwidth-intensive applications which cannot be properly used with 1xRTT handsets.

With respect to WCDMA baseband chips, the record is unclear concerning the existence of available substitutes for handsets that contain the infringing chips. Qualcomm is the principal supplier of WCDMA chips in the United States, accounting for virtually the entire U.S. market from late 2005 until early 2007.⁶³ There is evidence that in early 2007 an alternative supplier of non-infringing WCDMA baseband processors entered the U.S. market.⁶⁴ The extent to which these non-infringing chips are substitutable for the infringing WCDMA chips is unclear (particularly because many WCDMA networks in the U.S. operate on different, mutually incompatible standards), as is the capacity of alternative baseband suppliers to meet the needs of

the infringing articles.”); *Display Controllers* at 61 (“The sixth *EPROMs* factor (the availability of alternative downstream products that do not contain the infringing articles)”).

⁶³ Qualcomm Post-Commission Hearing Submission at 53.

⁶⁴ Manufacturer Intervenors’ Post-Commission Hearing Submission at 6.

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the handset manufacturers. The record is therefore insufficient to permit us to find that the alternative source of WCDMA chips is a reasonable alternative to the Qualcomm chips already in the market.

As the evidence as a whole indicates that there are no meaningful substitutes for EV-DO or WCDMA handsets containing infringing baseband chips, we find, accordingly, that this *EPROMs* factor points strongly away from the imposition of a downstream remedy.

E. EPROMs Factors No. 7, 8, & 9

With respect to the seventh *EPROMs* factor, we disagree with the ALJ that this factor weighs in favor of including downstream products in any exclusion order to be issued because the record indicates that the likelihood an imported cellular telephone handset contains an infringing Qualcomm processor is low. For example, while in 2005 the Intervenor imported [[]] affected handsets, more than 174 million articles were imported under the HTS number that includes cellular telephone handsets.⁶⁵ Thus, the vast majority of imported cellular telephone handsets most likely do not contain an infringing Qualcomm processor.

As to the opportunity for evasion of an exclusion order that does not include downstream products (the eighth *EPROMs* factor), because almost all of the infringing Qualcomm chips will be imported as part of downstream wireless devices, we agree with the ALJ that this factor weighs in favor of an exclusion order covering downstream products. Finally, with respect to the

⁶⁵ SX-16C at 3; SX-7 at 1-3, 6 (cell 122X). Moreover, Broadcom concedes, “[a]s a percent of total handset shipments in North America, EV-DO handsets were estimated to be [[]]; WCDMA was estimated to be [[]].” Broadcom’s Post-Commission Hearing Submission at 2.

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enforceability of an order by Customs, an exclusion order covering downstream products could theoretically require checking more than 174 million imported articles.⁶⁶ Even with a certification provision, such an order could result in extensive delays for importers and a substantial administrative burden on Customs. It is unclear to us, moreover, how Customs could verify the certifications. Therefore, the ninth *EPROMs* factor weighs against extending the exclusion order to downstream products.

Taken together, the *EPROMs* factors weigh against a remedy that would exclude all infringing articles. As previously noted, we do not find that the exception proposed by Broadcom for converged devices is meaningful, as the record shows that these devices are not practical substitutes for the infringing handsets that are overwhelmingly preferred by consumers. We assign particular weight to the absence of meaningful alternative sources of the infringing baseband chips, the heavy burden that would be placed on third parties – particularly the wireless carriers, but also the handset manufacturers – and the absence of a demonstrable economic value to Broadcom of a broad exclusion order. For the reasons set forth above, we find that a broad exclusion order that applies to most infringing goods is not appropriate in this case.

V. The Majority's "Grandfathering" Remedy

The majority has proposed a remedy that would permit continued sales of all handsets containing the infringing baseband chips, so long as those handsets were on sale in the United States as of the date of the Commission's order. Consistent with our analytical approach outlined above, Chairman Pearson now proceeds to evaluate this proposed remedy in terms of its effect on

⁶⁶ RD at 308.

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the public interest, both employing the *EPROMs* analysis and the statutory public interest factors.⁶⁷

A. *EPROMs* analysis

The analysis of the majority's grandfathering remedy for the first, second, seventh, and eighth *EPROMs* factors would be identical to our analysis for these factors under Broadcom's proposed remedy. Regarding *EPROMs* factor three, there would be no measurable change to Broadcom's intangible patent rights from a grandfathering remedy relative to Broadcom's proposed remedy. There also would be no measurable change in the potential economic benefit to Broadcom. Thus, this factor remains inconclusive in terms of whether it weighs for or against a downstream exclusion order.

Regarding the fourth *EPROMs* factor (incremental detriment to respondent), it is unclear whether the analysis of the grandfathering remedy would be any different than the analysis for Broadcom's proposed remedy. Qualcomm would still likely lose sales of non-infringing products and, therefore, this factor would also weigh against the grandfathering remedy.

Regarding the fifth *EPROMs* factor (the burdens imposed on third parties resulting from the exclusion of downstream products), the grandfathering remedy would impose smaller burdens on third parties than would be the case with Broadcom's proposed remedy. However, two meaningful concerns remain. First, handset manufacturers that are about to introduce new

⁶⁷ Commissioner Pinkert declines to apply the statutory public interest factors or the *EPROMs* analysis to the majority's "grandfathering" approach. He notes that the parties were not given an opportunity to comment on such an approach and, as a result, in this case, the record is insufficient to permit him to determine whether the approach is in the public interest or warranted under *EPROMs*. Consequently, he does not join Section V.

