IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

COMMWORKS SOLUTIONS, LLC, Plaintiff v. COMMSCOPE HOLDING COMPANY, INC., COMMSCOPE, INC., COMMSCOPE TECHNOLOGIES LLC, ARRIS US HOLDINGS, INC., ARRIS SOLUTIONS, INC., ARRIS TECHNOLOGIES, INC., and ARRIS ENTERPRISES LLC, Defendants.	Civil Action No.: 2:23-cv-00510 **Jury Trial Demanded**

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff CommWorks Solutions, LLC ("CommWorks" or "Plaintiff"), by way of this Complaint against Defendants CommScope Holding Company, Inc., CommScope, Inc., CommScope Technologies LLC, ARRIS US Holdings, Inc., ARRIS Solutions, Inc., ARRIS Technologies, Inc., and ARRIS Enterprises LLC, (collectively, "Defendants"), alleges as follows:

PARTIES

1. Plaintiff CommWorks Solutions, LLC is a limited liability company organized and existing under the laws of the State of Georgia, having its principal place of business at 44 Milton Avenue, Suite 254, Alpharetta, GA 30009.

2. On information and belief, Defendant CommScope Holding Company, Inc. is a corporation organized and existing under the laws of Delaware, having its principal place of business at 1100 CommScope Place SE, Hickory, North Carolina 28602. CommScope Holding Company, Inc. may

be served through its registered agent, United Agent Group Inc., 3411 Silverside Road, Tatnall Building #104, Wilmington, DE, 19810.

3. On information and belief, Defendant CommScope, Inc. is a corporation organized and existing under the laws of Delaware, having its principal place of business at 1100 CommScope Place SE, Hickory, North Carolina 28602. CommScope, Inc. may be served through its registered agent, United Agent Group Inc., 3411 Silverside Road, Tatnall Building #104, Wilmington, DE, 19810. On information and belief, CommScope, Inc. is a subsidiary of CommScope Holding Company, Inc.

4. On information and belief, Defendant CommScope Technologies LLC is a company organized and existing under the laws of Delaware, having its principal place of business at 1100 CommScope Place SE, Hickory, North Carolina 28602. CommScope Technologies LLC may be served through its registered agent, United Agent Group Inc., 5444 Westheimer #1000, Houston, TX 77056. On information and belief, CommScope Technologies LLC is registered to do business in Texas and has been since at least October 9, 1987. On information and belief, CommScope Technologies LLC is a subsidiary of CommScope, Inc.

5. CommScope Holding Company, Inc., CommScope, Inc., and CommScope Technologies LLC are collectively referred to as "CommScope" herein.

6. On information and belief, Defendant ARRIS US Holdings, Inc. is a corporation organized and existing under the laws of Delaware, having its principal place of business at 1100 CommScope Place SE, Hickory, North Carolina 28602. ARRIS US Holdings, Inc. may be served through its registered agent, United Agent Group Inc., 3411 Silverside Road, Tatnall Building #104, Wilmington, DE, 19810. On information and belief, ARRIS US Holdings, Inc. is a subsidiary of CommScope Technologies LLC.

7. On information and belief, Defendant ARRIS Solutions, Inc. is a corporation organized and existing under the laws of Delaware, having its principal place of business at 1100 CommScope Place SE, Hickory, North Carolina 28602. ARRIS Solutions, Inc. may be served through its registered agent, United Agent Group Inc., 5444 Westheimer #1000, Houston, TX 77056. On information and belief, ARRIS Solutions, Inc. is registered to do business in Texas and has been since at least December 11, 2017. On information and belief, ARRIS Solutions, Inc. is a subsidiary of ARRIS US Holdings, Inc.

8. On information and belief, Defendant ARRIS Technology, Inc. is a corporation organized and existing under the laws of Delaware, having its principal place of business at 1100 CommScope Place SE, Hickory, North Carolina 28602. ARRIS Technology, Inc. may be served through its registered agent, United Agent Group Inc., 5444 Westheimer #1000, Houston, TX 77056. On information and belief, ARRIS Technology, Inc. is registered to do business in Texas and has been since at least July 31, 1997. On information and belief, ARRIS Technology, Inc. is a subsidiary of ARRIS Solutions, Inc.

9. On information and belief, Defendant ARRIS Enterprises LLC is a company organized and existing under the laws of Delaware, having its principal place of business at 1100 CommScope Place SE, Hickory, North Carolina 28602. ARRIS Enterprises LLC may be served through its registered agent, United Agent Group Inc., 3411 Silverside Road, Tatnall Building #104, Wilmington, DE, 19810. On information and belief, ARRIS Enterprises LLC is a subsidiary of ARRIS Technology, Inc.

