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UNITED STATES DISTRICT COURT

CENTRAL DISTRICT OF CALIFORNIA

ENTROPIC COMMUNICATIONS, LLC, Plaintiff, v. COX COMMUNICATIONS, INC., *et al.*, Defendants.	Case No. 2:23-cv-1049-JWH-KES (Lead Case) Case No. 2:23-cv-1050-JWH-KES (Related Case) **PROPOSED THIRD AMENDED COMPLAINT FOR PATENT INFRINGEMENT FOR CASE NO. 2:23-cv-1049-JWH-KES**
ENTROPIC COMMUNICATIONS, LLC, Plaintiff, v. COMCAST CORPORATION, *et al.*, Defendants.	**DEMAND FOR JURY TRIAL**

ENTROPIC EXHIBIT 2011
Comcast v. Entropic
IPR2025-00183

Plaintiff, Entropic Communications, LLC ("Entropic"), files this complaint for patent infringement against Comcast Corporation ("Comcast Corp."); Comcast Cable Communications, LLC ("Comcast Communications"); and Comcast Cable Communications Management, LLC ("Comcast Management") (collectively "Comcast") and in support thereof alleges as follows:

1. This is a civil action arising under the patent laws of the United States, 35 U.S.C. § 1 *et seq.*, including specifically 35 U.S.C. § 271, based on Comcast's infringement of U.S. Patent Nos. 8,223,775 (the "'775 Patent"), 8,284,690 (the "'690 Patent"), 8,792,008 (the "'008 Patent"), 9,210,362 (the "'362 Patent"), 9,825,826 (the "'826 Patent"), 10,135,682 (the "'682 Patent"), 11,381,866 (the "'866 Patent"), 11,399,206 (the "'206 Patent"), 11,785,275 (the "'275 Patent"), and 9,866,438 (the "'438 Patent") (collectively, the "Patents-in-Suit").

THE PARTIES

2. Entropic is a Delaware limited liability company with an office at 7150 Preston Road, Suite 300, Plano, Texas 75024.

3. Entropic is the owner by assignment to all right, title, and interest to the Patents-in-Suit. Entropic is the successor-in-interest of the Patents-in-Suit.

4. Upon information and belief, Comcast Corp. is a corporation organized and existing under the laws of Pennsylvania, with a principal place of business at 1701 JFK Boulevard, Philadelphia, Pennsylvania 19103.

5. Comcast Corp. has, as its registered agent in California, CT Corporation System, 330 N. Brand Blvd., Suite 700, Glendale, California 91203.

6. Comcast Corp., along with the other defendants, develops, markets, sells, offers for sale and/or provides "Comcast" and "Xfinity" branded cable television services and equipment to customers.

7. Comcast Communications is a limited liability company organized and existing under the laws of Delaware, with a principal place of business at 1701 JFK

Boulevard, Philadelphia, Pennsylvania 19103. Upon information and belief, Comcast Communications is a subsidiary of Comcast Corp.

8. Comcast Communications has, as its registered agent in California, CT Corporation System, 330 N. Brand Blvd., Suite 700, Glendale, California 91203.

9. Comcast Communications, along with the other defendants, develops, markets, sells, offers for sale and/or provides "Comcast" and "Xfinity" branded cable television services and equipment to customers.

10. Comcast Management is a limited liability company organized and existing under the laws of Delaware, with a principal place of business at 1701 JFK Boulevard, Philadelphia, Pennsylvania 19103. Upon information and belief, Comcast Management is a subsidiary of Comcast Corp.

11. Comcast Management has, as its registered agent in California, CT Corporation System, 330 N. Brand Blvd., Suite 700, Glendale, California 91203.

12. Comcast Management, along with the other defendants, develops, markets, sells, offers for sale and/or provides "Comcast" and "Xfinity" branded cable television services and equipment to customers.

13. Comcast Corp. and/or Comcast Communications owns or leases, and maintains and operates, several stores in this district by and through subsidiary limited liability companies that they own, manage, and control, including Comcast of Santa Maria, LLC and Comcast of Lompoc LLC. Upon information and belief, Comcast Corp. and/or Comcast Communications (and/or other personnel employed by them) negotiates and signs agreements on behalf of each of these entities.

14. Upon information and belief, Comcast Corp. and/or Comcast Communications are the corporate managers of their subsidiary LLCs that own or lease property in this district, and that own, store, sell, demonstrate, and lease equipment in this district. Comcast Corp. and/or Comcast Communications have the right to exercise near total control of each entity's operations through its LLC agreements with each entity.

15. In each of those stores, Comcast Corp. and/or Comcast Communications owns and stores equipment such as cable modems and set top boxes ("STBs"), including the Accused Cable Modem Products (defined below), Accused Set Top Products (defined below) and demonstrates the Accused Services (defined below) provided via those products to Comcast customers by and through subsidiary limited liability companies that it manages and controls.

16. Upon information and belief, Comcast Corp. and/or Comcast Communications employs personnel that install, service, repair and/or replace equipment, as appropriate, in this district by and through subsidiary limited liability companies that it manages and controls.

17. Upon information and belief, Comcast Corp. and/or Comcast Communications have two wholly owned subsidiaries in this Judicial District of Central California ("District") that serve as their agents.

18. Comcast of Santa Maria, LLC ("Comcast Santa Maria") is a limited liability company organized and existing under the laws of Pennsylvania, with a principal place of business at 1701 JFK Boulevard, Philadelphia, Pennsylvania 19103. Comcast Santa Maria is a subsidiary of Comcast Corp.

19. Comcast Santa Maria, along with the other defendants, markets, sells, offers for sale and/or provides "Comcast" and "Xfinity" branded cable television services and equipment to customers.

20. Comcast of Lompoc, LLC ("Comcast Lompoc") is a limited liability company organized and existing under the laws of Pennsylvania, with a principal place of business at 1701 JFK Boulevard, Philadelphia, Pennsylvania 19103. Comcast Lompoc is a subsidiary of Comcast Corp.

21. Comcast Lompoc, along with the other defendants, markets, sells, offers for sale and/or provides "Comcast" and "Xfinity" branded cable television services and equipment to customers.

22. Upon information and belief, Comcast Communications, Comcast, Management, Comcast Santa Maria, and Comcast Lompoc are the agents of Comcast Corp. Upon information and belief, Comcast Corp. has complete and total control over its agents Comcast Communications, Comcast Management, Comcast Santa Maria, and Comcast Lompoc. On information and belief, Comcast Corp. shares management, common ownership, advertising platforms, facilities, distribution chains and platforms, stores, and accused product lines and products involving related technologies with its agents, including at least Comcast Communications, Comcast Management, Comcast Santa Maria, and Comcast Lompoc.

23. For example, Comcast Corp., Comcast Communications, Comcast Management, Comcast Santa Maria, and Comcast Lompoc all have the same principal place of business at 1701 JFK Boulevard, Philadelphia, Pennsylvania 19103.

24. The Comcast "Xfinity Residential Services Agreement" purports to bind Comcast's customers, including those customers in this District, to an agreement with Comcast Communications for, *inter alia*, the Accused Services that Comcast's customers receive through the infringing use of the Accused Cable Modem Products and the Accused Set Top Products.[1] This agreement further provides that an entity other than Comcast Communications provides the services. Upon information and belief, the entity that provides the services to Comcast's customers and subscribers is Comcast Management.

25. Comcast Management further shares a leadership team with Comcast Corp.[2] For example, Brian Roberts is the Chairman and Chief Executive Officer of both

[1] https://www.xfinity.com/Corporate/Customers/Policies/SubscriberAgreement.

[2] *Compare* names found in Exhibit A to the attached https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/communications-division/documents/video-franchising-and-broadband-analysis/video-franchising-main/applications-received--by-the-puc/2022/20220926-comcast-48a/comcast-48a-application.pdf *with* the bios of

Comcast Management and Comcast Corp.; Daniel Murdock is Executive Vice President and Chief Accounting Officer of both Comcast Corp. and Comcast Management; Francis Buono is Executive Vice President of Legal Regulatory Affairs and Senior Deputy General Counsel of both Comcast Corp. and Comcast Management; and Karen Buchholz is Executive Vice President, Administration of both Comcast Corp. and Comcast Management.

PRE-SUIT DISCUSSIONS

26. Prior to filing this Complaint, Entropic sent a communication by physical means to Comcast on August 9, 2022, in an attempt to engage Comcast and/or its agents in good faith licensing discussions regarding Entropic's patent portfolio, including the Patents-in-Suit.[3] Comcast replied to the communication on October 10, 2022, asking for additional information. On December 23, 2022, Entropic sent Comcast another communication regarding a separate license to Entropic's patents for the field of the standardized networking technology commonly called MoCA, and also seeking to discuss with Comcast a typical non-disclosure agreement in order to share such information.

ENTROPIC'S LEGACY AS A CABLE INNOVATOR

27. Entropic Communications Inc. ("Entropic Inc."), the predecessor-in-interest to Plaintiff Entropic as to the Patents-in-Suit, was founded in San Diego, California in 2001 by Dr. Anton Monk, Itzhak Gurantz, Ladd El Wardani and others. Entropic Inc. was exclusively responsible for the development of the initial versions of the Multimedia over Coax Alliance ("MoCA") standards, including MoCA 1.0, ratified in 2006 and MoCA 1.1, ratified in 2007, and was instrumental in the development of

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the identified personnel at Comcast's corporate leadership website, https://corporate.comcast.com/company/leadership.

[3] The '206 Patent was not included in the list of issued Entropic patents discussed in the communication sent on August 9, 2022.

MoCA 2.0, ratified in 2010. It also developed Direct Broadcast Satellite ("DBS") Outdoor Unit ("ODU") single wire technology and System-on-Chip ("SoC") solutions STBs in the home television and home video markets. Entropic was widely known in the cable industry for these innovations and its foundational development of MoCA.

28. Under the technical guidance of Dr. Monk, Entropic Inc. grew to be publicly listed on the NASDAQ in 2007. After the public listing, the company acquired RF Magic, Inc. in 2007, a company specializing in DBS ODU technology and related hardware.

29. Additional growth between 2007 and 2015 bolstered the technical expertise of Entropic Inc. with respect to signal acquisition, stacking, filtering, processing, and distribution for STBs and cable modems.

30. For years, Entropic Inc. pioneered innovative networking technologies, as well as television and internet-related technologies. These technologies simplified the installation required to support wideband reception of multiple channels for demodulation, improved home internet performance, and enabled more efficient and responsive troubleshooting and upstream signal management for cable providers. These innovations represented significant advances in the field, simplified the implementation of those advances, and reduced expenses for providers and customers alike.

MAXLINEAR'S TRANSFER OF PATENTS TO ENTROPIC

31. In 2015, MaxLinear, Inc. and MaxLinear, LLC (collectively, "MaxLinear")—leading providers of radio-frequency, analog, digital, and mixed-signal semiconductor solutions—acquired Entropic Inc., as well as the pioneering intellectual property developed by Dr. Monk and his team.

32. Plaintiff Entropic was established in 2021 [redacted]

[redacted]

33. [redacted]

34. [redacted]

35. [redacted]

36. [redacted]

37. Entropic has the full right to pursue the patent infringement claims asserted in this action against Comcast.

A. [redacted]

38. [redacted]

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[4] [redacted]

[5] [redacted]

39. [redacted]

40. [redacted]

41. [redacted]

42. [redacted]

43. [redacted]

44. [redacted]

45. [redacted]

46. [redacted]

47. [redacted]

48. [redacted]

49. [redacted]

50. [redacted]

51. [redacted]

52. [redacted]

53. [redacted]

54. [redacted]

55. [redacted]

56. [redacted]

57. [redacted]

58. [redacted]

59. [redacted]

60. [redacted]

[6] [redacted]

61. [redacted]

62. [redacted]

63. [redacted]

64. [redacted]

65. [redacted]

66. [redacted]

B. Comcast Has, and Continues, to Willfully and Intentionally Infringe the Patents-in-Suit

67. The Patents-in-Suit are the result of years of research and development in satellite and cable technology. These innovations are utilized by Comcast to provide enhanced and expanded services to customers, which in turn has increased revenues for Comcast while at the same time reducing costs.

68. Comcast invested in Entropic Inc. once in 2003, and again in 2006.

69. Upon information and belief, Comcast substantively reviewed and analyzed Entropic Inc.'s patents and patent applications related to the Patents-in-Suit as part of its due diligence prior to investing in Entropic Inc.

70. In addition, Comcast has willfully infringed the Patents-in-Suit in at least the following ways.

1. The Charter Suits

71. On information and belief, Comcast had knowledge of its infringement of certain of the Patents-in-Suit based on its awareness of the patent infringement suit filed by Entropic against Charter Communications, Inc. ("Charter") in the Eastern District of Texas, Case No. 2:22-CV-00125-JRG, on April 27, 2022. This suit against Charter asserted the '775 Patent, the '690 Patent, the '008 Patent, the '362 Patent, the '826 Patent, and the '682 Patent against Charter's provision of cable television and internet services, cable modem products and STBs.

72. On information and belief, Comcast had knowledge of its infringement of certain of the Patents-in-Suit based on its awareness of the patent infringement suit filed by Entropic against Charter in the Eastern District of Texas, Case No. 2:23-CV-00052-JRG, on February 10, 2023. This second suit against Charter asserted the '866 Patent and the '206 Patent against Charter's provision of cable television and internet services, cable modem products and STBs. The complaint was amended on October 31, 2023, to assert the '275 Patent and '438 Patent against Charter.

73. Both Charter and Comcast are part of the close-knit business community that is the cable industry, which is led by key industry players. These key players work collaboratively to develop new technology and programs to drive the industry forward, including through organizations like MoCA and the Society of Cable Telecommunications Engineers.

74. Comcast and Charter actively collaborate together, have monthly meetings across various departments, and have even collaborated together on accused technologies. Specifically, Comcast and Charter have collaborated together on Profile Management Application ("PMA") technology and the implementation of full band capture.