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handsets into the U.S. market would be disadvantaged because they would tend to see sales of their older grandfathered handsets decline while relatively newer grandfathered handsets offered by other manufacturers gain market share. Second, T-Mobile, a major wireless service provider, has not yet introduced WCDMA service in the United States, but has plans to do so.⁶⁸ It may be impossible for T-Mobile to obtain any cell phones that are compatible with its WCDMA system, if grandfathering is in place. Thus, both for cell phone manufacturers and wireless service providers, the grandfathering remedy may have the effect of giving an advantage to some firms while disadvantaging others. For those reasons, the fifth *EPROMs* factor also weights strongly against the grandfathering remedy.

Regarding *EPROMs* factor six (the availability of alternative non-infringing downstream products), there is no doubt that grandfathering would address some of the shortcomings that arise with Broadcom's proposed remedy. Infringing handsets would be grandfathered, so consumers would continue to find alternatives available in the marketplace. Given relatively short life cycles for cell phones, though, current offerings are likely to become dated within a couple of years. U.S. consumers would find themselves with fewer up-to-date alternatives than would be the case in other countries. Nonetheless, *EPROMs* factor six weighs less heavily against granting a grandfathered downstream exclusion order than is the case for Broadcom's proposed remedy.

Regarding the ninth *EPROMs* factor, the burdens on Customs and importers are further magnified by the grandfathering remedy. Under that order, in addition to determining whether

⁶⁸ Tr. at 35 (Wilkie).

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each handset includes an infringing Qualcomm processor, Customs would be given the task of determining whether each such handset had been previously imported for sale in the United States. It is difficult to imagine how Customs could enforce such an order without requiring certifications and entry documents for each shipment of wireless devices into the United States. Further, Customs is not likely to have means available to verify the certifications, rendering effective enforcement of this order quite challenging. Such an order would raise a significant potential for abuse by unscrupulous importers under such a scenario given Customs' limitations concerning physical examinations and emphasis on documentary/electronic entry review, regardless of the inclusion of a certification clause. Therefore, the ninth *EPROMs* factor weighs against the majority's grandfathering remedy.

In summary, analysis of the *EPROMs* factors indicates that, on balance, they weigh against adoption of the grandfathering remedy.

B. Public Interest Factors

The immediate concerns posed for public safety by Broadcom's proposed remedy would be substantially ameliorated by grandfathering. First responders and the public at large would be able to obtain EV-DO and WCDMA handsets. In the longer term, there may be some marginal declines in public safety under grandfathering compared to the alternative of no exclusion order on downstream products. Grandfathering would tend to inhibit the full-scale development and adoption of the newest cell phone technologies. Therefore, over time it would be expected that a U.S. cell phone system constrained by grandfathering would be somewhat less effective in serving public safety than otherwise would be the case.

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Regarding economic concerns, much of the potential harm that would be done to cell phone manufacturers and wireless service providers would be avoided by freezing the status quo in place. Unfortunately, not all the economic damage can be avoided by grandfathering. In particular, the competitive conditions in the U.S. economy would be heavily skewed against the interests of any wireless service provider that has not yet developed a 3G system. It is not possible to know how vulnerable T-Mobile might be to a regulatory regime that effectively prevents the company from developing what is likely to be a high-revenue system, while simultaneously allowing its competitors to continue to expand their systems and attract new customers. For those reasons, a grandfathering remedy would not serve the public interest.

VI. Alternative Remedy

Rather than imposing either Broadcom's proposed downstream remedy or the majority's grandfathering option, we believe an appropriate remedy in this investigation would be an exclusion order incorporating significant elements of the relief requested by Broadcom, and considered by the parties, that would bar the importation of multimode baseband processor chips with software that enables the battery-saving features of the '983 patent, coupled with a cease and desist order that would bar the testing of infringing chips, including chips that are incorporated into cellular telephone handsets. In our view, the chief advantage to this remedy is that it would place the direct burden of compliance with the exclusion order on Qualcomm rather than on the handset suppliers or the wireless carriers. In particular, the cease and desist order would impose a significant cost on Qualcomm without burdening Customs with a potentially unadministrable certification system on imported handsets. At the same time, restrictions on the

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testing by Qualcomm of any cellular telephone handsets with infringing chips – whether existing handsets or prototypes of new handsets – would provide a meaningful remedy by handicapping Qualcomm with certain testing disabilities that do not encumber Broadcom.

The potential effectiveness of such a remedy is supported by the record. In its testimony before the Commission, Qualcomm explained that a substantial aspect of its U.S. operations includes ensuring that its baseband chips interoperate with the wireless carriers' network infrastructure. As Qualcomm noted with respect to one WCDMA carrier,

Qualcomm has been working with that carrier very closely, has been providing chips to get original testing done and now to the manufacturer to provide the capabilities to that manufacturer, so, yes, if the WCDMA phones were excluded I think there would be a major problem in trying to get past that point.⁶⁹

By restricting Qualcomm's ability to work with carriers and manufacturers to develop new products that incorporate the infringing chips, we believe that a general ban on testing would impose a real burden on Qualcomm. A testing ban would restrict the ability of Qualcomm to work with manufacturers to develop new products that use the infringing technology and to determine whether those new products interoperate with the existing networks. Such restrictions would force Qualcomm to develop technical work-arounds, a process that is not costless. As Qualcomm's president and chief executive testified before the Commission:

If we suddenly make a significant change, it disrupts our plans. It is not possible to suddenly insert something new in a pipeline. Those pipelines take a time period to decide on the technology, get it standardized, get agreements, and develop it, and do the interoperability, testing, et cetera. . . there are often very optimistic

⁶⁹ Tr. at 290-291.

