PUBLIC VERSION

UNITED STATES INTERNATIONAL TRADE COMMISSION
WASHINGTON, D.C. 20436

In the Matter of **CERTAIN AUDIOVISUAL COMPONENTS AND PRODUCTS CONTAINING THE SAME**	**Investigation No. 337-TA-837**

INITIAL DETERMINATION

Administrative Law Judge David P. Shaw

Pursuant to the notice of investigation, 77 Fed. Reg. 22803 (Apr. 17, 2012), this is the Initial Determination in *Certain Audiovisual Components and Products Containing the Same*, United States International Trade Commission Investigation No. 337-TA-837.

It is held that a violation of section 337 of the Tariff Act, as amended, has occurred in the importation into the United States, the sale for importation, or the sale within the United States after importation, of certain audiovisual components and products containing the same, with respect to asserted claims 1, 5, 7, 8, 9, 10, 11, and 16 of U.S. Patent No. 5,870,087. It is further held that a violation of section 337 of the Tariff Act, as amended, has not occurred in the importation into the United States, the sale for importation, or the sale within the United States after importation, of certain audiovisual components and products containing the same, with respect to asserted claims 1, 2, 3, 4, 5, 6, 7, 8, 9, and 11 of U.S. Patent No. 6,982,663; asserted claims 22, 23, 24, 25, 26, 29, 32, and 35 of U.S. Patent No. 6,452,958; or asserted claims 20, 23, 24, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 37, 38, 39, 40, 47, 49, 50, 51, 52, 53, 54, 55, 56, 58, 59, 60, and 61 of U.S. Patent No. 6,707,867.

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The following abbreviations or acronyms may be used in this Initial Determination:

ALJ	Administrative Law Judge
CDX	Complainants' Demonstrative Exhibit
CPX	Complainants' Physical Exhibit
CX	Complainants' Exhibit
Dep.	Deposition
EDIS	Electronic Document Imaging System
JDX	Joint Demonstrative Exhibit
JPX	Joint Physical Exhibit
JX	Joint Exhibit
MPEG	Moving Picture Experts Group
MPEP	Manual of Patent Examining Procedure
PTO	U.S. Patent and Trademark Office
RDX	Respondents' Demonstrative Exhibit
RPX	Respondents' Physical Exhibit
RWS	Rebuttal Witness Statement
RX	Respondents' Exhibit
SDX	Staff's Demonstrative Exhibit
SPX	Staff's Physical Exhibit
SX	Staff's Exhibit
Tr.	Transcript
WS	Witness Statement

I. Background

A. Institution of the Investigation; Procedural History

By publication of a notice in the *Federal Register* on April 17, 2012, pursuant to subsection (b) of section 337 of the Tariff Act of 1930, as amended, the Commission instituted this investigation to determine:

> [W]hether there is a violation of subsection (a)(1)(B) of section 337 in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain audiovisual components and products containing the same that infringe one or more of claims 1, 5, 7-11, and 16 of the '087 patent [U.S. Patent No. 5,870,087]; claims 1-7, 10, 11, 22-26, 29, 30, 32, 35, and 36 of the '958 patent [U.S. Patent No. 6,452,958]; claims 1, 4-7, 9-21, 23, 24, 26-40, 44, 45, 47, and 49-74 of the '867 patent [U.S. Patent No. 6,707,867]; and claims 1-11 of the '663 patent [U.S. Patent No. 6,982,663], and whether an industry in the United States exists as required by subsection (a)(2) of section 337.

77 Fed. Reg. 22803 (Apr. 17, 2012).

The Commission named as complainants LSI Corporation of Milpitas, California, and Agere Systems Inc. of Allentown, Pennsylvania (collectively, "LSI" or "Complainants"). *Id.*

The Commission named as respondents Funai Electric Company, Ltd. of Osaka, Japan; Funai Corporation, Inc. of Rutherford, New Jersey; P&F USA, Inc. of Alpharetta, Georgia; Funai Service Corporation, of Groveport, Ohio (together, "Funai"); MediaTek Inc. of Hsinchu City, Taiwan; MediaTek USA Inc. of San Jose, California; MediaTek Wireless, Inc. of Woburn, Massachusetts (together, "MediaTek"); Ralink Technology Corporation of Hsinchu County, Taiwan; Ralink Technology Corporation (USA) of Cupertino, California (together, Ralink); and Realtek Semiconductor Corporation of Hsinchu, Taiwan ("Realtek") (collectively, "Respondents"). *Id.*

The Office of Unfair Import Investigations was not named as a party to this investigation. *Id.*

The target date for completion of this investigation was set at 16 months, *i.e.*, August 19, 2013. Order No. 3. Upon subsequent motion by the parties, the administrative law judge issued an initial determination extending the target date by three months, *i.e.*, to November 18, 2013. Order No. 47 (Oct. 25, 2012), *aff'd*, Notice of Commission Determination Not to Review an Initial Determination Extending the Target Date for Completion of the Investigation (Nov. 7, 2012).

LSI filed a motion to terminate the investigation as to MediaTek and Ralink based on the withdrawal of all allegations. The administrative law judge granted the motion in an initial determination. Order No. 57 (Jan. 24, 2013), *aff'd*, Notice of a Commission Determination Not to Review an Initial Determination Terminating the Investigation As to Certain Respondents (Feb. 13, 2013).

Funai and Realtek moved to terminate the investigation in part, *i.e.*, as to claims 1-7, 10-11, 30, and 36 of the '958 patent; claims 1, 4-7, 9-19, 21, 36, 44-45, 57, and 62-74 of the '867 patent; and claim 10 of the '663 patent. The administrative law judge granted the motion in an initial determination. Order No. 72 (Mar. 7, 2013), *aff'd*, Notice of a Commission Determination Not to Review an Initial Determination Terminating the Investigation As to Certain Claims (Mar. 26, 2013).

A prehearing conference was held on April 2, 2013, with the evidentiary hearing in this investigation commencing immediately thereafter. The hearing concluded on April 10, 2013. *See* Order No. 73; Hearing Tr. 1-2189. The parties were requested to file post-hearing briefs not to exceed 600 pages in length, and to file reply briefs not to exceed 200 pages in length. *See* Hearing Tr. 12.

B. The Private Parties; Assignment of Patents

LSI Corporation is a Delaware corporation having its principal place of business in Milpitas, California. *See* Second Am. Compl. at 5, ¶ 11. Agere Systems Inc. is a Delaware corporation having its principal place of business in Allentown, Pennsylvania. *See id.* at 6, ¶ 13.

Funai Electric Company, Ltd. is a corporation organized under the laws of Japan, and maintains its principal place of business in Osaka, Japan. *See* Funai Resp. to Second Am. Compl. at 7, ¶ 21. Funai Corporation, Inc. is a corporation organized under the laws of New Jersey, and maintains its principal place of business in Rutherford, New Jersey. *See id.* at 7, ¶ 22. P&F USA, Inc. is a corporation organized under the laws of Georgia, and maintains its principal place of business in Alpharetta, Georgia. *See id.* at 7, ¶ 23. Funai Service Corporation is a corporation organized under the laws of California, and maintains its principal place of business in Groveport, Ohio. *See id.* at 8, ¶ 24.

MediaTek Inc. is incorporated under the laws of Taiwan and maintains a principal place of business in Hsinchu City, Taiwan. *See* MediaTek Am. Resp. to Am. Compl. at 6, ¶ 25. MediaTek USA Inc. is a corporation organized under the laws of Delaware, with a principal place of business in San Jose, California. *See id.* at 6, ¶ 26. MediaTek Wireless, Inc. is a corporation organized under the laws of Massachusetts, with a principal place of business in Woburn, Massachusetts. *See id.* at 7, ¶ 27.

Ralink Technology Corporation is a corporation organized under the laws of Taiwan, with a principal place of business in Hsinchu County, Taiwan. *See* Ralink Am. Resp. to Am. Compl. at 8, ¶ 28. Ralink Technology Corporation is a corporation organized under the laws of California. *See id.*

Realtek Semiconductor Corporation is a corporation organized under the laws of Taiwan, with its principal place of business in Hsinchu County, Taiwan. *See* Realtek's Resp. to Second Am. Compl. at 6, ¶ 29.

The '087 patent is assigned to LSI Logic Corporation. JX-0001 ('087 patent).