75. Comcast's PMA implementation infringes the '682 Patent in substantially the same manner as Charter's PMA implementation. Given the amount of collaboration that occurs between Charter and Comcast, Comcast was aware of the accusations against Charter's PMA implementation.

76. Comcast's implementation of remote spectrum monitoring functionality in its Proactive Network Maintenance ("PNM") system infringes the '008 and '826 Patents in substantially the same manner as Charter's implementation of remote spectrum monitoring in its PNM system. Given the amount of collaboration that occurs between Charter and Comcast, Comcast was aware of the accusations against Charter's implementation of remote spectrum monitoring in its PNM system. Additionally, Comcast collects information regarding the upstream channels as part of the operation of its network, in a similar manner as Charter. This collection of information regarding the upstream channels as part of the operation of a cable network infringes the '690 Patent.

77. Comcast's usage of full band capture-enabled cable modems and STBs infringes the '362, '866, '206 and '275 Patents in substantially the same manner as Charter's usage of full band capture-enabled cable modems and STBs. Given the amount of collaboration that occurs between Charter, Comcast and its common supplied

of the cable modems, STBs and underlying full band capture system-on-chips (or SoCs), Comcast was aware of the accusations against Charter's usage of full band capture-enabled cable modems and STBs.

78. Comcast uses cable modem termination system ("CMTS") hardware and software as part of its cable network.

79. Comcast and Charter also collaborate together at events for the Society of Cable Telecommunications Engineers ("SCTE"), of which both Comcast and Charter are members. Among other things, Comcast and Charter participate in panels together, share data and achievements related to SCTE, and work on peer-reviewed papers together.

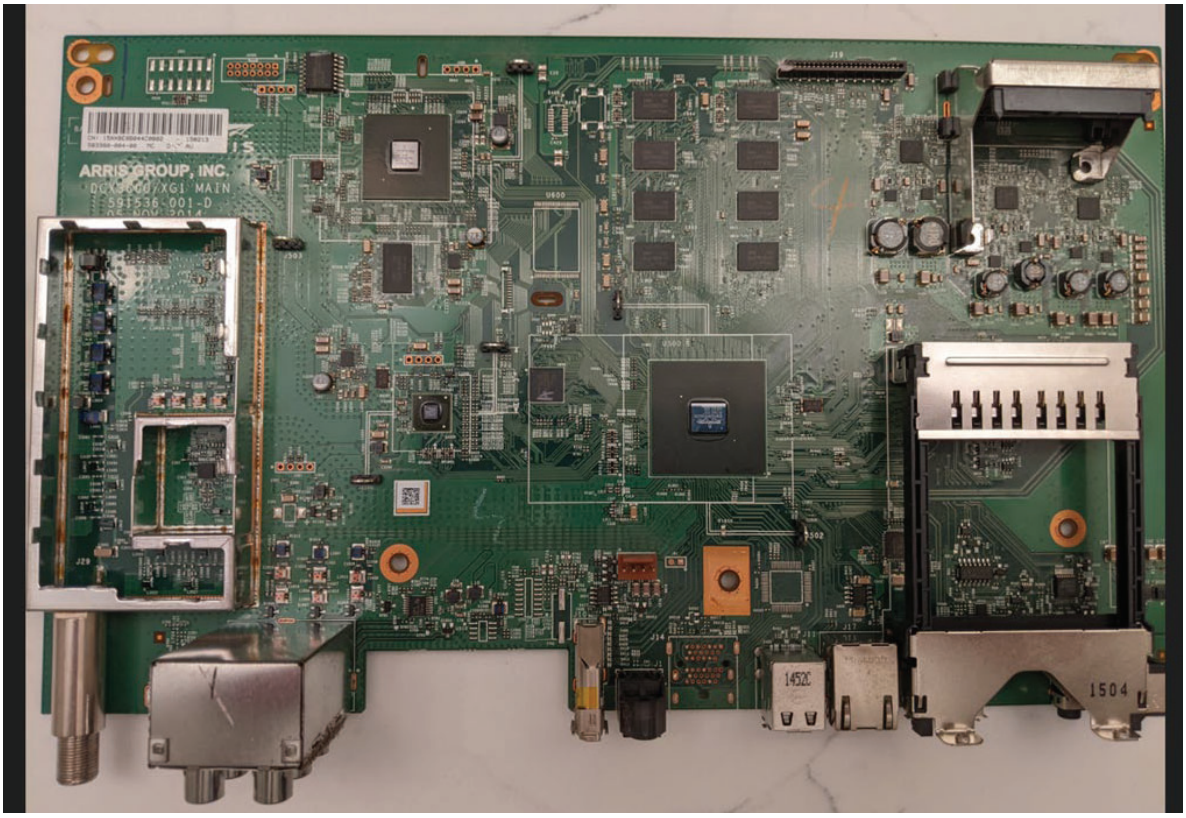
80. Charter and Comcast also "team up" to offer streaming devices and other technology to customers. Indeed, The New York Times published an article about such a joint venture between Comcast and Charter on April 27, 2022, the very same day that the first suit against Charter was filed.

81. As evidenced by this article, Comcast knows that Charter utilizes technology that functions almost identically to Comcast's technology.

82. Among other things, Charter and Comcast utilize similar product offerings that incorporate the same technologies. Charter and Comcast purchase their products, including cable modems, STBs, and CMTS hardware and software, from the same third parties. These products utilize the same or similar SoCs and other processors and provide similar functionality. For example, both Charter and Comcast provide whole-home DVR solutions utilizing MoCA to create an in-home network over the on-premises coaxial cabling. Similarly, both Charter and Comcast utilize cable modems having Broadcom BCM3390 SoCs and STBs utilizing a combination of Broadcom full-band capture SoCs to interface with the cable network and STB SoCs to decode and display television content.

83. For example, one supplier of STBs, Arris, provides the DCX3600 to both Comcast and Charter. Comcast refers to the Arris DCX3600 as the Arris MX011ANM

or XG1-A, and Charter refers to it simply as the Arris DCX3600. An image of the circuit board included in the Arris DCX3600 is shown below, clearly showing both the DCX3600 and XG1 branding:



84. The two Charter suits discussed herein asserted the same patents and involved largely the same technology as is at issue in this action.

85. Given the close business relationship between Comcast and Charter, as well as the joint ventures that Comcast was pursuing with Charter when these suits were filed against Charter, Comcast was almost certainly aware of their filings.

86. Upon information and belief, and based on Comcast's awareness of the substantial similarities between Comcast's and Charter's technology and products, Comcast analyzed the claims asserted against Charter, the Patents-in-Suit, and the Accused Products.

87. Upon information and belief, Comcast then analyzed its own products' functionality in light of the patents asserted against Charter, and it confirmed that its own products were functionally identical to the Charter products accused.

88. Upon information and belief, Comcast monitored the ongoing prosecution of the '362 Patent family, and therefore was aware of the U.S. Patent No. 11,381,866 (the "'866 Patent") issued on July 5, 2022, and U.S. Patent No. 11,399,206 (the "'206 Patent") issued on July 26, 2022.

89. Upon information and belief, Comcast analyzed its products' functionality in light of the '866 Patent.

90. Upon information and belief, Comcast analyzed its products' functionality in light of the '206 Patent.

91. Upon information and belief, Comcast thereafter determined that its products infringe the Patents-in-Suit in substantially the same manner as Charter.

92. Nevertheless, Comcast continued to make, sell, or offer for sell the infringing products.

93. Upon information and belief, Comcast requested indemnification from Comcast's suppliers for each of the patents asserted against Charter, including the MoCA-related patents, prior to Entropic filing the current action.

94. Comcast's request for indemnification evidences its knowledge of the risk that it infringed at least Entropic's Non-SEP Patents, and that a suit similar to the Charter Suit was likely to be initiated against Comcast.

2. The DISH and DirecTV Suits

95. Entropic filed a patent infringement suit against Dish Network Corporation, DISH Network, LLC, and Dish Network Service, LLC (collectively, "Dish") in the Eastern District of Texas, Case No. 2:22-CV-00076, on March 9, 2022, asserting infringement of three Entropic patents, including the '008 Patent (the "Dish Suit").

96. Entropic filed a patent infringement suit against DirecTV, LLC, AT&T, Inc., AT&T Services, Inc., and AT&T Communications, LLC in the Eastern District of Texas, Case No. 2:22-CV-00075 on March 9, 2022, asserting infringement of three Entropic patents, including the ’008 Patent (the “DirecTV Suit”).

97. Upon information and belief, Comcast contacted RPX Corporation (“RPX”) regarding the Charter Suit, Dish Suit, and DirecTV Suit after being served with the complaint in these actions. Either before or shortly after its discussions with RPX, Comcast substantively reviewed and analyzed the patents asserted in the Charter Suit, Dish Suit, and DirecTV Suit.

3. Comcast’s Relationship with MaxLinear

98. Comcast has willfully infringed the Patents-in-Suit based on knowledge it gained from Patrick Tierney. Tierney, one of the named inventors of the ’008 Patent and ’826 Patent, now works at Comcast. Accordingly, upon information and belief, Comcast knew of the aforementioned Patents-in-Suit as early as the day Patrick Tierney was hired. For example, upon information and belief, Comcast looked at patents which named Patrick Tierney as an inventor as part of the process of determining whether to offer him employment at Comcast.

99. Patrick Tierney and other MaxLinear employees frequently met with Comcast and discussed the technologies of both MaxLinear and Entropic Inc. that practiced the Patents-in-Suit. Thus, Patrick Tierney was well aware of the technology and functionality of the Patents-in-Suit.

100. Indeed, before his employment at Comcast, Patrick Tierney often met with Comcast personnel to discuss new technology for which MaxLinear and Entropic Inc. had recently applied for or received patent protection.

101. For example, Patrick Tierney met with Sam Chernak of Comcast on December 20, 2012, less than a month after the ’566 Patent issued. Upon information and belief, Mr. Tierney told Mr. Chernak about the ’566 Patent.

102. As another example, Comcast met with MaxLinear to ask MaxLinear to support a low cost D3 modem on January 20, 2013, less than a month after the '681 Patent issued.

103. In his role at Comcast, on information and belief, Patrick Tierney shared what he knew about the functionality and operation of the Patents-in-Suit with other Comcast personnel, so that Comcast could continue to create products that infringe upon the Patents-in-Suit.

104. Comcast also learned about the functionality of the Patents-in-Suit through other events it attended, including the 2015 International Broadcasting Convention, where MaxLinear presented information about new products and technology that implemented the Patents-in-Suit.

105. MaxLinear also held several business discussions with Comcast in 2015, wherein MaxLinear discussed its products and technology that implemented the Patents-in-Suit and explained how that technology could benefit Comcast's business.

106. Specifically, MaxLinear gave a presentation to Comcast in March 2015 wherein it discussed confidential, new technology being developed by MaxLinear and Entropic Inc. MaxLinear's March 2015 presentation specifically referenced that much of this technology was covered by "[a]lmost 2000 issued and pending patents."

107. Finally, Comcast has been willfully infringing since at least October 2021, when it intentionally misappropriated MaxLinear's technology and related patents by disclosing that information to MaxLinear's competitor.

108. In 2020, Comcast began pursuing full duplex ("FDX") technology to implement DOCSIS 4.0, which was intended to enable higher speeds for both downstream and upstream communications.

109. However, Comcast soon realized that the only then-viable FDX architecture could not be deployed to serve the majority of Comcast's network.

110. Comcast turned to MaxLinear to solve this problem, as MaxLinear was a well-known innovator in the FDX space. Indeed, since at least 2016, Comcast itself

acknowledged that MaxLinear was the only company able to deliver viable FDX technology.

111. In 2020, after entering into a non-disclosure agreement, MaxLinear shared its confidential FDX technologies with Comcast in the hopes of expanding their business relationship.

112. On information and relief, Comcast knew that MaxLinear's disclosures regarding the FDX technology were confidential and were owned by MaxLinear, including by virtue of the non-disclosure agreement signed by Comcast, as well as the confidentiality designations MaxLinear marked its FDX disclosures with.

113. On information and belief, in October 2021, Comcast nevertheless took credit for MaxLinear's technology in a published article. *See* Elad Nafshi, *Announcing Another 10G Milestone Amidst a Flurry of Innovation*, Comcast (Oct. 14, 2021), https://tinyurl.com/yphyu6a9.

114. In September 2022, Richard Prodan, one of the Comcast employees who attended and received copies of MaxLinear's confidential presentation on the design of its FDX-amplifier solution, published an industry paper that described an FDX-amplifier design that was materially identical to the one MaxLinear developed and confidentially shared with Comcast.

115. On information and belief, Comcast was aware that its use of MaxLinear's FDX technology misappropriated MaxLinear's trade secrets, including based on the parties' prior business dealings, the NDA, and based on the recent counterclaims filed by MaxLinear against Comcast on December 1, 2023 in the United States District Court for the Southern District of New York, *Comcast Cable Communications LLC, et al. v. MaxLinear, Inc.*, Case No. 1:23-cv-04436-AKH (DE 88).

4. Comcast's Willful Infringement of Specific Patents-in-Suit

116. Upon information and belief, Comcast substantively reviewed and analyzed Entropic's U.S. Patent No. 8,223,775 (the "'775 Patent"), duly issued on July

17, 2012 from an application filed September 30, 2003, as part of its due diligence prior to investing in Entropic in 2006.

117. Accordingly, upon information and belief, no later than the day prior to its latest investment in Entropic in 2006, Comcast knew or had every reason to know that Entropic owned the ’775 Patent. Because Comcast knew of the ’775 Patent and substantively reviewed its claims, Comcast began willfully infringing the ’775 Patent no later than the dates it began offering its cable modem products and services, having knowledge that such use and deployment infringed the ’775 Patent.

118. As addressed above, Comcast has willfully infringed at least the ’362 patent, the ’826 patent, and the ’206 patent through its knowledge gained from the Charter litigation, and was aware of (and substantively analyzed its infringement of) the other Patents-in-Suit no later than the letter sent by Entropic in August 2022.