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claims about how long it is going to take to get a new technology to market, and those are uniformly wrong. They are always too optimistic.⁷⁰

A testing ban on Qualcomm chips would likely benefit Broadcom, whose work with carriers and manufacturers to integrate its chips into telecommunications networks does not face such a testing ban. Such an approach would directly force Qualcomm to bear the cost of compliance with the Commission's remedy, rather than the intervenor wireless carriers and manufacturers. As Qualcomm's president and chief executive testified:

It's the software that goes in the chip and then combines with capabilities in the phone, that then combines with capabilities in the infrastructure to provide this overall power-saving capability.

[S]o it gets reflected several places. And that is the problem; we're trying to come up with a solution that would allow one to still have phones that operate well, but do not cost the manufacturers of the phones or the infrastructure too much. And we still have to do all the interoperability testing, plus make sure the old phones still perform the right functions. The old phones would still have, of course, the old software in it.⁷¹

This testimony suggests that to the extent that a ban on testing the infringing chips in the United States would lead to difficulties in integrating handsets into carrier wireless networks, as seems likely, that burden would fall primarily on Qualcomm. That burden, and its effects on relationships with its customers, would provide Qualcomm with a strong incentive to devise a work-around that does not require the infringing technology. Such a remedy would place little or

⁷⁰ Tr. at 341, 343.

⁷¹ Tr. at 349.

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no burden on Customs, and would permit the intervenors to continue to import and sell existing handsets with infringing chips.

The public interest concerns that we articulated earlier would also tend to be mitigated by a cease and desist order that barred testing of all infringing chips (regardless of whether they are incorporated into a handset). Public safety officials could continue to obtain infringing handsets, thus mitigating the harm to the public of a loss of access to E-911 and GPS locator services. Although a testing ban would likely slow or impose additional costs on public safety providers in their efforts to integrate new Qualcomm devices into new EV-DO and WCDMA-based telecommunications networks, it would likely permit existing systems to continue to operate.

In sum, a cease and desist order that provides a testing ban extending to certain downstream products would likely impose significant burdens on respondent Qualcomm, while minimizing burdens on third parties. The burden of such a ban would fall primarily on Qualcomm in its role as the technology integrator between the handset manufacturers and the networks. It would permit the wireless carriers to continue their existing handset offerings, thus mitigating collateral damage to the carriers, while giving Qualcomm a strong incentive to develop a work-around technology as soon as possible. Such a remedy would also not rely for enforcement on Customs, which, as noted *supra*, may be unable to administer effectively a grandfathering remedy.

Accordingly, we recommend a remedy consisting of an exclusion order that would bar the importation of multimode baseband processor chips with software that enables the battery-saving

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features of the '983 patent, and a cease and desist order that would bar the testing of infringing chips, including chips that are incorporated into cellular telephone handsets.

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SEPARATE, CONCURRING VIEWS OF COMMISSIONER CHARLOTTE R. LANE

I join the majority's issuance of a limited exclusion order barring from entry into the United States: (1) certain infringing baseband processor chips or chipsets, including chips or chipsets incorporated into circuit board modules and carriers, that are programmed to enable the power saving features, that are imported by or on behalf of Qualcomm; and (2) handheld wireless communications devices, including cellular telephone handsets and PDAs, containing infringing baseband processor chips or chipsets, except for handheld wireless communications devices that are of the same models, specifications, features and functions as handheld wireless communications devices that were being imported into the United States for sale to the general public on or before the date of this order, June 7, 2007. I further join the majority's cease and desist order and order on bonding during the period of Presidential review. I do not join in the majority's views on the EPROMs analysis. I therefore write separately to express my views.

I. INTRODUCTION

The Commission has determined that baseband processor chips manufactured by or on behalf of Qualcomm infringe patents held by Broadcom. These chips are incorporated in handheld wireless communications devices ("handheld devices" or "handsets"). Since every handheld wireless communications device sold in the United States is imported, exclusion of all, or most, of these devices from entry into the United States will have far reaching effects on not

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only Broadcom and Qualcomm, but also on manufacturers of handheld wireless communications devices, providers of cellular networks in the United States and customers of those cellular networks. Moreover, it is likely that the relative impact on manufacturers of handheld wireless communications devices, network providers and U.S. consumers would be much greater than the impact on either Broadcom or Qualcomm.

In this investigation we are addressing technology involved in the latest generation of commercial mobile radio telecommunications service (“CMRS” or “cellular” service). Recently U.S. CMRS network providers have been moving to deploy third-generation (3G), cellular network technologies. These new technologies offer data services at higher speeds and are generally referred to as mobile broadband networks. Mobile broadband services are widely accepted as a critical element to the future evolution of mobile wireless services for consumers.¹ Cellular network providers, or carriers, have been following two different technological migration paths for mobile broadband services. One such technology, referred to as EV-DO, was first launched in the U.S. in 2003. The second technology is WCDMA which was first launched in 2005. Two major cellular network providers, Verizon Wireless (Verizon) and Sprint Nextel are expanding their networks incorporating the EV-DO technology.² WCDMA technology is currently used for service offered by Cingular Wireless (Cingular) and T-Mobile USA will roll

¹ Comments of the Federal Communications Commission (January 23, 2007) (“FCC Comments”), at 3 - 4.

² *Id.* at 5.

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However, there is a key exception to the mandatory exclusion from entry quoted above. Section 337(d)(1) goes on to say that the Commission shall direct exclusion from entry:

unless, after considering the effect of such exclusion upon the public health and welfare, competitive conditions in the United States economy, the production of like or directly competitive articles in the United States, and United States consumers, it finds that such articles should not be excluded from entry.

