

# Exhibit 1003



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January 28, 2014

**VIA HAND DELIVERY**

The Honorable Lisa R. Barton  
Acting Secretary  
U.S. International Trade Commission  
500 E Street, S.W.  
Washington, DC 20436

Re: *Certain Television Sets, Television Receivers,  
Television Tuners, and Components Thereof,*  
Inv. No. 337-TA-

DOCKET NUMBER
2999
Office of the Secretary Int'l Trade Commission

Dear Acting Secretary Barton:

Enclosed for filing on behalf of Complainant Cresta Technology Corporation ("CrestaTech" or "Complainant") are documents in support of CrestaTech's request that the Commission commence an investigation pursuant to Section 337 of the Tariff Act of 1930, as amended. A request for confidential treatment of Confidential Exhibits 31C, 32C, and exhibits AC, BC, CC, and EC to Exhibit 32C are included in this letter.

Accordingly, Complainant submits the following documents for filing:

1. An original and eight (8) copies of the verified Non-Confidential Complaint and Public Interest Statement; one (1) CD of the Non-Confidential exhibits and one (1) CD of Confidential Exhibits 31C, 32C and exhibits AC, BC, CC and EC to Exhibit 32C (19 CFR §§ 210.4(f)(2), 210.8(a)(1)(i), 210.8(b) and 210.12(a)(1));

2. Nine (9) additional copies of the verified Non-confidential Complaint and Public Interest Statement and nine (9) CDs of the Non-Confidential exhibits to the Complaint for service upon the proposed respondents (19 CFR §§ 210.8(a)(1)(iii) and 210.11(a));

3. Nine (9) additional copies of Confidential Exhibits 31C, 32C and exhibits AC, BC, CC and EC to Exhibit 32C on CDs for service upon the proposed respondents (19 CFR § 210.8(a)(1)(iii));

4. The original certified copies of United States Patent Nos. 7,075,585, 7,265,792 and 7,251,466 (“the ‘585, ‘792 and ‘466 patents” or “patents in issue”) and copies of these patents on CD, cited in the Complaint as Exhibits 24, 27 and 29, respectively, (210.8(a)(1)(iii), 210.12(a)(9)(i));

5. The original certified copies of the assignments for the ‘585, ‘792, and ‘466 patents in issue and copies of these assignments on CD and cited in the Complaint as Exhibits 25, 28 and 30, respectively (210.8(a)(1)(iii) and 210.12(a)(9)(ii));

6. Original certified copies of the prosecution histories of the ‘585, ‘792, and ‘466 patents (Appendices A, C and E) and three (3) additional copies on separate CD’s (210.12(c)(1) and 210.12(d));

7. Four (4) CDs of the reference documents identified in the prosecution histories for the patents in issue (Appendices B, D and F) (210.12(c)(2)); and

8. Two (2) additional copies of the Non-confidential Complaint for service upon the Embassies of Japan and South Korea in Washington, DC (210.8(a)(1)(iv)).

A certification is provided below pursuant to 19 CFR §§ 201.6(b) and 210.5(d) requesting confidential treatment of Confidential Exhibits 31C, 32C and exhibits AC, BC, CC, and EC to Exhibit 32C.

The information for which confidential treatment is sought is proprietary commercial information not available in any form to the public. Specifically, the confidential declarations of Matthew Lewis and Mihai Murgulescu set forth in extensive detail Complainant’s financial expenditures, investments and confidential business activities in the United States which establish a domestic industry for each of the asserted patents.

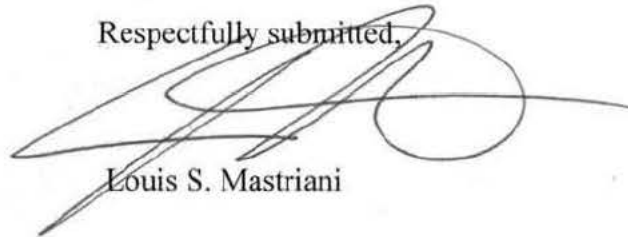
The information described above qualifies as confidential business information pursuant to Commission Rule 201.6 because:

- a. it is not available to the public;
- b. unauthorized disclosure of such information could cause substantial harm to the competitive position of Complainant; and
- c. its disclosure could impair the Commission’s ability to obtain information necessary to perform its statutory function.

The Honorable Lisa R. Barton  
January 28, 2014  
Page 3

Thank you for your attention to this matter. Please contact me if you have any questions.

Respectfully submitted,

A handwritten signature in dark ink, consisting of several loops and a long horizontal stroke extending to the right.

Louis S. Mastriani

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Enclosures  
CRESTA700214.docx

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

**In the Matter of**

CERTAIN TELEVISION SETS,  
TELEVISION RECEIVERS, TELEVISION  
TUNERS, AND COMPONENTS THEREOF

**Investigation No. 337-TA-\_\_**

**COMPLAINANT CRESTA TECHNOLOGY CORPORATION'S  
STATEMENT ON THE PUBLIC INTEREST**

Pursuant to 19 C.F.R. § 210.8(b), Complainant Cresta Technology Corporation ("CrestaTech") hereby provides information regarding the public interest.

**I. INTRODUCTION**

The accused products are certain televisions, television tuners, and components thereof. Specifically, the accused products include integrated circuit television tuners and the television sets themselves that include the tuners. Television sets and their tuners are not necessary to public health, safety, or welfare. The exclusion of the accused products would not adversely impact the public interest because of the ability of CrestaTech and third parties to meet any increase in demand.

None of the concerns raised in prior cases apply here, such as the public interest in maintaining an adequate supply of the goods under investigation, the ability of Complainant to maintain an adequate supply of the goods, or whether domestic users can obtain a sufficient substitute. *See Certain Fluidized Supporting Apparatus*, Inv. No. 337-TA-182/188, USITC Pub. 1667 (Oct. 1984); *Certain Inclined-Field Acceleration Tubes*, Inv. No. 337-TA-67, USITC Pub. 1119 (Dec. 1980); *Certain Automatic Crankpin Grinders*, Inv. No. 337-TA-60, USITC Pub. 1022 (Dec. 1979)). Furthermore, the patents asserted by CrestaTech are not standard essential patents, and not subject to any voluntary commitments to offer licenses on terms that are fair,

reasonable, and non-discriminatory. Thus this investigation would not involve public interest concerns such as those raised by the remedial order entered in *Certain Electronic Devices, Including Wireless Communication Devices, Portable Music and Data Processing Devices, and Tablet Computers*, Inv. No. 337-TA-794.

**A. The Accused Products Potentially Subject to the Exclusion Order Are Television Sets and Their Tuners**

On information and belief, the infringing tuners are manufactured by proposed respondents MaxLinear, Inc. and Silicon Laboratories, Inc. The tuners are variously used in television sets manufactured by proposed respondents Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., LG Electronics Inc., LG Electronics U.S.A., Sharp Corporation, Sharp Electronics Corporation, and VIZIO, Inc. Once installed in television sets, the tuners facilitate reception of broadcasted television signals, both over the air as well as through cable operator networks.

**B. There Are No Public Health, Safety, or Welfare Concerns Relating to the Requested Remedy**

The requested remedies of an exclusion order and cease and desist order do not raise any public health, safety, or welfare concerns. The accused products are a subset of televisions sold domestically, and which are not necessary for the public's health, safety, or welfare. Moreover, as explained below, CrestaTech and third parties can provide an adequate supply of non-infringing alternatives to consumers and television manufacturers (including the respondent manufacturers.)

**C. If Excluded, the Subject Articles Could Be Replaced by the Complainant's Like or Third Parties' Directly Competitive Products**

CrestaTech's patented Smart Tuner™ is a like article that can be directly substituted for the accused tuners in the accused televisions. If the accused products were to be excluded, they



can be replaced by CrestaTech's tuner. In addition, third parties' directly-competitive silicon tuners, such as those available from NXP and Fresco, can replace the accused tuners.

The accused televisions can also be replaced by third parties. Television manufacturers such as Sony, Toshiba, and Panasonic design and manufacture silicon tuners for use in their respective television brands, none of which would be the subject of this investigation. These manufacturers, as well as others, supply the U.S. market with television sets of comparable quality in direct competition with the proposed respondent television manufacturers. Additionally, the infringing tuners can also be replaced by traditional CAN tuners, which have a sufficiently similar performance to silicon tuners such that they are an acceptable replacement.