119. Comcast has also willfully infringed at least the ’682 Patent as evidenced by its own patents that cite to U.S. Patent No. 9,419,858 (the ’858 Patent”), which is the ultimate parent of the ’682 Patent. Specifically, Comcast’s patents including U.S. Patent No. 11,191,087; U.S. Patent No. 10,582,515; U.S. Patent No. 11,758,574 cite the ’858 Patent.

120. Comcast’s reference to the ’858 Patent, which is closely related to and involves similar technology and functionality as the ’682 Patent, evidences Comcast’s awareness that it infringes upon ’682 Patent.

121. Further, Comcast filed an application for U.S. Patent No. 9,178,765 on July 23, 2013, in the same month that the application for the ’682 Patent was filed. On information and belief, Comcast was aware of the ’682 Patent based on the investigation it undertook during the application and prosecution process for U.S. Patent No. 9,178,765. Thus, Comcast has willfully infringed the ’682 Patent since at least July 23, 2013.

122. Accordingly, Comcast either knew about the Patents-in-Suit, or alternatively engaged in a scheme to be willfully blind to the existence of the Patents-in-Suit.

C. Comcast Willfully Infringed, and Continues to Infringe, Entropic's MoCA Patents[7]

123. Comcast invested in Entropic Inc. once in 2003, and again in 2006.

124. Upon information and belief, Comcast substantively reviewed and analyzed Entropic Inc.'s patents and patent applications related to the Entropic Inc.'s MoCA standard patents as part of its due diligence prior to investing in Entropic Inc.

125. Upon information and belief, the patents and patent applications that Comcast analyzed prior to investing in Entropic include at least the following patents: U.S. Patent No. 7,295,518 (the "'518 Patent"), duly issued on November 13, 2007 from an application filed December 18, 2002, an application filed August 19, 2002 and, *inter alia*, a provisional application filed August 30, 2001; U.S. Patent No. 7,594,249, duly issued on September 22, 2009 from an application filed July 21, 2001, and a provisional application filed May 4, 2001; U.S. Patent No. 7,889,759 (the "'759 Patent"), duly issued on February 15, 2011 from an application filed July 12, 2004, an application filed August 29, 2002, and, *inter alia* a provisional application filed August 30, 2001; U.S. Patent No. 8,085,802, duly issued on December 27, 2011 from an application filed December 2, 2005, and a provisional application filed December 2, 2004; U.S. Patent No. 8,631,450, duly issued on January 14, 2014, from an application filed September 19, 2005 and, *inter alia*, a provisional application filed December 2, 2004; U.S. Patent No. 8,621,539, duly issued on December 31, 2013 from an application filed September 29, 2005 and, *inter alia*, a provisional application filed December 2, 2004; U.S. Patent No. 10,257,566, duly issued on April 9, 2019 from an application filed February 7,

[7] The MoCA Patents are set forth in Entropic's concurrently filed action, *Entropic v. Comcast, et al.*, Case No. 2:23-cv-1048-JWH-KES (C.D. Cal. 2023).

2017, an application filed September 19, 2005, and *inter alia*, a provisional application filed December 2, 2004 (collectively, the "Pre-Investment MoCA Patents"). On information and belief, Comcast knew, based on its own analysis and also potentially statements from Entropic itself, that these patents were standard-essential to MoCA, such that practicing the MoCA standard would infringe these patents.

126. Upon information and belief, no later than the day prior to its latest investment in Entropic in 2006, Comcast knew or had every reason to know that Entropic owned the Pre-Investment MoCA Patents related to the MoCA technology such that deployment of MoCA standard-compliant devices would infringe patents owned by Entropic.

127. Upon information and belief, no later than the day prior to its latest investment in Entropic in 2006, any reasonable commercial party in Comcast's position, with Comcast's knowledge, would know that deployment of MoCA standard-compliant devices would infringe on the Pre-Investment MoCA Patents owned by Entropic. On information and belief, Comcast continued to monitor and analyze Entropic's MoCA-related patents and was aware of later-filed patents that are standard-essential to MoCA simply due to the importance of MoCA to Comcast's business and Comcast's later involvement as a board member of MoCA.

128. No later than 2010 and continuing to the present, Comcast has used products that provide signals, programming and content utilizing a data connection carried over a coaxial cable network in accordance with the MoCA standards, including at least the Arris DCX3200, DCX3400, DCX3500, XG1-A, XG1v3, XG1v4, XG2v2, Arris MR150CNM, Pace PR150BNM, Pace PX032ANI, Pace PXD01ANI, Samsung SR150BNM, and similarly operating devices. Because Comcast was already aware of Entropic's Pre-Investment MoCA patents and knew that those patents were standard-essential, Comcast knew that its use of these devices would directly infringe the Pre-Investment MoCA patents. Despite this knowledge, Comcast willfully infringed the Pre-Investment Patents beginning no later than 2010.

1. Comcast's Involvement in MoCA

129. Upon information and belief, Comcast was involved with and/or a member of MoCA from the earliest days of the MoCA, through at least August 2019. Indeed, Comcast was a member of the MoCA board of directors.[8]

130. As an early and active member of MoCA, Comcast helped to develop the MoCA standard, and therefore would have been knowledgeable about the technology essential to the practice of that standard.

131. Upon information and belief, Comcast was aware that Entropic, its close partner in the endeavor to grow and developed the MoCA standard, owned patents for its technology that was MoCA-standard-compliant.[9]

132. Specifically, Comcast would have been aware of at least the '249 Patent, which was filed on July 21, 2001; the '518 Patent, which was filed on December 18, 2002; the '759 Patent, which was filed on July 24, 2004; the '450 Patent, which was filed on September 19, 2005; the '539 Patent, which was filed on September 29, 2005; and the '802 Patent, which was filed on December 2, 2005. These Patents, all of which are essential to the practice of the MoCA standard, were filed during the time that MoCA was being developed by Entropic Inc., Comcast, and others.

133. Upon information and belief, no later than the day prior to its latest investment in Entropic in 2006, any reasonable commercial party in Comcast's position, with Comcast's knowledge, would perceive a substantial likelihood that deployment of MoCA standard-compliant devices would infringe on Pre-Investment Patents owned by Entropic.

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[8] *See* https://mocalliance.org/about/faqs.php.

[9] *See* https://www.sec.gov/Archives/edgar/data/1227930/000122793015000006/entr2014123110-k.htm.

134. On information and belief, Comcast continued to monitor and analyze Entropic's MoCA-related patents and was aware of later-filed patents that are standard-essential to MoCA simply due to the importance of MoCA to Comcast's business and Comcast's later involvement as a board member of the MoCA.

135. As a member of the MoCA, Comcast was well aware that Entropic, the owner of the MoCA Patents, was the leading contributor of technology to the standards promulgated by MoCA, which are implicated by the claims of patent infringement herein. Indeed, Comcast was aware that, at the time, Entropic was the only entity capable of developing the technology necessary to practice the MoCA standard.

136. Upon information and belief, Comcast knew that MoCA standard-compliant devices had tremendous success, given the public success through Verizon Wireless's deployment of Fios.

137. Comcast also willfully infringed the '518 Patent by virtue of its involvement in MoCA. On October 28, 2008, Anton Monk, the Vice President of Technology for Entropic Inc., disclosed Entropic Inc.'s ownership of the '518 Patent via email to the MoCA Board of Directors.

138. Attached to this email was a document entitled "Disclosure of Intellectual Property," which represents to the MoCA Board of Directors that the '518 Patent was essential to the practice of the MoCA standard.

139. On information and belief, Comcast was a member of the Board at the time and therefore received this notice from Entropic.

140. Comcast therefore had direct notice of the '518 Patent and that the '518 Patent is essential to the practice of the MoCA standard.

141. The '759 Patent is a continuation-in-part of the '518 Patent. Given the close relationship between the '759 Patent and the '518 Patent, Comcast also was on notice that the '759 Patent was owned by Entropic Inc. and is essential to the practice of the MoCA standard.

142. At the very least, Comcast engaged in a scheme to be willfully blind to the existence of the ’759 Patent and the fact that it is essential to the practice of MoCA standard based on its relation to the ’518 Patent.

2. Comcast’s Relationship with MaxLinear

143. Comcast and MaxLinear, Inc. were engaged in a longstanding commercial relationship for years. Upon information and belief, Comcast knew that MaxLinear, Inc. was a member of MoCA since at least 2011.

144. Comcast and MaxLinear, Inc. were both board members of MoCA from at least 2015 through August 2019. By virtue of Comcast’s participation in MoCA and its ongoing, extensive use of MoCA standards, on information and belief, Comcast monitored and reviewed the publication and issuance of patents that would be standard-essential, including MaxLinear and Entropic Inc. patents. Because Comcast was using the devices that practiced the MoCA standards, Comcast willfully infringed each MaxLinear and Entropic Inc. patent that was standard-essential to MoCA no later than shortly after the issuance of those patents. To the extent Comcast did not engage in such review, it constitutes willful blindness to patent infringement due to Comcast’s knowledge of the foundational role and contributions of Entropic Inc. and MaxLinear to the MoCA standards.

145. At least as early as January 1, 2020, Comcast knew that MaxLinear owned patents that were essential to practicing the technology embodied in one or more standards promulgated by MoCA.

146. Comcast knew that MaxLinear acquired Entropic Inc. and its patents in 2015.[10] Because Comcast already knew it was willfully infringing patents owned by Entropic Inc., Comcast therefore knew that it was willfully infringing patents that were standard-essential to MoCA that now were owned by MaxLinear no later than 2015.

[10] *See* https://investors.maxlinear.com/annual-reports?form_type=10-K&year=.

147. No later than the day prior to signing the VSA with MaxLinear, Inc., Comcast knew or had every reason to know that MaxLinear, Inc. owned patents related to the MoCA technology such that deployment of MoCA standard-compliant devices would infringe on patents owned by MaxLinear. To the extent Comcast did not investigate whether it infringed such patents, Comcast was willfully blind to its infringement of patents owned by its long-time business partner, MaxLinear.

148. [redacted]

149. [redacted]

150. [redacted] related to non-standardized technologies deployed in the cable television and/or cable internet businesses, technologies that Comcast uses and deploys.

151. Despite this knowledge, Comcast continued to use and deploy devices practicing the MoCA standards and therefore willfully infringed patents owned by MaxLinear, including the MoCA Patents.

152. Accordingly, Comcast either knew about the MoCA Patents, or alternatively engaged in a scheme to be willfully blind to the existence of the MoCA Patents. Comcast therefore willfully infringed at least the Pre-Investment Patents and

the later-issued MoCA patents no later than the day prior to [redacted]

153. Upon information and belief, in addition to the knowledge as set forth above, one of the named inventors of the '008 Patent and '826 Patent, as set forth in Entropic's concurrently filed action *Entropic v. Comcast, et al.*, No. 2:23-cv-1050-JWH-KES, was Patrick Tierney. Mr. Tierney now works at Comcast; thus, upon information and belief, Comcast knew of the aforementioned MoCA Patents as early as the day Mr. Tierney was hired.

154. Comcast also attached to its own motion to dismiss a copy of [redacted] *See Entropic v. Comcast*, No. 2:23-cv-1050-JWH-KES, at Dkt. No. 39-1, Ex. A. [redacted]

155. Comcast also willfully infringed two other MaxLinear patents no later than June 9, 2022. Specifically, during prosecution of Comcast's 17/201,189 patent application, the patent examiner cited to MaxLinear, Inc.'s MoCA-related U.S. Patent No. 10,075,333 (the "'333 Patent") in a non-final rejection, which Comcast received on June 9, 2022. Additionally, the '116 Patent was cited during prosecution of Comcast's patent application 16/777,622. The examiner cited MaxLinear, Inc.'s MoCA-related U.S. Patent No. 10,285,116 ("'116 Patent")'s publication in a non-final rejection, which Comcast received on October 16, 2020. On information and belief, no later than June 9, 2022, Comcast substantively reviewed and analyzed the '333 Patent. On information and belief, no later than October 16, 2020, Comcast substantively reviewed and analyzed the '116 Patent. On information and belief, Comcast has willfully infringed the '333 and '116 Patents beginning no later than June 9, 2022 and October 16, 2020, respectively.

3. The ViXS Suit

156. Entropic filed a patent infringement suit against ViXS Systems, Inc. and ViXS USA, Inc. in the Southern District of California, Case No. 13-CV-1102-WQHBGS ("the ViXS Suit"), on May 8, 2013, asserting infringement of the '759 Patent and the '518 Patent. Both patents are essential to the standards developed and promulgated by MoCA.

157. Upon information and belief, as a member of MoCA, Comcast analyzed the claims in the ViXS Suit and the patents asserted in that case, which included the '759 and '518 Patents.

158. Upon information and belief, Comcast analyzed its products' functionality in light of the patents asserted in the ViXS Suit.

159. Because Comcast already was using and deploying devices practicing the MoCA standards (and continued to do so), Comcast willfully infringed the '759 and '518 Patents no later than May 8, 2013, after substantively analyzing the complaint and the patents asserted in the ViXS suit.

160. As addressed above, Comcast has willfully infringed at least the '759 Patent and the '518 Patent through its knowledge gained from the ViXS Suit, and was aware of (and substantively analyzed its infringement of) the other MoCA Patents no later than the letter sent by Entropic in August 2022.

161. As a member of MoCA, Comcast was well aware that Entropic Inc., the owner of the MoCA Patents in the ViXS Suit, was the leading contributor of technology to the standards promulgated by MoCA, which are implicated by the claims of patent infringement in the ViXS Suit.

D. Comcast has willfully infringed each of the Patents-in-Suit through its post-suit conduct.[11]

162. Despite having knowledge of its infringement of the Patents-in-Suit by virtue of Entropic's original Complaint, its First Amended Complaint, and its infringement contentions, Comcast continues to make, use, sell, or offer for sale the Accused Products. Thus, Comcast continues to willfully infringe the Patents-in-Suit.