These four statutorily listed considerations that could lead to exceptions to exclusion from entry are often referred to as the “public interest tests.” Thus, in making its determination regarding remedy the Commission must consider the effect of its remedy on the public interest in the form of: (1) the public health and welfare; (2) competitive conditions in the United States economy; (3) the production of like or directly competitive articles in the United States; and (4) United States consumers.

As suggested above, taken literally, Section 337(d) requires exclusion of all infringing articles regardless of how they are packaged, including articles that are components of other products. The Commission has historically considered alternatives to complete exclusion of all infringing articles, including those that are components of downstream products, by application of a number of factors which have come to be commonly known as the EPROMs factors. Furthermore, the Commission has historically evaluated downstream products pursuant to the

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EPROMs factors to determine if an alternative remedy to full exclusion of all infringing articles is warranted. Only after that exercise has the Commission historically considered its remedy in view of the four exceptions, or public interest tests.

The EPROMs factors overlap to some degree with one or more of the four public interest tests. Thus, to some extent, application of the EPROMs factors to determine a remedy and then a further public interest analysis may be duplicative. In EPROMs the Commission opined that the statutory public interest factors do not come into play in initially determining the appropriate scope of a remedy in a section 337 investigation and that the Commission should first determine what remedy is appropriate, including the scope of that remedy, and then, based on consideration of the statutory public interest factors, determine whether any remedy at all should issue. This reasoning has led the Commission to apply the EPROMs factors to determine the appropriate scope of a remedy which “. . . balances the complainant's interest in obtaining complete protection from all potential foreign infringers against the inherent potential of a general exclusion order to disrupt legitimate trade.”⁶

Notwithstanding this traditional approach taken by the Commission in the past, I find that the mandatory exclusion of all infringing articles as directed in Section 337(d) creates a presumptive statutory remedy of full exclusion, including downstream products. Therefore, the

⁶ Certain Erasable Programmable Read-Only Memories, Components Thereof, Products Containing Such Memories, and Processes for Making Such Memories, Inv. No. 337-TA-276, USITC Pub. 2196, Comm'n. Op. at 124-26 (May 1989)(“EPROMs”).

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application of the public interest tests can be performed on the assumption that the remedy required, in the absence of one or more of the exceptions, is full exclusion, including all downstream products. In the alternative, since the complainant may request a more limited exclusion order, the public interest tests can be applied to the remedy requested by the complainant. In either case, the Commission could immediately consider the four statutorily listed potential exceptions to an exclusion order without the exercise of first going through the EPROMs factors. If the Commission determines that the exclusion of all infringing articles, or some lesser requested remedy, is contrary to the public interest, the Commission may immediately determine if it can modify the remedy to ameliorate the negative impact on the public interest. If it can fashion a remedy that is not contrary to the public interest, the Commission may, but is not required to, further balance its remedy against the potential that such an exclusion order might be disproportionately unfair to legitimate trade in products that were not found to directly violate section 337.

III. PUBLIC INTEREST CONSIDERATIONS

Although the Commission has received evidence and considered the impact of an exclusion order on the public interest in many cases, the sheer volume of data and the number of parties, members of Congress, public agencies and individuals offering input on the public interest issues in this proceeding is unprecedented. I believe that is a clear indication that the potential impact of the Commission 's decision on the public interest in this proceeding is

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equally unprecedented.

President Bush has promoted the spread of broadband technology as a national goal. In March, 2004, the President stated: “This country needs a national goal. . . for the spread of broadband technology. We ought to have. . . universal affordable access for broadband technology by the year 2007, and then we ought to make sure as soon as possible thereafter, consumers have got plenty of choices when it come to [their] broadband carrier.” CMRS is a critical element of growing importance for expanding broadband technology throughout the United States, including into areas that have limited, or no, choices for affordable broadband access other than wireless technology. The Administration has recognized that wireless broadband is a promising way to realize the goal of getting broadband to more Americans.⁷ Moreover, President Bush has noted, “[w]e need more than just one provider available for . . . consumers. In our society, the more providers there are, the better the quality will be and the better the pricing mechanism will be.”⁸ Congress has established the promotion of competition as a fundamental goal for commercial mobile radio services and has designated the Federal Communications Commission (“FCC”) as the agency to ensure the promotion of CMRS competition and to establish rules and regulations that will foster CMRS competition. The Federal Communications Commission has adopted flexible licensing policies and competition among network providers as the model to achieve the widest possible deployment of cellular

⁷ Intervenors’ Remedy Brief at 5.

⁸ *Id.* (referencing Exhibit VX-216 at BC-QC 008 003628).

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service and, as a result, different competing digital wireless standards have been deployed in the United States. The FCC has stated that these competing standards have resulted in greater product variety and greater differentiation of services offered by wireless carriers which has benefitted U.S. consumers.⁹ Thus, federal policy as established by Congress and as promoted by the President require the expansion of CMRS service through the fostering of competitive CMRS networks and competition in CMRS customer equipment.

Consistent with Congressional action and the President's stated intent, I conclude that the United States is pursuing a national goal to make broadband technology fully accessible through expanded availability of advanced generations of commercial mobile radio services. I find that such a national public policy is admirable and achievable both from a technological standpoint and from a legal standpoint. Pursuing any lesser goal is inconsistent with the "public interest" as set forth in the statutory context of this investigation.

I find that the public health and welfare receives significant benefits from the deployment of advanced broadband cellular networks. Expansion of those networks will enhance the public health and welfare. An order that excludes all downstream products from entry into the United States will serve to slow the expansion of broadband cellular networks and will contribute to reduced usage of existing networks, all of which will be detrimental to the public interest.