**D. The Complainant Has the Capacity to Replace the Volume of Articles Subject to the Requested Remedy in a Commercially Reasonable Time**

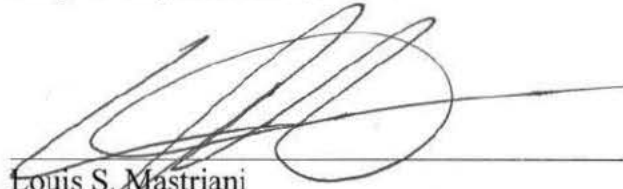
CrestaTech's Smart Tuner™ can be substituted for the accused tuners in the accused TVs. As a fabless manufacturer with an on-demand supply chain for the Smart Tuner™, CrestaTech is capable of quickly and fully replacing the accused tuners in the event of an exclusion order.

**E. The Requested Remedy Would Not Adversely Impact Consumers**

Neither an exclusion order nor a cease and desist order would adversely impact consumers. The replacement of an infringing integrated silicon television tuner with CrestaTech's Smart Tuner™, a third-party non-infringing silicon tuner, or a traditional CAN tuner would result in the same overall performance from the consumer's perspective. Furthermore, the accused televisions compete domestically with numerous non-accused brands offering televisions having the same overall quality and features.

Dated: January 28, 2014

Respectfully submitted,



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

**In the Matter of**

CERTAIN TELEVISION SETS,  
TELEVISION RECEIVERS, TELEVISION  
TUNERS, AND COMPONENTS THEREOF

**Investigation No. \_\_\_\_\_**

**VERIFIED COMPLAINT OF CRESTA TECHNOLOGY CORPORATION  
UNDER SECTION 337 OF THE TARIFF ACT OF 1930, AS AMENDED**

**COMPLAINANT**

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LG Twin Towers, 20 Yeouido-dong,  
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Sharp Electronics Corporation  
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VIZIO, Inc.  
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Irvine, California 92618

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## EXHIBIT LIST

<b>Exhibit #</b>	<b>Description</b>
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Exhibit 2	Silicon Labs 2012 Annual Report, Form 10K
Exhibit 3	SiLabs/Xceive Non-Disclosure Agreement
Exhibit 4	Samsung Electronics 2011 Annual Report
Exhibit 5	Samsung product screen shots and photographs
Exhibit 6	Samsung Electro-Mechanics (SEMCO) Company Information Sheet available at <a href="http://www.samsungsem.com">www.samsungsem.com</a>
Exhibit 7	Import record listing Samsung International Inc. as Consignee and Samsung Electronics Co. as Shipper
Exhibit 8	LG 2012 Corporate Brochure
Exhibit 9	LG 2013 Annual Book
Exhibit 10	LG Innotek Business Overview, available at <a href="http://www.lginnotek.com/company/overview">www.lginnotek.com/company/overview</a>
Exhibit 11	Import record listing LG Electronics Reynosa Inc. as Consignee and LGIT as Shipper
Exhibit 12	LG product screen shots and photographs
Exhibit 13	MaxLinear Corporate Overview presentation dated September 2013
Exhibit 14	MaxLinear Corporate Fact Sheet
Exhibit 15	Sharp 2013 Annual Report
Exhibit 16	Affiliated Companies (Overseas) List available at <a href="http://www.sharp-world.com/corporate/info/ci/consolidated/oversea/index.html">www.sharp-world.com/corporate/info/ci/consolidated/oversea/index.html</a>
Exhibit 17	Sharp product screen shots and photographs
Exhibit 18	VIZIO Home Page – About Us available at <a href="http://www.store.vizio.com/about/">www.store.vizio.com/about/</a>

Exhibit 19	VIZIO Home Page – News & Press, article dated January 2, 2010, “CES: Value Outweighs Price, AmTran Says” available at <a href="http://www.store.vizio.com/news/CESValueOutweighsPriceAmTranSays">www.store.vizio.com/news/CESValueOutweighsPriceAmTranSays</a>
Exhibit 20	VIZIO product screen shots and photographs
Exhibit 21	Compilation of product sheets for Silicon Labs products
Exhibit 22	List of infringing TV sets incorporating the Silicon Labs Infringing Products: Samsung TVs incorporating Si2176, Samsung TVs incorporating Si2178, and LG TVs incorporating Si2158
Exhibit 23	List of infringing TV sets incorporating the MaxLinear Infringing Products: Sharp TVs incorporating MxL601 and VIZIO TVs incorporating MxL601
Exhibit 24	Certified copy of the '585 patent
Exhibit 25	Certified copy of the recorded assignment of the '585 patent
Exhibit 26	List of foreign patents, foreign patent applications (not already issued as a patent), and each foreign patent application that has been denied, abandoned, or withdrawn corresponding to the '585, '466, and '792 patents
Exhibit 27	Certified copy of the '792 patent
Exhibit 28	Certified copy of the recorded assignment of the '792 patent
Exhibit 29	Certified copy of the '466 patent
Exhibit 30	Certified copy of the recorded assignment of the '466 patent
Exhibit 31C	Declaration of Mihai Murgulescu with exhibits: <ul style="list-style-type: none"> <li>• Exhibit AC (i7 Smart Tuner launch preparation);</li> <li>• Exhibit BC (X7 Smart Tuner Datasheet for Hybrid TV Tuner Integrated Circuits CTC701 and CTC703);</li> <li>• Exhibit CC (Email confirming tape out of CTC700);</li> <li>• Exhibit D (Photographs showing the hardware used for reliability testing);</li> <li>• Exhibit EC (X7 Smart Tuner Evaluation Kit Operating Manual for CTC701 and CTC703); and</li> <li>• Exhibit F (Testing Reports)</li> </ul>
Exhibit 32C	Declaration of Matthew Lewis with exhibits: <ul style="list-style-type: none"> <li>• Exhibit A (CrestaTech headquarters lease)</li> </ul>

Exhibit 33	Overview of Silicon Labs si21 4th Generation TV Tuner ICs
Exhibit 34	Block Diagram of Silicon Labs Si2178 TV Tuner IC
Exhibit 35	Technical drawings for, and photographs of, the Silicon Labs Infringing Products
Exhibit 36	Photographs of the MaxLinear Infringing Products
Exhibit 37	Instruction manuals for certain Samsung television sets incorporating the Silicon Labs Infringing Products
Exhibit 38	Instruction manuals for certain LG television sets incorporating the Silicon Labs Infringing Product
Exhibit 39	Instruction manuals for certain Sharp television sets incorporating the MaxLinear Infringing Product
Exhibit 40	Instruction manuals for certain VIZIO television sets incorporating the MaxLinear Infringing Product
Exhibit 41	Claim Chart for the Practice of Independent Claims 1 and 17 and Dependent Claims 2–3, 5–6, 10, 13–14, 16, 18–19, and 21 of Complainant CrestaTech’s United States Patent No. 7,075,585 by CrestaTech x7 Smart Tuners, CTC703
Exhibit 42	Claim Chart for the Practice of Independent Claim 1 and Dependent Claims 2–4, 7, 10–12, 18–19, and 26–27 of Complainant CrestaTech’s United States Patent No. 7,265,792 by CrestaTech x7 Smart Tuners, CTC703
Exhibit 43	Claim Chart for the Practice of Independent Claims 1, 20, and 35 and Dependent Claims 2, 3, 5, 6, 8, 9, 11, 12, 13, 15, 16, 21, 22, 24, 25, 26, 29, 31, 32, 36, 37, and 39 of Complainant CrestaTech’s United States Patent No. 7,251,466 by CrestaTech x7 Smart Tuners, CTC703
Exhibit 44	Claim Chart for the Infringement of Independent Claims 1 and 17 of Complainant CrestaTech’s United States Patent No. 7,075,585 by Silicon Labs Si2158 Worldwide Digital and Analog TV Tuner and Products Containing the Same
Exhibit 45	Claim Chart for the Infringement of Independent Claim 1 of Complainant CrestaTech’s United States Patent No. 7,265,792 by Silicon Labs Si2158 Worldwide Digital and Analog TV Tuner and Products Containing the Same
Exhibit 46	Claim Chart for the Infringement of Independent Claims 1, 20, and 35 of Complainant CrestaTech’s United States Patent No. 7,251,466 by Silicon Labs Si2158 Worldwide Digital and Analog TV Tuner and Products Containing the



	Same
Exhibit 47	Claim Chart for the Infringement of Independent Claims 1 and 17 of Complainant CrestaTech's United States Patent No. 7,075,585 by MaxLinear MxL601 Global Hybrid Tuner and Products Containing the Same
Exhibit 48	Claim Chart for the Infringement of Independent Claim 1 of Complainant CrestaTech's United States Patent No. 7,265,792 by MaxLinear MxL601 Global Hybrid Tuner and Products Containing the Same
Exhibit 49	Photograph of Samsung Television Model UN32F5500 (physical exhibit available upon request)
Exhibit 50	Photograph of LG Television Model 32LN5300 (physical exhibit available upon request)
Exhibit 51	Photograph of Sharp Television LC-60LE650 (physical exhibit available upon request)
Exhibit 52	Photograph of VIZIO Television M32li-A2 (physical exhibit available upon request)
Appendix A	Certified copy of the prosecution history of the '585 patent
Appendix B	Applicable pages from each technical reference cited in the '585 patent prosecution history
Appendix C	Certified copy of the prosecution history of the '792 patent
Appendix D	Applicable pages from each technical reference cited in the '792 patent prosecution history
Appendix E	Certified copy of the prosecution history of the '466 patent
Appendix F	Applicable pages from each technical reference cited in the '466 patent prosecution history