163. Further, on December 1, 2023, MaxLinear, Inc. filed a Counterclaim against Comcast in the Southern District of New York ("SDNY") containing detailed allegations of Comcast's misappropriation of MaxLinear's trade secrets. These allegations shed further light on Comcast's willful infringement of the Patents-in-Suit.

164. Even if Comcast had not willfully infringed the Patents-in-Suit, MaxLinear, Inc. provided notice of termination of the VSA to Comcast on May 18, 2023, and the VSA is therefore no longer in effect.

1. Original Complaint

165. Before the filing of this Second Amended Complaint, on February 16, 2023, Comcast accepted service of Entropic's original Complaint alleging infringement of the same Patents-in-Suit. See DE 1. Entropic hereby incorporates its original Complaint into this Second Amended Complaint by reference.

166. Entropic's original Complaint specifically described the infringing nature of the Accused Products, which are the same as those described herein. Further, the original complaint set forth detailed allegations of how each of the Patents-in-Suit was infringed by one of or more of the Accused Products.

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[11] Entropic has filed a motion for leave to supplement its complaint with the allegations contained in Section E herein contemporaneously with this Second Amended Complaint. This motion requests leave to include allegations of events that occurred after the filing of the original complaint, and it includes a redlined copy of the proposed supplemental pleading to Entropic's First Amended Complaint, consistent with this Court's Standing Order.

167. Comcast thereafter analyzed Entropic's allegations of infringement and has indeed engaged in substantive discussions with Entropic related to Entropic's infringement allegations.

168. Indeed, after Entropic's Complaint was filed, on information and belief, Comcast again sought indemnification from its suppliers for Entropic's claims.

169. Thus, Comcast was on notice of the basis for Entropic's infringement claims and sought protection for those claims from its suppliers. On information and belief, Comcast could not have stated grounds for indemnification by specific suppliers unless it had knowledge of the basis for Entropic's infringement claims, as well as the specific products that were being accused.

170. Thus, Comcast has been aware that it infringed the Patents-in-Suit since the service of Entropic's original Complaint, on February 16, 2023.

2. First Amended Complaint

171. Before the filing of this Second Amended Complaint, on June 5, 2023, Comcast was served with Entropic's First Amended Complaint alleging infringement of the same Patents-in-Suit. *See* DE 63. Entropic hereby incorporates its First Amended Complaint into this Second Amended Complaint by reference.

172. Even more so than its original Complaint, Entropic's First Amended Complaint set forth specific allegations of Comcast's infringement of each of the Patents-in-Suit. Entropic included reference to particular patents that Comcast willfully infringed based on its use of particular technology.

173. Comcast thereafter analyzed Entropic's allegations of infringement and has indeed engaged in substantive discussions with Entropic related to Entropic's infringement allegations.

174. Thus, Comcast has been aware that it infringed Patents-in-Suit since the service of Entropic's original Complaint, on June 5, 2023.

3. Entropic's Infringement Contentions

175. Further, Entropic's infringement contentions, served on September 15, 2023, provided Comcast with additional notice of infringement. Entropic hereby incorporates its infringement contentions into this Second Amended Complaint by reference.

176. Entropic's infringement contentions set forth Entropic's infringement positions in detail, and they include charts setting forth how each Accused Product specifically infringed each Asserted Patent.

177. In particular, Entropic identified how Comcast's development and use of a PMA system that generates and transacts D3.1 downstream (DS) profiles infringes upon Entropic's '682 Patent.

178. Comcast thereafter analyzed the infringement contentions and has engaged in thorough discussions with Entropic regarding the substance of these contentions.

179. Thus, Comcast has been aware that it infringed Patents-in-Suit since at least September 15, 2023.

180. To date, Comcast has continued its wrongful and willful use of the Patents-in-Suit, and has further continued its attempts to shield itself from liability for its wrongful use thereof.

181. Comcast's continued sale of the Accused Products despite its knowledge of the infringement set forth in Entropic's original Complaint, Second Amended Complaint, and Entropic's infringement contentions demonstrates its intent to willfully infringe the Patents-in-Suit.

4. MaxLinear's SDNY Counterclaim

182. On December 1, 2023, MaxLinear, Inc. filed a Counterclaim against Comcast, alleging that Comcast breached the nondisclosure agreement (the "NDA") it entered into with MaxLinear, Inc. and misappropriated MaxLinear, Inc.'s trade secrets. See Comcast Cable Communications Management, LLC, et al. v. MaxLinear, Inc., Case No. 1:23-cv-04436-AKH, DE 88 (S.D.N.Y. Dec. 1, 2023). This Counterclaim is hereby incorporated into this Second Amended Complaint by reference.

183. In its Counterclaim, MaxLinear, Inc. alleges that Comcast intentionally, and in violation of the NDA, capitalized off of MaxLinear's breakthrough FDX technology by first convincing MaxLinear to disclose that technology to Comcast, and then by taking credit for technology and divulging the information it learned to MaxLinear's competitor.

184. Specifically, Comcast knowingly published aspects of MaxLinear's FDX amplifier design as its own through its employee, Richard Prodan; disclosed the amplifier design to MaxLinear's competitor; and paid the competitor to create a functionally identical amplifier for Comcast.

185. MaxLinear goes on to allege that, while Comcast has previously hid behind Section 7.3 of the VSA—an agreement which Comcast itself drafted—Comcast's knowing misappropriation of MaxLinear's FDX-amplifier trade secret technology has rendered this provision irrelevant.

5. [redacted]

186. [redacted]

187. [redacted]

188. [redacted]

JURISDICTION AND VENUE

189. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a) because the claims herein arise under the patent laws of the United States, 35 U.S.C. § 1 *et seq.*, including 35 U.S.C. § 271.

190. Venue in this District is proper pursuant to 28 U.S.C. § 1400(b), because Comcast has regular and established places of business in this District. The defendants, by themselves and/or through their agents, have committed acts of patent infringement

within the State of California and within this District by using, selling, offering for sale, and/or leasing various telecommunication services products and services.

191. This Court has general personal jurisdiction over Comcast Corp. because it conducts systematic and regular business within the State of California by, *inter alia* providing cable television, internet, and phone services to businesses and residents throughout the state. Comcast Corp.'s website states that, "Comcast is deeply committed to California, where our nearly 5,000 employees serve more than 3 million customers throughout the state."[12]

192. Upon information and belief, Comcast Management has a regular and established place of business in the State of California including at least at 3055 Comcast Place, Livermore, California 94551.

193. The Court has personal jurisdiction over Comcast Corp., Comcast Communications and Comcast Management because they have committed acts of infringement within the State of California and within this District through, for example, providing through their wholly owned subsidiaries, "Comcast" and "Xfinity" branded products and services, including, Xfinity set top boxes ("STBs") and Xfinity digital video, audio, and other content services to customers. Comcast provides cable television and internet services ("Accused Services") via the lease, sale, and/or distribution of cable modems and set top boxes both online and from Comcast stores in this District. For example, Comcast has and continues to sell, lease, and/or distribute the Technicolor TC8717 cable modem, Technicolor CGM4140 cable modem, Technicolor CGM4331 cable modem, and products that operate in a similar manner ("Accused Cable Modem Products"), as well as the Arris AX013ANC STB, Arris AX013ANM STB, Arris AX014ANC STB, Arris AX014ANM STB, Arris MX011ANC STB, Arris

[12] *See* https://california.comcast.com/about/#:%7E:text=Comcast%20is%20deeply%20committed%20to,smart%20home%E2%80%9D%20and%20phone%20service.

MX011ANM STB, Pace PX001ANC STB, Pace PX013ANC STB, Pace PX013ANM STB, Pace PX022ANC STB, Pace PX022ANM STB, Samsung SX022ANC STB, Samsung SX022ANM STB, and products that operate in a similar manner ("Accused Set Top Products").[13]

194. Upon information and belief, Comcast Corp., Comcast Communications, and Comcast Management, by themselves and/or through their agents, offer various telecommunication services throughout the United States. Comcast operates and maintains a nationwide television and data network through which it sells, leases, and offers for sale products and services, including the Accused Services, Accused Cable Modem Products and Accused Set Top Products, to businesses, consumers, and government agencies. Through its subsidiaries, Comcast Corp. offers to sell, sells, and provides "Comcast" and "Xfinity" branded products and services, including cable modems, set top boxes, and digital video, audio, and other content services to customers. Subscribers to Comcast's television services receive one or more receivers and/or set-top boxes within this District. Subscribers to Comcast's internet services receive one or more cable modems within this District.

195. Upon information and belief, those services are provided through and using the Accused Cable Modem Products and Accused Set Top Products.

196. Upon information and belief, Comcast Corp., Comcast Communications, and Comcast Management, by themselves and/or through their agents, Comcast Santa Maria and/or Comcast Lompoc, operate their businesses through *inter alia* offices, warehouses, storefronts, and/or other operational locations within this District,

[13] Entropic provided its initial infringement contentions for the '775, '690, '008, '362, '826, '682, '866, and '206 Patents on September 15, 2023. Entropic provided its initial infringement contentions for the '438 and '275 Patents on November 3, 2023. Entropic has revised this Second Amended Complaint to reflect the initial infringement contentions, which include references to certain documents provided in discovery to Comcast by Entropic.

including, for example, at the Xfinity by Comcast stores located in this District at 685 East Betteravia Rd., Santa Maria, California 93454; and 1145 N. H Street, Suite B, Lompoc, California 93436. Comcast holds out these locations as its own through the use of branding on the locations themselves.

197. Comcast lists these Xfinity by Comcast stores on its website and holds them out as places where customers can obtain the Accused Services, Accused Cable Modem Products and Accused Set Top Products.

198. Upon information and belief, one or more of the defendants owns and/or leases the premises where these Xfinity by Comcast stores are located.

199. Upon information and belief, these Xfinity by Comcast stores are staffed by persons directly employed by Comcast, many of whom live in this District.

200. Upon information and belief, one or more of the defendants has engaged in regular and established business at physical places within this District such as at these two Xfinity by Comcast stores.

201. Upon information and belief, Comcast employs and/or contracts with persons and directs them to install, service, repair, and/or replace equipment, as appropriate, in this District.

202. Upon information and belief, in each of these stores and/or service centers, Comcast owns and stores equipment such as cable modems and set top boxes and demonstrates services provided via those products to Comcast customers.

203. Comcast has adopted and ratified the Comcast and Xfinity-branded locations identified in this District. The Comcast website advertises Comcast service packages available from Comcast-authorized retailers in this District, and prospective employees can find Comcast job listings in this District. Furthermore, the "corporate" section of Comcast's main website has a section containing "Special Information Regarding California Residents' Privacy Rights," which demonstrates that Comcast is purposefully holding itself out as providing products and services in California.

204. Upon information and belief, Comcast Corp., and/or Comcast Communications, by themselves and/or through their agent, Comcast Management, provides the Accused Services throughout the United States and in this District.

205. Upon information and belief, Comcast Corp. and/or Comcast Management, by themselves, and/or through their agent, Comcast Communications, sells, and offers for sale, and provides the Accused Services, the Accused Cable Modem Products and the Accused Set Top Products throughout the United States and in this District.

206. The Accused Services are available for subscription from various physical stores, including those at 685 East Betteravia Rd., Santa Maria, California, 93454; and 1145 N. H Street, Suite B, Lompoc, California 93436.

207. The devices, including the Accused Cable Modem Products and the Accused Set Top Products provided by Comcast to supply the Accused Services, are provided to customers in this District and may be obtained by customers from physical locations in this District, including those at 685 East Betteravia Rd., Santa Maria, California, 93454; and 1145 N. H Street, Suite B, Lompoc, California 93436.

208. Venue is further proper because Comcast has committed and continues to commit acts of patent infringement in this District, including making, using, offering to sell, and/or selling Accused Services, Accused Cable Modem Products and Accused Set Top Products in this District, and/or importing the Accused Cable Modem Products and Accused Set Top Products into, and thereafter providing Accused Services in, this District, including by Internet sales and sales via retail and wholesale stores. Furthermore, for example, Comcast deploys Accused Cable Modem Products and Accused Set Top Products to many thousands of locations (e.g., customer premises) in this District and subsequently, by means of those instrumentalities, uses the claimed inventions at those locations in this District. Comcast infringes by inducing and contributing to acts of patent infringement in this District and/or committing at least a portion of any other infringement alleged herein in this District.

209. Comcast continues to conduct business in this District, including the acts and activities described in the preceding paragraph.

COUNT I

(Infringement of the ’775 Patent)

210. Entropic incorporates by reference each allegation of the paragraphs above as if fully set forth herein.

211. Entropic served infringement contentions which included a claim chart for the ’775 Patent on September 15, 2023.

212. The ’775 Patent duly issued on July 17, 2012 from an application filed September 30, 2003.

213. Entropic owns all substantial rights, interest, and title in and to the ’775 Patent, including the sole and exclusive right to prosecute this action and enforce the ’775 Patent against infringers and to collect damages for all relevant times.

214. The ’775 Patent generally describes a partitioned cable modem that performs cable modem functions and data and home networking functions. Functionally partitioning a cable modem to perform cable modem functions and data and home networking functions enables a cable modem to incorporate a variety of enhanced functions. A true and accurate copy of the ’775 Patent is attached hereto as Exhibit 1.

215. The ’775 Patent is directed to patent-eligible subject matter pursuant to 35 U.S.C. § 101.

216. The ’775 Patent is valid and enforceable, and presumed as such, pursuant to 35 U.S.C. § 282.

217. Comcast deploys one or more of the Accused Cable Modem Products in connection with operating and providing the Accused Services.

218. The Accused Cable Modem Products deployed by Comcast to customer premises remain the property of Comcast while deployed.