⁹ FCC Comments at 2-3.

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At the hearing on remedy and public interest, the Commission received testimony from all parties and a number of public witnesses addressing whether access to advanced wireless communication capabilities benefitted the public health and welfare and whether exclusion of downstream products would compromise the benefits to public health and welfare.

Dr. Frances Edwards, appearing on behalf of Broadcom, testified that based on her experience, Broadcom's proposed exclusion order would have no effect on public safety or the nation's emergency response capabilities. She testified that there are four key reasons that the exclusion order proposed by Broadcom would have no effect on public safety or emergency response capability. These were:

- (1) Public safety agencies and officials rely exclusively on radios, not cell phones, for all lifesaving and mission critical communications;
- (2) Cellular telephones are used by public safety agencies only for backup or noncritical communications;
- (3) EV-DO cellular phones will have no impact on the use of broadband data networks by public safety or emergency response officials because there is no evidence that any public safety agency anywhere is currently using cell phones to access EV-DO networks; and

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(4) The concerns expressed by the National Emergency Number Association regarding the impact of downstream orders on the 911 system are unfounded.¹⁰

However, Dr. Edwards' testimony was contradicted by other witnesses including those representing public safety and emergency response organizations. There was a significant amount of testimony that many public safety organizations, including first responders to emergencies, are expanding their communications capabilities to take advantage of high speed data networks currently provided by cellular providers.

Appearing on behalf of the government of the District of Columbia, Mr. Robert LeGrande testified that the District of Columbia, as part of a group of local government entities named the National Capital Regional partners ("NCR"), is in the process of deploying a seamless band of networks using EV-DO technology that are dedicated to public safety.¹¹ He testified that limiting or banning the imports at issue will negatively affect his efforts. Mr. LeGrande explained that the NCR's plan involves the creation of a private EV-DO network that can interface with the public network. EV-DO technology was chosen after consideration of alternatives and after a public bidding process. He stated that the process involved substantial output of resources that

¹⁰ Transcript of Commission Hearing (March 21-22, 2007) ("Commission Hearing Transcript") at 37-41.

¹¹ *Id.* at 636.

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would be wasted if EV-DO devices are banned.¹² Moreover a limitation on new EV-DO customers would jeopardize interoperability with neighboring jurisdictions as well as between public-safety personnel and the public. Mr. LeGrande stated it would be time-consuming and expensive to change course from EV-DO technology.

Testifying on behalf of Comcare, a 100-member group dedicated to advancing emergency communications, Mr. David Aylward explained that Comcare's goal is to create and expand seamless information sharing by breaking down barriers that separate the traditional first responders from the public. Mr. Aylward explained that Comcare's concern is that the ITC may, for reasons unrelated to emergency response, reverse progress made in emergency response. In responding to question from the Commission, Mr. Aylward agreed that there is a range of devices, including computers, that emergency responders rely on, and one of these is the cell phone. Mr. Aylward testified that many responders use their personal cell phones and it is very useful for them to be able to obtain information during times of emergency by accessing a web site using cellular broadband technology.¹³ Mr. Aylward went on to describe an emergency response drill involving smallpox. He described alerting the public through pictures sent to EV-DO capable cell phones. He described the benefits of 3G technology in such emergency response situations by saying: "You can't get that picture onto a 1xRTT phone but you can on an EV-DO

¹² *Id.* at 637.

¹³ *Id.* at 676 ("An awful lot of responders are not people who run around with these things [*computers*]. They're people who have the cell phones. They use their personal cell phones. Seventy percent of the EMS people in Virginia are volunteers.").

phone.”¹⁴

Mr. Patrick Halley, Government Affairs Director for the National Emergency Number Association (“NENA”) testified that 3G technology was critical to Emergency 911 (“E-911”) call centers. He testified that obtaining locations of cell phones making an E-911 call could be accomplished much more accurately when the phone is an EV-DO phone. He testified that this feature “could save more lives.”¹⁵ He further testified that 3G cell phones could be an important E-911 tool for sending text messages and photographs to a central location collecting timely information about accidents or crimes. Mr. Halley further testified about the capability of 3G technology to eliminate “voice blanking”, which sometimes occurs with the transmission of location coordinates from the cell phone to the public safety answering point or 911 center. This process disrupts the voice channel between the caller and the 911 dispatcher.¹⁶ Wanda McCarley, President of APCO International, echoed Mr. Halley’s concerns about voice blanking and confirmed that it did take place with older technology phones.¹⁷

¹⁴ *Id.* at 678.

¹⁵ *Id.* at 650.

¹⁶ *Id.* (“S-GPS technology that’s included with EV-DO also eliminates a phenomenon known as voice blanking.”).

¹⁷ *Id.* at 655-656 (“The problem was specifically associated with the GPS devices and it involved the impairing of vital communication between the 911 caller and the public safety dispatcher . . . [I] identified that immediately as the same voice blanking problem that we had been hearing about from across the United States. The only solution to the problem is to replace those handsets with the older technology with handsets with the newer technology.”).

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Ms. McCarley further testified that although land mobile radio is the cornerstone of mission critical public safety responses there are vast public safety uses for cell phones. She testified that: "Following September 11, 2001 and following Hurricane Katrina we clearly understand that diversity and flexibility are critical communications issues."¹⁸

Mr. David M. Webb, with the Federal Emergency Management Agency (FEMA) testified that he is one of the program managers for the Integrated Public Alert Warning System ("IPAWS") which will give local governments the ability to send alerts to their local jurisdictions and regions. One of the methods used to send such alerts is through wireless networks. Mr. Webb testified that EV-DO is critical to allow IPAWS to enhance its response capability. Moreover, Mr. Webb testified, IPAWS wants to be able to advance as technology such as EV-DO advances. Such third-generation technology, Mr. Webb testified, is critical to provide information during disasters and terrorism events.