10. ARRIS US Holdings, Inc., ARRIS Solutions, Inc., ARRIS Technologies, Inc., and ARRIS Enterprises LLC are collectively referred to as “Arris” herein.

11. On information and belief, in or around 2019, CommScope acquired Arris. The

CommScope and Arris defendants are collectively referred to as "CommScope-Arris" herein. On information and belief, the result of this acquisition, *inter alia*, is the current corporate structure of CommScope-Arris with CommScope Holding Company, Inc. as the ultimate parent and controlling entity of CommScope-Arris. *See* CommScope 2022 Annual Report, Ex. 21.1 (found at https://ir.commscope.com/static-files/5867e5f5-df22-4cf1-85bb-9aa8d8ae8ceb).

12. Defendants do business as a collective whole under the CommScope and Arris brands. For example, Arris websites refer to CommScope's Privacy Policy and Terms of Use. *See* http://www.arris.com/ (redirects to CommScope's website); https://www.surfboard.com/ (Arris's Privacy Policies and Terms of Use are CommScope's Privacy Policy and Terms of Use). Further, for example, ARRIS Solutions, Inc. and ARRIS Technology Inc. in recent filings with the Texas Secretary of State note that their principal place of business is CommScope's headquarters. Further, for example, Arris's former headquarters in Suwanee, Georgia is now shown as a CommScope location. *See* https://www.commscope.com/support/training/broadband-and-home-networks-training/technical-training-locations/suwanee-ga/. Thus, CommScope-Arris (and their affiliates and subsidiaries) operate as a unitary business and are jointly and severally liable for the acts of patent infringement alleged herein. Questions of fact common to all defendants will arise in the action.

13. On information and belief, Defendants are part of the same corporate structure and distribution chain for making, using, selling, offering for sale, and/or importing accused products in the United States, including in this State and this District, and inducing others to use the accused products. *See, e.g.*, *SIPCO, LLC v. CommScope Holding Company, Inc. et al.*, No. 5:20-CV-00168-RWS-CMC, Answer to First Amended Complaint (Dkt. 50, filed June 7, 2021), ¶¶ 22 ("Defendants [CommScope Holding Company, Inc.; CommScope Inc.; ARRIS US Holdings, Inc.;

ARRIS Enterprises LLC; and ARRIS Solutions, Inc.] admit that they have distributed, offered for sale, sold, and advertised certain products and/or services in the State of Texas and the Eastern District of Texas."); *Barkan Wireless IP Holdings, L.P. v. Sprint Corp. et al.*, No. 2:19-CV-00336-JRG, Answer to Amended Complaint (Dkt. 46, filed January 21, 2020), at ¶ 14 ("CommScope [Technologies LLC] admits that it conducts business in Texas.").

14. On information and belief, CommScope-Arris, either itself and/or through the activities of its subsidiaries, makes, uses, sells, offers for sale, and/or imports throughout the United States, including within this District, products that infringe the Patents-in-Suit, and/or uses methods covered by the Patents-in-Suit in the United States, and/or induces others to use methods covered by the Patents-in-Suit in the United States and/or contributes to their infringement of the Patents-in-Suit, defined below.

JURISDICTION AND VENUE

15. This is an action under the patent laws of the United States, 35 U.S.C. §§ 1, *et seq.*, for infringement by CommScope-Arris of claims of U.S. Patent No. 6,832,249; U.S. Patent No. 6,891,807; U.S. Patent No. 7,027,465; U.S. Patent No. 7,177,285; U.S. Patent No. 7,463,596; U.S. Patent No. 7,911,979; and U.S. Patent No. RE44,904. (collectively "the Patents-in-Suit").

16. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).

17. CommScope-Arris is subject to personal jurisdiction of this Court because, *inter alia*, on information and belief, (i) CommScope-Arris maintains a regular and established place of business in Texas at 2601 Telecom Pkwy, Richardson, TX 75082; 4516 Seton Center Pkwy, Austin, Texas 78759; 11312 S. Pipeline Road, Euless, Texas 76040; and 4101 W. Military Highway A, McAllen, Texas 78053; (ii) CommScope-Arris has committed acts of patent infringement in the State of Texas and/or has contributed to or induced acts of patent infringement by others in the State of

Texas; and (iii) the patent infringement claims arise directly from CommScope-Arris's continuous and systematic activity in the State of Texas.