219. The Accused Cable Modem Products operate while deployed in a manner controlled and intended by Comcast.

220. As set forth in the infringement contentions served on Comcast on September 15, 2023 (attached hereto as Exhibit 2),[14] Comcast has directly infringed and is infringing at least Claims 18 and 19 of the '775 Patent by using, importing, selling, and/or offering for sale the Accused Cable Modem Products and/or the Accused Services.

221. Each aspect of the functioning of the Accused Cable Modem Products described in the claim chart operates while deployed to customer premises in a manner controlled and intended by Comcast.

222. Comcast provides no software, support, or other facility to customers to modify any aspect of the functioning described in the claim chart of the Accused Cable Modem Products while deployed to customer premises.

223. Comcast directly infringes at least Claims 18 and 19 of the '775 Patent by using, importing, selling, and/or offering for sale the Accused Cable Modem Products (for example, the Technicolor CGM4140 cable modem) and/or the Accused Services (for example, utilizing cable modem functions).

224. The use of the Accused Cable Modem Products by Comcast to, for example, demonstrate products in brick-and-mortar stores at 685 East Betteravia Rd., Santa Maria, California, 93454; and 1145 N. H Street, Suite B, Lompoc, California 93436, or to, for example, test those products, constitute acts of direct infringement of at least Claims 18 and 19 of the '775 Patent.

225. [redacted]

[14] The original claim chart for this patent is located at DE 63.

226. Comcast has known of or has been willfully blind to the '775 Patent since before, and no later than the date of, its acceptance of service of the original Complaint in this action on February 16, 2023.

227. Comcast has known of or has been willfully blind to the '775 Patent since before, and no later than the date of, its acceptance of service of the First Amended Complaint in this action on June 5, 2023.

228. Comcast has known of or has been willfully blind to the '775 Patent since before, and no later than the date of, its acceptance of service of Entropic's infringement contentions on September 15, 2023.

229. Comcast has known of or has been willfully blind to the '775 Patent since no later than the day before signing the [redacted]

230. Comcast has known of or has been willfully blind to the '775 Patent since no later than the day before investing in Entropic Inc. in or about 2006.

231. Comcast has known of the '775 Patent no later than its receipt of Entropic's communication sent to Comcast on August 9, 2022.

232. Comcast has been aware that it infringes the '775 Patent since well before, and no later than the date of, its receipt of Entropic's August 9, 2022 communication, attached as Exhibit 17. Since obtaining knowledge of the '775 Patent and its infringing activities, Comcast has failed to cease its infringing activities.

233. Customers and subscribers of Comcast infringe at least Claims 18 and 19 of the '775 Patent by using the claimed system, at least during the use of the Accused Cable Modem Products.

234. Comcast actively induces customers' direct infringement. For example, Comcast actively induces infringement of at least Claims 18 and 19 of the '775 Patent by providing the Accused Cable Modem Products to Comcast customers with specific instructions and/or assistance (including installation) regarding the use of the Accused Cable Modem Products to infringe the '775 Patent in accordance with the ordinary course of operation through the provision of the Accused Services. For at least the

above-listed reasons, Comcast aids, instructs, supports, and otherwise acts with the intent to cause an end user to use the Accused Cable Modem Products to infringe at least Claims 18 and 19 of the ’775 Patent.

235. Comcast contributes to the customers’ direct infringement. Comcast provides apparatuses, namely the Accused Cable Modem Products, that are used by customers to directly infringe at least Claims 18 and 19 of the ’775 Patent.

236. The Accused Cable Modem Products have no substantial noninfringing uses. When an end user uses the Accused Cable Modem Products to receive the Accused Services, the end user directly infringes at least Claims 18 and 19 of the ’775 Patent. The Accused Cable Modem Products are especially made or especially adapted for use in an infringing manner.

237. Comcast’s inducement of, and contribution to, the direct infringement of at least Claims 18 and 19 of the ’775 Patent is continuous and ongoing through acts such as providing the Accused Cable Modem Products to Comcast customers, which enables those customers to receive the Accused Services; Comcast’s provision of the Accused Services; and technical assistance provided by Comcast for equipment it provides to its customers in support of the provision of the Accused Services.

238. Comcast’s infringement of the ’775 Patent is, has been, and continues to be willful, intentional, deliberate, and/or in conscious disregard for Entropic’s rights under the patent.

239. Entropic has been damaged as a result of the infringing conduct alleged above. Comcast is liable to Entropic in an amount that compensates Entropic for Comcast’s infringement, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

240. Entropic is aware of no obligation to mark any instrumentality with the ’775 Patent in accordance with 35 U.S.C. § 287.

COUNT II

(Infringement of the ’690 Patent)

241. Entropic incorporates by reference each allegation above as if fully set forth herein.

242. Entropic served infringement contentions which included a claim chart for the ’690 Patent on September 15, 2023.

243. The ’690 Patent duly issued on October 9, 2012 from an application filed December 10, 2009, and, *inter alia* a provisional application filed May 19, 2009 and a provisional application filed December 15, 2008.

244. Entropic owns all substantial rights, interest, and title in and to the ’690 Patent, including the sole and exclusive right to prosecute this action and enforce the ’690 Patent against infringers and to collect damages for all relevant times.

245. The ’690 Patent generally describes the process of generating probe transmissions in response to a request from a receiving node of a network, wherein the probe request specifies a plurality of parameters that specify content payload of the probe transmission, and a second node to receive the probe transmission, which enhances flexibility and therefore, improves the receiving node’s ability to efficiently recognize the precise form of the transmitted probe. A true and accurate copy of the ’690 Patent is attached hereto as Exhibit 3.

246. The ’690 Patent is directed to patent-eligible subject matter pursuant to 35 U.S.C. § 101.

247. The ’690 Patent is valid and enforceable, and presumed as such, pursuant to 35 U.S.C. § 282.

248. Comcast deploys one or more of the Accused Cable Modem Products in connection with operating and providing the Accused Services.

249. The Accused Cable Modem Products deployed by Comcast to customer premises remain the property of Comcast while deployed.

250. The Accused Cable Modem Products operate while deployed in a manner controlled and intended by Comcast.

251. As set forth in the infringement contentions served on Comcast on September 15, 2023 (attached hereto as Exhibit 4),[15] Comcast has directly infringed and is infringing at least Claims 7 and 8 of the '690 Patent by using, importing, selling, and/or offering for sale the Accused Cable Modem Products and/or the Accused Services.

252. Each aspect of the functioning of the Accused Cable Modem Products described in the claim chart operates while deployed to customer premises in a manner controlled and intended by Comcast.

253. Comcast provides no software, support, or other facility to customers to modify any aspect of the functioning described in the claim chart of the Accused Cable Modem Products while deployed to customer premises.

254. Comcast directly infringes at least Claims 7 and 8 of the '690 Patent by using, importing, selling, and/or offering for sale the Accused Cable Modem Products (for example, the Technicolor CGM4140 cable modem) and/or the Accused Services (for example, performing bidirectional communication with cable modems).

255. The use of the Accused Services by Comcast to, for example, demonstrate products in brick-and-mortar stores at 685 East Betteravia Rd., Santa Maria, California, 93454; and 1145 N. H Street, Suite B, Lompoc, California 93436, or to, for example, test those products, constitute acts of direct infringement of at least Claims 7 and 8 of the '690 Patent.

256. [redacted]

[15] The original claim chart for this patent is located at DE 63.

257. Comcast has known of or has been willfully blind to the '690 Patent since before, and no later than the date of, its acceptance of service of the original Complaint in this action on February 16, 2023.

258. Comcast has known of or has been willfully blind to the '690 Patent since before, and no later than the date of, its acceptance of service of the First Amended Complaint in this action on June 5, 2023.

259. Comcast has known of or has been willfully blind to the '690 Patent since before, and no later than the date of, its acceptance of service of Entropic's infringement contentions on September 15, 2023.

260. Comcast has known of or has been willfully blind to the '690 Patent no later than the day before signing the [redacted]

261. Comcast has known of or has been willfully blind to the '690 Patent since no later than the date of its receipt of Entropic's communication sent to Comcast on August 9, 2022.

262. Comcast has been aware that it infringes the '690 Patent since well before, and no later than the date of, Entropic's August 9, 2022 communication, attached as Exhibit 17. Since obtaining knowledge of the '690 Patent and its infringing activities, Comcast has failed to cease its infringing activities.

263. Customers and subscribers of Comcast infringe at least Claims 7 and 8 of the '690 Patent by using the claimed method, at least during receipt of the Accused Services utilizing, for example, the Accused Cable Modem Products.

264. Comcast actively induces customers' direct infringement. For example, Comcast actively induces infringement of at least Claims 7 and 8 of the '690 Patent by providing the Accused Cable Modem Products to Comcast customers with specific instructions and/or assistance (including installation) regarding the use of the Accused Cable Modem Products to infringe the '690 Patent in accordance with the ordinary course of operation through the provision of the Accused Services. Comcast provides the cable modem functions claimed by the '690 Patent via the Accused Services, which

enable and induce its customers to directly infringe the ’690 Patent. For at least the above-listed reasons, Comcast aids, instructs, supports, and otherwise acts with the intent to cause an end user to use the Accused Cable Modem Products to infringe at least Claims 7 and 8 of the ’690 Patent.

265. Comcast contributes to the customers’ direct infringement. Comcast provides apparatuses, namely the Accused Cable Modem Products, that are used by customers to directly infringe at least Claims 7 and 8 of the ’690 Patent.

266. The Accused Cable Modem Products have no substantial noninfringing uses. When an end user uses the Accused Cable Modem Products to receive the Accused Services, the end user directly infringes at least Claims 7 and 8 of the ’690 Patent. The Accused Cable Modem Products are especially made or especially adapted for use in an infringing manner.

267. Comcast’s inducement of, and contribution to, the direct infringement of at least Claims 7 and 8 of the ’690 Patent is continuous and ongoing through acts such as providing the Accused Cable Modem Products to Comcast customers, which enables those customers to receive the Accused Services; Comcast’s provision of the Accused Services; and technical assistance provided by Comcast for equipment it provides to its customers in support of the provision of the Accused Services.

268. Comcast’s infringement of the ’690 Patent is, has been, and continues to be willful, intentional, deliberate, and/or in conscious disregard for Entropic’s rights under the patent.

269. Entropic has been damaged as a result of the infringing conduct alleged above. Comcast is liable to Entropic in an amount that compensates Entropic for Comcast’s infringement, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

270. No apparatus claims of the ’690 Patent are presently asserted. Accordingly, there is no duty to mark pursuant to 35 U.S.C. § 287.

COUNT III

(Infringement of the ’008 Patent)

271. Entropic incorporates by reference each allegation of the paragraphs above as if fully set forth herein.

272. Entropic served infringement contentions which included a claim chart for the ’008 Patent on September 15, 2023.

273. The ’008 Patent duly issued on July 29, 2014 from an application filed September 10, 2012, and, *inter alia* a provisional application filed September 8, 2011.

274. Entropic owns all substantial rights, interest, and title in and to the ’008 Patent, including the sole and exclusive right to prosecute this action and enforce the ’008 Patent against infringers and to collect damages for all relevant times.

275. The ’008 Patent generally describes a system that receives a signal having a plurality of channels, digitizes the received signal, and reports certain signal characteristics to the source of the received signal. A true and accurate copy of the ’008 Patent is attached hereto as Exhibit 5.

276. The ’008 Patent is directed to patent-eligible subject matter pursuant to 35 U.S.C. § 101.

277. The ’008 Patent is valid and enforceable, and presumed as such, pursuant to 35 U.S.C. § 282.

278. Comcast deploys one or more of the Accused Cable Modem Products and Accused Set Top Products in connection with operating and providing the Accused Services.

279. The Accused Cable Modem Products and Accused Set Top Products deployed by Comcast to customer premises remain the property of Comcast while deployed.

280. The Accused Cable Modem Products and Accused Set Top Products operate while deployed in a manner controlled and intended by Comcast.

281. As set forth in the infringement contentions served on Comcast on September 15, 2023 (attached hereto as Exhibit 6),[16] Comcast has directly infringed and is infringing at least Claims 1-6, 9, and 10 of the ’008 Patent by using, importing, selling, and/or offering for sale the Accused Cable Modem Products and Accused Set Top Products and/or the Accused Services.

282. Each aspect of the functioning of the Accused Cable Modem Products and Accused Set Top Products described in the claim chart operates while deployed to customer premises in a manner controlled and intended by Comcast.

283. Comcast provides no software, support, or other facility to customers to modify any aspect of the functioning described in the claim chart of the Accused Cable Modem Products and Accused Set Top Products while deployed to customer premises.

284. Comcast directly infringes at least Claims 1-6, 9, and 10 of the ’008 Patent by using, importing, selling, and/or offering for sale the Accused Cable Modem Products (for example, the Technicolor CGM4140 cable modem), Accused Set Top Products (for example, the Arris AX013ANM STB) and/or the Accused Services (for example, monitoring signals by the Accused Set Top Products).

285. The use of the Accused Cable Modem Products and Accused Set Top Products by Comcast to, for example, demonstrate products in brick-and-mortar stores at 685 East Betteravia Rd., Santa Maria, California, 93454; and 1145 N. H Street, Suite B, Lompoc, California 93436, or to, for example, test those products, constitute acts of direct infringement of at least Claims 1-6, 9, and 10 of the ’008 Patent.

286. Comcast has known of or has been willfully blind to the ’008 Patent since before, and no later than the date of, its acceptance of service of the original Complaint in this action on February 16, 2023.

[16] The original claim chart for this patent is located at DE 63.

287. Comcast has known of or has been willfully blind to the '008 Patent since before, and no later than the date of, its acceptance of service of the First Amended Complaint in this action on June 5, 2023.

288. Comcast has known of or has been willfully blind to the '008 Patent since before, and no later than the date of, its acceptance of service of Entropic's infringement contentions on September 15, 2023.

289. Comcast has known of or has been willfully blind to the '008 Patent no later than the day before [redacted]

290. Comcast has known of or has been willfully blind to the '008 Patent since before the August 9, 2022 communication from Entropic.