The '663 patent is assigned to LSI Logic Corporation. JX-0007 ('663 patent).

The '958 patent is assigned to Agere Systems Guardian Corp. JX-0003 ('958 patent).

The '867 patent is assigned to Agere Systems, Inc. JX-0005 ('867 patent).

II. Jurisdiction

No party has contested the Commission's personal jurisdiction over it. *See, e.g.*, Compls. Br. at 58; Resps. Br at 15. Indeed, all parties appeared at the evidentiary hearing, and presented evidence. It is found that the Commission has personal jurisdiction over all parties.

No party has specifically contested the Commission's *in rem* jurisdiction over the accused products. *See, e.g.*, Compls. Br. at 51; Resps. Br at 15. Complainants have based their importation arguments on completed acts of importation. Accordingly, it is found that the Commission has *in rem* jurisdiction over all products accused under the asserted patents.

No party has contested the Commission's jurisdiction over the subject matter of this investigation. *See, e.g.*, Compls. Br. at 50-51; Resps. Br at 15. Indeed, as indicated in the Commission's notice of investigation, discussed above, this investigation involves the alleged importation of products that infringe United States patents in a manner that violates section 337 of the Tariff Act, as amended. Accordingly, it is found that the Commission has subject matter jurisdiction over this investigation.

III. Importation of the Accused Products

As indicated in the notice of investigation, quoted above, this investigation was instituted to determine whether a violation of section 337 has occurred in "the importation into the United States, the sale for importation, or the sale within the United States after importation" of certain products. *See* 76 Fed. Reg. 54252 (Aug. 31, 2011); 19 U.S.C. § 1337(a)(1)(B) (making unlawful, in certain circumstances, the "importation into the United States, the sale for importation, or the sale within the United States after importation by the owner, importer, or consignee, of articles that . . . infringe a valid and enforceable United States patent . . . ."). It has long been recognized that an importation of even one accused product can satisfy the importation requirement of section 337. *See Certain Trolley Wheel Assemblies*, Inv. No. 337-TA-161, Comm'n Op. at 7-8, USITC Pub. No. 1605 (Nov. 1984) (deeming the importation requirement satisfied by the importation of a single product of no commercial value).

Moreover, a complainant does not need to prove that a respondent imported the accused products itself. "[L]ongstanding Commission precedent holds that a section 337 violation can be found when a foreign manufacturer sells infringing goods to a foreign trading company with the knowledge that the goods will subsequently be exported to the United States, even if the manufacturer does not itself export or deal directly with U.S. importers." *Certain Battery-Powered Ride-On Toy Vehicles*, Inv. No. 337-TA-314, USITC Pub. No. 2420, Comm'n Op. at 4-5 (Aug. 1991). In *Certain Battery-Powered Ride-On Toy Vehicles*, the Commission determined that the finding of the administrative law judge that respondents knew a third party was exporting to the United States compelled the legal conclusion that section 337's importation requirement had been satisfied. *Id.* at 5.

The accused products in this investigation are listed in a joint filing required by the procedural schedule. *See* Order No. 4 (requiring a "joint statement regarding identification of accused products"). By listing a product in the joint filing, Respondents have not admitted infringement. Nevertheless, the joint filing indicates the final extent of Complainants' accusations in this investigation. *See* Joint Statement Regarding Identification of Accused Products (EDIS Doc. No. 490897) ("Joint Statement of Accused Products").

With respect to the Funai accused products, Complainants argue that the evidence shows that the importation requirement has been satisfied. Compls. Br. at 53-57. Complainants provide the following chart purporting to identify "specific evidence and testimony conclusively establishing importation of the accused downstream products by Funai":

Funai	**Evidence and Testimony**
[	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 18; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 19; JX-0030C (Jan. 16, 2012 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 15; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 17; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 18; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	JX-0030C (Sept. 26, 2012, Kanazawa Dep.) at 84:12-15;
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 18; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 15; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 9; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
]	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 19; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25

Funai	Evidence and Testimony
[	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 11; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 18; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 18; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 19; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 15; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	JX-0030C (Sept. 26, 2012, Kanazawa Dep.) at 86:19-22
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 19; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 9; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 18; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
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	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 15; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 13; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 9; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 18; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 19; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 16; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
]	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 19; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25

Funai	Evidence and Testimony
[	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 17; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 19; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	JX-0037C (Sept. 26, 2012 Leungen Dep.) at 39:9-18
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 3; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 3; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	JX-0037C (Sept. 26, 2012 Leungen Dep.) at 39:9-18
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 14; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 17; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 5; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 17; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	JX-0037C (Sept. 26, 2012 Leungen Dep.) at 40:11-21
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 5; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 19; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 19; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 11; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 17; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 25; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 5; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
]	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 17; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25

Funai	Evidence and Testimony
[	JX-0037C (Sept. 26, 2012 Leungen Dep.) at 42:10-20
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 5; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 31; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 13; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 7; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	JX-0030C (Sept. 26, 2012, Kanazawa Dep.) at 90:6-13; JX-0037C (Sept. 26, 2012 Leungen Dep.) at 21:1-17
	JX-0030C (Sept. 26, 2012, Kanazawa Dep.) at 90:6-13; JX-0037C (Sept. 26, 2012 Leungen Dep.) at 21:1-17
	JX-0030C (Sept. 26, 2012, Kanazawa Dep.) at 90:6-13; JX-0037C (Sept. 26, 2012 Leungen Dep.) at 21:1-17
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 7; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 3; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	JX-0037C (Sept. 26, 2012 Leungen Dep.) at 21:1-17
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	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 21; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 20; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 20; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	JX-0030C (Sept. 26, 2012, Kanazawa Dep.) at 91:17-22; JX-0037C (Sept. 26, 2012 Leungen Dep.) at 21:1-17
	JX-0030C (Sept. 26, 2012, Kanazawa Dep.) at 91:17-22 JX-0037C (Sept. 26, 2012 Leungen Dep.) at 21:1-17
]	JX-0030C (Sept. 26, 2012, Kanazawa Dep.) at 91:17-22; JX-0037C (Sept. 26, 2012 Leungen Dep.) at 21:1-17

Funai	Evidence and Testimony
[	JX-0030C (Sept. 26, 2012, Kanazawa Dep.) at 91:17-22; JX-0037C (Sept. 26, 2012 Leungen Dep.) at 21:1-17
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 35; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 3; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
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	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 20; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 20; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 3; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25
	JX-0030C (Sept. 26, 2012, Kanazawa Dep.) at 94:16-95:1.
]	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 31; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25

Funai	Evidence and Testimony
[ ]	RPX-1C; RPX-4C; RPX-5C; RX-2463C at pg. 20; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 44:8-93:2, and 96:8-124:25

Compls. Br. at 53-57 (formatting added).

Funai, however, argues that Complainants have failed to prove infringement of the Funai accused products:

> As an initial matter, there are [ ] Funai products listed on the Joint Statement of Accused Products. [ ] of those products have already been removed from the case. Order No. 67. For [ ] of the remaining products, Complainants made no attempt to prove infringement at the hearing (*see* Section XII.A.1.c.). For these products, evidence that the importation prong has been satisfied is irrelevant. *Electronic Devices,* Inv. No. 337-TA-724, Comm'n Op. at 16, 2011 ITC LEXIS 2869 (Dec. 21, 2011). For the remaining [ ] products, Complainants failed to offer a single line of testimony, in either their witness statements or on cross-examination, to prove that the products at issue have actually been imported into the United States. Like any other element of a § 337 violation, importation cannot be simply "assumed" – it must be affirmatively proven. Complainants have not done so here, and without such evidence can not show that Funai has violated § 337.

Resps. Br. at 28.

A review of the record evidence cited by Complainants shows that Funai has imported into the United States, sold for importation into the United States, or sold after importation into the United States the accused downstream products, with a cumulative value of [ ]. *See* JX-0030C (Sept. 26, 2012 Y. Kanazawa Dep.) at 80-95; JX-0030C (Jan. 16, 2013 Y. Kanazawa Dep.) at 12-15, 18-23, 29-30, 44-93, 96-124; JX-0037C (Sept. 26, 2012 Leungen Dep.) at 18-25, 36-45; RX-0008C (Vander Veen WS) at Q&A 120; RPX-0004; RPX-0005; RPX-0006; RPX-0007; RX-2463C at Responses to Interrogatory No. 1. In particular, Funai's accused downstream products are imported through at least the following ports: [

]. CX-0818C at Response to Interrogatory No. 37.

