

**UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

ENTROPIC COMMUNICATIONS, LLC,

Plaintiff,

v.

VANTIVA SA,

Defendant.

Case No. _____

DEMAND FOR JURY TRIAL

**ENTROPIC COMMUNICATIONS, LLC'S
COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiff Entropic Communications, LLC, by and through its undersigned counsel, files this Complaint for patent infringement against Defendant Vantiva SA, and alleges as follows:

INTRODUCTION

1. This action relates to six Patents—U.S. Patent Nos. 8,223,775 (the “’775 Patent”); 8,792,008 (the “’008 Patent”); 9,825,826 (the “’826 Patent”); 11,318,866 (the “’866 Patent”); 11,399,206 (the “’206 Patent”); and 11,785,275 (the “’275 Patent”) (collectively, the “Patents-in-Suit”)¹—that cover groundbreaking inventions in the delivery of video and broadband internet services over coaxial cable networks. These patents originally issued to a small, pioneering startup—Entropic Communications, Inc. (“Entropic, Inc.”)— and were later held by the U.S.-based provider of communications hardware and components that acquired Entropic, Inc.: MaxLinear, Inc. (“MaxLinear”). The Plaintiff here, Entropic Communications, LLC (“Entropic”), is the successor in interest to these two entities as to the Patents-in-Suit.

¹ The Patents-in-Suit are attached to this Complaint as Exhibits A through F.

2. The technologies invented by MaxLinear and Entropic, Inc. allow companies to provide faster internet service, better and less intrusive network monitoring, and more efficient signal processing. These innovations are now widely used in cable equipment, such as cable modems and set-top boxes.

3. Defendant Vantiva SA (“Vantiva” or “Defendant”) researches, designs, and develops modems and set-top boxes that use Entropic’s innovations. Vantiva causes, either itself or through its subsidiaries, affiliates, and/or agents, these products to be imported and sold to providers of cable telecommunications and television services, as well as their customers, throughout the United States, within the State of Texas, and in this District.

4. Vantiva’s modems and set-top boxes are sold to providers of cable telecommunications and television services (commonly referred to as multiple-system operators or “MSOs”) including, among others, Comcast Corporation (d/b/a “Xfinity”) (“Comcast”). As set forth *infra* at Paragraphs 79 through 80, Entropic previously filed a lawsuit against Comcast, *Entropic Communications LLC v. Comcast Corporation, et al*, C.D. Cal. Case No. 2:23-cv-01050-JWH-KES (C.D. Cal.), seeking to recover a reasonable royalty for Comcast’s infringement of the Patents-in-Suit.

5. In that lawsuit, Comcast asserted that a “Vendor Service Agreement” (“VSA”) between itself and MaxLinear contractually barred Entropic from pursuing claims against Comcast for its infringement of the Patents-in-Suit. By its own terms, however, the VSA does not restrict Entropic’s right to pursue such claims against Comcast’s vendors, including Vantiva, for the sale or offer for sale of products that infringe the Patents-in-Suit.

6. Thus, although Vantiva’s products—including those sold to Comcast and certain other MSOs—use technologies protected by the Patents-in-Suit, Vantiva has no license to do so.

The law requires that Vantiva compensate Entropic for its use of these patented technologies through the payment of no less than a reasonable royalty, and Entropic thus brings this action.

NATURE OF THE ACTION

7. This is an action for patent infringement under 35 U.S.C. §§ 271, 281 *et seq.*

THE PARTIES

8. Plaintiff Entropic Communications, LLC is a limited liability company organized and existing under the laws of the State of Texas, with an office at 7150 Preston Road, Suite 300, Plano, Texas 75024.

9. Entropic owns, through assignment, the Patents-in-Suit.

10. Entropic Communications, Inc., was founded in San Diego, California, in 2001 by a group of entrepreneurs including Dr. Anton Monk.

11. Over the course of its nearly fifteen-year history as an independent company, Entropic, Inc. pioneered numerous technologies that, to this day, form the basis for the hardware, software, and communications protocols used in various aspects of satellite and cable communications.

12. For instance, Entropic, Inc. developed System-on-Chip (“SoC”) solutions for the microprocessors used in set-top boxes (“STB”) and cable modems. It pioneered Direct Broadcast Satellite Outdoor Unit single-wire technology. And, as a small company in an industry populated with giants, Entropic, Inc. developed the hardware, software, and protocols necessary to support “Multimedia over Coax” (“MoCA”), which for the first time allowed for the use of existing cable wiring to provide a communications network between devices in a home or other building.

13. Under the technical guidance of Dr. Monk, Entropic, Inc. grew to be publicly listed on the NASDAQ in 2007.

14. As part of its efforts to protect its innovative technologies from unlawful use by others, Entropic, Inc. filed and prosecuted patent applications covering, and received patent protection on, many technologies it developed, including those disclosed in the '775 Patent.

15. In 2015, MaxLinear, Inc. acquired Entropic, Inc., as well as the pioneering intellectual property developed by Dr. Monk and his team.

16. Founded in 2003, MaxLinear was and is a leading provider of SoCs used in broadband, mobile and wireline infrastructure, data center, and industrial and multi-market communications applications. MaxLinear is engaged in the development of new, high-performance integrated circuits and other equipment for use in various communications applications, including for broadband video and data communications over coaxial cable networks.

17. Like Entropic, Inc., MaxLinear filed and prosecuted patent applications covering, and received patent protection on, many innovative technologies, including the technologies disclosed in the '008 and '826 Patents and the family of patents to which the '866, '206, and '276 Patents belong.

18. In 2021, Plaintiff Entropic was established to own a portion of MaxLinear's intellectual property portfolio, including the Patents-in-Suit. The Patents-in-Suit, among others, were duly transferred to Entropic in 2021.

19. Defendant Vantiva SA is a French *société anonyme* with headquarters located at 8-10 Rue Du Renard, Paris 75004, France.

20. Vantiva was, until 2022, formerly known as Technicolor SA.

21. On information and belief, Vantiva does business in the State of Texas and in this District, either directly or through its subsidiaries, affiliates, and/or agents.

JURISDICTION

22. This action arises under the laws of the United States, specifically the federal patent laws, codified at 35 U.S.C. §§ 271 and 281 *et seq.* This Court therefore has subject-matter jurisdiction over this action under 28 U.S.C. § 1338(a).

23. This Court has personal jurisdiction over Vantiva consistent with the requirements of the Due Process Clause of the United States Constitution and the Texas Long Arm Statute. Vantiva has sufficient minimum contacts with this forum, related to the subject matter of this action, to subject it to personal jurisdiction here. Among other things, Vantiva conducts substantial business itself, or through its subsidiaries, affiliates, and/or agents, in the State of Texas and this District.

24. For instance, Vantiva itself, or through its subsidiaries, affiliates, and/or agents, is responsible for designing, importing, making, marketing, distributing, offering for sale, and/or selling products in the State of Texas and this District that infringe the Patents-in-Suit.