Mr. Webb, testified that 2G technology is not sufficient for FEMA's purposes. He stated that 3G technology, like EV-DO, will provide critical information during critical times for FEMA and other agencies that respond to disasters and terrorism events.¹⁹ Mr. Webb responded to questions from the Commission that a governmental exception was helpful, but was not sufficient to change his mind about the negative public health and welfare impact of a

¹⁸ *Id.* at 656-657.

¹⁹ *Id.* at 758.

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downstream exclusion order. He testified that from a civilian population standpoint, the problems with Broadcom's proposed exclusion order would still be the same, because: ". . . the lower income people that couldn't afford the high-end handsets would not have those available to them."²⁰ Thus, limited access to 3G technology by the general public would be contrary to goal of using that technology to facilitate interaction between governmental emergency service agencies and the public during times of emergencies. Similar concerns were expressed by other emergency response witnesses.

The Commission heard from other emergency service providers, as well as testimony from equipment providers and network providers, that echoed the concerns regarding exclusion of downstream products expressed by the federal and state government participants in our proceeding. Intervenors argued that any action that would delay deployment or adversely affect the availability and affordability of wireless broadband service would harm the public welfare. Intervenors contend that because EV-DO technology is critical to public safety, a downstream exclusion order would have a negative impact on public health and welfare by hampering the work of public safety officials and first responders. Intervenors argued that harm to the public interest that would result from exclusion of downstream products from entry into the U.S. far outweighs the benefit to Broadcom. Although the Federal Communications Commission focused largely on the competitive impact of an exclusion order, it also addressed public health and welfare. The FCC described the delay in the deployment of mobile broadband networks into

²⁰ *Id.* at 765.

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unserved and under-served areas and the slowdown in expanding the subscriber base that would occur as the result of Broadcom's proposed exclusion order as being contrary to the public health and welfare.²¹ The FCC further commented with regard to public health and welfare that an exclusion order that would apply to all EV-DO handsets would have a disproportionate impact on hearing impaired persons even if some WCDMA handsets were still available.²²

I find that the record clearly establishes that deployment of broadband cellular networks and the use of those networks by a maximum number of customers will enhance and improve public safety and the public health and welfare. By jeopardizing the deployment of those networks and restricting public access to a wider range of features in affordable cell phones that would allow more customers to access the networks, an exclusion order that would bar the importation nearly all handheld wireless communications devices, or Broadcom's proposed exclusion order that would bar the importation of all EV-DO capable basic cell phones and most WCDMA capable basic cell phones, would be contrary to the best interests of the public health and welfare.

The Commission received written comments from the FCC in regard to competitive conditions in the United States, as related to cellular network providers. The FCC is the agency

²¹ FCC Comments at 10.

²² *Id.* at 9 (“... of the hearing aid compatible CDMA handsets from Motorola, six of the eight handsets rated for inductive coupling would be excluded, as well as six of the ten handsets rated M4 for acoustic coupling.”).

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in charge of the regulation and oversight of Commercial Mobile Radio Service in the United States. The FCC's authority comes from federal statutes that cover a large number of telecommunications areas, including the federal government's policies regarding competition in telecommunications in general and competition in cellular technology specifically. Thus, the comments filed by the FCC cannot be taken lightly.

The FCC provided its opinion that exclusion of downstream products would have a considerable impact on American consumers by dramatically curtailing their choice of mobile broadband handsets and services. The FCC stated that non-excluded devices as proposed by Broadcom, such as those using QWERTY keypads, tend to be bulkier and more expensive than ordinary mobile telephone handsets, and most consumers do not view them as substitutes for traditional mobile handsets. The FCC pointed out that in markets where only EV-DO networks have been deployed, exclusion of EV-DO basic handsets would effectively make mobile broadband services unavailable to consumers who do not already have EV-DO handsets. Furthermore, in addition to restricting expansion of the customer base, the FCC noted that existing mobile broadband subscribers would be unable to upgrade or replace their basic cellular handsets, and would run the risk of losing service if their handsets are lost or broken and cannot be repaired.²³

The FCC was concerned about the negative competitive impact of an exclusion order

²³ FCC Comments at 9.

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which would allow some small percentage of HSDPA/WCDMA basic cellular handsets to continue to be imported into the United States so that in markets where at least one competing HSDPA/WCDMA network has been deployed, consumers wishing to subscribe to handset-based mobile broadband service may be able to do so by choosing an HSDPA/WCDMA provider, or switching to one (with the added cost of a new handset and possible early termination fees). The FCC stated that lack of competition from EV-DO providers would diminish incentives for HSDPA/WCDMA providers to keep prices low, maintain high service quality, and continue to develop new services and capabilities in order to attract and retain customers. The FCC submitted that, in turn, higher prices, lower quality, and less innovation in service would tend to depress the growth of subscribership and usage, slowing the adoption of mobile broadband services by U.S. consumers.²⁴

Finally, the FCC noted, the exclusion of basic cellular handsets would further delay the deployment of mobile broadband networks in markets where neither EV-DO nor HSDPA/WCDMA networks have yet been deployed, as well as delaying consumer uptake of mobile broadband services in these markets. The FCC explained that because basic cellular handset users represent a much larger portion of the potential market for mobile broadband services than do laptop or PDA users, exclusion of basic cellular handsets would reduce carriers' incentives to continue to roll out EV-DO networks into unserved geographic markets and, as a result, mobile broadband services may well remain completely unavailable for a considerable

²⁴ *Id.* at 10.