18. Venue is proper as to CommScope-Arris in this Judicial District under 28 U.S.C. § 1400(b) because, *inter alia*, on information and belief, CommScope-Arris has a regular and established place located at 2601 Telecom Pkwy, Richardson, TX 75082, and has committed acts of patent infringement in this Judicial District and/or has contributed to or induced acts of patent infringement by others in this Judicial District.

19. CommScope-Arris has admitted that it has a regular and established place of business located at 2601 Telecom Parkway, Richardson, Texas 75082 and has employees that work in this Judicial District. *See TQ Delta, LLC v. CommScope Holding Company, Inc. et al.*, No. 2:21-CV-00310-JRG, Answer to Complaint (Dkt. 17, filed October 22, 2021), at ¶¶ 23-24 ("CommScope [Holding Company, Inc., CommScope Inc., ARRIS US Holdings, Inc., ARRIS Solutions, Inc., ARRIS Technology, Inc., and ARRIS Enterprises, LLC] admits that it has a regular and established place of business located at 2601 Telecom Parkway, Richardson, Texas 70852 … [and] that it has employees that work in this District."); *Barkan Wireless IP Holdings, L.P. v. Sprint Corp. et al.*, No. 2:19-CV-00336-JRG, Answer to Amended Complaint (Dkt. 46, filed January 21, 2020), at ¶ 16 ("CommScope [Technologies LLC] admits that it has a regular and established place of business in this judicial district at 2601 Telecom Parkway, Richardson, Texas 70852.").

BACKGROUND

20. On December 14, 2004, the United States Patent and Trademark Office duly and lawfully issued U.S. Patent No. 6,832,249 ("the '249 Patent"), entitled "Globally Accessible Computer Network-Based Broadband Communication System With User-Controllable Quality of Information Delivery and Flow Priority."

21. At the time of the invention, millions of Internet users being online simultaneously, causing congestion (too many users) and latency (long pauses and delays), presented a difficult bandwidth load management challenge. '249 Patent at col. 1:32-34, 2:34-36. No conventional routing system existed that avoided the congestion and best effort delivery methods then used by the Internet. *Id.* at col. 2:8-10. Conventional routing systems relating to multiple OSI layers also did not consistently ensure quality of service. *Id.* at col. 6:53-63.

22. The invention of the '249 Patent improved upon the conventional services delivery systems by enabling quality of service control by content providers, Application Service Providers (ASPs), ISPs, and, by extension, their customers. *Id.* at col. 3:60-63. Additional improvements over the conventional services delivery systems afforded by the invention of the '249 Patent included bridging the gaps between the layers of the OSI reference model; ensuring more control by users over the priority of their information flow; more control by network administrators over the congestion of their networks; and more control by content providers over costs and the experiences they provide to their users. *Id.* at col. 3:65-4:2, 6:53-63.

23. On May 10, 2005, the United States Patent and Trademark Office duly and lawfully issued U.S. Patent No. 6,891,807 ("the '807 Patent"), entitled "Time Based Wireless Access Provisioning."

24. At the time of the invention, wireless access to data networks was not yet conventional. Then existent systems for provisioning access to a network were impractical, such as for wireless devices which lacked a user interface configured for communicating provisioning information, or for simple home-based intranets, such as a wireless picture frame device lacking a control interface to read or extract identification information, such as a MAC address, to facilitate wireless access provisioning. '807 Patent at col. 3:5-18. Further, wireless devices that did have a dedicated user

interface were incapable of, or cumbersome in, communicating device identification and exchanging provisioning information, still requiring a user to be technically proficient to properly initiate and complete a provisioning process. *Id.* at col. 3:19-28.

25. The invention of the '807 Patent improved upon existent network provisioning systems by enabling provisioning without requiring a user interface for the initiation of a provisioning process—"a major technological advance." *Id.* at col. 3:29-33. The invention of the '807 Patent further improved upon existent provisioning systems by providing a wireless access provisioning structure and process with minimal device requirements and/or user proficiency, whereby a wireless device is readily provisioned by the provisioning system, and whereby other unauthorized devices within an access region are prevented from being provisioned by the provisioning system. *Id.* at col. 3:34-41. The invention of the '807 Patent further improved upon existent provisioning systems by providing a time-based wireless access provisioning system integrated with easily monitored parameters of a wireless device, such as the time monitoring of power on and/or start of signal transmission, for provisioning secure encrypted communication. *Id.* at col. 3:42-50. Moreover, the structure of the devices described in the '807 Patent was not conventional at the time of the invention. Specifically, a device such as an access point, comprising a provisioning activation button, time-based provisioning logic, access control list, wired network logic, a wired network connection and a transceiver were not conventional (or even available) at the time of the invention.