25. Further, Vantiva induces others to import, make, distribute, offer for sale, sell, or use within the State of Texas and this District products that infringe the Patents-in-Suit. On information and belief, the others so induced include Vantiva USA LLC (“Vantiva USA”), a subsidiary of Vantiva. The others so induced further include customers of Vantiva or of its subsidiaries (i.e., entities that receive products or services from Vantiva and/or use such products or services to provide telecommunications service to end-users), including providers of cable telecommunications and television services (commonly referred to as multiple-system operators or “MSOs”) such as Cox Communications, Inc. (“Cox”) and Comcast Corporation (d/b/a “Xfinity”) (“Comcast”). The others so induced further include end-users of Vantiva’s products.

26. Vantiva itself, or through its subsidiaries, affiliates, and/or agents, provides service and support to its customers in the State of Texas and this District relating to the products that infringe the Patents-in-Suit. For example, on information and belief, Vantiva itself, or through its subsidiaries, affiliates, and/or agents, prepares, drafts, and/or distributes English user guides for products that infringe the Patents-in-Suit. (*See, e.g.*, Ex. G, CGM4331 User Guide.)

27. Vantiva itself, or through its subsidiaries, affiliates, and/or agents, places products that infringe the Patents-in-Suit into the stream of commerce with the knowledge and expectation that they will be sold in the State of Texas, including in this District.

28. For example, Vantiva itself, or through its subsidiaries, affiliates, and/or agents, markets, distributes, offers for sale, and/or sells its cable-modem and set-top box products primarily to companies that operate coaxial cable networks. These customers include MSOs such as Cox and Comcast that operate such networks and use the products at issue in this case within the State of Texas. On information and belief, Vantiva is, through its relations with these customers, aware of the locations in which the customers operate networks and deploy Vantiva's products. Accordingly, on information and belief, Vantiva has knowledge of the sale of products that infringe the Patents-in-Suit in Texas and has taken no action to prevent such sales.

29. For example, Vantiva itself, or through its subsidiaries, affiliates, and/or agents, distributes, offers for sale, and/or sells the CGM4140, CGM4331, and CGM4981 gateways to Comcast, a provider of cable telecommunications and television services. The CGM4140, CGM4331, and CGM4981 gateways are—as, on information and belief, Vantiva is aware—sold or provided to customers in the State of Texas. (*See* Xfinity, Overview of Xfinity Gateways (listing

accused CGM4981, CGM4331, and CGM4140 products as available to customers);² Xfinity, Xfinity Stores in Texas.³) For instance, each of these products includes power plug and other assemblies for compatibility with the American electrical grid. On information and belief, when designing, distributing, selling, and offering for sale products that infringe the Patents-in-Suit for use in the United States, Vantiva has the knowledge and expectation that they will be sold in the State of Texas, including in this District.

30. Vantiva itself, or through its subsidiaries, affiliates, and/or agents, applied for and obtained United States Federal Communications Commission certificates for products that infringe the Patents-in-Suit. (*See, e.g.*, Ex. H, FCC Application for CGM4140.) On information and belief, when seeking certification of products that infringe the Patents-in-Suit in the United States, Vantiva had the knowledge and expectation that they will be sold in the State of Texas, including in this District.

31. In the alternative, this Court has personal jurisdiction over Vantiva under Federal Rule of Civil Procedure 4(k)(2) because the claims for patent infringement in this action arise under federal law; because if it is not otherwise subject to personal jurisdiction here, Vantiva is not subject to the jurisdiction of the courts of general jurisdiction of any state; and because exercising jurisdiction over Vantiva is consistent with the U.S. Constitution.

VENUE

32. Venue is proper in this District pursuant to 28 U.S.C. § 1391(c) because Vantiva is not a resident of the United States, and therefore may be sued in any district in which it is subject to personal jurisdiction.

² <https://www.xfinity.com/support/articles/broadband-gateways-userguides> (last visited Nov. 5, 2024).

³ <https://www.xfinity.com/local/tx> (last visited Nov. 5, 2024).

33. Venue is convenient in this District because this Court has extensive familiarity with several of the patents at issue in this action.

34. For instance, on April 27, 2022, Entropic filed an action for patent infringement against Charter Communications, Inc. (“Charter”) in this Court entitled *Entropic Communications, LLC v. Charter Communications, Inc.*, No. 2:22-CV-00125-JRG (“the *Charter* 2022 Litigation”). In the *Charter* 2022 Litigation, Entropic alleged that certain of Charter’s products and services infringed the ’775, ’008, and ’826 Patents. In the *Charter* 2022 Litigation, Entropic also alleged that certain of Charter’s products and services infringed U.S. Patent No. 9,210,362, which shares a common specification with, and claims related subject matter to, the ’866, ’206, and ’275 Patents.

35. During the *Charter* 2022 Litigation, the Court conducted a *Markman* hearing, issued a *Markman* order, and addressed *Daubert* and summary judgment motions, thus gaining extensive familiarity with the Patents-in-Suit.

36. By way of further example, on February 10, 2023, Entropic filed an action for patent infringement against Charter Communications, Inc. in this Court entitled *Entropic Communications, LLC v. Charter Communications, Inc.*, No. 2:23-CV-00052-JRG (“the *Charter* 2023 Litigation”). In the *Charter* 2023 Litigation, Entropic alleged that certain of Charter’s products and services infringed the ’866, ’206, and ’275 Patents.⁴

FACTUAL ALLEGATIONS

37. Vantiva, either itself or through its subsidiaries, affiliates, and/or agents, has infringed and continues to infringe the Patents-in-Suit by making, using, offering to sell, selling, and/or importing products that infringe the Patents-in-Suit, by actively inducing others to make,

⁴ The ’275 Patent was added to the *Charter* 2023 Litigation via amendment in October 2023.

use, offer to sell, sell, and/or import, products that infringe the Patents-in-Suit, and by contributing to the infringement of the Patents-in-Suit by others.

The Accused Products

38. Vantiva, either itself or through its subsidiaries, affiliates, and/or agents, makes, uses, imports, offers for sale, and sells cable modems or gateways (collectively, the “Accused Cable Modem Products”) or television set-top boxes (the “Accused Set-Top Box Products”) (collectively, the “Accused Products”)⁵ that infringe one or more of the Patents-in-Suit.

39. The Accused Cable Modem Products include, for example, the CGM4981, CGM4331, CGM4140, TM3402, SB8200, and CM8200 cable modems, and any other cable modems that include or are based on the Broadcom BCM3390, BCM33843, or BCM3384 SoCs.

40. The Accused Set-Top Box Products include, for example, the AX014ANC, AX013ANM, AX014ANM, PXD01ANI-X1, PX022ANC, and PX022ANM set-top boxes, and any other set-top boxes that include or are based on the Broadcom BCM3390, BCM33843, or BCM3384 SoCs.

Vantiva SA and Its Subsidiaries and Affiliates

41. Vantiva and its subsidiaries and affiliates, including Vantiva USA, act as a single or common enterprise with respect to the acts relevant to Vantiva’s infringement of the Patents-in-Suit, such that Vantiva acts through its subsidiaries and affiliates or these subsidiaries act as agents of Vantiva.