In addition, Funai identifies several products destined for the United States with an [ ] suffix. JX-0037C (Sept. 26, 2012 Leungen Dep.) at 21. It is therefore determined that the importation requirement of section 337 has been satisfied with respect to the accused Funai products.

With respect to the accused Realtek products, the administrative law judge previously determined that the following products have been imported into the United States: [

] Order No. 71 (Mar. 5, 2013) (unreviewed). As for the remaining Realtek accused produts, Realtek argues:

> Complainants have introduced no evidence of importation of any other Realtek product. Thus, to find a violation of 19 U.S.C. § 1337(a)(1)(B), Complainants must demonstrate that one or more of those accused Realtek products identified above infringe a valid and enforceable asserted claim, a finding that Realtek disputes.

Compls. Br. at 27.

The record evidence, however, establishes that the Realtek products at issue have been imported into the United States. *See* JX-0053C [ ] at 77-79, 81, 103-107; CX-421C; CX-422C. As identified in CX-421C and CX-422C, and as confirmed [ ] the following additional products have been imported directly into the United States: [

] JX-0053C [ ] at 77-79, 81, 103-107; CX-421C; CX-422C. Additionally, Realtek accused products have been imported [

] *See* CX-0518C Response to Interrogatory No. 70. Accordingly, it is determined that the importation requirement of section 337 has been satisfied with respect to the accused Realtek products.

IV. Relevant Summary Determination Rulings

On February 26, 2013, the administrative law judge granted summary determination of non-infringement for the following Funai model numbers:

- [
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-
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-
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-
-
-
-]

Order No. 67, *aff'd*, Notice of Commission Determination Not to Review Order No. 67 Granting Respondents' Motion for Summary Determination of Non-Infringement (Mar. 27, 2013).

On March 5, 2013, the administrative law judge granted summary determination that the importation requirement of section 337 had been satisfied as to the following Realtek products:

- [
-
-
-]

Order No. 71, *aff'd*, Notice of a Commission Determination Not to Review an Initial Determination Granting-in-Part Complainants' Motion for Summary Determination of Importation of Certain Accused Products (Apr. 2, 2013).

V. The '087 Patent

A. The Asserted Claims and Accused Products

Asserted U.S. Patent No. 5,870,087 ("the '087 patent") is titled, "MPEG Decoder System and Method Having a Unified Memory for Transport Decode and System Controller Functions." JX-0001 ('087 patent). The '087 patent issued on February 9, 1999, and the named inventor is

Kwok Kit Chau. *Id.* The '087 patent relates generally to "[a]n MPEG decoder system and method for performing video decoding or decompression which includes a unified memory for multiple functions." *Id.* at Abstract.

LSI asserts independent claims 1, 10, and 16, as well as dependent claims 5, 7, 8, 9, and 11 against Funai. These claims read as follows:

> **1.** An MPEG decoder system which includes a single memory for use by transport, decode and system controller functions, comprising:
>
> a channel receiver for receiving and MPEG encoded stream;
>
> transport logic coupled to the channel receiver which demultiplexes one or more multimedia data streams from the encoded stream;
>
> a system controller coupled to the transport logic which controls operations within the MPEG decoder system;
>
> an MPEG decoder coupled to receive one or more multimedia data streams output from the transport logic, wherein the MPEG decoder operates to perform MPEG decoding on the multimedia data streams; and
>
> a memory coupled to the MPEG decoder, wherein the memory is used by the MPEG decoder during MPEG decoding operations, wherein the memory stores code and data useable by the system controller which enables the system controller to perform control functions within the MPEG decoder system, wherein the memory is used by the transport logic for demultiplexing operations;
>
> wherein the MPEG decoder is operable to access the memory during MPEG decoding operations;
>
> wherein the transport logic is operable to access the memory to store and retrieve data during demultiplexing operations; and
>
> wherein the system controller is operable to access the memory to retrieve code and data during system control functions.
>
> **5.** The MPEG decoder system of claim 1, wherein the memory stores anchor frame data during reconstruction of temporally compressed frames.

7. The MPEG decoder system of claim 1, wherein said memory includes a plurality of memory portions, wherein said memory includes a video frame portion for storing video frames, a system controller portion for storing code and data executable by the system controller, and a transport buffer portion for storing data used by the transport logic.

8. The MPEG decoder system of claim 7, wherein said memory further includes a video decode buffer portion for storing decoded video data, a video display sync buffer, and an on-screen display buffer.

9. The MPEG decoder system of claim 8, wherein said memory further includes one or more audio buffers for storing audio data.

10. A method for performing video decoding in an MPEG decoder system which includes a single memory for use by transport, decode and system controller functions, the method comprising:

receiving an MPEG encoded stream;

demultiplexing one or more multimedia data streams from the encoded stream, wherein said demultiplexing one or more multimedia data streams from the encoded stream operates using a first unified memory;

performing MPEG decoding on the multimedia data streams, wherein said performing MPEG decoding operates using said first unified memory; and

a system controller controlling operations within the MPEG decoder system, wherein said controlling operations accesses code and data from said first unified memory;

wherein said demultiplexing one or more multimedia data streams, said performing MPEG decoding, and said controlling operations each use said first unified memory.

11. The method of claim 10,

wherein said demultiplexing one or more multimedia data streams from the encoded stream includes accessing multimedia data stream data from said first unified memory;

wherein said performing MPEG decoding on the multimedia data streams includes accessing video frame data from said first unified memory; and

wherein said controlling operations includes accessing code and data from said first unified memory.

16. A video decoder system which includes a single memory for use by transport, decode and system controller functions, comprising:

a channel receiver for receiving an encoded video stream;

transport logic coupled to the channel receiver which demultiplexes one or more multimedia data streams from the encoded stream;

a system controller coupled to the transport logic which controls operations within the video decoder system;

a video decoder coupled to receive one or more multimedia data streams output from the transport logic, wherein the video decoder operates to perform video decoding on the multimedia data streams; and

a memory coupled to the video decoder, wherein the memory is used by the video decoder during video decoding operations, wherein the memory stores code and data useable by the system controller which enables the system controller to perform control functions within the video decoder system, wherein the memory is used by the transport logic for demultiplexing operations;

wherein the video decoder is operable to access the memory during video decoding operations;

wherein the transport logic is operable to access the memory to store and retrieve data during demultiplexing operations; and

wherein the system controller is operable to access the memory to retrieve code and data during system control functions.

JX-0001 at col. 17, lns. 15-46; col. 17, lns. 63-65; col. 18, lns. 1-44; col. 19, ln. 6 – col. 20, ln. 6.

Complainants accuse the following Funai products, identified by buyer model number, of infringing the asserted claims of the '087 Patent: [

].[1] Compls. Br. at 42-43 (citing CX-1594C (Acton WS) at 6).

B. Claim Construction

1. General Principles of Law[2]

Claim construction begins with the plain language of the claim.[3] Claims should be given their ordinary and customary meaning as understood by a person of ordinary skill in the art, viewing the claim terms in the context of the entire patent.[4] *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005), *cert. denied*, 546 U.S. 1170 (2006).

In some instances, claim terms do not have particular meaning in a field of art, and claim construction involves little more than the application of the widely accepted meaning of

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[1] Funai requests that the administrative law judge enter a finding of non-infringement for any remaining products listed on the Joint Statement of Accused Products for which Complainants have not specifically provided evidence of infringement. *See* Resps. Br. at 430 n.74. There is no requirement that a complainant must accuse all products identified on a joint statement of accused products of infringing every patent asserted in an investigation. The administrative law judge therefore declines to find that the remaining products listed on the Joint Statement of Accused Products do not infringe the '087 patent. For similar reasons, the administrative law judge declines to make a similar finding of non-infringement for the '663, '958, and '867 patents. *See* Resps. Br. at 66 n.7, 357 n.63.

[2] The legal principles set forth in this section apply equally to the claim construction of the other patents asserted in this investigation.