## **I. INTRODUCTION**

1. Complainant Cresta Technology Corporation (“CrestaTech” or “Complainant”) requests that the United States International Trade Commission (“the Commission”) institute an investigation into violations of Section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, by Silicon Laboratories, Inc., Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., LG Electronics Inc., LG Electronics U.S.A., Inc., MaxLinear, Inc., Sharp Corporation, Sharp Electronics Corporation, and VIZIO, Inc. (As used herein, the term “Proposed Respondents” refers to all of the foregoing entities, collectively. The term “Silicon Labs Proposed Respondents” refers to Silicon Laboratories, Inc., Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., LG Electronics Inc., and LG Electronics U.S.A., Inc., collectively. The term “MaxLinear Proposed Respondents” refers to MaxLinear, Inc., Sharp Corporation, Sharp Electronics Corporation, and VIZIO, Inc., collectively.

2. This Complaint is based on the Proposed Respondents’ unlawful and unauthorized importation into the United States, sale for importation, and/or sale within the United States after importation of certain television sets, television receivers, television tuners, and components thereof. Proposed Respondents’ products infringe, either literally or under the doctrine of equivalents, at least one or more claims of U.S. Patent No. 7,075,585 (“the ’585 patent”), U.S. Patent No. 7,265,792 (“the ’792 patent”), and U.S. Patent No. 7,251,466 (“the ’466 patent”) (collectively, “the CrestaTech Patents”). The CrestaTech Patents are valid and enforceable United States Patents, the entire right, title, and interest to which CrestaTech owns by assignment.

3. The CrestaTech Patents all relate to technology used in television receivers and television sets. The ’585 patent generally claims a television receiver that includes a multi-standard channel filter with a programmable intermediate frequency, adapted to receive

television signals in a variety of television standards and formats, and a plurality of demodulators for demodulating the signals in accordance with their format. The Silicon Labs Proposed Respondents infringe at least claims 1–3, 5, 10, 13, 14, 16–19 of the '585 patent. The MaxLinear Proposed Respondents infringe at least claims 1–3, 5, 10, 12–14, 16–19 of the '585 patent.

4. The '792 patent generally claims a television receiver for digital and analog television signals that includes a frequency conversion circuit that receives an input radio frequency ("RF") signal in one of several television signal formats or standards and converts the input RF signal to an intermediate frequency signal ("IF Signal"), an analog-to-digital converter that samples the IF Signal and generates a digital representation of the IF Signal, a signal processor that processes that digital representation in accordance with the television signal format of the input RF signal and generates digital output signals indicative of information encoded in the input RF signal, and a signal output circuit that receives the digital output signals from the signal processor and provides one or more output signals. The Silicon Labs Proposed Respondents infringe at least claims 1–17, 26, 27 of the '792 patent. The MaxLinear Proposed Respondents infringe at least claims 1–3, 7–9, 11, 12, 25–27 of the '792 patent.

5. The '466 patent generally claims a television receiver or tuner circuit that includes a band selection filter coupled to receive an input RF signal and provide a band selected output signal, where the band selection filter includes a bank of band pass filters. The Silicon Labs Proposed Respondents infringe at least claims 1, 2, 5, 8, 9, 11–13, 16, 20–22, 24–26, 29, 31, 32, 35–37, 39 of the '466 patent.

6. In summary, the Silicon Labs Proposed Respondents infringe, literally or under the doctrine of equivalents, at least the patents and claims listed in the chart below.

<u>U.S. Patent No.</u>	<u>Asserted Claims</u>
7,075,585	1-3, 5, 10, 13, 14, 16-19
7,265,792	1-17, 26, 27
7,251,466	1, 2, 5, 8, 9, 11-13, 16, 20-22, 24-26, 29, 31, 32, 35-37, 39

7. In summary, the MaxLinear Proposed Respondents infringe, literally or under the doctrine of equivalents, at least the patents and claims listed in the chart below.

<u>U.S. Patent No.</u>	<u>Asserted Claims</u>
7,075,585	1-3, 5, 10, 12-14, 16-19
7,265,792	1-3, 7-9, 11, 12, 25-27

8. The Proposed Respondents' activities with respect to the importation into the United States, the sale for importation into the United States, and/or the sale within the United States after importation of certain television sets, television receivers, television tuners, and components thereof, described more fully *infra*, are unlawful under 19 U.S.C. § 1337(a)(1)(B)(i) in that they constitute infringement of the valid and enforceable CrestaTech Patents.

9. CrestaTech seeks relief from the Commission in the form of a limited exclusion order excluding from entry into the United States Proposed Respondents' infringing television sets, television receivers, television tuners, and components thereof. CrestaTech further seeks a cease and desist order halting the importation, sale, offer for sale, marketing, advertising, or soliciting of television sets, television receivers, television tuners, and components thereof, and other products owned, held, or stored by the Proposed Respondents and their related companies that infringe the valid and enforceable CrestaTech Patents.

## **II. THE PARTIES**

### **A. Complainant**

10. Complainant Cresta Technology Corporation is a Delaware corporation having its headquarters at 3900 Freedom Circle, Suite 201, Santa Clara, California 95054.

11. CrestaTech was founded in 2005 in Silicon Valley, where it remains located

today. CrestaTech was the innovator of software-defined, programmable broadband TV reception for PCs. In 2011, CrestaTech expanded on its own expertise by purchasing certain assets from Xceive Corporation (“Xceive”). Xceive was another Silicon Valley company and had developed the world’s first fully integrated multi-standard RF-to-baseband receiver integrated circuits (“ICs”) for television sets, PC televisions, and set-top boxes. Based on the extraordinary benefits of their technology, Xceive became the first silicon tuner company to offer products that outperformed traditional shielded discrete television tuners (“traditional can tuners”) and the first silicon tuner company to sell its products to a “Tier 1” television manufacturer. From January 2009 to March 2012, Xceive (and after the acquisition, CrestaTech) sold television tuners to LG.

12. CrestaTech continues to sell products developed by Xceive, as well as new products, in their line of “Smart Tuner” ICs. Smart Tuner ICs have successfully eliminated the need for traditional can tuners and enabled and reduced the cost of manufacturing thin flat panel televisions. Deployed in millions of the world’s leading brand-name products, CrestaTech Smart Tuner ICs feature a patented precision RF analog front-end and digital signal processing architecture that provides consistent, interference-free global broadcast signals. A key benefit of this technology is that it allows televisions to be used anywhere in the world rather than being constrained to a particular region.

13. Today, CrestaTech has a rich portfolio of intellectual property relating to Smart Tuners, including the patents asserted here. CrestaTech does not just own these patents, it also practices them. CrestaTech’s products provide a host of programmable hardware and software technologies that enable universal television reception for televisions, computers, tablets, and other mobile devices, including the XC5000 series products and the recently released CTC70X

series products.

14. All of CrestaTech's technology and product development, operations, administration, and the majority of support, are located in Santa Clara, California. CrestaTech uses a number of manufacturing partners. Significant portions of the production take place at the Newport Beach, California wafer fabrication ("fab") facility of Jazz Semiconductor, Inc. ("TowerJazz"), which was Xceive's long-time foundry partner. Since the acquisition of Xceive's assets in 2011, CrestaTech has continued production and support of the existing product lines and also has extended product offerings by developing new silicon tuners that continue the company's tradition of introducing new products and technology to the market.

15. As a domestic fabless IC producer that uses a fabricator in the United States to produce its ICs, CrestaTech and its domestic industry are what the Tariff Act was designed to protect. CrestaTech's continued domestic success and survival depend in substantial part on its ability to establish, maintain, and protect its proprietary technology through, *inter alia*, enforcement of its patent rights.

16. A presentation on the company profile of CrestaTech is attached as Exhibit 1.

**B. Proposed Respondents**

17. CrestaTech is informed and believes, and on that basis alleges, that Proposed Respondent Silicon Laboratories, Inc. ("Silicon Labs") is a Delaware corporation with its headquarters at 400 West Cesar Chavez, Austin, Texas 78701.