⁵ The Accused Products exclude any product whose SoC is designed, manufactured, or sold by or on behalf of MaxLinear, or that is sold or provided to Charter or its subsidiaries or affiliates. Accused Products include any set-top boxes or cable modems formerly made, used, sold, offered for sale, or imported by CommScope Holding Company, Inc., certain businesses of which were acquired by Vantiva in January 2024.

42. For example, Vantiva treats itself and at least certain of its affiliates and subsidiaries as a collective unit known as the “Group” for certain business purposes.

43. Certain of Vantiva’s financial and corporate disclosure statements are published by Vantiva on behalf of the “Group” of Vantiva entities. On information and belief, the “Group” is organized to act as a single enterprise, including by sharing certain assets (including financial assets) and responsibilities for performance of contractual and other legal obligations. Vantiva directs, controls, and is responsible for the actions of its subsidiaries in the “Group.”

44. In April 2024, Vantiva filed a Universal Registration Document with the Autorite des Marchés Financiers (AMF), a French regulatory agency, describing certain aspects of its operations for calendar year 2023. (Ex. I.)

45. According to Vantiva’s 2024 Universal Registration Document, numerous of Vantiva’s subsidiaries and affiliates are “controlled by the Group” such that “the Group has the power to govern the financial and operating policies [of the entities] in order to obtain benefits from the[ir] activities.” (*Id.* at 268.) Such entities include Vantiva subsidiaries and affiliates within the “Connected Home” division, which, on information and belief, has responsibility for the design, development, importation, marketing, and sale of the Accused Products. (*Id.* at 39–40.)

46. Further, Vantiva and those of its affiliates and subsidiaries within the Group commingle and share financial assets and liabilities. Specifically, according to Vantiva’s 2024 Universal Registration Document, “[t]he Group’s policy is to centralize to the extent possible its financing . . . at the level of the Group Treasury. As a result, the majority of the Group’s subsidiaries borrow, and lend their surplus cash, to the Group Treasury, which in turn satisfies liquidity needs” (*Id.* at 301.)

47. Further still, Vantiva and those of its affiliates and subsidiaries within the Group act as a single entity vis-à-vis certain of their legal obligations to third parties. For instance, according to Vantiva’s 2024 Universal Registration Document, the “Group provides certain guarantees to third parties (financial institutions, customers, partners and government agencies) to ensure the fulfil[ment] of contractual obligations by Vantiva and its consolidated subsidiaries” and “Vantiva SA may issue performance guarantees for its subsidiaries.” (*Id.* at 316, 352.)

48. Among the other business activities conducted by Vantiva through its own actions and the actions of other entities in the Group are Vantiva’s efforts to sell the Accused Products in and to the United States. For example, in 2023, Vantiva represented that “[t]he United States remained the Group’s largest market with 55% of revenues,” and that the Group has a “strong presence in the United States” and “generates more than half of its revenues in the United States.” (*Id.* at 39, 169.)

49. Vantiva USA is a wholly-owned subsidiary of Vantiva. On information and belief, Vantiva USA is a member of the “Group,” as that term is used in the preceding paragraphs.

50. Through its shareholding in Vantiva USA and the collective operation of the Group’s business, Vantiva has the authority to, and on information and belief does, direct and control the actions of Vantiva USA.

51. Further, Vantiva expressly represents that it owes certain legal obligations, such as warranties, to end users of the Accused Products, indicating that these Accused Products were sold or provided to the users by or on behalf of Vantiva.

52. Documentation for several Accused Products confirms the existence of obligations between Vantiva (f/k/a Technicolor) and the users. For example, Vantiva offers user guides for the accused CGM4331 and CGM4981 cable modems. (Ex. G, CGM4331 User Guide; Ex. J,

CGM4981COM User Guide.) These guides explicitly state that the user may only “[c]opy, rent, loan, re-sell, sub-license, or otherwise transfer or distribute the equipment to others,” “[m]odify, [or] adapt . . . the equipment,” or “[r]emove from any copies of the equipment any product identification, copyright or other notices,” with “express and prior approval by Technicolor [(Vantiva’s predecessor)] in writing.” (Exs. G and J at 4.)

53. Vantiva’s user guides for the CGM4981 and CGM4331 cable modems refer to a product warranty from Technicolor and note that the commission of certain acts “will result in the loss of product warranty.” (*Id.*)

Exemplary Acts of Direct Infringement By Vantiva SA

54. Vantiva, either itself or through its subsidiaries, affiliates, and/or agents, offers to sell and sells the Accused Products to providers of cable telecommunications and television services in the United States, including MSOs.

55. For example, on information and belief, Vantiva offers to sell and sells the Accused Products to Cox and Comcast or subsidiaries thereof, in the United States. (*See* Xfinity, Overview of Xfinity Gateways;⁶ Cox Certified Cable Modems.⁷)

56. Further, Vantiva, at least through its subsidiaries, affiliates, and/or agents, imports the Accused Products into the United States by paying for, arranging, managing, and/or supervising the shipment of the Accused Products into, and specifying their destinations within the United States. For example, Vantiva’s 2024 Universal Registration Document states that Vantiva “provides the design, validation, and full integration of the CPE, hardware, and software

⁶ <https://www.xfinity.com/support/articles/broadband-gateways-userguides> (last visited Nov. 5, 2024).

⁷ <https://www.cox.com/residential/support/cox-certified-cable-modems.html> (last visited Nov. 5, 2024).

capabilities” and “manages all the logistics and supervises manufacturing, assembly, and post-sale services.” (Ex. I at 17.)

57. On information and belief, Vantiva, either itself or through its subsidiaries, affiliates, and/or agents, uses the Accused Products in the United States for demonstration, marketing, and in tutorials and instructions. For example, representatives of Vantiva frequently attend conferences in the United States, at which Vantiva, either itself or through its subsidiaries, affiliates, and/or agents, uses, demonstrates, markets, offers for sale, and sells the Accused Products.

58. From October 16–19, 2023, employees of Vantiva attended the SCTE Cable-Tec Expo, which was held in Denver, Colorado. As shown in the photograph below, at the SCTE Cable-Tec Expo in October 2023, Vantiva demonstrated various cable communications hardware that it advertised as supporting “Gigabit Speed” internet:



(Vantiva, Photos from the SCTE Event.)⁸

⁸ <https://www.vantiva.com/events/scte-cable-tec-expo-2023/> (last visited Nov. 5, 2024).

59. On information and belief, Vantiva, either itself or through its subsidiaries, affiliates, and/or agents, used, offered for sale, or sold the Accused Products at the SCTE Cable-Tec Expo in Denver, Colorado, in October 2023.

60. From March 12–13, 2024, employees of Vantiva attended the Cable Next-Gen Technologies & Strategies 2024 conference in Denver, Colorado. For instance, on information and belief, an individual named Charles Cheevers, who holds himself out as the “Chief Technology Officer Vantiva,” attended this conference to participate in a panel discussion entitled “DOCSIS 4.0: the rollout.” (Vantiva, Vantiva at Cable Next-Gen Technologies & Strategies 2024 in Denver.)⁹

61. On its website, Vantiva urged customers and other industry participants to interact with its employees, including Mr. Cheevers, at the Cable Next-Gen Technologies & Strategies 2024 conference:



(*Id.*)

⁹<https://www.vantiva.com/events/vantiva-at-cable-next-gen-technologies-strategies-2024-in-denver/> (last visited Nov. 5, 2024).