[3] Only those claim terms that are in controversy need to be construed, and only to the extent necessary to resolve the controversy. *Vanderlande Indus. Nederland BV v. Int'l Trade Comm.*, 366 F.3d 1311, 1323 (Fed. Cir. 2004); *Vivid Tech., Inc. v. American Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

[4] Factors that may be considered when determining the level of ordinary skill in the art include: "(1) the educational level of the inventor; (2) type of problems encountered in the art; (3) prior art solutions to those problems; (4) rapidity with which innovations are made; (5) sophistication of the technology; and (6) educational level of active workers in the field." *Environmental Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 696 (Fed. Cir. 1983), *cert. denied*, 464 U.S. 1043 (1984).

commonly understood words. *Phillips*, 415 F.3d at 1314. "In such circumstances, general purpose dictionaries may be helpful." *Id.*

In many cases, claim terms have a specialized meaning, and it is necessary to determine what a person of skill in the art would have understood the disputed claim language to mean. "Because the meaning of a claim term as understood by persons of skill in the art is often not immediately apparent, and because patentees frequently use terms idiosyncratically, the court looks to 'those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean.'" *Id.* (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1116 (Fed. Cir. 2004)). The public sources identified in *Phillips* include "the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art." *Id.*

In cases in which the meaning of a claim term is uncertain, the specification usually is the best guide to the meaning of the term. *Id.* at 1315. As a general rule, the particular examples or embodiments discussed in the specification are not to be read into the claims as limitations. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (*en banc*), *aff'd*, 517 U.S. 370 (1996). The specification is, however, always highly relevant to the claim construction analysis, and is usually dispositive. *Phillips*, 415 F.3d at 1315 (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). Moreover, "[t]he construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." *Id.* at 1316.

Claims are not necessarily, and are not usually, limited in scope to the preferred embodiment. *RF Delaware, Inc. v. Pacific Keystone Techs., Inc.*, 326 F.3d 1255, 1263 (Fed. Cir.

2003); *Decisioning.com, Inc. v. Federated Dep't Stores, Inc.*, 527 F.3d 1300, 1314 (Fed. Cir. 2008) ("[The] description of a preferred embodiment, in the absence of a clear intention to limit claim scope, is an insufficient basis on which to narrow the claims."). Nevertheless, claim constructions that exclude the preferred embodiment are "rarely, if ever, correct and require highly persuasive evidentiary support." *Vitronics*, 90 F.3d at 1583. Such a conclusion can be mandated in rare instances by clear intrinsic evidence, such as unambiguous claim language or a clear disclaimer by the patentees during patent prosecution. *Elekta Instrument S.A. v. O.U.R. Sci. Int'l, Inc.*, 214 F.3d 1302, 1308 (Fed. Cir. 2000); *Rheox, Inc. v. Entact, Inc.*, 276 F.3d 1319 (Fed. Cir. 2002).

If the intrinsic evidence does not establish the meaning of a claim, then extrinsic evidence may be considered. Extrinsic evidence consists of all evidence external to the patent and the prosecution history, and includes inventor testimony, expert testimony, and learned treatises. *Phillips*, 415 F.3d at 1317. Inventor testimony can be useful to shed light on the relevant art. In evaluating expert testimony, a court should discount any expert testimony that is clearly at odds with the claim construction mandated by the claims themselves, the written description, and the prosecution history, in other words, with the written record of the patent. *Id.* at 1318. Extrinsic evidence may be considered if a court deems it helpful in determining the true meaning of language used in the patent claims. *Id.*

2. Level of Ordinary Skill

A person of ordinary skill in the relevant art at the time of the invention of the '087 patent would be someone with a bachelor's degree in electrical engineering, computer engineering, computer science or equivalent and at least two of years of industry experience or graduate

studies in developing image/video processing software/hardware systems.[5] *See* CX-1594C (Acton WS) at 6, Q&A 37.

3. "single memory" / "memory" and "single memory" / "first unified memory"

Below is a chart showing the parties' proposed claim constructions.[6]

Claim Term/Phrase	Complainants' Construction	Respondents' Construction
"single memory" "memory" "first unified memory"	"memory functioning as a unit"	"a single unified memory which stores code and data for the transport, logic, system controller and MPEG decoder functions, with reduced memory requirements compared to prior art designs (*i.e.*, less than 20 or 24 Mbits)"

The claim terms "single memory" and "memory" are recited in asserted claims 1, 5, 7-9, and 16 of the '087 patent, and the claim terms "single memory" and "first unified memory" are recited in asserted claims 10 and 11 of the '087 patent. Complainants argue that these terms

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[5] Respondents propose that a person of ordinary skill in the art relevant to the '087 patent at the time of the invention would have a bachelor's degree in electrical engineering, computer engineering, computer science, or the equivalent and 2 years of work experience in the area of multimedia compression, including the implementation of digital video coding and decoding systems. Resps. Br. at 391 (citing RX-0007C (Schonfeld WS) at Q&A 13). The parties have not identified any way in which differences in their proposed definitions of the level of ordinary skill in the art affect issues in this investigation. *See id.*

[6] This Initial Determination addresses only the disputed claim terms identified by the parties as needing construction. *See* Parties' Joint Submission Pursuant to Ground Rule 12 (EDIS Doc. No. 508350) ("GR12 Filing"). The parties identified the claim terms for construction in a joint filing required by Ground Rule 12, which provides: "On the same day the initial posthearing briefs are due, the parties shall file a comprehensive joint outline of the issues to be decided in the final Initial Determination. The outline shall refer to specific sections of the posthearing briefs. Moreover, the claim terms briefed by the parties must be identical. For example, if the construction of the claim term 'wireless device' is disputed, the parties must brief that exact claim term. If a party briefs only a portion of the claim term such as 'wireless' or 'device,' that section of the brief will be stricken." Ground Rule 12 (emphasis original) (attached to Order No. 64 (Issuance of Amended Ground Rules)).

should be construed to mean "memory functioning as a unit." *See* Joint List of Disputed Claim Terms and Proposed Constructions (EDIS Doc. No. 490897) ("Joint List of Proposed Claim Constructions").[7] Respondents argue that these terms should be construed to mean "a single unified memory which stores code and data for the transport logic, system controller and MPEG decoder functions, with reduced memory requirements compared to prior art designs (*i.e.*, less than 20 or 24 Mbits)." Resps. Br. at 399-400.

As proposed by Complainants, the claim terms "single memory" / "memory" and "single memory" / "first unified memory" are construed to mean "memory functioning as a unit," which is a construction supported by the intrinsic evidence.

The specification of the '087 patent uses the terms "memory," "single memory," and "unified memory" interchangeably. *See* JX-0001 ('087 patent) at col. 5, ln. 6 – col. 6, ln. 27. These terms are used throughout the specification to indicate that the memory of the video decoder system functions as a unit. Moreover, the specification indicates that the claimed memory is not limited to a single chip. As seen in at FIG. 3 of the '087 patent, the 16-Mbit SDRAM identified by reference number 212 is depicted as four rectangles coupled together. This representation of memory 212 is consistent with four ranks (*i.e.*, chips) of memory coupled together to from a unified 16-Mbit SDRAM. *See* CX-1594C (Acton WS) at Q&A 49. That the claimed memory is not limited to one memory chip is further confirmed by FIG. 4, which depicts frame store memory 212 as comprising two memory chips functioning as a unit. As with the memory 212 shown in FIG. 3, if the claimed memory of the '087 patent were limited to a single memory chip, the frame store memory 212 in FIG. 4 would have been depicted with a single

[7] The parties agree that these claim terms should be construed identically. *See* Joint List of Proposed Claim Constructions.

block, rather than the two blocks shown. *See* CX-1640C (Acton RWS) at Q&A 72. Accordingly, the specification of the '087 patent does not limit the memory to any particular configuration so long as the resulting memory functions as a unit.

The prosecution history of the '087 patent (JX-0002 ('087 file history)) is consistent with the adopted construction. Throughout the application process, the patentee's correspondence with the U.S. Patent and Trademark Office with respect to the claimed memory was consistent with the way in which the specification references the memory. The patentee did not ascribe a specific definition to the terms "memory," "single memory," or "unified memory" that would impart to those terms a meaning different from the plain and ordinary meaning, *i.e.*, "memory functioning as a unit."

Respondents' proposed construction, "a single unified memory which stores code and data from the transport logic, system controller and MPEG decoder functions, with reduced memory requirements compared to prior art designs (*i.e.*, less than 20 or 24 Mbits)," is not supported by the claims or the specification of the '087 patent. *See* CX-1640C (Acton RWS) at Q&A 77. In the '087 specification, the reference to a 20 or 24 Mbit memory is a specific example of the practical benefits accruing from using the unified memory disclosed in the '087 patent in contrast to the prior art systems, and should not be read into the claims as a limitation. *See* CX-1594C (Acton WS) at Q&A 90-92.