18. Silicon Labs is in the business of developing, manufacturing and selling television receivers, television tuners, and components thereof. More specifically, on information and belief: Silicon Labs is an IC manufacturer that uses Taiwan-based and China-based chip manufacturing and packaging companies, including Taiwan Semiconductor Manufacture Company. See Exhibit 2 (Silicon Labs 2012 Annual Report, Form 10K at 9, 18, 21, and 30).



Silicon Labs sells infringing ICs to manufacturers of silicon can tuners; those manufacturers incorporate the infringing ICs into products they sell to television manufacturers, including Samsung and LG, who then use the infringing ICs in television sets that are imported into the United States. *See* Exhibit 2 (*Id.* at 6). Thus, on information and belief, Silicon Labs imports into the United States, sells for importation, or sells within the United States after importation certain television receivers, television tuners, and components thereof that infringe the CrestaTech Patents.

19. Additional corporate information regarding Silicon Labs is attached as Exhibit 2 (Silicon Labs 2012 Annual Report).

20. Between May 2007 and September 2008, Silicon Labs and Xceive engaged in discussions about a possible business relationship, including the possibility of Silicon Labs acquiring Xceive. As part of these discussions, Silicon Labs conducted due diligence on Xceive and received confidential Xceive information, including Xceive evaluation kits that contained evaluation boards and test reports. These evaluation kits allowed Silicon Labs to translate system-level parameters into readily verifiable tuner parameters, as well as to learn what was technically necessary to meet customer-specific requirements. Other confidential information provided by Xceive to Silicon Labs included the reasoning behind the use and location of the analog demodulator on the tuner chip and the reasons that five inductors on the chip were optimal. In addition, Silicon Labs gained insights into the success in the marketplace of Xceive's tuners, and the receptiveness of Tier 1 manufactures to products employing Xceive non-traditional architecture. All the foregoing information was provided only after the companies entered into a non-disclosure agreement. *See* Exhibit 3.

21. Silicon Labs ultimately declined to enter into a business relationship with Xceive. On or about June 29, 2009, however, Silicon Labs released the Si2170 product, which abandoned its old tuner architecture in favor of a new architecture that infringes the CrestaTech Patents.

22. CrestaTech is informed and believes, and on that basis alleges, that Proposed Respondent Samsung Electronics Co., Ltd. is a South Korean public limited company with its principal place of business at 129, Samsung-ro, Yeongton-gu, Suwon-si, Gyeonggi-do, Korea. CrestaTech is informed and believes, and on that basis alleges, that Proposed Respondent Samsung Electronics America, Inc. is a wholly-owned subsidiary of Samsung Electronics Co., Ltd. and a New York corporation with its principal place of business at 85 Challenger Road, Ridgefield Park, New Jersey, 07660. *See* Exhibit 4 (Samsung Electronics 2011 Annual Report at 40). Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. are referred to herein individually and collectively as “Samsung.”

23. On information and belief, Samsung is in the business of developing, manufacturing and selling television sets, television receivers, television tuners, and components thereof. More specifically, on information and belief: Samsung Electronics Co. designs and produces television sets for the consumer market in the United States. *See* Exhibits 4 (*Id.* at 10-11) and 5 (at 1-4, websites where Samsung products can be purchased). The division within Samsung Electronics that is responsible for the television business is Samsung VD. Samsung VD engineers work with engineers at sister company Samsung Electro-Mechanics (SEMCO) to select the tuners, receivers, and other components used within the television sets. SEMCO and other companies produce silicon tuner-based tuner cans incorporating infringing Silicon Labs parts that are used in the designs and products of Samsung VD. *See* Exhibit 6 (SEMCO Company Information Sheet available at [www.samsungsem.com](http://www.samsungsem.com)). Assembly of the television

sets bound for sale in the United States – including incorporation of the tuner can – occurs at Samsung Mexicana (SAMEX) in Tijuana, Mexico. *See* Exhibit 5 (Samsung product photographs at 7–8). The tuner cans arrive in the United States, *see* Exhibit 7 (import record listing Samsung International Inc. as Consignee and Samsung Electronics Co. as Shipper), and are shipped to SAMEX for incorporation into the television sets. Samsung Electronics America, Inc. then imports the television sets into the United States. Samsung Electronics America, Inc. markets the television sets to consumers in the United States through major distribution chains like Best Buy, Wal-Mart, and various online resellers. *See* Exhibit 5 (Samsung product photographs at 1–5). Infringing parts and goods arrive in the United States as tuner cans prior to assembly, as tuner cans for replacement parts, as replacement part boards that incorporate tuner cans, and as television sets. Thus, on information and belief, Samsung imports into the United States, sells for importation, or sells within the United States after importation certain television sets, television receivers, television tuners, and components thereof that infringe the CrestaTech Patents.

24. CrestaTech is informed and believes, and on that basis alleges, that Proposed Respondent LG Electronics Inc. is a South Korean public limited company with its principal place of business at LG Twin Towers, 20 Yeouido-dong, Yeoungdeungpo-gu, Seoul, 150-7-21, South Korea. CrestaTech is informed and believes, and on that basis alleges that Proposed Respondent LG Electronics U.S.A. is a wholly-owned subsidiary of LG Electronics Inc. and a Delaware corporation with its principal place of business at 1000 Sylvan Avenue, Englewood Cliffs, New Jersey, 07632. *See* Exhibit 8 (LG 2012 Annual Corporate Brochure at 68–69). LG Electronics Inc. and LG Electronics U.S.A. are referred to herein individually and collectively as “LG.”

25. On information and belief, LG is in the business of developing, manufacturing and selling television sets, television receivers, television tuners, and components thereof. More specifically, on information and belief: LG Electronics Inc. designs and produces television sets for the consumer market. *See* Exhibit 9 (LG 2013 Annual Book at 21–23, 70). The division that is responsible for the television business within LG Electronics is LG Electronics Home Entertainment (“LG Electronics HE”). LG Electronics HE engineers, together with engineers at sister company LG Innotek (“LGIT”), select the tuners that are going to be used within the television sets. LGIT produces silicon tuner-based tuner cans incorporating infringing Silicon Labs parts that are used in the designs and products of LG Electronics HE. *See* Exhibit 10 (LG Innotek Business Overview, available at [www.lginnotek.com/company/overview](http://www.lginnotek.com/company/overview)). For the U.S. market, the assembly of the television set occurs at LG Electronics Reynosa in Reynosa, Mexico. *See* Exhibits 8 (LG 2011 Annual Report at 69, 72–73) and 12 (LG product photographs at 6–7). The tuner cans manufactured by LGIT in Korea or Indonesia arrive in the United States and are shipped to LG Electronics Reynosa for incorporation into the television sets. *See* Exhibits 11 (import record listing LG Electronics Reynosa Inc. as Consignee and LGIT as Shipper) and 12 (LG product photographs at 6–7). LG Electronics U.S.A. imports the television sets into the United States and markets them to consumers through major distribution chains like Best Buy, Wal-Mart, and various online resellers. *See id.* at 1–4. Infringing parts and goods arrive in the United States as tuner cans prior to assembly, as tuner cans for replacement parts, as replacement part boards that incorporate tuner cans, and as television sets. Thus, on information and belief, LG imports into the United States, sells for importation, or sells within the United States after importation certain television sets, television receivers, television tuners, and components thereof that infringe the CrestaTech Patents.

26. CrestaTech is informed and believes, and on that basis alleges, that Proposed Respondent MaxLinear, Inc. (“MaxLinear”) is a Delaware corporation with its headquarters at 2051 Palomar Airport Road, Suite 100, Carlsbad, California 92011.

27. On information and belief, MaxLinear is in the business of developing, manufacturing and selling television receivers, television tuners, and components thereof. More specifically, on information and belief: MaxLinear Inc. is a fabless IC manufacturer that uses chip manufacturers based in China, Malaysia, Singapore and Taiwan and packaging and test companies in Taiwan and China. *See* Exhibit 13 (MaxLinear Corporate Overview presentation dated September 2013 at 4). MaxLinear sells the infringing parts to manufacturers of silicon tuner cans. *See* Exhibit 14 (MaxLinear Corporate Fact Sheet). These silicon tuner can manufacturers make products that are used by television manufacturers, including Sharp and VIZIO, inside television sets that are imported into the United States. *See id.* Thus, on information and belief, MaxLinear imports into the United States, sells for importation, or sells within the United States after importation certain television receivers, television tuners, and components thereof that infringe the CrestaTech Patents.