291. Comcast has been aware that it infringes the '008 Patent since well before, and no later than the date of, Entropic's August 9, 2022 communication, attached as Exhibit 17. Since obtaining knowledge of the '008 Patent and its infringing activities, Comcast has failed to cease its infringing activities.

292. Customers and subscribers of Comcast infringe at least Claims 1-6, 9, and 10 of the '008 Patent by using the claimed system, at least during the use of the Accused Cable Modem Products and Accused Set Top Products.

293. Comcast actively induces customers' direct infringement. For example, Comcast actively induces infringement of at least Claims 1-6, 9, and 10 of the '008 Patent by providing the Accused Cable Modem Products and Accused Set Top Products to Comcast customers with specific instructions and/or assistance (including installation) regarding the use of the Accused Cable Modem Products and Accused Set Top Products to infringe the '008 Patent in accordance with the ordinary course of operation through the provision of the Accused Services. Comcast provides the full band digital tuning and signal monitoring functions claimed by the '008 Patent via the Accused Services, which enable and induce its customers to directly infringe the '008 Patent. For at least the above-listed reasons, Comcast aids, instructs, supports, and otherwise acts with the intent to cause an end user to use the Accused Cable Modem

Products and Accused Set Top Products to infringe at least Claims 1-6, 9, and 10 of the ’008 Patent.

294. Comcast contributes to the customers’ direct infringement. Comcast provides apparatuses, namely the Accused Cable Modem Products and Accused Set Top Products, that are used by customers to directly infringe at least Claims 1-6, 9, and 10 of the ’008 Patent.

295. The Accused Cable Modem Products and Accused Set Top Products have no substantial noninfringing uses. When an end user uses the Accused Cable Modem Products and Accused Set Top Products to receive the Accused Services, the end user directly infringes at least Claims 1-6, 9, and 10 of the ’008 Patent. The Accused Cable Modem Products and Accused Set Top Products are especially made or especially adapted for use in an infringing manner.

296. Comcast’s inducement of, and contribution to, the direct infringement of at least Claims 1-6, 9, and 10 of the ’008 Patent is continuous and ongoing through acts such as providing the Accused Cable Modem Products and Accused Set Top Products to Comcast customers, which enables those customers to receive the Accused Services; Comcast’s provision of the Accused Services; and technical assistance provided by Comcast for equipment it provides to its customers in support of the provision of the Accused Services.

297. Comcast’s infringement of the ’008 Patent is, has been, and continues to be willful, intentional, deliberate, and/or in conscious disregard for Entropic’s rights under the patent.

298. Entropic has been damaged as a result of the infringing conduct alleged above. Comcast is liable to Entropic in an amount that compensates Entropic for Comcast’s infringement, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

299. Entropic is aware of no obligation to mark any instrumentality with the ’008 Patent in accordance with 35 U.S.C. § 287.

COUNT IV

(Infringement of the ’362 Patent)

300. Entropic incorporates by reference each allegation of the paragraphs above as if fully set forth herein.

301. Entropic served infringement contentions which included a claim chart for the ’362 Patent on September 15, 2023.

302. The ’362 Patent duly issued on December 8, 2015 from an application filed February 5, 2015, an application filed August 8, 2013, an application filed April 19, 2010, and, *inter alia* a provisional application filed April 17, 2009.

303. Entropic owns all substantial rights, interest, and title in and to the ’362 Patent, including the sole and exclusive right to prosecute this action and enforce the ’362 Patent against infringers and to collect damages for all relevant times.

304. The ’362 Patent generally describes a wideband receiver system that down converts a plurality of frequencies including desired television channels and undesired television channels, digitizes frequencies, selects desired television channels from the frequencies, and outputs the selected television channels to a demodulator as a digital data stream. A true and accurate copy of the ’362 Patent is attached hereto as Exhibit 7.

305. The ’362 Patent is directed to patent-eligible subject matter pursuant to 35 U.S.C. § 101.

306. The ’362 Patent is valid and enforceable, and presumed as such, pursuant to 35 U.S.C. § 282.

307. Comcast deploys one or more of the Accused Set Top Products in connection with operating and providing the Accused Services.

308. The Accused Set Top Products deployed by Comcast to customer premises remain the property of Comcast while deployed.

309. The Accused Set Top Products operate while deployed in a manner controlled and intended by Comcast.

310. As set forth in the infringement contentions served on Comcast on September 15, 2023 (attached hereto as Exhibit 8),[17] Comcast has directly infringed and is infringing at least Claims 11 and 12 of the '362 Patent by using, importing, selling, and/or offering for sale the Accused Set Top Products and/or the Accused Services.

311. Each aspect of the functioning of the Accused Set Top Products described in the claim chart operates while deployed to customer premises in a manner controlled and intended by Comcast.

312. Comcast provides no software, support, or other facility to customers to modify any aspect of the functioning described in the claim chart of the Accused Set Top Products while deployed to customer premises.

313. Comcast directly infringes at least Claims 11 and 12 of the '362 Patent by using, importing, selling, and/or offering for sale the Accused Set Top Products (for example, the Arris AX013ANM STB) and/or the Accused Services (for example, digitizing and selecting desired television channels provided by Comcast).

314. The use of the Accused Set Top Products by Comcast to, for example, demonstrate products in brick-and-mortar stores at 685 East Betteravia Rd., Santa Maria, California, 93454; and 1145 N. H Street, Suite B, Lompoc, California 93436, or to, for example, test those products, constitute acts of direct infringement of at least Claims 11 and 12 of the '362 Patent.

315. Comcast has known of or has been willfully blind to the '362 Patent since before, and no later than the date of, its acceptance of service of the original Complaint in this action on February 16, 2023.

316. Comcast has known of or has been willfully blind to the '362 Patent since before, and no later than the date of, its acceptance of service of the First Amended Complaint in this action on June 5, 2023.

[17] The original claim chart for this patent is located at DE 63.

317. Comcast has known of or has been willfully blind to the '362 Patent since before, and no later than the date of, its acceptance of service of Entropic's infringement contentions on September 15, 2023.

318. Comcast has known of or has been willfully blind to the '362 Patent no later than the day before [redacted]

319. Comcast has known of or has been willfully blind to the '362 Patent since before the August 9, 2022 communication from Entropic.

320. Comcast has been aware that it infringes the '362 Patent since well before, and no later than the date of, its receipt of Entropic's August 9, 2022 communication, attached as Exhibit 17. Since obtaining knowledge of the '362 Patent and its infringing activities, Comcast has failed to cease its infringing activities.

321. Customers and subscribers of Comcast infringe at least Claims 11 and 12 of the '362 Patent by using the claimed system, at least during the use of the Accused Set Top Products.

322. Comcast actively induces customers' direct infringement. For example, Comcast actively induces infringement of at least Claims 11 and 12 of the '362 Patent by providing the Accused Set Top Products to Comcast customers with specific instructions and/or assistance (including installation) regarding the use of the Accused Set Top Products to infringe the '362 Patent in accordance with the ordinary course of operation through the provision of the Accused Services. Comcast provides the television channel digitization, selection, and output functions claimed by the '362 Patent via the Accused Services, which enable and induce its customers to directly infringe the '362 Patent. For at least the above-listed reasons, Comcast aids, instructs, supports, and otherwise acts with the intent to cause an end user to use the Accused Set Top Products to infringe at least Claims 11 and 12 of the '362 Patent.

323. Comcast contributes to the customers' direct infringement. Comcast provides apparatuses, namely the Accused Set Top Products, that are used by customers to directly infringe at least Claims 11 and 12 of the '362 Patent.

324. The Accused Set Top Products have no substantial noninfringing uses. When an end user uses the Accused Set Top Products to receive the Accused Services, the end user directly infringes at least Claims 11 and 12 of the ’362 Patent. The Accused Set Top Products are especially made or especially adapted for use in an infringing manner.

325. Comcast’s inducement of, and contribution to, the direct infringement of at least Claims 11 and 12 of the ’362 Patent is continuous and ongoing through acts such as providing the Accused Set Top Products to Comcast customers, which enables those customers to receive the Accused Services; Comcast’s provision of the Accused Services; and technical assistance provided by Comcast for equipment it provides to its customers in support of the provision of the Accused Services.

326. Comcast’s infringement of the ’362 Patent is, has been, and continues to be willful, intentional, deliberate, and/or in conscious disregard for Entropic’s rights under the patent.

327. Entropic has been damaged as a result of the infringing conduct alleged above. Comcast is liable to Entropic in an amount that compensates Entropic for Comcast’s infringement, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

328. No apparatus claims of the ’362 Patent are presently asserted. Accordingly, there is no duty to mark pursuant to 35 U.S.C. § 287.

COUNT V

(Infringement of the ’826 Patent)

329. Entropic incorporates by reference each allegation of the paragraphs above as if fully set forth herein.

330. Entropic served infringement contentions which included a claim chart for the ’826 Patent on September 15, 2023.

331. The ’826 Patent duly issued on November 21, 2017 from an application filed November 23, 2015, an application filed July 28, 2014, an application filed September 10, 2012, and, *inter alia* a provisional application filed September 8, 2011.

332. Entropic owns all substantial rights, interest, and title in and to the ’826 Patent, including the sole and exclusive right to prosecute this action and enforce the ’826 Patent against infringers and to collect damages for all relevant times.

333. The ’826 Patent generally describes a system that receives a signal having a plurality of channels, digitizes the received signal, and reports certain signal characteristics to the source of the received signal. A true and accurate copy of the ’826 Patent is attached hereto as Exhibit 9.

334. The ’826 Patent is directed to patent-eligible subject matter pursuant to 35 U.S.C. § 101.

335. The ’826 Patent is valid and enforceable, and presumed as such, pursuant to 35 U.S.C. § 282.

336. Comcast deploys one or more of the Accused Cable Modem Products and Accused Set Top Products in connection with operating and providing the Accused Services.

337. The Accused Cable Modem Products and Accused Set Top Products deployed by Comcast to customer premises remain the property of Comcast while deployed.

338. The Accused Cable Modem Products and Accused Set Top Products operate while deployed in a manner controlled and intended by Comcast.

339. As set forth in the infringement contentions served on Comcast on September 15, 2023 (attached hereto as Exhibit 10),[18] Comcast has directly infringed and is infringing at least Claims 1-4, 6, 8, and 9 of the ’826 Patent by using, importing,

[18] The original claim chart for this patent is located at DE 63.

selling, and/or offering for sale the Accused Cable Modem Products, Accused Set Top Products and/or the Accused Services.

340. Each aspect of the functioning of the Accused Cable Modem Products and Accused Set Top Products described in the claim chart operates while deployed to customer premises in a manner controlled and intended by Comcast.

341. Comcast provides no software, support, or other facility to customers to modify any aspect of the functioning described in the claim chart of the Accused Cable Modem Products and Accused Set Top Products while deployed to customer premises.

342. Comcast directly infringes at least Claims 1-4, 6, 8, and 9 of the ’826 Patent by using, importing, selling, and/or offering for sale the Accused Cable Modem Products and Accused Set Top Products (for example, the Technicolor CGM4140 cable modem) and/or the Accused Services (for example, monitoring signals by the Accused Cable Modem Products and Accused Set Top Products).

343. The use of the Accused Cable Modem Products and Accused Set Top Products by Comcast to, for example, demonstrate products in brick-and-mortar stores at 685 East Betteravia Rd., Santa Maria, California, 93454; and 1145 N. H Street, Suite B, Lompoc, California 93436, or to, for example, test those products, constitute acts of direct infringement of at least Claims 1-4, 6, 8, and 9 of the ’826 Patent.

344. Comcast has known of or has been willfully blind to the ’826 Patent since before, and no later than the date of, its acceptance of service of the original Complaint in this action on February 16, 2023.

345. Comcast has known of or has been willfully blind to the ’826 Patent since before, and no later than the date of, its acceptance of service of the First Amended Complaint in this action on June 5, 2023.

346. Comcast has known of or has been willfully blind to the ’826 Patent since before, and no later than the date of, its acceptance of service of Entropic’s infringement contentions on September 15, 2023.

347. Comcast has known of or has been willfully blind to the '826 Patent no later than the day before [redacted]

348. Comcast has known of or has been willfully blind to the '826 Patent since before the August 9, 2022 communication from Entropic.

349. Comcast has been aware that it infringes the '826 Patent since well before, and no later than the date of, its receipt of Entropic's August 9, 2022 communication, attached as Exhibit 17. Since obtaining knowledge of the '826 Patent and its infringing activities, Comcast has failed to cease its infringing activities.

350. Customers and subscribers of Comcast infringe at least Claims 1-4, 6, 8, and 9 of the '826 Patent by using the claimed system, at least during the use of the Accused Cable Modem Products and Accused Set Top Products.

351. Comcast actively induces customers' direct infringement. For example, Comcast actively induces infringement of at least Claims 1-4, 6, 8, and 9 of the '826 Patent by providing the Accused Cable Modem Products and Accused Set Top Products to Comcast customers with specific instructions and/or assistance (including installation) regarding the use of the Accused Cable Modem Products and Accused Set Top Products to infringe the '826 Patent in accordance with the ordinary course of operation through the provision of the Accused Services. Comcast provides the signal monitoring claimed by the '826 Patent via the Accused Services, which enable and induce its customers to directly infringe the '826 Patent. For at least the above-listed reasons, Comcast aids, instructs, supports, and otherwise acts with the intent to cause an end user to use the Accused Cable Modem Products and Accused Set Top Products to infringe at least Claims 1-4, 6, 8, and 9 of the '826 Patent.

352. Comcast contributes to the customers' direct infringement. Comcast provides apparatuses, namely the Accused Cable Modem Products and Accused Set Top Products, that are used by customers to directly infringe at least Claims 1-4, 6, 8, and 9 of the '826 Patent.

353. The Accused Cable Modem Products and Accused Set Top Products have no substantial noninfringing uses. When an end user uses the Accused Set Top Products to receive the Accused Services, the end user directly infringes at least Claims 1-4, 6, 8, and 9 of the ’826 Patent. The Accused Cable Modem Products and Accused Set Top Products are especially made or especially adapted for use in an infringing manner.