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period of time to consumers in markets where neither technology has been deployed.

The FCC concluded that the proposed exclusion of all basic mobile handsets incorporating EV-DO technology, and certain basic mobile handsets incorporating WCDMA technology, has the potential to cause significant harm to U.S. consumers by limiting competition in the market for mobile broadband services and impeding the widespread adoption of mobile broadband services.²⁵

Many of the competitive concerns expressed by the FCC were also expressed by the network providers and other intervenors. Intervenors contend that Broadcom's proposed exclusion order would result in harm to potential Verizon and Sprint basic cellular handset customers who would lose all access to mobile broadband services, due to the more limited coverage of Cingular's broadband service as compared to the coverage of Verizon and Sprint.²⁶ Intervenors further argued that the proposed exclusion order would also result in higher prices for consumers who obtain service from Cingular.

Additionally, intervenors argued that a downstream exclusion order would conflict with the express national policy in favor of wireless broadband service.²⁷ Intervenors argued that a

²⁵ *Id.* at 11.

²⁶ Intervenors' Remedy Brief at 95-96.

²⁷ *Id.* at 101.

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downstream exclusion order would fly in the face of clear expressions of Federal policy in favor of enhanced deployment of wireless broadband infrastructure and services.²⁸

The equipment manufacturers also argued that exclusion of downstream products is contrary to the public interest. The manufacturers argued that an exclusion order covering downstream mobile phones that contain Qualcomm's EV-DO or WCDMA chips would devastate the wireless broadband industry, cripple the manufacturers of those mobile phones, and undermine public and consumer welfare. The manufacturers concede that it is important public policy to encourage inventors by awarding remedies in patent enforcement actions. However, they further argued that such policy can be fully implemented with the Commission's entry of an exclusion order and cease and desist order against Qualcomm's EV-DO and WCDMA chips. They argued that an exclusion order applied only to the Qualcomm chips (the party and product found to be infringing the Broadcom patent) is perfectly consistent with broader policy considerations. However, they believe that an exclusion order covering the manufacturers' mobile phones containing Qualcomm chips, achieves nothing other than to "wreak substantial economic and social damage."

The equipment manufacturers argued that a "split exclusion" order covering only downstream WCDMA handsets would magnify the harm and create insurmountable obstacles to maintaining a competitive marketplace in the United States. They agreed that the

²⁸ *Id.* at 102.

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Telecommunication Act and the FCC rely on competition to control prices, to encourage high service quality and for consumer protection. They argued that a decision by the Commission that would effectively eliminate half of the competitive wireless market for handsets on high speed data networks would deal a serious blow to third parties and the public interest.²⁹

In view of the public policy to encourage competition, and the statements of the FCC and the arguments of the network providers and equipment manufacturers, I find that exclusion of nearly all downstream products will be detrimental to competition in cellular service in the United States. Moreover, the detrimental impact on competition would be increased by an exclusion order that focused only on downstream WCDMA handsets. Clearly, such a remedy would have anti-competitive results since it would allow continued development of the EV-DO networks while seriously impeding the development of WCDMA networks. The detrimental impact should lead the Commission to conclude that exclusion of all downstream products or the exclusion proposed by Broadcom is not in the public interest.

With regard to the effect of a downstream exclusion order on United States consumers, there is substantial evidence that consumers in the United States will face limited choices of handheld wireless communications devices, potentially higher prices and, in some instances, no availability of advanced technology cellular service if the Commission issues an order that excludes entry of all, or virtually all, downstream products.

²⁹ “Manufacturer Intervenors’ Post-Commission Hearing Submission” at 10.

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The equipment manufacturers highlighted the nearly absolute limitations on consumer choices that would result from exclusion of all infringing downstream products. The manufacturers pointed out that the WCDMA family is currently made up of two very different technologies - Universal Mobile Telecommunications System ("UMTS") and High Speed Downlink Packet Access ("HSDPA"). While all UMTS and HSDPA baseband processors can be considered WCDMA chipsets, the equipment manufacturers argued that Broadcom has blurred the line between the availability of alternative UMTS and HSDPA baseband processors in the marketplace.³⁰ The equipment manufacturers point out that although Broadcom said that it had the ability to supply "WCDMA chips" it failed to tell the Commission that the Broadcom chip is a WCDMA/UMTS chip, not a WCDMA/HSDPA chip. The manufacturers argued that Broadcom's statements that there are alternative WCDMA chipset suppliers in the marketplace are misleading. They state that Broadcom has never introduced any evidence to demonstrate that these suppliers manufacture alternative baseband processors for use on Cingular/AT&T's WCDMA/HSDPA network. The manufacturers argued that the supply of WCDMA/HSDPA baseband processors for use in the United States is greatly constricted and, that there is no reason to believe that any suppliers can satisfy the rapidly growing demand for these products.³¹

The manufacturers criticize Broadcom for stating that suppliers other than Qualcomm

³⁰ *Id.* at 3 ("Importantly, the only WCDMA network at issue is the Cingular/AT&T WCDMA network and that network is an HSDPA network.").

³¹ *Id.* at 5.