28. CrestaTech is informed and believes, and on that basis alleges, that Proposed Respondent Sharp Corporation is a Japanese corporation with its principal place of business at 22-22 Nagaike-cho, Abeno-ku, Osaka 545-8522, Japan. CrestaTech is informed and believes, and on that basis alleges, that Proposed Respondent Sharp Electronics Corporation is a wholly-owned subsidiary of Sharp Corporation and a New York corporation with its principal place of business at 1 Sharp Plaza, Mahwah, New Jersey, 07495-1163. *See* Exhibit 15 (Sharp 2013 Annual Report at 69). Sharp Corporation and Sharp Electronics Corporation are referred to herein individually and collectively as “Sharp.”

29. On information and belief, Sharp is in the business of developing, manufacturing and selling television sets, television receivers, television tuners, and components thereof. More specifically, on information and belief: Sharp Corporation designs and produces television sets for the consumer market in the United States. *See* Exhibit 15 (Sharp 2013 Annual Report at 12). Sharp engineers work with engineers at consolidated subsidiary Sharp Wuxi to select the tuners that are used within the television sets. Sharp Wuxi produces silicon tuner-based tuner cans incorporating infringing MaxLinear parts that are used in the designs and products of Sharp Corporation. For the U.S. market, the assembly of the television set occurs at Sharp Electronics Mexico (SEMEX) in Playas de Rosarito, Mexico. *See* Exhibits 16 (Affiliated Companies (Overseas) List available at [www.sharp-world.com/corporate/info/ci/consolidated/oversea/index.html](http://www.sharp-world.com/corporate/info/ci/consolidated/oversea/index.html)) and 17 (Sharp product photographs at 7–8). The tuner cans manufactured by Sharp Wuxi in China arrive in the United States and are shipped to SEMEX for incorporation into the television sets. Sharp Electronics Corporation imports the television sets into the United States and markets them to consumers through major distribution chains like Best Buy, Wal-Mart, and online resellers. *See* Exhibit 17 (*Id.* at 6–7). Between the various entities infringing parts arrive in the United States as tuner cans for production purposes, as tuner cans for replacement parts, integrated in replacement part boards incorporating such tuner cans, and as television sets. Thus, on information and belief, Sharp imports into the United States, sells for importation, or sells within the United States after importation certain television sets, television receivers, television tuners, and components thereof that infringe the CrestaTech Patents.



30. CrestaTech is informed and believes, and on that basis alleges, that Proposed Respondent VIZIO, Inc. (“VIZIO”) is a California corporation with its principal place of business at 39 Tesla, Irvine, California 92618.

31. On information and belief, VIZIO is in the business of developing, manufacturing and selling television tuners, and components thereof. More specifically, on information and belief: VIZIO is a marketing company that markets and sells televisions containing infringing devices. *See* Exhibit 18 (VIZIO Home Page – About Us available at [www.store.vizio.com/about/](http://www.store.vizio.com/about/)). VIZIO relies on outsourced production and development. VIZIO’s main production partner is AmTran Technologies in Taiwan, which produces the televisions marketed by VIZIO. *See* Exhibit 19 (VIZIO Home Page – News & Press, article dated January 2, 2010, “CES: Value Outweighs Price, AmTran Says” available at [www.store.vizio.com/news/CESValueOutweighsPriceAmTranSays](http://www.store.vizio.com/news/CESValueOutweighsPriceAmTranSays)). Assembly of the television sets occurs in Mexico. *See* Exhibit 20 (VIZIO product photographs at 7–8). For the model years 2012 and 2013, VIZIO also is using tuner cans manufactured by LG Innotek (LGIT) that incorporate the infringing MaxLinear parts. *See id.* at 8–9. Thus, on information and belief, VIZIO imports into the United States, sells for importation, or sells within the United States after importation certain television sets, television receivers, television tuners, and components thereof that infringe the CrestaTech Patents.

### **III. THE PRODUCTS AT ISSUE**

32. Silicon Labs’s infringing products include the following five generations of tuners: (1) Generation: Si2170, Si2172; (2) Generation: Si2173; (3) Generation: Si2155, Si2136, Si2146, Si2156, Si2176; (4) Generation: Si2138, Si2148, Si2158, Si2178; and (5) Generation: Si2127, Si2137, Si2147, Si2157, Si2177 (collectively, the “Silicon Labs Infringing Products”). *See* Exhibit 21 (compilation of product sheets for Silicon Labs products).

33. The Silicon Labs Infringing Products are imported into and sold within the United States by or on behalf of Proposed Respondents Silicon Labs, Samsung, and LG. Additional infringing products imported into and sold within the United States include, but are not limited to, Samsung television sets incorporating the Silicon Labs Infringing Products (“the Samsung Infringing Products”) and LG television sets incorporating the Silicon Labs Infringing Products (“the LG Infringing Products”). A list of these infringing television sets incorporating the Silicon Labs Infringing Products is attached as Exhibit 22. On information and belief, commercially significant volumes of the infringing tuners and televisions are maintained by these Proposed Respondents in the United States.

34. MaxLinear’s infringing products include the tuners referred to as MxL601 (collectively, the “MaxLinear Infringing Products”).

35. The MaxLinear Infringing Products are imported into and sold within the United States by or on behalf of Proposed Respondents MaxLinear, Sharp and VIZIO. Additional infringing products imported into and sold within the United States include, but are not limited to, Sharp television sets incorporating MxL601 (“the Sharp Infringing Products”) and VIZIO television sets incorporating MxL601 (“the VIZIO Infringing Products”). A list of these infringing television sets incorporating the MaxLinear Infringing Products is attached as Exhibit 23. On information and belief, commercially significant volumes of the infringing tuners and televisions are maintained by these Proposed Respondents in the United States.

#### **IV. THE PATENTS AT ISSUE**

##### **A. U.S. Patent No. 7,075,585**

##### **i. Identification of the Patent and Ownership by CrestaTech**

36. CrestaTech owns by assignment the entire right, title, and interest in the ’585 patent entitled “Broadband Receiver Having A Multistandard Channel Filter,” which issued on

July 11, 2006. A certified copy of the '585 patent is attached as Exhibit 24. A certified copy of the recorded assignment of the '585 patent is attached as Exhibit 25.

37. Pursuant to Commission Rule 210.12(c), a certified copy and three additional copies of the prosecution histories of the '585 patent, as well as four copies of the applicable pages from each technical reference cited in the prosecution history, are attached as Appendices A and B, respectively.

**ii. Foreign Counterparts to the '585 patent**

38. Pursuant to Commission Rule 210.12(a)(9)(v), CrestaTech submits the attached list of foreign patents, foreign patent applications (not already issued as a patent), and each foreign patent application that has been denied, abandoned, or withdrawn corresponding to the '585 patent. *See* Exhibit 26.

**B. U.S. Patent No. 7,265,792**

**i. Identification of the Patent and Ownership by CrestaTech**

39. CrestaTech owns by assignment the entire right, title, and interest in the '792 patent entitled "Television Receiver for Digital and Analog Television Signals," which issued on September 4, 2007. A certified copy of the '792 patent is attached as Exhibit 27. A certified copy of the recorded assignment of the '792 patent is attached as Exhibit 28.

40. Pursuant to Commission Rule 210.12(c), a certified copy and three additional copies of the prosecution histories of the '792 patent, as well as four copies of the applicable pages from each technical reference cited in the prosecution history, are attached as Appendices C and D, respectively.

**ii. Foreign Counterparts to the '792 patent**

41. Pursuant to Commission Rule 210.12(a)(9)(v), CrestaTech submits the attached list of foreign patents, foreign patent applications (not already issued as a patent), and each

foreign patent application that has been denied, abandoned, or withdrawn corresponding to the '792 patent. *See* Exhibit 26.

**C. U.S. Patent No. 7,251,466**

**i. Identification of the Patent and Ownership by CrestaTech**

42. CrestaTech owns by assignment the entire right, title, and interest in the '466 patent entitled "Television receiver including an integrated band selection filter," which issued on July 31, 2007. A certified copy of the '466 patent is attached as Exhibit 29. A certified copy of the recorded assignment of the '466 patent is attached as Exhibit 30.

43. Pursuant to Commission Rule 210.12(c), a certified copy and three additional copies of the prosecution histories of the '466 patent, as well as four copies of the applicable pages from each technical reference cited in the prosecution history, are attached as Appendices E and F, respectively.

**ii. Foreign Counterparts to the '466 patent**

44. Pursuant to Commission Rule 210.12(a)(9)(v), CrestaTech submits the attached list of foreign patents, foreign patent applications (not already issued as a patent), and each foreign patent application that has been denied, abandoned, or withdrawn corresponding to the '466 patent. *See* Exhibit 26.

**D. Non-Technical Description of the Patented Inventions<sup>1</sup>**

45. Television technology has changed dramatically in the last decade. Most notably, flat panel television sets have taken over the market and become nearly ubiquitous. As explained below, CrestaTech's patented technology is critical to this development.