354. Comcast’s inducement of, and contribution to, the direct infringement of at least Claims 1-4, 6, 8, and 9 of the ’826 Patent is continuous and ongoing through acts such as providing the Accused Cable Modem Products and Accused Set Top Products to Comcast customers, which enables those customers to receive the Accused Services; Comcast’s provision of the Accused Services; and technical assistance provided by Comcast for equipment it provides to its customers in support of the provision of the Accused Services.

355. Comcast’s infringement of the ’826 Patent is, has been, and continues to be willful, intentional, deliberate, and/or in conscious disregard for Entropic’s rights under the patent.

356. Entropic has been damaged as a result of the infringing conduct alleged above. Comcast is liable to Entropic in an amount that compensates Entropic for Comcast’s infringement, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

357. No apparatus claims of the ’826 Patent are presently asserted. Accordingly, there is no duty to mark pursuant to 35 U.S.C. § 287.

COUNT VI

(Infringement of the ’682 Patent)

358. Entropic incorporates by reference each allegation of the paragraphs above as if fully set forth herein.

359. Entropic served infringement contentions which included a claim chart for the ’682 Patent on September 15, 2023.

360. The ’682 Patent duly issued on November 20, 2018 from an application filed January 9, 2018, an application filed February 16, 2017, an application filed August 4, 2016, an application filed July 23, 2013, and, *inter alia* a provisional application filed July 23, 2012.

361. Entropic owns all substantial rights, interest, and title in and to the ’682 Patent, including the sole and exclusive right to prosecute this action and enforce the ’682 Patent against infringers and to collect damages for all relevant times.

362. The ’682 Patent generally describes a method performed by a cable modem termination system and/or converged cable access platform, the method including determining a corresponding signal-to-noise-ratio (“SNR”) related metric, assigning cable modems to service groups based on a respective corresponding SNR-related metric, generating a composite SNR-related metric based on a worst-case SNR profile, selecting a physical layer communication parameter to be used for communicating with a service group based on a composite SNR-related metric, and communicating with cable modems in the service group using the selected physical layer communication parameter. A true and accurate copy of the ’682 Patent is attached hereto as Exhibit 11.

363. The ’682 Patent is directed to patent-eligible subject matter pursuant to 35 U.S.C. § 101.

364. The ’682 Patent is valid and enforceable, and presumed as such, pursuant to 35 U.S.C. § 282.

365. Comcast deploys one or more of the Accused Cable Modem Products in connection with operating and providing the Accused Services.

366. The Accused Cable Modem Products deployed by Comcast to customer premises remain the property of Comcast while deployed.

367. The Accused Cable Modem Products operate while deployed in a manner controlled and intended by Comcast.

368. As set forth in the infringement contentions served on Comcast on September 15, 2023 (attached hereto as Exhibit 12),[19] Comcast has directly infringed and is infringing at least Claims 1-5 and 9 of the '682 Patent by using, importing, selling, and/or offering for sale the Accused Services.

369. Each aspect of the functioning of the Accused Cable Modem Products described in the claim chart operates while deployed to customer premises in a manner controlled and intended by Comcast.

370. Comcast provides no software, support, or other facility to customers to modify any aspect of the functioning described in the claim chart of the Accused Cable Modem Products while deployed to customer premises.

371. Comcast directly infringes at least Claims 1-5 and 9 of the '682 Patent by using, importing, selling, and/or offering for sale the Accused Services, which utilize cable modem termination systems and/or converged cable access platforms that communicate with the Accused Cable Modem Products (for example, the Technicolor CGM4140 cable modem).

372. The use of the Accused Services by Comcast to, for example, demonstrate products in brick-and-mortar stores at 685 East Betteravia Rd., Santa Maria, California, 93454; and 1145 N. H Street, Suite B, Lompoc, California 93436, or to, for example, test those products, constitute acts of direct infringement of at least Claims 1-5 and 9 of the '682 Patent.

373. Comcast has known of or has been willfully blind to the '682 Patent since before, and no later than the date of, its acceptance of service of the original Complaint in this action on February 16, 2023.

374. Comcast has known of or has been willfully blind to the '682 Patent since before, and no later than the date of, its acceptance of service of the First Amended Complaint in this action on June 5, 2023.

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[19] The original claim chart for this patent is located at DE 63.

375. Comcast has known of or has been willfully blind to the '682 Patent since before, and no later than the date of, its acceptance of service of Entropic's infringement contentions on September 15, 2023.

376. Comcast has known of or has been willfully blind to the '682 Patent no later than the day before [redacted]

377. Comcast has known of or has been willfully blind to the '682 Patent since before the August 9, 2022 communication from Entropic.

378. Comcast has been aware that it infringes the '682 Patent since well before, and no later than the date of, its receipt of Entropic's August 9, 2022 communication, attached as Exhibit 17. Since obtaining knowledge of the '682 Patent and its infringing activities, Comcast has failed to cease its infringing activities.

379. Comcast has willfully infringed the '682 Patent as evidenced by its own patents that cite to U.S. Patent No. 9,419,858 (the '858 Patent"), which is the ultimate parent of the '682 Patent. Specifically, Comcast's patents including U.S. Patent No. 11,191,087; U.S. Patent No. 10,582,515; U.S. Patent No. 11,758,574 cite the '858 Patent.

380. Comcast's reference to the '858 Patent, which is closely related to and involves similar technology and functionality as the '682 Patent, evidences Comcast's awareness that it infringes upon '682 Patent.

381. Further, Comcast filed an application for U.S. Patent No. 9,178,765 on July 23, 2013, in the same month that the application for the '682 Patent was filed. On information and belief, Comcast was aware of the '682 Patent based on the investigation it undertook during the application and prosecution process for U.S. Patent No. 9,178,765. Thus, Comcast has willfully infringed the '682 Patent since at least July 23, 2013.

382. Comcast's infringement of the '682 Patent is, has been, and continues to be willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights under the patent.

383. Entropic has been damaged as a result of the infringing conduct alleged above. Comcast is liable to Entropic in an amount that compensates Entropic for Comcast's infringement, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

384. No apparatus claims of the '682 Patent are presently asserted. Accordingly, there is no duty to mark pursuant to 35 U.S.C. § 287.

COUNT VII

(Infringement of the '866 Patent)

385. Entropic incorporates by reference each allegation of the paragraphs above as if fully set forth herein.

386. Entropic served infringement contentions which included a claim chart for the '866 Patent on September 15, 2023.

387. The '866 Patent duly issued on July 5, 2022 from an application filed January 28, 2022, an application filed March 30, 2021, an application filed June 4, 2019, an application filed October 24, 2017, an application filed November 23, 2015, an application filed February 10, 2015, an application filed August 8, 2013, an application filed April 19, 2010, and, *inter alia* a provisional application filed April 17, 2009.

388. Entropic owns all substantial rights, interest, and title in and to the '866 Patent, including the sole and exclusive right to prosecute this action and enforce the '866 Patent against infringers and to collect damages for all relevant times.

389. The '866 Patent generally describes a cable television device that digitizes an entire input signal, concurrently selects a plurality of desired channels from the digitized input signal without selecting any undesired channels, and provides the plurality of desired channels. A true and accurate copy of the '866 Patent is attached hereto as Exhibit 13.

390. The '866 Patent is directed to patent-eligible subject matter pursuant to 35 U.S.C. § 101.

391. The ’866 Patent is valid and enforceable, and presumed as such, pursuant to 35 U.S.C. § 282.

392. Comcast deploys one or more of the Accused Set Top Products in connection with operating and providing the Accused Services.

393. The Accused Set Top Products deployed by Comcast to customer premises remain the property of Comcast while deployed.

394. The Accused Set Top Products operate while deployed in a manner controlled and intended by Comcast.

395. As set forth in the infringement contentions served on Comcast on September 15, 2023 (attached hereto as Exhibit 14),[20] Comcast has directly infringed and is infringing at least Claims 27, 28, 33, 36, 37, 41, 42, 47, 50, and 51 of the ’866 Patent by using, importing, selling, and/or offering for sale the Accused Set Top Products and/or the Accused Services.

396. Each aspect of the functioning of the Accused Set Top Products described in the claim chart operates while deployed to customer premises in a manner controlled and intended by Comcast.

397. Comcast provides no software, support, or other facility to customers to modify any aspect of the functioning described in the claim chart of the Accused Set Top Products while deployed to customer premises.

398. Comcast directly infringes at least Claims 27, 28, 33, 36, 37, 41, 42, 47, 50, and 51 of the ’866 Patent by using, importing, selling, and/or offering for sale the Accused Set Top Products (for example, the Arris AX013ANM STB) and/or the Accused Services (for example, digitizing and selecting desired television channels from an input signal).

399. The use of the Accused Set Top Products by Comcast to, for example, demonstrate products in brick-and-mortar stores at 685 East Betteravia Rd., Santa

[20] The original claim chart for this patent is located at DE 63.

Maria, California, 93454; and 1145 N. H Street, Suite B, Lompoc, California 93436, or to, for example, test those products, constitute acts of direct infringement of at least Claims 27, 28, 33, 36, 37, 41, 42, 47, 50, and 51 of the '866 Patent.

400. Comcast has known of or has been willfully blind to the '866 Patent since before, and no later than the date of, its acceptance of service of the original Complaint in this action on February 16, 2023.

401. Comcast has known of or has been willfully blind to the '866 Patent since before, and no later than the date of, its acceptance of service of the First Amended Complaint in this action on June 5, 2023.

402. Comcast has known of or has been willfully blind to the '866 Patent since before, and no later than the date of, its acceptance of service of Entropic's infringement contentions on September 15, 2023.

403. Comcast has known of or has been willfully blind to the '362 family, of which the '866 Patent is a member, no later than the day before [redacted]

404. Comcast has known of or has been willfully blind to the '866 Patent since before the August 9, 2022 communication from Entropic.

405. Comcast has been aware that it infringes the '866 Patent since well before, and no later than the date of, its receipt of Entropic's August 9, 2022 communication, attached as Exhibit 17. Since obtaining knowledge of the '866 Patent and its infringing activities, Comcast has failed to cease its infringing activities.

406. Customers and subscribers of Comcast infringe at least Claims 27, 28, 33, 36, 37, 41, 42, 47, 50, and 51 of the '866 Patent by using the claimed system, at least during the use of the Accused Set Top Products.

407. Comcast actively induces customers' direct infringement. For example, Comcast actively induces infringement of at least Claims 27, 28, 33, 36, 37, 41, 42, 47, 50, and 51 of the '866 Patent by providing the Accused Set Top Products to Comcast customers with specific instructions and/or assistance (including installation) regarding

the use of the Accused Set Top Products to infringe the ’866 Patent in accordance with the ordinary course of operation through the provision of the Accused Services. For at least the above-listed reasons, Comcast aids, instructs, supports, and otherwise acts with the intent to cause an end user to use the Accused Set Top Products to infringe at least Claims 27, 28, 33, 36, 37, 41, 42, 47, 50, and 51 of the ’866 Patent.

408. Comcast contributes to the customers’ direct infringement. Comcast provides apparatuses, namely the Accused Set Top Products, that are used by customers to directly infringe at least Claims 27, 28, 33, 36, 37, 41, 42, 47, 50, and 51 of the ’866 Patent.

409. The Accused Set Top Products have no substantial noninfringing uses. When an end user uses the Accused Set Top Products to receive the Accused Services, the end user directly infringes at least Claims 27, 28, 33, 36, 37, 41, 42, 47, 50, and 51 of the ’866 Patent. The Accused Set Top Products are especially made or especially adapted for use in an infringing manner.

410. Comcast’s inducement of, and contribution to, the direct infringement of at least Claims 27, 28, 33, 36, 37, 41, 42, 47, 50, and 51 of the ’866 Patent is continuous and ongoing through acts such as providing the Accused Set Top Products to Comcast customers, which enables those customers to receive the Accused Services; Comcast’s provision of the Accused Services; and technical assistance provided by Comcast for equipment it provides to its customers in support of the provision of the Accused Services.

411. Comcast’s infringement of the ’866 Patent is, has been, and continues to be willful, intentional, deliberate, and/or in conscious disregard for Entropic’s rights under the patent.

412. Entropic has been damaged as a result of the infringing conduct alleged above. Comcast is liable to Entropic in an amount that compensates Entropic for Comcast’s infringement, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

413. Entropic is aware of no obligation to mark any instrumentality with the ’866 Patent in accordance with 35 U.S.C. § 287.

COUNT VIII

(Infringement of the ’206 Patent)

414. Entropic incorporates by reference each allegation of the paragraphs above as if fully set forth herein.

415. Entropic served infringement contentions which included a claim chart for the ’206 Patent on September 15, 2023.

416. The ’206 Patent duly issued on July 26, 2022 from an application filed January 28, 2022, an application filed March 30, 2021, an application filed June 4, 2019, an application filed October 24, 2017, an application filed November 23, 2015, an application filed February 10, 2015, an application filed August 8, 2013, an application filed April 19, 2010, and, *inter alia* a provisional application filed April 17, 2009.

417. Entropic owns all substantial rights, interest, and title in and to the ’206 Patent, including the sole and exclusive right to prosecute this action and enforce the ’206 Patent against infringers and to collect damages for all relevant times.

418. The ’206 Patent generally describes receiving an input signal from a cable network, digitizing the entire input signal, selecting a plurality of desired channels from the digitized input signal without selecting any undesired channels, and providing the plurality of desired channels. A true and accurate copy of the ’206 Patent is attached hereto as Exhibit 15.

419. The ’206 Patent is directed to patent-eligible subject matter pursuant to 35 U.S.C. § 101.

420. The ’206 Patent is valid and enforceable, and presumed as such, pursuant to 35 U.S.C. § 282.

421. Comcast deploys one or more of the Accused Cable Modem Products and Accused Set Top Products in connection with operating and providing the Accused Services.