26. On April 11, 2006, the United States Patent and Trademark Office duly and lawfully issued U.S. Patent No. 7,027,465 ("the '465 Patent"), entitled "Method for Contention Free Traffic Detection."

27. At the time of the invention, "conventionally … transmission differentiation based on

priority was not conducted at all." '465 Patent at col. 2:9-10. Obtaining priority information for traffic transmitted through an Access Point (AP) required searching all fields in all frames for indications of the priority state of the actual data frame, resulting in all fields in all frames being checked and all headers being analyzed, starting from the outer most headers, until the right field in the header had been found. *Id.* at col. 1:53-59. This measure was very complex, took a long time, and required a large amount of processing, especially for complex tunneling protocols. *Id.* at col. 1:62-65. All the frame headers and protocols which can be included in the data frames transmitted via the network had to be known, hence, the amount of information needed for identifying the data was huge. *Id.* at col. 1:66-2:4. Such a huge amount of information was typically too heavy to handle in small and low price equipment like WLAN access points (AP). *Id.* Further, then existing systems according to the IEEE 802.11 standard did not separate traffic based on priority. *Id.* at col. 2:11-15.

28. The invention of the '465 Patent improved upon conventional network traffic routing systems by providing methods by which priority traffic can easily be distinguished from normal traffic without the need of complex processing making it possible to execute in a low cost and possibly low performance AP. *Id.* at col. 2:19-23, 2:60-62, 3:43. The methods of the invention of the '465 Patent further improved upon conventional network traffic routing systems by easily finding higher priority traffic from the stream of MAC layer frames without necessarily requiring knowledge of the upper layer protocols. *Id.* at col. 2:53-56. The methods of the invention of the '465 Patent further improved upon conventional network traffic routing systems by being protocol-independent and flexible such that their configuration may be done in an external configuration program; with the Access Point not needing to know anything about the processed traffic; further alleviating the need of complex structure of the device. *Id.* at col. 2:63-66, col. 3:5-

11. A further advantage over conventional network traffic routing systems is that installation of new software or hardware in the network element would not be required when new protocols or modified protocols are introduced in the network. *Id.* at col. 3:12-21.

29. On February 13, 2007, the United States Patent and Trademark Office duly and lawfully issued U.S. Patent No. 7,177,285 ("the '285 Patent"), entitled "Time Based Wireless Access Provisioning."

30. At the time of the invention, wireless access to data networks was not yet conventional. Then existent systems for provisioning access to a network were impractical, such as for wireless devices which lacked a user interface configured for communicating provisioning information, or for simple home-based intranets, such as a wireless picture frame device lacking a control interface to read or extract identification information, such as a MAC address, to facilitate wireless access provisioning. '285 Patent at col. 3:13-26. Further, wireless devices that did have a dedicated user interface were incapable of, or cumbersome in, communicating device identification and exchanging provisioning information, still requiring a user to be technically proficient to properly initiate and complete a provisioning process. *Id.* at col. 3:27-36.

31. The invention of the '285 Patent improved upon existent network provisioning systems by enabling provisioning without requiring a user interface for the initiation of a provisioning process—"a major technological advance." *Id.* at col. 3:37-41. The invention of the '285 Patent further improved upon existent provisioning systems by providing a wireless access provisioning structure and process with minimal device requirements and/or user proficiency, whereby a wireless device is readily provisioned by the provisioning system, and whereby other unauthorized devices within an access region are prevented from being provisioned by the provisioning system. *Id.* at col. 3:42-49. The invention of the '285 Patent further improved upon existent provisioning

systems by providing a time-based wireless access provisioning system integrated with easily monitored parameters of a wireless device, such as the time monitoring of power on and/or start of signal transmission, for provisioning secure encrypted communication. *Id.* at col. 3:50-58. Moreover, the structure of the devices described in the '285 Patent was not conventional at the time of the invention. Specifically, a device such as an access point, comprising a provisioning activation button, time-based provisioning logic, access control list, wired network logic, a wired network connection and a transceiver were not conventional (or even available) at the time of the invention.

32. On December 9, 2008, the United States Patent and Trademark Office duly and lawfully issued U.S. Patent No. 7,463,596 ("the '596 Patent"), entitled "Time Based Wireless Access Provisioning."