62. On information and belief, Vantiva, either itself or through its subsidiaries, affiliates, and/or agents, used, offered for sale, or sold the Accused Products at the Cable Next-Gen Technologies & Strategies 2024 conference in Denver, Colorado in March 2024.

63. On March 26, 2024, employees of Vantiva attended the Cablelabs Winter 2024 conference in Orlando, Florida. For instance, on information and belief, Mr. Charles Cheevers, who continued at the time to hold himself out as the “Chief Technology Officer Vantiva,” attended this conference to participate in a panel discussion entitled “A vendor perspective on DOCSIS 4.0 technology perspective [sic].” (Vantiva, Vantiva at Cablelabs Winter 2024 Conference .)¹⁰

64. On its website, Vantiva urged customers and other industry participants to interact with its employees, including Mr. Cheevers, at the Cablelabs Winter 2024 conference:



(Id.)

¹⁰ <https://www.vantiva.com/events/vantiva-at-cablelabs-winter-2024-conference/> (last visited Nov. 5, 2024).

65. On information and belief, Vantiva, either itself or through its subsidiaries, affiliates, and/or agents, used, offered for sale, or sold the Accused Products at the Cablelabs Winter 2024 conference in Orlando, Florida in March 2024.

66. In addition to the conferences described above, Vantiva employees attended numerous additional conferences in the United States over the past several years.¹¹ On information and belief, Vantiva, either itself or through its subsidiaries, affiliates, and/or agents, used, demonstrated, marketed, offered for sale, and sold the Accused Products at these conferences in the United States. (*See id.*)

Exemplary Acts of Indirect Infringement by Vantiva SA

67. Vantiva induces others, including Vantiva USA, to import, make, offer for sale, sell, or use the Accused Products within the United States and, thus, to commit acts of infringement.

68. For example, Vantiva induces Vantiva USA to import, make, offer for sale, sell, and use the Accused Products through its exercise of operational control over Vantiva USA's actions as described above in Paragraphs 41 through 53.

¹¹ Vantiva, Meet with Vantiva, Upcoming Events, <https://www.vantiva.com/events/> (last visited Nov. 5, 2024); Vantiva Broadband & Video LinkedIn Post (Dec. 2023), https://www.linkedin.com/posts/vantiva-broadband-video_scte-cabletecexpo-docsis4-activity-7120374602265944066-0-mN/; Vantiva LinkedIn Post (Nov. 2023), https://www.linkedin.com/posts/vantiva_scte-cabletecexpo-docsis4-activity-7113513642137919488-XH8J/; Vantiva, SCTE CABLE-TEC EXPO 2022 – September 19th to 22nd (Aug. 30, 2022), <https://www.vantiva.com/resources/scte-cable-tec-expo-2022-september-19th-to-22nd/>; Vantiva Broadband & Video LinkedIn Post (Feb. 2024), https://www.linkedin.com/posts/vantiva-broadband-video_vantiva-cpe-ces-activity-7150801124042686464-1WN/; SNBForums, Arris shows Docsis 3.1 modem with Wi-Fi 6 and EasyMesh at Cable-Tec Expo (Oct. 26, 2018), <https://www.snbforums.com/threads/arris-shows-docsis-3-1-modem-with-wi-fi-6-and-easymesh-at-cable-tec-expo.49548/>.

69. Vantiva induces others, including its customers such as Cox and Comcast, to distribute, offer for sale, sell, and use the Accused Products within the United States and, thus, to commit acts of patent infringement.

70. For example, Vantiva induces, either itself or through its affiliates or subsidiaries, Cox and Comcast to distribute, offer for sale, sell, and use the Accused Products by selling or providing the Accused Products to them with representations or directions regarding their suitability for use in their businesses or business applications.

71. Vantiva induces others, including end-users of Vantiva's products, to use the Accused Products within the United States and, thus, to commit acts of patent infringement.

72. For example, Vantiva, either itself or through its subsidiaries, affiliates, and/or agents, creates and distributes user guides for the Accused Products in the United States. These user guides instruct end users of the Accused Products as to how to use such products. For example, Vantiva offers user guides for the accused CGM4331 and CGM4981 cable modems. (Exs. G and J.) When end-users use the Accused Products for their ordinary and intended purposes in accordance with the instructions within these user guides, they infringe the Patents-in-Suit.

73. Vantiva, itself or through its subsidiaries, affiliates, and/or agents, offers technical support to end-users of the Accused Products, which causes or enables such users to use the Accused Products in a manner that infringes the Patents-in-Suit.

74. When put into service and used for their ordinary and intended purposes, the Accused Products infringe the Patents-in-Suit as set forth below. Because the Accused Products have no substantial non-infringing uses, and are not staple articles of commerce, Vantiva contributes to infringement of the Patents-in-Suit when it, either itself or through its subsidiaries,

affiliates, and/or agents, imports, sells, and/or offers for sale the Accused Products into or within the United States.

Vantiva's Knowledge of the Patents-in-Suit

75. Vantiva was aware of the Patents-in-Suit no later than the date of filing of this Complaint.

76. On information and belief, Vantiva was aware of the Patents-in-Suit prior to the filing of this Complaint as a result of prior lawsuits Entropic had brought against Vantiva's customers, alleging that certain Vantiva products infringed the Patents-in-Suit.

77. The Accused Products are provided by Vantiva to MSOs, which operate networks that provide video and internet services, among others, over coaxial-cable networks, including Charter, Comcast, and Cox.

78. On information and belief, the Accused Products are manufactured by Vantiva based at least in part on specifications provided by MSOs, such as Charter, Comcast, or Cox.

79. On information and belief, Vantiva learned from one or more of these customers that Entropic had brought lawsuits involving each of the Patents-in-Suit against such customers, and thus became aware of the Patents-in-Suit and their relevance to Vantiva's products. For instance, on information and belief, Vantiva learned of the Patents-in-Suit because one or more of its customers requested assistance and/or satisfaction of an indemnity obligation from it in connection with Entropic's allegations that Vantiva's products infringed the Patents-in-Suit.

80. Therefore, on information and belief, Vantiva learned of the existence of the Patents-in-Suit shortly after the date on which a complaint involving each of the Patents-in-Suit was filed against one or more of Vantiva's customers:

- U.S. Patent No. 8,223,775: *Charter* (April 27, 2022);¹²
- U.S. Patent No. 8,792,008: *Charter* (April 27, 2022);¹³
- U.S. Patent No. 9,825,826: *Charter* (April 27, 2022);¹⁴
- U.S. Patent No. 11,318,866: *Charter, Cox, Comcast* (February 10, 2023);¹⁵
- U.S. Patent No. 11,399,206: *Charter, Cox, Comcast* (February 10, 2023);¹⁶
- U.S. Patent No. 11,785,275: *Comcast* (December 8, 2023).¹⁷

COUNT I - INFRINGEMENT OF THE '775 PATENT

81. Entropic incorporates by reference the allegations set forth in Paragraphs 8 through 80 as though fully set forth herein.