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<sup>1</sup> This section does not, and is not intended to, construe or limit the scope or meaning of the CrestaTech Patents or their claims.

46. For a television set to display a picture and play audio, a receiver or tuner in the television set must receive and process television signals. Television signals are encoded and then broadcast in accordance with one of various standards—such as NTSC, ATSC, Open Cable, PAL, SECAM, DVB-C, DVB-T, ISDB-T, or DTMB—some of which apply to analog television signals and others to digital television signals. In the United States, and elsewhere in the world, a television receiver must be able to process both analog and digital television signals that are encoded in accordance with different standards.

47. The receiver, or tuner, is a fundamental part of any television set; it allows the incoming television signal transmissions to be processed to produce video and sound. Television signals reach the tuner at the first stage in the signal path, and the tuner performs several functions. The tuner selects the wanted channel, removes unwanted signals through filtering, amplifies the wanted signal, performs a frequency translation function by shifting the wanted signal to an intermediate frequency (“IF”) compatible with further processing, and otherwise processes the signal to produce optimal video and sound.

48. Television tuners face several technical challenges. First, the form in which television signals are broadcast varies by region. Traditional tuners were designed to handle television signals broadcast in either the analog or digital form, but not both, and were not equipped to handle television signals encoded in accordance with more than one standard. Thus, a given tuner could be used only in particular geographic regions using particular standards. Second, tuners must be able to handle a broad dynamic range of signals in order to receive and tune the wanted signal, whether it is a powerful signal or a weak signal in the presence of powerful unwanted signals. Third, tuners must be able to tune out or exclude spurious unwanted signals or noise generated inside the television set.

49. To meet these demands, traditional television sets used “can tuners.” Traditional can tuners are electronic boxes comprising integrated circuits and a considerable number of passive discrete devices, all enclosed within a metallic enclosure. Traditional can tuners have several disadvantages or limitations. First, they are expensive and labor-intensive to manufacture; for instance, traditional can tuners include numerous individual coils that must be adjusted by hand during the manufacturing process. Second, traditional can tuners are large and bulky, which in turn requires the TV set itself to be bigger. Third, these tuners are designed for use only in particular geographical regions. Finally, traditional can tuners also have the major drawback that they perform all signal processing in the analog domain, requiring the receiver to include duplicate components, such as multiple Surface Acoustic Wave (“SAW”) filters, in order to process both analog and digital television signals.

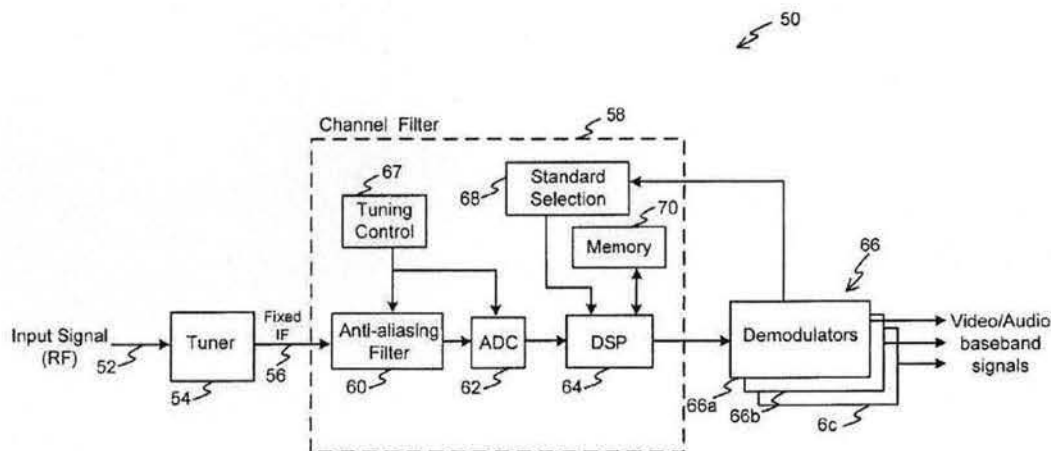
50. CrestaTech’s technology and its patented inventions overcome all of these obstacles. First, CrestaTech Smart Tuner ICs use a single signal processing path to process both analog and digital television signals. As a result Smart Tuner ICs eliminate the need for duplicate components and reduce the size and manufacturing cost of the receiver. Second, CrestaTech Smart Tuner ICs perform signal processing in the digital domain, by sampling and converting analog signals into digital representations of those signals and then performing filtering and other processing on the digital representation; this eliminates the need for most external components and again reduces the size and manufacturing cost of the receiver. Finally, Smart Tuner ICs support multiple different standards and both digital and analog television signals—i.e., they provide multi-standard reception—and therefore can be used in any geographic region. Thus, CrestaTech’s Smart Tuner ICs eliminate the need for bulky traditional



can tuners, reduce the cost of developing thin flat panel TVs, and make it possible to have a television that will work anywhere in the world, regardless of broadcast or transmission standard.

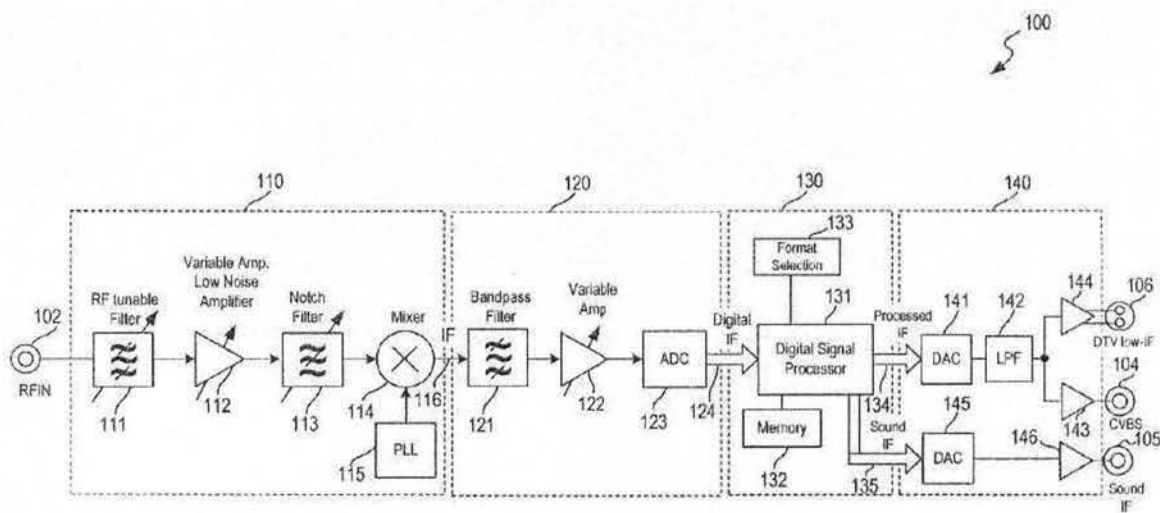
51. The '585, '792, and '466 patents claim some of the innovations shown in CrestaTech's products. The '585 and '792 patents relate to multi-standard television tuners or receivers that receive and process analog and digital television signals, digitize the signal for digital signal processing, and then either reconstruct or convert the signal back into the analog domain or feed it directly to a demodulator in the digital domain.

52. The '585 patent, which was filed on September 6, 2002, and claims priority to a provisional application filed on September 17, 2001, relates to a television receiver that includes a multi-standard channel filter with a programmable intermediate frequency, adapted to receive television signals in a variety of television standards and formats, and a plurality of demodulators for demodulating the signals in accordance with their format. A preferred embodiment is shown in the following block diagram, which is Figure 2 of the '585 patent:



53. The '792 patent, which was filed on July 1, 2004, relates to a television receiver that includes a frequency conversion circuit that receives an input RF signal in one of several television signal formats and converts it to an IF Signal, an ADC that generates a digital

representation of the IF Signal, a DSP that processes the digital representation of the IF Signal in accordance with the television signal format of the input RF signal and generates digital output signals indicative of information encoded in the input RF signal, and a signal output circuit that receives the digital output signals from the DSP and provides one or more output signals. A preferred embodiment is shown in the following block diagram, which is Figure 1 of the '792 patent:



54. The '466 patent, which was filed on August 20, 2004, discloses a television receiver including an integrated band selection filter. A band selection or “tracking” filter performs broad filtering of incoming RF signals around the center frequency of the wanted channel. In traditional can tuners, the tracking filter was implemented using discrete, trimmable inductors and capacitors, and it was not thought to be possible to implement the tracking filter in a monolithic circuit. The tracking filters claimed in the '466 patent comprise an integrated, switchable bank of parallel branches of inductors and capacitors to perform filtering throughout the broad range of frequencies in the television signal spectrum. The patent also discloses the construction of the inductors in a monolithic circuit.