422. The Accused Cable Modem Products and Accused Set Top Products deployed by Comcast to customer premises remain the property of Comcast while deployed.

423. The Accused Cable Modem Products and Accused Set Top Products operate while deployed in a manner controlled and intended by Comcast.

424. As set forth in the infringement contentions served on Comcast on September 15, 2023 (attached hereto as Exhibit 16),[21] Comcast has directly infringed and is infringing at least Claims 13, 14, 19, 21, 23, 25, 26, 31, 34, 35, 38, 39, 44, 47, and 48 of the '206 Patent by using, selling, and/or offering for sale the Accused Services through the Accused Cable Modem Products and Accused Set Top Products.

425. Each aspect of the functioning of the Accused Cable Modem Products and Accused Set Top Products described in the claim chart operates while deployed to customer premises in a manner controlled and intended by Comcast.

426. Comcast provides no software, support, or other facility to customers to modify any aspect of the functioning described in the claim chart of the Accused Cable Modem Products and Accused Set Top Products while deployed to customer premises.

427. Comcast directly infringes at least Claims 13, 14, 19, 21, 23, 25, 26, 31, 34, 35, 38, 39, 44, 47, and 48 of the '206 Patent by using, importing, selling, and/or offering for sale the Accused Cable Modem Products (for example, the Technicolor CGM4140 cable modem), Accused Set Top Products (for example, the Arris AX013ANM STB), and/or the Accused Services (for example, digitizing and selecting desired channels from an input signal).

428. The use of the Accused Services through the Accused Cable Modem Products and Accused Set Top Products by Comcast to, for example, demonstrate products in brick-and-mortar stores at 685 East Betteravia Rd., Santa Maria, California, 93454; and 1145 N. H Street, Suite B, Lompoc, California 93436, or to, for example,

[21] The original claim chart for this patent is located at DE 63.

test those products, constitute acts of direct infringement of at least Claims 13, 14, 19, 21, 23, 25, 26, 31, 34, 35, 38, 39, 44, 47, and 48 of the ’206 Patent.

429. Customers and subscribers of Comcast infringe at least Claims 13, 14, 19, 21, 23, 25, 26, 31, 34, 35, 38, 39, 44, 47, and 48 of the ’206 Patent by using the claimed method, at least during receipt of the Accused Services utilizing, for example, the Accused Cable Modem Products and Accused Set Top Products (for example, the Technicolor CGM4140 cable modem).

430. The Accused Cable Modem Products and Accused Set Top Products have no substantial noninfringing uses. When an end user uses the Accused Cable Modem Products and Accused Set Top Products to receive the Accused Services, the end user directly infringes at least Claims 13, 14, 19, 21, 23, 25, 26, 31, 34, 35, 38, 39, 44, 47, and 48 of the ’206 Patent. The Accused Cable Modem Products and Accused Set Top Products are especially made or especially adapted for use in an infringing manner.

431. Entropic has been damaged as a result of the infringing conduct alleged above. Comcast is liable to Entropic in an amount that compensates Entropic for Comcast’s infringement, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

432. No apparatus claims of the ’206 Patent are presently asserted. Accordingly, there is no duty to mark pursuant to 35 U.S.C. § 287.

433. Comcast has known of or has been willfully blind to the ’206 Patent since before, and no later than the date of, its acceptance of service of the original Complaint in this action on February 16, 2023.

434. Comcast has known of or has been willfully blind to the ’206 Patent since before, and no later than the date of, its acceptance of service of the First Amended Complaint in this action on June 5, 2023.

435. Comcast has known of or has been willfully blind to the ’206 Patent since before, and no later than the date of, its acceptance of service of Entropic’s infringement contentions on September 15, 2023.

436. Comcast has known of or has been willfully blind to the '362 family, of which the '206 Patent is a member, no later than the day before signing the [redacted]

437. Since obtaining knowledge of the '362 family, of which the '206 Patent is a member, and its infringing activities, Comcast has failed to cease its infringing activities.

438. Comcast's infringement of the '206 Patent is, has been, and continues to be willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights under the patent.

COUNT IX

(Infringement of the '275 Patent)

439. Entropic incorporates by reference each allegation of the paragraphs above as if fully set forth herein.

440. Entropic served an infringement contention claim chart for the '275 Patent on November 3, 2023.

441. The '275 Patent duly issued on October 10, 2023 from an application filed September 30, 2022, an application filed July 12, 2022, an application filed January 28, 2022, an application filed March 30, 2021, an application filed June 4, 2019, an application filed October 24, 2017, an application filed November 23, 2015, an application filed February 10, 2015, an application filed August 8, 2013, an application filed April 19, 2010, and, *inter alia* a provisional application filed April 17, 2009.

442. Entropic owns all substantial rights, interest, and title in and to the '275 Patent, including the sole and exclusive right to prosecute this action and enforce the '275 Patent against infringers and to collect damages for all relevant times.

443. The '275 Patent generally describes a wideband receiver system that digitizes an input signal, selects desired channels from the digitized signal, and outputs the selected desired channels for demodulation. A true and accurate copy of the '275 Patent is attached hereto as Exhibit 18.

444. The ’275 Patent is directed to patent-eligible subject matter pursuant to 35 U.S.C. § 101.

445. The ’275 Patent is valid and enforceable, and presumed as such, pursuant to 35 U.S.C. § 282.

446. Comcast deploys one or more of the Accused Set Top Products in connection with operating and providing the Accused Services.

447. The Accused Set Top Products deployed by Comcast to customer premises remain the property of Comcast while deployed.

448. The Accused Set Top Products operate while deployed in a manner controlled and intended by Comcast.

449. As set forth in the infringement contentions served on Comcast on November 3, 2023 (attached hereto as Exhibit 19), Comcast has directly infringed and is infringing at least Claims 1, 2, 5, 7, 8, 10-12, 15, 17, 18, and 20 of the ’275 Patent by using, selling, and/or offering for sale the Accused Services through the Accused Set Top Products.

450. Each aspect of the functioning of the Accused Set Top Products described in the claim chart operates while deployed to customer premises in a manner controlled and intended by Comcast.

451. Comcast provides no software, support, or other facility to customers to modify any aspect of the functioning described in the claim chart of the Accused Set Top Products while deployed to customer premises.

452. Comcast directly infringes at least Claims 1, 2, 5, 7, 8, 10-12, 15, 17, 18, and 20 of the ’275 Patent by using, importing, selling, and/or offering for sale the Accused Set Top Products (for example, the Arris AX013ANM STB) and/or the Accused Services (for example, digitizing and selecting desired channels from an input signal).

453. The use of the Accused Services through the Accused Set Top Products by Comcast to, for example, demonstrate products in brick-and-mortar stores at 685 East

Betteravia Rd., Santa Maria, California, 93454; and 1145 N. H Street, Suite B, Lompoc, California 93436, or to, for example, test those products, constitute acts of direct infringement of at least Claims 1, 2, 5, 7, 8, 10-12, 15, 17, 18, and 20 of the '275 Patent.

454. Customers and subscribers of Comcast infringe at least Claims 1, 2, 5, 7, 8, 10-12, 15, 17, 18, and 20 of the '275 Patent by using the claimed method, at least during receipt of the Accused Services utilizing, for example, the Accused Set Top Products.

455. The Accused Set Top Products have no substantial noninfringing uses. When an end user uses the Accused Set Top Products to receive the Accused Services, the end user directly infringes at least Claims 1, 2, 5, 7, 8, 10-12, 15, 17, 18, and 20 of the '275 Patent. The Accused Set Top Products are especially made or especially adapted for use in an infringing manner.

456. Entropic has been damaged as a result of the infringing conduct alleged above. Comcast is liable to Entropic in an amount that compensates Entropic for Comcast's infringement, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

457. Comcast has known of or has been willfully blind to the '275 Patent since before, and no later than the date of, its acceptance of service of Entropic's infringement contentions on November 3, 2023.

458. Comcast has known of or has been willfully blind to the '362 family, of which the '275 Patent is a member, no later than the day before signing the [redacted]

459. Since obtaining knowledge of the '362 family, of which the '275 Patent is a member, and its infringing activities, Comcast has failed to cease its infringing activities.

460. Comcast has known of or has been willfully blind to the '275 Patent since at least November 3, 2023, when Entropic served Comcast its infringement contention claim charts.

461. Comcast has been aware that it infringes the ’275 Patent since well before, and no later than the date of, its receipt of Entropic’s infringement contention claim charts served on November 3, 2023. Since obtaining knowledge of the ’275 Patent and its infringing activities, Comcast has failed to cease its infringing activities.

462. Comcast’s infringement of the ’275 Patent is, has been, and continues to be willful, intentional, deliberate, and/or in conscious disregard for Entropic’s rights under the patent.

463. Entropic is aware of no obligation to mark any instrumentality with the ’275 Patent in accordance with 35 U.S.C. § 287.

COUNT X

(Infringement of the ’438 Patent)

464. Entropic incorporates by reference each allegation of Paragraphs 1 through 349.

465. Entropic served an infringement contention claim chart for the ’438 Patent on November 3, 2023.

466. The ’438 Patent duly issued on January 9, 2018, from an application filed February 16, 2017, an application filed August 4, 2016, an application filed July 23, 2013, and, *inter alia* a provisional application filed July 23, 2012.

467. Entropic owns all substantial rights, interest, and title in and to the ’438 Patent, including the sole and exclusive right to prosecute this action and enforce the ’438 Patent against infringers and to collect damages for all relevant times.

468. The ’438 Patent generally describes a mechanism for determining communication parameters for communications between a cable modem termination system and cable modems. A true and accurate copy of the ’438 Patent is attached hereto as Exhibit 20.

469. The ’438 Patent is directed to patent-eligible subject matter pursuant to 35 U.S.C. § 101.

470. The ’438 Patent is valid and enforceable, and presumed as such, pursuant to 35 U.S.C. § 282.

471. Comcast deploys one or more of the Accused Cable Modem Products and Accused Set Top Products in connection with operating and providing the Accused Services.

472. The Accused Cable Modem Products and Accused Set Top Products deployed by Comcast to customer premises remain the property of Comcast while deployed.

473. The Accused Cable Modem Products operate while deployed in a manner controlled and intended by Comcast.

474. As set forth in the infringement contentions served on Comcast on November 3, 2023 (attached hereto as Exhibit 21), Comcast has directly infringed and is infringing at least Claims 1-5 and 9 of the ’438 Patent, by using, importing, selling, and/or offering for sale the Accused Services.

475. Each aspect of the functioning of the Accused Cable Modem Products and Accused Set Top Products described in the claim chart operates while deployed to customer premises in a manner controlled and intended by Comcast.

476. Comcast provides no software, support, or other facility to customers to modify any aspect of the functioning described in the claim chart of the Accused Cable Modem Products and Accused Set Top Products while deployed to customer premises.

477. Comcast directly infringes at least Claims 1-5 and 9 of the ’438 Patent by using, importing, selling, and/or offering for sale the Accused Services, which utilize cable modem termination systems and/or converged cable access platforms that communicate with the Accused Cable Modem Products and Accused Set Top Products (for example, the Technicolor CGM4140 cable modem).

478. The use of the Accused Services by Comcast to, for example, demonstrate products in brick-and-mortar stores at 685 East Betteravia Rd., Santa Maria, California, 93454; and 1145 N. H Street, Suite B, Lompoc, California 93436, or to, for example,

test those products, constitute acts of direct infringement of at least Claims 1-5 and 9 of the '438 Patent.

479. Comcast has known of or has been willfully blind to the '438 Patent since before, and no later than the date of, its acceptance of service of, Entropic's infringement contentions on November 3, 2023.

480. Comcast has known of or has been willfully blind to the '682 family, of which the '438 Patent is a member, no later than the day before signing the [redacted]

481. Since obtaining knowledge of the '682 family, of which the '438 Patent is a member, and its infringing activities, Comcast has failed to cease its infringing activities.

482. Comcast has been aware that it infringes the '438 Patent since well before, and no later than the date of, its receipt of Entropic's infringement contention claim charts served on November 3, 2023. Since obtaining knowledge of the '438 Patent and its infringing activities, Comcast has failed to cease its infringing activities.

483. Comcast's infringement of the '438 Patent is, has been, and continues to be willful, intentional, deliberate, and/or in conscious disregard for Entropic's rights under the patent.

484. Entropic has been damaged as a result of the infringing conduct alleged above. Comcast is liable to Entropic in an amount that compensates Entropic for Comcast's infringement, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

485. No apparatus claims of the '438 Patent are presently asserted. Accordingly, there is no duty to mark pursuant to 35 U.S.C. § 287.

PRAYER FOR RELIEF

WHEREFORE, Entropic requests that:

A. The Court find that Comcast has directly infringed the Patents-in-Suit and hold Comcast liable for such infringement;

B. The Court find that Comcast has indirectly infringed the Patents-in-Suit by inducing its customers to directly infringe the Patents-in-Suit and hold Comcast liable for such infringement;

C. The Court find that Comcast has indirectly infringed the Patents-in-Suit by contributing to its customers' direct infringement of the Patents-in-Suit and hold Comcast liable for such infringement;

D. The Court award damages pursuant to 35 U.S.C. § 284 adequate to compensate Entropic for Comcast's past infringement of the Patents-in-Suit, including both pre- and post-judgment interest and costs as fixed by the Court;

E. The Court find that Comcast willfully infringed the Patents-in-Suit, and increase the damages to be awarded to Entropic by three times the amount found by the jury or assessed by the Court;

F. The Court declare that this is an exceptional case entitling Entropic to its reasonable attorneys' fees under 35 U.S.C. § 285; and

G. The Court award such other relief as the Court may deem just and proper.

JURY TRIAL DEMANDED

Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure, Entropic hereby requests a trial by jury on all issues raised by this Complaint.

Dated: December 15, 2023

Respectfully submitted,

By: */s/ Christina Goodrich*

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