82. U.S. Patent No. 8,223,775 (the “’775 Patent”), entitled “Architecture for a Flexible and High-Performance Gateway Cable Modem,” was duly issued by the United States Patent and Trademark Office on July 17, 2012. The ’775 Patent names Gordon Y. Li and Yoav Hebron as inventors. A true and accurate copy of the ’775 Patent is attached to this Complaint as Exhibit A.

83. The ’775 Patent is in force today. Entropic owns by assignment all rights and title in and to the ’775 Patent, including the sole and exclusive right to right to sue to recover damages for past infringement and to seek equitable and other relief for infringement of the ’775 Patent.

¹² *Entropic Commc’ns, LLC v. Charter Commc’ns, Inc.*, No. 2:22-CV-00125-JRG (E.D. Tex.).

¹³ *Id.*

¹⁴ *Id.*

¹⁵ *Entropic Commc’ns, LLC v. Charter Commc’ns, Inc.*, No. 2:23-CV-00052-JRG (E.D. Tex.); *Entropic Commc’ns, LLC v. Cox Commc’ns, Inc.*, No. 2:23-CV-01049-JWH-KES (C.D. Cal.); *Entropic Commc’ns, LLC v. Comcast Corp.*, No. 2:23-CV-01050-JWH-KES (C.D. Cal.).

¹⁶ *Id.*

¹⁷ U.S. Patent No. 11,785,275 was added to Entropic’s litigation with Comcast on December 8, 2023, through the filing of the Second Amended Complaint. *Entropic Commc’ns, LLC v. Comcast Corp.*, No. 2:23-CV-01050-JWH-KES (C.D. Cal.) (filed in lead of consolidated action, *Entropic Commc’ns, LLC v. Cox Commc’ns, Inc.*, No. 2:23-CV-01049-JWH-KES (C.D. Cal.)).

84. The '775 Patent generally relates to an architecture for a cable modem system that performs both cable modem functions, such as processing data transmitted to and from a cable headend over a coaxial cable network, and home networking functions, such as providing connectivity to network-connected devices within a building, such as computers. The cable-modem architecture described in the '775 Patent includes both a cable-modem engine and a data-networking engine, which are functionally partitioned, providing greater flexibility in the design and control of the modem's components and functions. For example, this partitioning allows software related to the modem's cable modem functions to be upgraded independently of software related to the home networking functions. The claimed architecture also boosts the throughput (i.e., speed) of a cable modem by forwarding certain data packets to the data networking engine while bypassing a processor, the DOCSIS controller, which can act as a bottleneck and reduce the achievable throughput.

85. The '775 Patent is directed to patent-eligible subject matter under 35 U.S.C. § 101. For instance, the '775 Patent is directed to a new architecture for an integrated circuit in a cable modem system that improves the functioning of a cable modem itself. The '775 Patent's invention further provides a technological solution to specific technological problems arising in the context of cable modems relating to how to manage the architecture of, and connections between, components in order to support high throughput and maximize flexibility.

86. The claims of the '775 Patent recite elements, and combinations of elements, that were neither routine nor conventional as of the September 30, 2003, priority date of the '775 Patent. For instance, as of that time, it was neither routine nor conventional to architect a cable modem in such a way as to allow the forwarding of data packets from a DOCSIS MAC processor to a data networking component without involving a DOCSIS controller.

87. The '775 Patent is valid and enforceable.

88. Vantiva has directly infringed and continues to directly infringe at least claim 18 of the '775 Patent, either literally or through the doctrine of equivalents, by making, using, selling, or offering for sale in the United States, and/or importing into the United States, either itself or through its subsidiaries, affiliates, and/or agents, the Accused Products. As set forth in the exemplary claim chart attached hereto as Appendix A, the Accused Products, including the exemplary CGM4981 cable modem, infringe at least claim 18 of the '775 Patent.

89. Vantiva, either itself or through its subsidiaries, affiliates, and/or agents, indirectly infringes the '775 Patent.

90. As set forth above in Paragraphs 75 through 80, Vantiva had knowledge of the '775 Patent no later than the filing of this complaint and, on information and belief, no later than April 2022.

91. The Accused Products, when put into service and used for their ordinary and intended purposes by end-users (e.g., when receiving data over a coaxial cable network) or cable service operators (e.g., for testing, servicing, and the like) directly infringe at least claim 18 of the '775 Patent in the manner set forth in Appendix A.

92. Vantiva, either itself or through its subsidiaries, affiliates, and/or agents, contributes to infringement of the '775 Patent through its importation, sale, and/or offer for sale of the Accused Cable Modem Products because these products are not staple articles of commerce suitable for any substantial non-infringing uses.

93. Vantiva, either itself or through its subsidiaries, affiliates, and/or agents, induces others to infringe at least claim 18 of the '775 Patent through the acts described in Paragraphs 67 through 73, above.

94. Entropic has been harmed as a result of the infringing conduct set forth above and, as a result, Vantiva is liable to Entropic for an amount that reasonably compensates Entropic for Vantiva's infringement, but in no event less than a reasonable royalty.

95. Vantiva's infringement of the '775 Patent is, has been, and continues to be willful, intentional, deliberate, and in conscious disregard for Entropic's rights. As set forth above in Paragraphs 76 through 80, on information and belief, at least as of April 2022, Vantiva had knowledge of the '775 Patent, and knowledge that the '775 Patent was relevant to its products because they were accused of infringing it in earlier lawsuits. Despite this knowledge, Vantiva continued to infringe the '775 Patent or, at a minimum, to willfully blind itself to the probability that it was so infringing.

COUNT II - INFRINGEMENT OF THE '008 PATENT

96. Entropic incorporates by reference the allegations set forth in Paragraphs 8 through 80 as though fully set forth herein.

97. U.S. Patent No. 8,792,008 (the "'008 Patent"), entitled "Method and Apparatus for Spectrum Monitoring," was duly issued by the United States Patent and Trademark Office on July 29, 2014. The '008 Patent names Timothy Gallagher, Patrick Tierney, and Jun Huang as inventors. A true and accurate copy of the '008 Patent is attached to this Complaint as Exhibit B.

98. The '008 Patent is in force today. Entropic owns by assignment all rights and title in and to the '008 Patent, including the sole and exclusive right to right to sue to recover damages for past infringement and to seek equitable and other relief for infringement of the '008 Patent.

99. The '008 Patent generally relates to a system for receiving and processing a cable television signal that allows for analysis and monitoring of the signal. The system of the '008 Patent receives and digitizes a signal having a plurality of channels that span an entire

television spectrum or a range thereof. Part of the signal is output to a signal monitor, which can analyze characteristics of the signal and report the analysis to a source of the signal, such as a cable provider. Concurrently, another part of the signal is output to a data processor, so that a television channel included in that part of the signal can be recovered. This architecture allows for monitoring of the incoming signal, for instance to allow the operator to assess the performance or state of the cable network, without interrupting normal service to customers.