Nothing in the '087 patent limits the claimed "unified memory" to a particular size. The '087 patent does disclose that combining the memory block for the transport and system controller blocks in a video decoder system implementing a unified memory leads to advantages over prior art video decoders. As stated in the '087 patent:

> Prior art MPEG video decoder systems have generally used a frame store memory for the MPEG decoder motion compensation logic which stores the reference frames or anchor frames as well as the frame being reconstructed. Prior art MPEG video decoder systems have also generally included a separate memory for the transport and system controller functions. It has generally not been possible to combine these memories, due to size limitations.

JX-0001 ('087 patent) at col. 4, lns. 28-36. The combination (*i.e.*, unification) of the two memory structures employed by prior art decoders reduces "the memory requirements of the decoder system as much as possible to reduce its size and cost." *Id.* at col. 4, lns. 45-47. "Therefore, a new video decoder system and method is desired which *efficiently uses memory and combines the memory subsystem* for reduced memory requirements and hence reduced cost." *Id.* at col. 4, lns. 59-62 (emphasis added).

Appropriately, the specification also offers a specific example of the practical benefits of using unified memory instead of the prior art systems:

> For example, current memory devices are fabricated on an 4 Mbit granularity. In prior art systems, the memory requirements for the transport and system controller functions as well as the decoder motion compensation logic would exceed 16 Mbits of memory, thus requiring 20 or 24 Mbits of memory. This additional memory adds considerable cost to the system.
>
> The amount of memory is a major cost item in the production of video decoders. Thus, it is desired to reduce the memory requirements of the decoder system as much as possible to reduce its size and cost. *Since practical memory devices are implemented using particular convenient discrete sizes, it is important to stay within a particular size if possible for commercial reasons.*

Id., col. 4, lns. 38-50 (emphasis added). Therefore, the '087 patent includes a non-limiting example of how a designer of a video decoder system could utilize the invention of the '087 patent to produce a more efficient video decoder utilizing only 16 Mb of memory when 20 or 24 Mb of non-unified memory would have been required in the prior art systems. As a result, the

description in the specification of the '087 patent of a video decoder system employing a unified memory module of 16 Mb is merely a preferred embodiment, and thus does not narrow the scope of the asserted claims.

Moreover, neither the specification of the '087 patent nor its prosecution history contains any statements limiting the size of the unified memory, and Respondents' citation to an [ ] [ ] for the '087 patent in support of Funai's disclaimer argument cannot overcome this fact. *See* Resps. Br. at 410-11. As an initial matter, what an inventor states [ ] has no bearing on the question of whether there has been a disavowal of claim scope in the intrinsic record. *See Elbex Video, Ltd. v. Sensormatic Elecs. Corp.*, 508 F.3d 1366, 1371-72 (Fed. Cir. 2007). Even if [ ] were relevant to the issue of claim construction, the portion [ ] cited by Respondents only describes the significance of the invention in one particular application, stating:

[

].

CX-1593C (087 Internal Prosecution File) at 155 (emphasis added). Instead of supporting Funai's disclaimer argument, the above-quoted passage supports the conclusion that the '087 inventor was not targeting a particular memory size, but rather looking for relative improvement over existing prior art systems.

Accordingly, the claim terms "single memory" / "memory" and "single memory" / "first unified memory" are construed to mean "memory functioning as a unit," which is a construction supported by the intrinsic evidence.

4. "wherein the memory . . ."

Claim Term/Phrase	Complainants' Construction	Respondents' Construction
"wherein the memory stores code and data useable by the system controller which enables the system controller to perform control functions within the . . . decoder system"	No construction necessary.	"all code and data used by the system controller to perform control functions within the video decoder system is stored in a single memory"

The claim term "wherein the memory stores code and data usable by the system controller which enables the system controller to perform control functions within the MPEG decoder system," appears in asserted claim 1 of the '087 patent, and the claim term "wherein the memory stores code and data usable by the system controller which enables the system controller to perform control functions within video decoder system" appears in asserted claim 16. Complainants argue that the plain and ordinary meaning of these terms to a person of ordinary skill in the art is clear on their face, and that these terms do not need construction. *See* Compls. Br. at 64-65 (citing CX-1594C (Acton WS) at Q&A 96). Respondents argue that these terms should be construed to mean "all code and data used by the system controller to perform control functions within the video decoder system is stored in a single memory." *See* Resps. Br. at 419-23.

The administrative law judge declines to adopt Respondents' proposed construction. Nothing in either the specification of the '087 patent or its prosecution history would require "all" of the code and data used by the system controller to perform control functions within the video decoder system to be stored in a single memory. Moreover, Respondents' proposed construction is contrary to the plain language of '087 patent. Specifically, at column 8, line 29 of the specification, the '087 patent discloses: "The transport and system controller block 204 also

includes a system controller 208 which monitors the MPEG system and is programmable to display audio/graphics on the screen and/or execute interactive applets or programs which are embedded in the MPEG stream. The system controller 208 also preferably controls operations in the MPEG decoder system." Thus, the specification makes clear that all relevant code and data are not necessarily stored in a single memory device.

The '087 patent further discloses that during operation of the MPEG decoder system certain information, *i.e.*, reference block information, is stored in a local or on-chip memory 316. JX-0001 ('087 patent) at col. 12, lns. 35-36. This portion of the specification makes clear that on-chip memory 316, which includes data used by the system controller, is distinct from unified memory 212. *See* CX-1594C (Acton WS) at Q&A 101.

Respondents' argue that their proposed construction of the "wherein the memory . . ." limitations should be adopted because, *inter alia*, "the code and data must all be stored on the single unified memory because there is no other memory." *See* Resps. Br. at 420. The specification of the '087 patent discloses, however, that additional, specialized memories may be involved in the video decoding process. In particular, the '087 patent teaches that the motion compensation block, which analyzes each motion vector from the incoming temporally compressed data and retrieves a reference block from the frame store memory 212 in response to each motion vector, "includes a local on-chip memory 116 which stores the retrieved reference block. The motion compensation block 110 then uses this retrieved reference block to decompress the temporally compressed data." JX-0001 ('087 patent) at col. 12, lns. 48-56. In other words, the frame store memory 212 (*i.e.*, the unified memory 212) is not the only memory in the video decoding system.

Accordingly, it is determined that the claim terms "wherein the memory stores code and data usable by the system controller which enables the system controller to perform control functions within the MPEG decoder system" and "wherein the memory stores code and data usable by the system controller which enables the system controller to perform control functions within video decoder system" should be given their plain and ordinary meaning as understood by a person of ordinary skill in the art.

5. "controlling operations accesses code and data from said first unified memory"

Claim Term/Phrase	Complainants' Construction	Respondents' Construction
"controlling operations accesses code and data from said first unified memory"	No construction necessary. Alternatively, "system controller programmed to access the first unified memory"	"system controller programmed to exclusively read from and write to the unified memory"

The claim term "controlling operations accesses code and data from said first unified memory" appears in asserted claim 10 of the '087 patent. Complainants argue that no construction of this term is necessary, and that this term should be given its plain and ordinary meaning. *See* Compls. Br. at 65-67. If it is determined that this term should be construed, Complainants propose the alternate construction of "system controller programmed to access the first unified memory." *Id.* at 65-66 n.10. Respondents argue that this term should be construed to mean "system controller programmed to exclusively read from and write to the unified memory." *See* Resps. Br. at 423-27.

The administrative law judge declines to adopt Respondents' proposed construction. Respondents' proposed construction of "system controller programmed to exclusively read from and write to the unified memory" does not make sense in the context of the '087 claims. Using

Respondents' proposed construction, the claim term "a system controller controlling operations within the MPEG decoder system, wherein said controlling operations accesses code and data from said first unified memory," for example, would read "a system controller controlling operations within the MPEG decoder system, wherein said system controller [is] programmed to exclusively read from and write to the unified memory." A system controller that is "programmed to exclusively read from and write to the unified memory" as proposed by Respondents cannot also control operations within the MPEG decoder system as required by claims 1, 10, and 16. *See* CX-1594C (Acton WS) at Q&A 111, Q&A 120.