**E. Licensees**

55. CrestaTech does not have any licensees and is not relying upon any license to establish standing or satisfy the domestic injury requirement.

**V. THE DOMESTIC INDUSTRY**

56. There is a domestic industry as defined under 19 U.S.C. § 1337(a)(3)(A), (B), and/or (C), comprising continuing significant investments in plant and equipment, employment of labor and capital, and substantial investment in exploitation of the CrestaTech Patents. In the alternative, to the extent the Commission were to determine that these investments and activities are not yet sufficient to establish a domestic industry within the meaning of section 337 (a)(3), under section 337 (a)(2) there is a domestic industry which is in the process of being established. CrestaTech can demonstrate that it has taken, and is presently taking, the necessary tangible steps to establish such an industry in the United States, and there is a significant likelihood that the domestic industry requirement will be satisfied in the future.

**A. CrestaTech's Investments in the Domestic Industry**

57. CrestaTech engages in a broad range of qualifying domestic industry activities in the United States directed to articles protected by the CrestaTech Patents. These articles include the XC5000 series and CTC70X series television tuner products (the "Domestic Industry Products"). As discussed below, the Domestic Industry Products each practice at least one valid claim of each Asserted Patent.

58. CrestaTech has made and continues to make significant investments in plant and equipment with respect to the Domestic Industry Products that practice the CrestaTech Patents. Those investments are dedicated to research, design, development, engineering, product support, manufacturing support, firmware development, testing, and various customer support activities focused on the Domestic Industry Products.

59. CrestaTech has made and continues to make significant investments in labor and capital with respect to the Domestic Industry Products. Those investments in labor and capital are dedicated to research, development, design, engineering, product support, manufacturing support, firmware development, testing, and various customer support activities focused on the Domestic Industry Products.

60. CrestaTech also has made and continues to make significant investments in the production of the Domestic Industry products through payments to a semiconductor manufacturer located in the United States that manufactures the Domestic Industry Products substantially in California. CrestaTech also makes significant investments related to testing and support of the Domestic Industry Products through payments to other domestic entities. CrestaTech personnel in the United States also support domestic production.

61. CrestaTech further engages in exploitation of the CrestaTech Patents through its substantial domestic investments in engineering and research and development activities directed to the Domestic Industry Products that practice the CrestaTech Patents. These activities include, *inter alia*, engineering, research and development, and design tied to the claimed technology implemented in both the circuits and the computer code that controls the circuits' functionalities. These activities have occurred in the past and are ongoing with respect to future versions of CrestaTech products currently under development.

62. CrestaTech's technical activities directed to the Domestic Industry Products take place almost entirely at its Santa Clara, California headquarters.

63. CrestaTech's investments and activities are significant and substantial both in absolute terms and relative to CrestaTech's overall operations, taking into account the nature of such expenditures in the fabless integrated circuit industry in general, CrestaTech's relative size,

and the relative importance of CrestaTech's domestic operations compared to its limited activities overseas.

64. CrestaTech's investments and activities are important to the protected articles and represent significant domestic added value, particularly where the protected articles are designed, developed, and substantially produced domestically. Moreover, CrestaTech's investments and activities are significant and substantial in the context of comparable products, the company's overall investments, and the relevant marketplace.

65. CrestaTech's foreign product-related investments and activities related to the Domestic Industry Products are relatively small compared to CrestaTech's domestic activities.

66. The activities described above are explained in detail in the Declaration of Mihai Murgulescu, attached as Exhibit 31C (Confidential). The investments described above are set forth in the Declaration of Matthew Lewis, attached as Exhibit 32C (Confidential).

**B. CrestaTech's Practice of the CrestaTech Patents**

67. CrestaTech's CTC703 product, among others, practices many of the claims of the '585, '792 and '466 patents. Claim charts showing at least one representative claim of each patent practiced by at least one Domestic Industry Product are attached as Exhibits 41 through 43.

**VI. SPECIFIC INSTANCES OF IMPORTATION AND SALE**

68. On information and belief, the Proposed Respondents import, sell for importation, and/or sell within the United States after importation infringing television sets, television receivers, television tuners, and components thereof. The specific instances of importation of infringing television receivers, television tuners, and components thereof set forth below are illustrative and non-exhaustive examples of the Proposed Respondents' unlawful importation of infringing products.

**A. Importation and Sale of the Silicon Labs Infringing Products and Related Devices**

69. On information and belief, the Silicon Labs Infringing Products and products incorporating those infringing devices are imported into the United States by or on behalf of Proposed Respondents Silicon Labs, Samsung, and LG.

70. Photographs of exemplary Samsung and LG Infringing Products offered for sale by and purchased from retailers in the United States are attached as Exhibits 5 and 12.

71. An exemplary Samsung Infringing Product, television set model UN40F6300AF, was sold in the United States on October 17, 2013, as shown on page 5 of Exhibit 5 (showing Best Buy receipt). According to its product packaging and labels, the Samsung UN40F6300AF was made in Mexico. *Id.* at 7–8. The location of the connector to the infringing tuner in the Samsung UN40F6300AF is marked on the back panel. *Id.* at 9. Removing the back panel shows that the main board contains the tuner can, *id.* at 10, which is marked with part number DTV2OEIH35A and replacement part number BN40-00248A. *Id.* at 11. Removing the Samsung UN40F6300AF tuner can's housing shows the tuner contains a 28-pin IC marked "SES173" which has the same silicon die as Silicon Labs's Si2178. *Compare id.* at 12 with Exhibit 33 (Overview of Silicon Labs si21 4th Generation TV Tuner ICS at 1) and Exhibit 34 (Block Diagram of Silicon Labs si2178 TV Tuner IC).

72. An exemplary infringing LG television, model 42LN5400, was sold in the United States on October 17, 2013, as shown on page 4 of Exhibit 12 (showing Best Buy receipt). According to its product packaging and labels, the LG 42LN5400 was assembled in Mexico. *Id.* at 6–7. The location of the connector to the infringing tuner on the back panel of the LG 42LN5400 is indicated with an arrow. *Id.* at 8. Removing the back panel shows that the main board contains the tuner can, *id.* at 9, which is marked with part number TDSS-H501F(B) and replacement part number EBL61240003. *Id.* at 11. Removing the LG 42LN5400 tuner can's



housing shows the tuner contains a 28-pin IC marked “215820,” indicating that it is Silicon Labs’s Si2158. *Compare id.* at 11 with Exhibit 33 (Overview of Silicon Labs si21 4th Generation TV Tuner ICs at 1).

73. CrestaTech believes that the Silicon Labs Infringing Products and television sets, television receivers, television tuners, and components thereof incorporating these devices, fall under one or more of the following classifications of the Harmonized Tariff Schedule (“HTS”) of the United States: Heading Nos. 8542.39.0000, 8529.90.0100, 8528.72.7210, 8528.72.7250, and 8528.72.7270, *et seq.* These HTS identifications are illustrative and not exhaustive. The identifications are not intended to limit the scope of the Investigation, nor are they intended to restrict the scope of any exclusion order or other remedy ordered by the Commission.

**B. Importation and Sale of the MaxLinear Infringing Products and Related Devices**

74. On information and belief, the MaxLinear Infringing Products and products incorporating those infringing devices are imported into the United States by or on behalf of Proposed Respondents MaxLinear, Sharp, and VIZIO.

75. Photographs of exemplary MaxLinear Infringing Products offered for sale by and purchased from retailers in the United States are attached as Exhibits 17 (Pages 1–12) and 20 (Pages 1–12).

76. An exemplary infringing Sharp television, model LC-60LE650U, was sold in the United States on October 21, 2013, as shown on page 5 of Exhibit 17, (showing Best Buy receipt). According to its product packaging and labels, the Sharp LC-60LE650U was made in Mexico. *Id.* at 7–8. The location of the connector to the infringing tuner on the back panel of the Sharp LC-60LE650U is indicated with an arrow. *Id.* at 9. Removing the back panel shows that the main board contains the tuner can, *id.* at 10, which is marked with part number RTUDAA083WJQZ. *Id.* at 11. A close-up view of the Sharp LC-60LE650U tuner can’s

housing, *id.* at 12, shows the tuner contains a 24-pin IC marked “MXL 601,” which identifies it as MaxLinear’s MxL 601 product. *See* Exhibit 13 at 7.