100. The '008 Patent is directed to patent-eligible subject matter under 35 U.S.C. § 101. For instance, the '008 Patent is directed to inventions that improve the functioning of a television receiver itself. The '008 Patent's invention further provides a technological solution to specific technological problems arising in the context of cable television receivers and the timely and efficient monitoring of the signals such devices receive.

101. The claims of the '008 Patent recite elements, and combinations of elements, that were neither routine nor conventional as of the patent's September 8, 2011, priority date. For instance, as of that time, it was neither routine nor conventional to digitize a frequency band of a television signal and concurrently output portions of that signal to both a signal analyzer or monitor which analyzes and reports characteristics of the signal, and a data processor that recovers content from the signal.

102. The '008 Patent is valid and enforceable.

103. Vantiva has directly infringed and continues to directly infringe at least claim 3 of the '008 Patent, either literally or through the doctrine of equivalents by making, using, selling, or offering for sale in the United States, and/or importing into the United States, either itself or through its subsidiaries, affiliates, and/or agents, without authorization, the Accused Set-Top Box Products. For instance, as set forth in the exemplary claim chart, attached hereto as Appendix B,

the Accused Set-Top Box Products, including the exemplary AX013ANM and AX014ANM STBs, infringe at least claim 3 of the '008 Patent.

104. Vantiva, either itself or through its subsidiaries, affiliates, and/or agents, indirectly infringes the '008 Patent.

105. As set forth above in Paragraphs 75 through 80, Vantiva had knowledge of the '008 Patent no later than the filing of this complaint and, on information and belief, no later than April 2022.

106. The Accused Set-Top Box Products, when used for their ordinary and intended purposes by end-users (e.g., receiving cable television service) or cable service operators (e.g., for testing, servicing, and the like) directly infringe at least claim 3 of the '008 Patent in the manner set forth in Appendix B.

107. Vantiva, either itself or through its subsidiaries, affiliates, and/or agents, contributes to infringement of the '008 Patent through its importation, sale, and/or offer for sale of the Accused Products because these products are not staple articles of commerce suitable for any substantial non-infringing uses.

108. Vantiva, either itself or through its subsidiaries, affiliates, and/or agents, induces others to infringe at least claim 3 of the '008 Patent through the acts described in Paragraphs 67 through 73, above.

109. Entropic has been harmed as a result of the infringing conduct set forth above and, as a result, Vantiva is liable to Entropic for an amount that reasonably compensates Entropic for Vantiva's infringement, but in no event less than a reasonable royalty.

110. Vantiva's infringement of the '008 Patent is, has been, and continues to be willful, intentional, deliberate, and in conscious disregard for Entropic's rights. As set forth above in

Paragraphs 76 through 80, on information and belief, at least as of April 2022, Vantiva had knowledge of the '008 Patent, and knowledge that the '008 Patent was relevant to its products because they were accused of infringing it in earlier lawsuits. Despite this knowledge, Vantiva continued to infringe the '008 Patent or, at a minimum, to willfully blind itself to the probability that it was so infringing.

COUNT III - INFRINGEMENT OF THE '826 PATENT

111. Entropic incorporates by reference the allegations set forth in Paragraphs 8 through 80 as though fully set forth herein.

112. U.S. Patent No. 9,825,826 (the "'826 Patent"), entitled "Method and Apparatus for Spectrum Monitoring," was duly issued by the United States Patent and Trademark Office on November 21, 2017. The '826 Patent names Timothy Gallagher, Patrick Tierney, and Jun Huang as inventors. A true and accurate copy of the '826 Patent is attached to this Complaint as Exhibit C.

113. The '826 Patent is in force today. Entropic owns by assignment all rights and title in and to the '826 Patent, including the sole and exclusive right to right to sue to recover damages for past infringement and to seek equitable and other relief for infringement of the '826 Patent.

114. The '826 Patent generally relates to a system for receiving and processing a cable television signal received, over a hybrid-fiber coaxial network, from a "headend" associated with a service provider. The claimed system allows for analysis and monitoring of the received signal. In particular, the system of the '826 Patent receives and digitizes a signal that comprises either television channels, data channels, or both. Part of the signal is output to a signal monitor, which can analyze characteristics of the signal, and another part of the signal is output to a data processor, so that data included in that part of the signal can be recovered. The measured characteristics of the signal can then be used to control the transmission of network-management messages back to

the headend for use by the service provider.

115. The '826 Patent is directed to patent-eligible subject matter under 35 U.S.C. § 101. For instance, the '826 Patent is directed to inventions that improve the functioning of the hybrid-fiber coaxial network and the receiver itself. The '826 Patent's invention further provides a technological solution to specific technological problems arising in the context of cable television networks and the timely and efficient monitoring of the states of such networks and the signals that receivers connected to such networks receive.

116. The claims of the '826 Patent recite elements, and combinations of elements, that were neither routine nor conventional as of the patent's September 8, 2011, priority date. For instance, as of that time, it was neither routine nor conventional to digitize a signal received over a hybrid fiber-coaxial network and output portions of that signal to both a signal analyzer which measured and reports characteristics of the signal, and a data processor that recovers content from the signal, nor to control the transmission of management messages within a hybrid fiber-coaxial network based on the signal characteristics measured.

117. The '826 Patent is valid and enforceable.

118. Vantiva has directly infringed and continues to directly infringe at least claim 1 of the '826 Patent, either literally or through the doctrine of equivalents by using, either itself or through its subsidiaries, affiliates, and/or agents, without authorization, the Accused Set-Top Box Products. For instance, as set forth in the exemplary claim chart, attached hereto as Appendix C, the use of the Accused Set-Top Box Products, including the exemplary AX013ANM and AX014ANM STBs, infringes at least claim 1 of the '826 Patent.

119. Vantiva, either itself or through its subsidiaries, affiliates, and/or agents, indirectly infringes the '826 Patent.

120. As set forth above in Paragraphs 75 through 80, Vantiva had knowledge of the '826 Patent no later than the filing of this complaint and, on information and belief, no later than April 2022.

121. The Accused Set-Top Box Products, when used for their ordinary and intended purposes by end-users (e.g., receiving cable television service) or cable service operators (e.g., for testing, servicing, and the like) directly infringe at least claim 1 of the '826 Patent in the manner set forth in Appendix C.

122. Vantiva, either itself or through its subsidiaries, affiliates, and/or agents, contributes to infringement of the '826 Patent through its importation, sale, and/or offer for sale of the Accused Products because these products are not staple articles of commerce suitable for any substantial non-infringing uses.

123. Vantiva, either itself or through its subsidiaries, affiliates, and/or agents, induces others to infringe at least claim 1 of the '826 Patent through the acts described in Paragraphs 67 through 73, above.

124. Entropic has been harmed as a result of the infringing conduct set forth above and, as a result, Vantiva is liable to Entropic for an amount that reasonably compensates Entropic for Vantiva's infringement, but in no event less than a reasonable royalty.