The specification of the '087 patent indicates that the system controller monitors the MPEG system and is programmable to display audio and graphics on the screen and/or execute interactive applets or programs that are embedded in the MPEG stream. JX-0001 ('087 patent) at col. 8, lns. 30-33. If the system controller were configured only to read from or write to the unified memory, it would not be able to display audio or graphics or execute programs that may be in the MPEG stream. *See* CX-1594C (Acton WS) at Q&A 111, Q&A 120.

Therefore, it is determined that the claim term "controlling operations accesses code and data from said first unified memory" should be given its plain and ordinary meaning as understood by a person of ordinary skill in the art.

6. "operable to access the memory"

Claim Term/Phrase	Complainants' Construction	Respondents' Construction
"operable to access the memory"	No construction necessary. Alternatively, "configured to access the memory"	"configured to exclusively read from and write to the single memory"

The claim term "operable to access the memory" appears in asserted claims 1 and 16 of the '087 patent. Complainants argue that no construction of this term is necessary, and that this term should be given its plain and ordinary meaning. *See* Compls. Br. at 65-67. If it is determined that this term should be construed, Complainants propose the alternate construction of "configured to access the memory." *Id.* at 65-66 n.10. Respondents argue that this term should be construed to mean "configured to exclusively read from and write to the single memory." *See* Resps. Br. at 427-28.

The administrative law judge declines to adopt Respondents' proposed construction. If Respondents' proposed constructions were adopted, the demultiplexing operation taught in the '087 patent would not separate one or more multimedia data streams from the encoded stream, and the MPEG decoding would not result in any decoding, because the demultiplexer and the decoder would only be capable of reading from and writing to the memory. *See* CX-1594C (Acton WS) at Q&A 126-28. Application of Respondents' proposed construction, therefore, would lead to nonsensical results. *See id.*

Therefore, it is determined that the claim term "operable to access the memory" should be given its plain and ordinary meaning as understood by a person of ordinary skill in the art.

7. "operates using a first unified memory" / "operates using said first unified memory"

Claim Term/Phrase	Complainants' Construction	Respondents' Construction
"operates using a first unified memory" "operates using said first unified memory"	No construction necessary. Alternatively, "operates by accessing a first unified memory" / "operated by accessing the first unified memory"	"configured to exclusively read from and write to the first unified memory"

The claim terms "operates using a first unified memory" and "operates using said first unified memory" appears in asserted claim 10 of the '087 patent. Complainants argue that no construction of these terms is necessary, and that these terms should be given its plain and ordinary meaning. *See* Compls. Br. at 65-67. If it is determined that these terms should be construed, Complainants propose the alternate constructions of "operates by accessing a first unified memory" and "operated by accessing the first unified memory," respectively. *Id.* at 65-66 n.10. Respondents argue that these terms should be construed to mean "configured to exclusively read from and write to the single memory." *See* Resps. Br. at 428.

For the same reasons discussed above with respect to the claim term "operable to access the memory," the administrative law judge declines to adopt Respondents' proposed constructions. It is determined that the claim terms "operates using a first unified memory" and "operates using said first unified memory" should be given their plain and ordinary meaning as understood by a person of ordinary skill in the art.

C. Infringement

1. General Principles of Law[8]

a. Direct Infringement

Under 35 U.S.C. §271(a), direct infringement consists of making, using, offering to sell, or selling a patented invention without consent of the patent owner. The complainant in a section 337 investigation bears the burden of proving infringement of the asserted patent claims by a "preponderance of the evidence." *Certain Flooring Products*, Inv. No. 337-TA-443,

[8] The legal principles set forth in this section apply equally to the infringement analysis of the other patents asserted in this investigation.

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

Literal infringement of a claim occurs when every limitation recited in the claim appears in the accused device, *i.e.*, when the properly construed claim reads on the accused device exactly.[9] *Amhil Enters., Ltd. v. Wawa, Inc.*, 81 F.3d 1554, 1562 (Fed. Cir. 1996); *Southwall Tech. v. Cardinal IG Co.*, 54 F.3d 1570, 1575 (Fed Cir. 1995).

If the accused product does not literally infringe the patent claim, infringement might be found under the doctrine of equivalents. "Under this doctrine, a product or process that does not literally infringe upon the express terms of a patent claim may nonetheless be found to infringe if there is 'equivalence' between the elements of the accused product or process and the claimed elements of the patented invention." *Warner-Jenkinson Co., Inc. v. Hilton Davis Chemical Co.*, 520 U.S. 17, 21 (1997) (citing *Graver Tank & Mfg. Co. v. Linde Air Products Co.*, 339 U.S. 605, 609 (1950)). "The determination of equivalence should be applied as an objective inquiry on an element-by-element basis."[10] *Id.* at 40.

"An element in the accused product is equivalent to a claim limitation if the differences between the two are insubstantial. The analysis focuses on whether the element in the accused device 'performs substantially the same function in substantially the same way to obtain the same result' as the claim limitation." *AquaTex Indus. v. Techniche Solutions*, 419 F.3d 1374,

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[9] Each patent claim element or limitation is considered material and essential. *London v. Carson Pirie Scott & Co.*, 946 F.2d 1534, 1538 (Fed. Cir. 1991). If an accused device lacks a limitation of an independent claim, the device cannot infringe a dependent claim. *See Wahpeton Canvas Co. v. Frontier, Inc.*, 870 F.2d 1546, 1552 n.9 (Fed. Cir. 1989).

[10] "Infringement, whether literal or under the doctrine of equivalents, is a question of fact." *Absolute Software, Inc. v. Stealth Signal, Inc.*, 659 F.3d 1121, 1130 (Fed. Cir. 2011).

1382 (Fed. Cir. 2005) (quoting *Graver Tank*, 339 U.S. at 608); *accord Absolute Software*, 659 F.3d at 1139-40.[11]

Prosecution history estoppel can prevent a patentee from relying on the doctrine of equivalents when the patentee relinquished subject matter during the prosecution of the patent, either by amendment or argument. *AquaTex*, 419 F.3d at 1382. In particular, "[t]he doctrine of prosecution history estoppel limits the doctrine of equivalents when an applicant makes a narrowing amendment for purposes of patentability, or clearly and unmistakably surrenders subject matter by arguments made to an examiner." *Id.* (quoting *Salazar v. Procter & Gamble Co.*, 414 F.3d 1342, 1344 (Fed. Cir. 2005)).

b. Induced Infringement

With respect to induced infringement, section 271(b) of the Patent Act provides: "Whoever actively induces infringement of a patent shall be liable as an infringer." 35 U.S.C. § 271(b). "To prevail on a claim of induced infringement, in addition to inducement by the defendant, the patentee must also show that the asserted patent was directly infringed." *Epcon Gas Sys. v. Bauer Compressors, Inc.*, 279 F.3d 1022, 1033 (Fed. Cir. 2002). Further, "[s]ection 271(b) covers active inducement of infringement, which typically includes acts that intentionally cause, urge, encourage, or aid another to directly infringe a patent." *Arris Group v. British Telecomms. PLC*, 639 F.3d 1368, 1379 n.13 (Fed. Cir. 2011). The Supreme Court recently held that "induced infringement under § 271(b) requires knowledge that the induced acts constitute

[11] "The known interchangeability of substitutes for an element of a patent is one of the express objective factors noted by *Graver Tank* as bearing upon whether the accused device is substantially the same as the patented invention. Independent experimentation by the alleged infringer would not always reflect upon the objective question whether a person skilled in the art would have known of the interchangeability between two elements, but in many cases it would likely be probative of such knowledge." *Warner-Jenkinson*, 520 U.S. at 36.

patent infringement." *Global-Tech Appliances, Inc. v. SEB S.A.*, -- U.S. --, 131 S. Ct. 2060, 2068 (2011). The Court further held: "[g]iven the long history of willful blindness[ ] and its wide acceptance in the Federal Judiciary, we can see no reason why the doctrine should not apply in civil lawsuits for induced patent infringement under 35 U.S.C. § 271(b)." 131 S.Ct. at 2060 (footnote omitted).

c. Contributory Infringement

As for contributory infringement, section 271(c) of the Patent Act provides: "Whoever offers to sell or sells within the United States or imports into the United States a component of a patented machine, manufacture, combination or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer." 35 U.S.C. § 271(c).