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account for approximately two-thirds of the market for WCDMA baseband processors. The manufacturers contend that this statement is misleading because it is in reference to the worldwide market, not the United States, and does not take into account that the majority of the world's networks have deployed only WCDMA/UMTS technology.³²

The Manufacturers estimate that Cingular/AT&T sold approximately [[]] WCDMA/HSDPA handsets to United States consumers in 2006. This includes the LGE CU320, CU400, and CU500 along with the Samsung Zx10, ZX20, and A7071. All of these handsets contain accused Qualcomm baseband processors. The Manufacturers further estimate that Cingular/AT&T has already sold [[]] WCDMA/HSDPA handsets in the first quarter of 2007. Only one WCDMA handset that contains a non-accused baseband processor has ever been sold in the United States and it accounts for [[]] of the 2007 sales.³³

The Manufacturers have estimated that redesigning a handset to incorporate a new baseband processor will cost between [[]] per handset, assuming, that a substitute baseband processor would even be available. Beyond that, even if alternative WCDMA/HSDPA chip suppliers were immediately identified, it would [[]]

[[]] each WCDMA/HSDPA handset that contains an accused Qualcomm baseband processor. LGEMU and Samsung together estimate that they will lose approximately

³² *Id.* at 5.

³³ *Id.* at 6.

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[[]] in revenue from their handsets designed for use on the Cingular/AT&T network if an exclusion order is entered that covers WCDMA/HSDPA handsets and they are unable to identify an alternative supplier.³⁴

The Manufacturers argued that the Commission would be making a “grave mistake” if it assumed that there is a competitive marketplace for WCDMA/HSDPA baseband processors, and that substitutes are readily available.³⁵

The FCC opined that exclusion of downstream products would result in higher prices, lower quality, and less innovation in service. It stated that such an exclusion would tend to depress the growth of subscribership and usage, which would, in turn, slow the adoption of mobile broadband services by U.S. consumers. Both the FCC and network providers argued that the exclusion of handsets would further delay the deployment of mobile broadband networks in areas that currently have neither technology. Exclusion of handsets would greatly reduce the potential to add new customers and would reduce carriers’ incentives to expand into additional geographic markets. The result on consumers would be that mobile broadband services may remain completely unavailable for a considerable period of time to consumers in some geographic areas.³⁶

³⁴ *Id.* at 7.

³⁵ *Id.* at 8.

³⁶ FCC Comments at 10.

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I find the evidence to be substantial that a broad exclusion of downstream products will have multiple impacts on consumers in the United States that are substantial and negative in all respects. Lack of choices, higher prices and, in some areas, continued unavailability of adequate, or any, cellular service are outcomes that will result from an exclusion order that covers all downstream products, or the order proposed by Broadcom. These outcomes are contrary to the interests of consumers in the United States and add to the overwhelming evidence that neither a broad exclusion of all downstream products, nor the remedy proposed by Broadcom, are in the interest of the consuming public.

Furthermore, I find that there is a national security and public safety interest in the widest possible deployment of mobile telecommunications technology in the United States. Clearly, to the extent that an exclusion order that covers downstream products delays deployment of mobile broadband networks and reduces customer participation due to the unavailability of low priced service to consumers in all areas, the contribution that the general public can make to the national security and public safety interests of the United States is reduced.

CONCLUSION

Based on the record, it is clear that exclusion of all, or nearly all, downstream products is contrary to the public health and welfare, will have a negative impact on competitive conditions in the U.S. economy, will not benefit the production of like or directly competitive articles in the

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United States, and will be contrary to the interests of United States consumers. Therefore, I find that an exclusion order that includes nearly all downstream products is contrary to the public interest.

Furthermore, the more limited exclusion proposed by Broadcom does not ameliorate the negative impact on the public interest sufficiently to allow me to conclude that such an order should be issued. I find that any exclusion order must allow the continued availability of cellular handsets so that continued expansion of both the EV-DO and WCDMA networks will be possible, and the cellular network customer base will have the opportunity to continue to increase. I find that such expansion of network availability and customer base is in the public interest, and any action by this Commission that would halt that expansion would be contrary to the public interest.

Although development of new models of cellular handheld wireless communications devices is an ongoing process, there are presently a large number of efficient and affordable cellular handheld wireless communications devices that have supported growth in the current EV-DO and WCDMA network coverage and customer bases. I believe that an order that allows continued entry of those currently available models of handheld wireless communications devices would ameliorate the negative public interest impact discussed herein. Such an order would at least provide suppliers with the opportunity to maintain the status quo with regard to handset availability. This, in turn, would provide the opportunity for continued growth of the

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EV-DO and WCDMA networks into under-served and unserved areas and would allow for growth in the customer base on those networks.

The availability of equipment that public safety organizations are relying on would not be compromised by such a limited exclusion order. Moreover, handheld wireless communications devices which have contributed to the recent growth of competitive networks, and which have allowed a healthy level of competition among equipment suppliers, will continue to be available and U.S. consumers will continue to have choices among a wide variety of price and feature ranges for handheld wireless communications devices.

Therefore, although I find the remedy recommended by Broadcom to be unreasonable upon consideration of its impact on the public interest, I find that an alternative exclusion order can be crafted which sufficiently ameliorates the negative public interest impact. I join with the majority in issuing an exclusion order barring from entry into the United States: (1) certain infringing baseband processor chips or chipsets, including chips or chipsets incorporated into circuit board modules and carriers, that are programmed to enable the power saving features, that are imported by or on behalf of Qualcomm; and (2) handheld wireless communications devices, including cellular telephone handsets and PDAs, containing infringing baseband processor chips or chipsets, except for handheld wireless communications devices that are of the same models, specifications, features and functions as handheld wireless communications devices that were being imported into the United States for sale to the general public on or before the date of this

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order, June 7, 2007.