125. Vantiva's infringement of the '826 Patent is, has been, and continues to be willful, intentional, deliberate, and in conscious disregard for Entropic's rights. As set forth above in Paragraphs 76 through 80, on information and belief, at least as of April 2022, Vantiva had knowledge of the '826 Patent, and knowledge that the '826 Patent was relevant to its products because they were accused of infringing it in earlier lawsuits. Despite this knowledge, Vantiva

continued to infringe the '826 Patent or, at a minimum, to willfully blind itself to the probability that it was so infringing.

COUNT IV - INFRINGEMENT OF THE '866 PATENT

126. Entropic incorporates by reference the allegations set forth in Paragraphs 8 through 80 as though fully set forth herein.

127. U.S. Patent No. 11,381,866 (the "'866 Patent"), entitled "Cable Television Device," was duly issued by the United States Patent and Trademark Office on July 5, 2022. The '866 Patent names Madhukar Reddy, Curtis Ling, and Tim Gallagher as inventors. A true and accurate copy of the '866 Patent is attached to this Complaint as Exhibit D.

128. The '866 Patent is in force today. Entropic owns by assignment all rights and title in and to the '866 Patent, including the sole and exclusive right to right to sue to recover damages for past infringement and to seek equitable and other relief for infringement of the '866 Patent.

129. The '866 Patent generally describes a television receiver with an analog-to-digital converter that can digitize a band of frequencies, including a plurality of desired channels and a plurality of undesired channels, and can concurrently select and provide the desired channels to ultimately allow their content to be accessed without providing any undesired channels.

130. The '866 Patent is directed to patent-eligible subject matter under 35 U.S.C. § 101. For instance, the '866 Patent is directed to inventions that improve the functioning of a television receiver itself. The '866 Patent's invention further provides a technological solution to specific technological problems arising in the context of cable and satellite television receivers for which the input frequency spectrum contains multiple desired channels, from which content is desired to be accessed, as well as multiple undesired channels.

131. The claims of the '866 Patent recite elements, and combinations of elements, that

were neither routine nor conventional as of the April 17, 2009, priority date of the '866 Patent. For instance, as of that time, it was neither routine nor conventional to digitize a band of an input television signal that included both a plurality of desired channels and a plurality of undesired channels, and to concurrently select and provide a plurality of desired channels from such a signal, without selecting any undesired channels.

132. The '866 Patent is valid and enforceable.

133. Vantiva has directly infringed and continues to directly infringe at least claims 27 and 41 of the '866 Patent, either literally or through the doctrine of equivalents, by making, using, selling, or offering for sale in the United States, and/or importing into the United States, either itself or through its subsidiaries, affiliates, and/or agents, those of the Accused Set-Top Box Products that comprise a DVR.

134. As set forth in the exemplary claim chart, attached hereto as Appendix D, the Accused Set-Top Box Products that comprise a DVR, including the exemplary AX013ANM and AX014ANM STBs, infringe at least claims 27 and 41 of the '866 Patent.

135. Vantiva, either itself or through its subsidiaries, affiliates, and/or agents, indirectly infringes the '866 Patent.

136. As set forth above in Paragraphs 75 through 80, Vantiva had knowledge of the '866 Patent no later than the filing of this complaint and, on information and belief, no later than February 2023.

137. The Accused Set-Top Box Products that comprise a DVR, when used for their ordinary and intended purposes by end-users (e.g., to receive cable television service) or by cable service operators (e.g., for testing, servicing, and the like) directly infringe at least claims 27 and 41 of the '866 Patent in the manner set forth in Appendix D.

138. Vantiva, either itself or through its subsidiaries, affiliates, and/or agents, contributes to infringement of the '866 Patent through its importation, sale, and/or offer for sale of the Accused Set-Top Box Products that comprise a DVR because these products are not staple articles of commerce suitable for any substantial non-infringing uses.

139. Vantiva, either itself or through its subsidiaries, affiliates, and/or agents, induces infringement of the '866 Patent through the acts described in Paragraphs 67 through 73, above.

140. Entropic has been harmed as a result of the infringing conduct set forth above and, as a result, Vantiva is liable to Entropic for an amount that reasonably compensates Entropic for Vantiva's infringement, but in no event less than a reasonable royalty.

141. Vantiva's infringement of the '866 Patent is, has been, and continues to be willful, intentional, deliberate, and in conscious disregard for Entropic's rights. As set forth above in Paragraphs 76 through 80, on information and belief, at least as of February 2023, Vantiva had knowledge of the '866 Patent, and knowledge that the '866 Patent was relevant to its products because they were accused of infringing it in earlier lawsuits. Despite this knowledge, Vantiva continued to infringe the '866 Patent or, at a minimum, to willfully blind itself to the probability that it was so infringing.

COUNT V - INFRINGEMENT OF THE '206 PATENT

142. Entropic incorporates by reference the allegations set forth in Paragraphs 8 through 80 as though fully set forth herein.

143. U.S. Patent No. 11,399,206 (the "'206 Patent"), entitled "Method for Receiving a Television Signal," was duly issued by the United States Patent and Trademark Office on July 26, 2022. The '206 Patent names Madhukar Reddy, Curtis Ling, and Tim Gallagher as inventors. A true and accurate copy of the '206 Patent is attached to this Complaint as Exhibit E.

144. The '206 Patent is in force today. Entropic owns by assignment all rights and title in and to the '206 Patent, including the sole and exclusive right to right to sue to recover damages for past infringement and to seek equitable and other relief for infringement of the '206 Patent.

145. The '206 Patent generally describe a television receiver that digitizes a full, contiguous band of frequencies that includes all of the television channels within the received signal, and concurrently selects a plurality of desired channels without selecting any undesired channels, and provides the desired channels to ultimately allow their content to be accessed.

146. The '206 Patent is directed to patent-eligible subject matter under 35 U.S.C. § 101. For instance, the '206 Patent is directed to inventions that improve the functioning of a television receiver itself. The '206 Patent's invention, which digitizes a full, contiguous band of input signals, further provides a technological solution to specific technological problems arising in the context of cable and satellite television receivers for which the input frequency spectrum contains multiple desired channels, from which content is desired to be accessed.

147. The claims of the '206 Patent recite elements, and combinations of elements, that were neither routine nor conventional as of the April 17, 2009, priority date of the '206 Patent. For instance, as of that time, it was neither routine nor conventional to digitize a full, contiguous, band of an input television signal and then provide a plurality of desired channels from such a signal, without selecting any undesired channels.

148. The '206 Patent is valid and enforceable.

149. Vantiva has directly infringed and continues to directly infringe at least claims 25 and 38 of the '206 Patent, either literally or through the doctrine of equivalents, by using in the United States, either itself or through its subsidiaries, affiliates, and/or agents, the Accused Set-Top Box Products that comprise a DVR to perform all the steps of the methods cited therein. For

instance, on information and belief, Vantiva tests the Accused Set-Top-Box Products that comprise a DVR within the United States, either directly or through its subsidiaries.