Section 271(c) "covers both contributory infringement of system claims and method claims." *Arris*, 639 F.3d at 1376 (footnotes omitted). To hold a component supplier liable for contributory infringement, a patent holder must show, *inter alia*, that (a) the supplier's product was used to commit acts of direct infringement; (b) the product's use constituted a material part of the invention; (c) the supplier knew its product was especially made or especially adapted for use in an infringement" of the patent; and (d) the product is not a staple article or commodity of commerce suitable for substantial noninfringing use. *Id.*

d. Infringement of Method Claims Under *Electronic Devices*

The Commission's opinion in *Certain Electronic Devices with Image Processing Systems, Components Thereof, and Associated Software*, Inv. No. 337-TA-724, Comm'n Op.

(Dec. 21, 2011) ("*Electronic Devices*"), holds that the practice of an asserted method claim within the United States after importation cannot serve as the basis for an exclusion order. *Electronic Devices*, Comm'n Op. at 17. As discussed in *Electronic Devices*, section 337 prohibits:

> (B) The importation into the United States, the sale for importation, or the sale within the United States after importation by the owner, importer, or consignee, of articles that –
>
> (i) infringe a valid and enforceable United States patent or a valid and enforceable United States copyright registered under title 17; or
>
> (ii) are made, produced, processed, or mined under, or by means of, a process covered by the claims of a valid and enforceable United States patent.

19 U.S.C. § 1337(a)(1)(B).

The statute is violated only by the importation, sale for importation, or sale after importation of articles that either infringe a valid U.S. patent claim or are made by a method covered by a valid U.S. patent claim. An article, standing alone, cannot directly infringe a method claim. *Electronic Devices*, Comm'n Op. at 17; *see also Cardiac Pacemakers, Inc. v. St. Jude Medical, Inc.*, 576 F.3d 1348, 1364 (Fed. Cir. 2009). A method claim is infringed only where someone performs all of the claimed method steps. *See NTP v. Research in Motion, Ltd.*, 418 F.3d 1282, 1318 (Fed. Cir. 2005) ("[T]he use of a [claimed] process necessarily involves doing or performing each of the steps recited."); *Joy Techs., Inc. v. Flakt, Inc.*, 6 F.3d 770, 775 (Fed. Cir. 1993) ("A method claim is directly infringed only by one practicing the patented method.").

In *Electronic Devices*, the Commission ruled that complainant did not have a legally cognizable claim that respondent violated the statute by using articles within the United States when infringement allegedly occurred by virtue of that use. *Electronic Devices*, Comm'n Op. at

19 ("domestic use of such a method, without more, is not a sufficient basis for a violation of Section 337(a)(1)(B)(i)"). Relying expressly on the statutory language of section 337 and applicable Federal Circuit law, the Commission ruled that the act of importation "is not an act that practices the steps of the asserted method claim," and "[m]erely importing a device that may be used to perform a patented method does not constitute direct infringement of a claim to that method." *Id.* at 17-18 (citing *Cardiac Pacemakers*, 576 F.3d at 1364; *NTP*, 418 F.3d at 1319; *Ricoh Co., Ltd. v. Quanta Computer Inc.*, 550 F.3d 1325, 1335 (Fed. Cir. 2008) ("[A] party that sells or offers to sell software containing instructions to perform a patented method does not infringe the patent under § 271(a)."); *Joy Techs.*, 6 F.3d at 773 ("The law is unequivocal that the sale of equipment to perform a process is not a sale of the process within the meaning of section 271(a).")).

The Commission stated:

> [S]ection 337(a)(1)(B)(i) covers imported articles that directly or indirectly infringe when it refers to "articles that – infringe." We also interpret the phrase "articles that – infringe" to reference the status of the articles at the time of importation. Thus, infringement, direct or indirect, must be based on the articles as imported to satisfy the requirements of section 337.

Electronic Devices, Comm'n Op. at 13-14. The Commission determined that the importation requirement was not met in that case by the respondent's post-importation performance of a claimed method. *Id.* at 18. Nevertheless, the Commission stated that the complainant "might have proved a violation of section 337 if it had proved indirect infringement" of the method claim. *Id.* The Commission cited, as an example, *Certain Chemiluminescent Compositions, and Components Thereof and Methods of Using, and Products Incorporating the Same*, Inv. No. 337-TA-285, USITC Pub. No. 2370, Order No. 25 (Initial Determination) at 38 n.12 (March

1991), in which "the ALJ found that the 'importation and sale' of the accused articles constituted contributory and induced infringement of the method claim at issue in that investigation." *Electronic Devices*, Comm'n Op. at 18 n.11.

2. Claim 1

The record evidence shows that the accused Funai products satisfy all limitations of asserted independent claim 1 of the '087 patent under the claim constructions adopted above.

a. An MPEG decoder system which includes a single memory for use by transport, decode and system controller functions, comprising:

i. The Funai [ ] Products

Each of the Funai [ ] Products (*i.e.*, the [ ], and [ ]) includes an MPEG decoder system, which includes a single memory for use by transport, decode, and system controller functions, by including either an [ ] or [ ] video decoder chip.[12] For instance, the [ ] Approval Datasheet and [ ] Product Brief each indicate that one of the "[ ]" of the [ ] and [ ] is [ ]" *See* CX-0300C [( ] Datasheet) at 6; CX-0438C ([Brochure) at 1. Additionally, both the [ ] and [ ] feature "[ ]." *See id.* Block diagrams appearing in the [ ] Approval Datasheet and the [ ] Product Brief indicate that in Blu-ray disc ("BD") players the [ ] and [ ] are [ ].

[12] The relevant portions of the source code cited herein and in Dr. Acton's direct witness statement with regard to the Funai [ ] Products may be found at CX-0559C (MediaTek Source Code) at 837MEDIATEK_SC0000094-96, 155, 163, 171-73, 179-87, 190, 192, 194-99, 209-10, 225-27, 231-32, 253-56, 268, 272-74, 278, 284, 295-302, 1934-47, 1955, and 1964-72. *See* Compls. Br. at 71 n.12.

See CX-1594C (Acton WS) at Q&A 169. [ ] is used by transport, decode and system controller functions. *See id.*

ii. The Funai [ ] Products

Each of the Funai [ ] Products (*i.e.*, the [ ], and [ ]) includes an [ ] video decoder and a unified memory for use by transport, decode and system controller functions.[13] A brochure for the [ ] ("[ ] Brochure") indicates that the [ ]. *See* CX-1594C (Acton WS) at 77-78, Q&A 284; CX-0965C ([ ] Product Brief) at 1-2. In a DVD player, the [ ] is connected to [ ], which [ ]. *See* CX-1594C (Acton WS) at Q&A 284; CX-0965C ([ ] Product Brief) at 1.

iii. The Funai [ ] Products

Each of the Funai [ ] Products (*i.e.*, the [ ] and [ ]) includes an MPEG decoder.[14] *See* CX-1594C (Acton WS) at Q&A 318. [ ] *See id.* at Q&A 319. For example, [

[13] The relevant portions of the source code cited herein and in Dr. Acton's direct witness statement with regard to the Funai [ ] Products may be found at CX-0559C (MediaTek Source Code) at 837MEDIATEK_SC00001863-67, 1871, 1874, 1880-83, 1888-93, 1895-98, 1900-22, and 1931-33. *See* Compls. Br at 72 n.13.

[14] The relevant portions of the source code cited herein and in Dr. Acton's direct witness statement with regard to the Funai [ ] Products may be found at CX-0587C (Funai Source Code) at FUNAI-ITC837-SC-00000398-506. *See* Comps. Br. at 72 n.14.