77. An exemplary infringing VIZIO television, model M321i-A2, was sold in the United States on September 15, 2013, as shown on page 5 of Exhibit 20, (showing Best Buy receipt). According to its product packaging and labels, the VIZIO M321i-A2 was made in Mexico. *Id.* at 7–8. The location of the connector to the infringing tuner on the back panel of the VIZIO M321i-A2 is indicated with an arrow. *Id.* at 9. Removing the back panel shows that the main board contains the tuner can, *id.* at 10, which is marked with part number TDST-H570F. *Id.* at 11. Removing the VIZIO M321i-A2 tuner can’s housing, *id.* at 12, shows the tuner contains a 24-pin IC marked “MXL 601,” which identifies it as MaxLinear’s MxL 601 product. *See* Exhibit 13 at 7.

78. CrestaTech believes that the MaxLinear Infringing Products and television sets, television receivers, television tuners, and components thereof incorporating these devices, fall under one or more of the following classifications of the Harmonized Tariff Schedule (“HTS”) of the United States: Heading Nos. 8542.39.0000, 8529.90.0100, and 8528.72.7250, *et seq.* These HTS identifications are illustrative and not exhaustive. The identifications are not intended to limit the scope of the Investigation, nor are they intended to restrict the scope of any exclusion order or other remedy ordered by the Commission.

## **VII. UNLAWFUL AND UNFAIR ACTS COMMITTED BY THE PROPOSED RESPONDENTS**

79. On information and belief, the Silicon Labs Proposed Respondents unlawfully sell for importation, import, and/or sell after importation into the United States certain television tuners, and components thereof that infringe the CrestaTech Patents. Based on information discovered through investigation, the Silicon Labs Proposed Respondents infringe, literally or

under the doctrine of equivalents, at least: claims 1–3, 5, 10, 13, 14, 16–19 of the '585 patent; claims 1–17, 26, 27 of the '792 patent; and claims 1, 2, 5, 8, 9, 11–13, 16, 20–22, 24–26, 29, 31, 32, 35–37, 39 of the '466 patent. Attached as Exhibits 44 through 46 are claim charts that show how exemplary Silicon Labs Infringing Products and the Samsung and LG products incorporating these devices infringe exemplary claims of the CrestaTech Patents.

80. On information and belief, the MaxLinear Proposed Respondents unlawfully sell for importation, import, and/or sell after importation into the United States certain television tuners, and components thereof that infringe the CrestaTech Patents. Based on information discovered through investigation, the MaxLinear Proposed Respondents infringe, literally or under the doctrine of equivalents, at least: claims 1–3, 5, 10, 12–14, 16–19 of the '585 patent; and claims 1–3, 7–9, 11, 12, 25–27 of the '792 patent. Attached as Exhibits 47 and 48 are claim charts that show how the exemplary MaxLinear Infringing Products and the Sharp and VIZIO products incorporating these devices infringe exemplary claims of the CrestaTech Patents.

81. The Silicon Labs Proposed Respondents and the MaxLinear Proposed Respondents infringe the CrestaTech Patents pursuant to 35 U.S.C. § 271(a), (b), and (c). The Silicon Labs, Samsung, LG, MaxLinear, Sharp, and VIZIO Infringing Products infringe upon importation into the United States. On information and belief, the Proposed Respondents directly infringe the CrestaTech Patents through the operation, development, and/or testing, and/or by offering for sale and/or selling the infringing articles in the United States.

82. The Proposed Respondents have had actual notice of their infringement of the CrestaTech Patents no later than the service of this Complaint, and in some instances, prior to the filing of this Complaint.

83. The Proposed Respondents knowingly induce others in the United States to use products covered by the CrestaTech Patents and to perform methods covered by certain claims of the CrestaTech Patents. The Proposed Respondents' became aware of the CrestaTech Patents no later than as of the filing of this complaint. With knowledge and intent to induce direct infringement of the CrestaTech Patents, the Proposed Respondents have and will aid and abet infringement by instructing the purchaser or user of an accused device to use that device in an infringing manner.

84. The Proposed Respondents also contributorily infringe the CrestaTech Patents. The Proposed Respondents sell or offer to sell within the United States or import into the United States devices that constitute a component and material part of the invention claimed by the CrestaTech Patents. The Proposed Respondents know such devices to be especially made or especially adapted for uses that infringe the CrestaTech Patents. These infringing articles are not staple articles or commodities of commerce suitable for substantial noninfringing use.

85. Upon information and belief, the devices that infringe pursuant to 35 U.S.C. § 271(b) or (c), directly infringe upon importation. Acts of direct infringement occur prior to importation through, for example, testing or evaluation of the device, such that the device is infringing upon importation.

86. Attached as Exhibits 21 (compilation of product sheets for Silicon Labs products) and 35 are technical drawings for, and photographs of, the Silicon Labs Infringing Products. Attached as Exhibit 36 are photographs of the MaxLinear Infringing Products. Attached as Exhibits 37 and 38 are instruction manuals for certain Samsung and LG television sets incorporating the Silicon Labs Infringing Products. Attached as Exhibits 39 and 40 are

instruction manuals for certain Sharp and VIZIO television sets incorporating the MaxLinear Infringing Products. These materials induce infringement of the CrestaTech Patents.

### **VIII. RELATED LITIGATION**

87. The CrestaTech Patents are currently the subject of litigation in the United States District Court for the District of Delaware. CrestaTech filed suit against the Silicon Labs Respondents on January 21, 2014, alleging that Respondents are liable for infringement of the CrestaTech Patents pursuant to 35 U.S.C. § 271(a), (b), and (c). The case number is 1:14-cv-00078. CrestaTech filed suit against the MaxLinear Respondents on January 21, 2014, alleging that Respondents are liable for infringement of the CrestaTech Patents pursuant to 35 U.S.C. § 271(a), (b), and (c). The case number is 1:14-cv-00079.

### **IX. RELIEF REQUESTED**

WHEREFORE, by reason of the foregoing, Complainant CrestaTech respectfully requests that the United States International Trade Commission:

- (a) institute an immediate investigation pursuant to Section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, with respect to the Proposed Respondents' violations of that section based on the importation into the United States, sale for importation, and/or the sale within the United States after importation of Proposed Respondents' infringing products;
- (b) set a target date of no more than fifteen months;
- (c) schedule and conduct a hearing on permanent relief pursuant to 19 U.S.C. § 1337(c) for the purposes of receiving evidence and hearing argument concerning whether there has been a violation of Section 337, and following the hearing, to determine that there has been a violation of Section 337;

- (d) issue a limited exclusion order, pursuant to 19 U.S.C. § 1337(d) forbidding entry into the United States of Silicon Labs Proposed Respondents' products that infringe one or more claims of United States Patent Nos. 7,075,585, 7,265,792, and 7,251,466;
- (e) issue a limited exclusion order, pursuant to 19 U.S.C. § 1337(d) forbidding entry into the United States of MaxLinear Proposed Respondents' products that infringe one or more claims of United States Patent Nos. 7,075,585 and 7,265,792;
- (f) issue a cease and desist order, pursuant to 19 U.S.C. § 1337(f), prohibiting the Silicon Labs Proposed Respondents and their related companies from engaging in the importation, sale for importation, marketing, distribution, offering for sale, the sale after importation of, or otherwise transferring within the United States products that infringe United States Patent Nos. 7,075,585, 7,265,792, and 7,251,466;
- (g) issue a cease and desist order, pursuant to 19 U.S.C. § 1337(f), prohibiting the MaxLinear Proposed Respondents and their related companies from engaging in the importation, sale for importation, marketing, distribution, offering for sale, the sale after importation of, or otherwise transferring within the United States products that infringe United States Patent Nos. 7,075,585 and 7,265,792;
- (h) issue such other and further relief as the Commission deems just and proper under the law, based upon the facts determined by the investigation and the authority of the Commission.



Dated: January 28, 2014

Respectfully submitted,



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*Counsel for CrestaTech Technology Corporation*

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# CrestaTech

Programmable Broadband

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## VERIFICATION OF COMPLAINT

I, Torbjorn Folkebrant, declare, in accordance with 19 C.F.R. §§ 210.4 and 210.12(a), under penalty of perjury that the following statements are true:

1. I am the Chief Executive Officer of Cresta Technology Corporation, and am duly authorized to sign this complaint on behalf of Complainant;
2. I have read the complaint and am aware of its contents;
3. The complaint is not being presented for any improper purpose, such as to harass or to cause unnecessary delay or needless increase in the cost of the investigation or related proceedings;
4. To the best of my knowledge, information and belief founded upon reasonable inquiry, the claims and legal contentions of this complaint are warranted by existing law or a good faith argument for the extension, modification, or reversal of existing law;
5. The allegations and other factual contentions in the complaint have evidentiary support or are likely to have evidentiary support after a reasonable opportunity for further investigation or discovery.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on January 13, 2014



Torbjorn Folkebrant  
Chief Executive Officer  
Cresta Technology Corporation