150. As set forth in the exemplary claim chart, attached hereto as Appendix E, when used for their ordinary and customary purposes, the Accused Set-Top Box Products that comprise a DVR infringe at least claims 25 and 38 of the '206 Patent.

151. Vantiva, either itself or through its subsidiaries, affiliates, and/or agents, indirectly infringes the '206 Patent.

152. As set forth above in Paragraphs 75 through 80, Vantiva had knowledge of the '206 Patent no later than the filing of this complaint and, on information and belief, no later than February 2023.

153. The Accused Set-Top Box Products that comprise a DVR, when used for their ordinary and intended purposes by end-users (e.g., to receive cable television service) or by cable service operators (e.g., for testing, servicing, and the like) directly infringe at least claims 25 and 38 of the '206 Patent in the manner set forth in Appendix E.

154. Vantiva, either itself or through its subsidiaries, affiliates, and/or agents, contributes to infringement of the '206 Patent through its importation, sale, and/or offer for sale of the Accused Set-Top Box Products that comprise a DVR because these products are not staple articles of commerce suitable for any substantial non-infringing uses.

155. Vantiva, either itself or through its subsidiaries, affiliates, and/or agents, induces infringement of the '206 Patent through the acts described in Paragraphs 67 through 73, above.

156. Entropic has been harmed as a result of the infringing conduct set forth above and, as a result, Vantiva is liable to Entropic for an amount that reasonably compensates Entropic for Vantiva's infringement, but in no event less than a reasonable royalty.

157. Vantiva’s infringement of the ’206 Patent is, has been, and continues to be willful, intentional, deliberate, and in conscious disregard for Entropic’s rights. As set forth above in Paragraphs 76 through 80, on information and belief, at least as of February 2023, Vantiva had knowledge of the ’206 Patent, and knowledge that the ’206 Patent was relevant to its products because they were accused of infringing it in earlier lawsuits. Despite this knowledge, Vantiva continued to infringe the ’206 Patent or, at a minimum, to willfully blind itself to the probability that it was so infringing.

COUNT VI - INFRINGEMENT OF THE ’275 PATENT

158. Entropic incorporates by reference the allegations set forth in Paragraphs 8 through 80 as though fully set forth herein.

159. U.S. Patent No. 11,785,275 (the “’275 Patent”), entitled “System and Method for Receiving a Television Signal,” was duly issued by the United States Patent and Trademark Office on October 10, 2023. The ’275 Patent names Madhukar Reddy, Curtis Ling, and Tim Gallagher as inventors. A true and accurate copy of the ’275 Patent is attached to this Complaint as Exhibit F.

160. The ’275 Patent is in force today. Entropic owns by assignment all rights and title in and to the ’275 Patent, including the sole and exclusive right to right to sue to recover damages for past infringement and to seek equitable and other relief for infringement of the ’275 Patent.

161. The ’275 Patent generally describe a television receiver that digitizes an entire, or full band of received input frequencies including desired television channels and undesired television channels, and can select and provides the desired television channels in digital form for demodulation, thus allowing the content of those channels to be recovered.

162. The ’275 Patent is directed to patent-eligible subject matter under 35 U.S.C. § 101. For instance, the ’275 Patent is directed to inventions that improve the functioning of a television

receiver itself. The '275 Patent's invention, which digitizes a full band of input signals, further provides a technological solution to specific technological problems arising in the context of cable and satellite television receivers for which the input frequency spectrum contains multiple desired channels, from which content is desired to be accessed.

163. The claims of the '275 Patent recite elements, and combinations of elements, that were neither routine nor conventional as of the April 17, 2009, priority date of the '275 Patent. For instance, as of that time, it was neither routine nor conventional to digitize a full band of an input television signal and to extract multiple desired channels from such a signal and provide the result of that extraction to a demodulator in digital form.

164. The '275 Patent is valid and enforceable.

165. Vantiva has directly infringed and continues to directly infringe at least claims 1 and 11 of the '275 Patent, either literally or through the doctrine of equivalents, by making, using, selling, or offering for sale in the United States, and/or importing into the United States, either itself or through its subsidiaries, affiliates, and/or agents, the Accused Set-Top Box Products.

166. As set forth in the exemplary claim chart, attached hereto as Appendix F, the Accused Set-Top Box Products, including the exemplary AX013ANM and AX014ANM STBs, infringe at least claims 1 and 11 of the '275 Patent.

167. Vantiva, either itself or through its subsidiaries, affiliates, and/or agents, indirectly infringes the '275 Patent.

168. As set forth above in Paragraphs 75 through 80, Vantiva had knowledge of the '275 Patent no later than the filing of this complaint and, on information and belief, no later than December 2023.

169. The Accused Set-Top Box Products, when used for their ordinary and intended

purposes by end-users such as cable television subscribers (e.g., to receive cable television service) or by cable service operators (e.g., for testing, servicing, and the like) directly infringe at least claims 1 and 11 of the '275 Patent in the manner set forth in Appendix F.

170. Vantiva, either itself or through its subsidiaries, affiliates, and/or agents, contributes to infringement of the '275 Patent through its importation, sale, and/or offer for sale of the Accused Set-Top Box Products because these products are not staple articles of commerce suitable for any substantial non-infringing uses.

171. Vantiva, either itself or through its subsidiaries, affiliates, and/or agents, induces infringement of the '275 Patent through the acts described in Paragraphs 67 through 73, above.

172. Entropic has been harmed as a result of the infringing conduct set forth above and, as a result, Vantiva is liable to Entropic for an amount that reasonably compensates Entropic for Vantiva's infringement, but in no event less than a reasonable royalty.

173. Vantiva's infringement of the '275 Patent is, has been, and continues to be willful, intentional, deliberate, and in conscious disregard for Entropic's rights. As set forth above in Paragraphs 76 through 80, on information and belief, at least as of December 2023, Vantiva had knowledge of the '275 Patent, and knowledge that the '275 Patent was relevant to its products because they were accused of infringing it in earlier lawsuits. Despite this knowledge, Vantiva continued to infringe the '275 Patent or, at a minimum, to willfully blind itself to the probability that it was so infringing.

JURY DEMAND

174. Entropic demands a jury trial on all issues triable by jury.

PRAYER FOR RELIEF

Entropic asks the Court to enter judgment in its favor, and against Vantiva, on each of

Counts I through V, for the following:

- a. A judgment that Vantiva has infringed one or more claims of each of the '775 Patent, '008 Patent, '826 Patent, '866 Patent, '206 Patent, and '275 Patent.
- b. An award to Entropic of damages adequate to compensate it for Vantiva's past infringement of each of the '775 Patent, '008 Patent, '826 Patent, '866 Patent, 206 Patent, and '275 Patent;
- c. A finding that Vantiva's infringement is willful and an award to Entropic of enhanced damages;
- d. An award to Entropic of its costs and of pre- and post-judgment interest on the damages awarded; and
- e. An award of such other relief, in law or equity, as this Court may deem proper.

Dated: November 11, 2024

Respectfully submitted,

/s/ Andrea L. Fair

Andrea L. Fair

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