]. *See id.* [

] *See id.*

iv. The Funai [ ] Products

Each of the Funai [ ] Products (*i.e.*, the [

]) includes a single memory for use by transport, decode and system controller functions.[15] *See* CX-1594C (Acton WS) at Q&A 353. These [

] televisions incorporate [

]. *See id.* The service manuals for each of the Funai [ ] Products indicate that in each product [

]." *See* CX-1594C (Acton WS) at Q&A 354; CX-0606C ([ ] Service Manual); CX-0613C ([ ] Service Manual); and CX-0614C ([ ] Service Manual).

v. Analysis Under Alternate Claim Construction

If Respondents' proposed construction of the claim terms "single memory," "memory," and "first unified memory" were adopted, the evidence shows that the accused Funai products

[15] The relevant portions of the source code cited herein and in Dr. Acton's direct witness statement with regard to the [ ] may be found at CX-0587C (Funai Source Code) at FUNAI-ITC837-SC-00000102-06, 120-25, 132, 141-53, 157, 161-69, 172-74, 176-77, 182-90, 197-201, 168-72, 291, 324, 328-30, 336, 369, 374, 376-77, 381, 384-87, 389-92, and 395-97. *See* Compls. Br. at 73 n.15.

would not satisfy the claim 1 requirement of "a single memory for use by transport, decode and system controller functions." Specifically, [

]. *See* RX-2814C (Schonfeld RWS) at Q&A 20, Q&A 47, Q&A 74, Q&A 101, Q&A 128. Moreover, none of the accused products include [ ]. *See, e.g.*, RX-1650C ([ ] Service Manual); RX-1682C ([ ] Service Manual).

b. a channel receiver for receiving and MPEG encoded stream;

i. The Funai [ ] Products

The evidence shows that each of the Funai [ ] Products includes a channel receiver for receiving an MPEG encoded stream. *See* CX-1594C (Acton WS) at Q&A 170-73. For instance, [

]

171-72.[16]

[

]

WS) at Q&A 173. [

]. *See id.* Second, [

[16] MediaTek's corporate witness testified that [
]. *See* CX-1594C (Acton WS) at Q&A 172.

]. *See id.*

ii. The Funai [ ] Products

The [ ]. In particular, the [ ], for example, [ ]. *See* CX-1594C (Acton WS) at Q&A 285. [ ]. *See id.* Additionally, [ ]. *See id.*

iii. The Funai [ ] Products

Each of the Funai [ ] Products includes a channel receiver for receiving an MPEG encoded stream. *See* CX-1594C (Acton WS) at Q&A 320. For example, the file [ ]. *See id.* Further, [ ]. *See id.*

iv. The Funai [ ] Products

Each of the Funai [ ] Products includes a channel receiver for receiving an MPEG encoded stream. *See* CX-1594C (Acton WS) at Q&A 355. For instance, [ ]. *See id.* at Q&A 356. [ ]. *See id.*

Dr. Acton also testified that a [

]. *See*

CX-1594C (Acton WS) at Q&A 356. [

]. *See id.* [

]. *See id.*

c. transport logic coupled to the channel receiver which demultiplexes one or more multimedia data streams from the encoded stream;

i. The Funai [ ] Products

Each of the Funai [ ] Products includes transport logic coupled to the channel receiver which demultiplexes one or more multimedia data streams from the encoded stream. *See* CX-1594C (Acton WS) at Q&A 174. The [

]. *See id.* at Q&A 175. [

]. *See id.* at Q&A 176. [The evidence further shows that

.]

In addition, Dr. Acton testified that [

]. *See id.* at Q&A 177. [

]. *See*

id. Indeed, [

]. *See id.* [

]. *See id.*

[

]. *See id.* The [

]. *See id.* at Q&A 178. Then, [

]. *See id.*

Furthermore, [

]

ii. The Funai [ ] Products

The [ ] includes transport logic coupled to the channel receiver which demultiplexes one or more multimedia data streams from the encoded stream. *See* CX-1594C (Acton WS) at Q&A 286. [

]. *See id.*

iii. The Funai [ ] Products

Each of the Funai [ ] Products includes transport logic coupled to the channel receiver which demultiplexes one or more multimedia data streams from the encoded stream. *See* CX-1594C (Acton WS) at Q&A 321. [

]. *See id.* The [

]. *See id.* [

]. *See id.*

iv. The Funai [ ] Products

Each of the Funai [ ]Products includes transport logic coupled to the channel receiver which demultiplexes one or more multimedia data streams from the encoded stream. *See* CX-1594C (Acton WS) at Q&A 357. Specifically, [

]. *See id.* at Q&A 358. [

]. *See id.* [

]. *See id.*

Dr. Acton also testified that another example of transport logic functionality is found in [ ]. *See id.* [

]." *See id.* [

]. *See id.*

v. Respondents' Non-Infringement Arguments Regarding the Term "Coupled"

Respondents raise several non-infringement arguments based upon the satisfaction of the "coupled" claim limitation. *See* Resps. Br. at 443-52. As an initial matter, the parties did not identify "coupled" as a claim term needing construction. Nevertheless, Respondents' construction-based arguments are addressed below.

The first argument Respondents raise is that "[t]he only coupling which Complainants allege is coupling by way of code through the memory." Resps. Br. at 444-46. This argument is not supported by the evidence. For instance, with respect to the Funai [ ] Products, Complainants' expert Dr. Acton testified that [

]. CX-1594C (Acton WS) at Q&A 182-83. In fact, [

Products, [

]. *Id.* at Q&A 183.

Respondents next assert that if "coupling in the accused products occurs by way of code through memory were correct, then three of the four 'coupled to' limitations would be read out of the claims . . . ." Resps. Br. at 446. Specifically, Respondents argue that "the 'transport logic coupled to the channel receiver . . .' limitation would be superfluous to the [limitation] 'wherein the transport logic is operable to access the memory to store and retrieve data during demultiplexing operations." *Id.* Respondents raise similar arguments for the system controller and MPEG decoder limitations. *Id.* "Coupling by way of code," however, would not render any

of the limitations superfluous. For instance, the abbreviated transport logic element identified by Respondents in their brief reads in full: "transport logic coupled to the channel receiver which demultiplexes one or more multimedia data streams from the encoded stream." JX-0001 ('087 patent) at col. 17, lns. 20-23. Reading both transport logic limitations of claim 1 together indicates that the transport logic: (1) demultiplexes one or more data streams from the encoded stream, (2) is coupled to the channel receiver, and (3) accesses the memory to store and retrieve data during demultiplexing operations. If the transport logic were coupled to the channel receiver by way of code through the memory (item (2)), the transport logic still has to demultiplex one or more data streams from the encoded stream (item (1)) and access the memory during demultiplexing operations to store and retrieve data (item (3)). In other words, nothing in these two limitations is rendered superfluous merely because the transport logic and channel receiver may be coupled together by way of code through the memory. The same is true for the MPEG decoder and system controller limitations.

In support of their argument that coupling through memory would render the coupling limitations superfluous, Respondents allege that Dr. Acton testified that the "transport logic is coupled to . . ." and "wherein the transport logic . . ." limitations of claim 1 of the '087 patent are [ ] Products.[17] Resps. Br. at 447-49. Dr. Acton provided testimony regarding the hardware and software elements within the Funai [

].

CX-1594C (Acton WS) at Q&A 174-78. In discussing the evidence showing that the transport

[17] Respondents do not make any similar arguments with respect to the Funai [ ] Products, the Funai [ ] Products, or the Funai [ ] Products.

logic demultiplexes one or more multimedia data streams from the encoded stream, Dr. Acton provided testimony regarding how the demultiplexing operation is carried out in the Funai [ ] Products. *Id.* at Q&A 176-78. This analysis touched aspects of the demultiplexing process such as when and how the transport logic accesses the memory, which aspects are specifically called out in the "wherein the transport logic . . ." limitation. *Id.*; *see also id.* at Q&A 190-91. In other words, Dr. Acton discussed the "transport logic coupled to . . ." limitation of claim 1 in detail, but those details do not indicate that this limitation is performed identically to the "wherein the transport logic . . ." limitation. The two claim elements require distinct features, and Dr. Acton provided specific testimony regarding the location of each feature in the accused products. *See id.* at Q&A 174-78, Q&A 190-91.

Respondents further argue that Dr. Acton "implies that all modules connected to the main subroutine are coupled." Resps. Br. at 450. In particular, Respondents allege that Dr. Acton testified that "coupling can be transitive – if A is coupled to B, and B is coupled to C, the A is also coupled to C" and cite to the hearing transcript at pages 567 to 568 in support of this assertion. *Id.* Dr. Acton's testimony in this portion of the hearing was as follows:

> Q. All right. Now please correct me if this doesn't sound correct to you, but I believe our – my understanding of your testimony is that two things may be coupled through memory if they are coupled to the same memory and some data flows from one device to the other device through that memory. Is that correct?
>
> A. Right. And I was specifically looking at the, at the cited elements of the system controller, the demultiplexer, and the decoder.
>
> Q. All right. So the mere fact that two things are connected to a memory is not a sufficient basis to say they are coupled, unless some data flows from one to the other, correct?
>
> A. I believe I agree with that, yes.