33. At the time of the invention, wireless access to data networks was not yet conventional. Then existent systems for provisioning access to a network were impractical, such as for wireless devices which lacked a user interface configured for communicating provisioning information, or for simple home-based intranets, such as a wireless picture frame device lacking a control interface to read or extract identification information, such as a MAC address, to facilitate wireless access provisioning. '596 Patent at col. 3:13-26. Further, wireless devices that did have a dedicated user interface were incapable of, or cumbersome in, communicating device identification and exchanging provisioning information, still requiring a user to be technically proficient to properly initiate and complete a provisioning process. *Id.* at col. 3:27-36.

34. The invention of the '596 Patent improved upon existent network provisioning systems by enabling provisioning without requiring a user interface for the initiation of a provisioning process—"a major technological advance." *Id.* at col. 3:37-41. The invention of the '596 Patent

further improved upon existent provisioning systems by providing a wireless access provisioning structure and process with minimal device requirements and/or user proficiency, whereby a wireless device is readily provisioned by the provisioning system, and whereby other unauthorized devices within an access region are prevented from being provisioned by the provisioning system. *Id.* at col. 3:42-49. The invention of the '596 Patent further improved upon existent provisioning systems by providing a time-based wireless access provisioning system integrated with easily monitored parameters of a wireless device, such as the time monitoring of power on and/or start of signal transmission, for provisioning secure encrypted communication. *Id.* at col. 3:50-58. Moreover, the structure of the devices described in the '596 Patent was not conventional at the time of the invention. Specifically, a device such as an access point, comprising a provisioning activation button, time-based provisioning logic, access control list, wired network logic, a wired network connection and a transceiver were not conventional (or even available) at the time of the invention.

35. On March 22, 2011, the United States Patent and Trademark Office duly and lawfully issued U.S. Patent No. 7,911,979 ("the '979 Patent"), entitled "Time Based Access Provisioning System and Process.

36. At the time of the invention wireless access to data networks was not yet conventional. Then existent systems for provisioning access to a network were impractical, such as for wireless devices which lacked a user interface configured for communicating provisioning information, or for simple home-based intranets, such as a wireless picture frame device lacking a control interface to read or extract identification information, such as a MAC address, to facilitate wireless access provisioning. '979 Patent at col. 3:19-31. Further, wireless devices that did have a dedicated user interface were incapable of, or cumbersome in, communicating device identification and

exchanging provisioning information, still requiring a user to be technically proficient to properly initiate and complete a provisioning process. *Id.* at col. 3:32-41.

37. The invention of the ’979 Patent improved upon existent network provisioning systems by enabling provisioning without requiring a user interface for the initiation of a provisioning process—“a major technological advance.” *Id.* at col. 3:42-46. The invention of the ’979 Patent further improved upon existent provisioning systems by providing a wireless access provisioning structure and process with minimal device requirements and/or user proficiency, whereby a wireless device is readily provisioned by the provisioning system, and whereby other unauthorized devices within an access region are prevented from being provisioned by the provisioning system. *Id.* at col. 3:47-53. The invention of the ’979 Patent further improved upon existent provisioning systems by providing a time-based wireless access provisioning system integrated with easily monitored parameters of a wireless device, such as the time monitoring of power on and/or start of signal transmission, for provisioning secure encrypted communication. *Id.* at col. 3:54-62. Moreover, the structure of the devices described in the ’979 Patent was not conventional at the time of the invention. Specifically, a device such as an access point, comprising a provisioning activation button, time-based provisioning logic, access control list, wired network logic, a wired network connection and a transceiver were not conventional (or even available) at the time of the invention.

38. On May 20, 2014, the United States Patent and Trademark Office duly and lawfully reissued U.S. Patent No. RE44,904 (“the ’904 Patent”), entitled “Method for Contention Free Traffic Detection.”

39. At the time of the invention, “conventionally … transmission differentiation based on priority was not conducted at all.” ’904 Patent at col. 2:9-10. Obtaining priority information for

traffic transmitted through an Access Point (AP) required searching all fields in all frames for indications of the priority state of the actual data frame, resulting in all fields in all frames being checked and all headers being analyzed, starting from the outer most headers, until the right field in the header had been found. *Id.* at col. 1:63-2:2. This measure was very complex, took a long time, and required a large amount of processing, especially for complex tunneling protocols. *Id.* at col. 2:5-8. All the frame headers and protocols which can be included in the data frames transmitted via the network had to be known, hence, the amount of information needed for identifying the data was huge. *Id.* at col. 2:8-14. Such a huge amount of information was typically too heavy to handle in small and low price equipment like WLAN access points (AP). *Id.* Further, then existing systems according to the IEEE 802.11 standard did not separate traffic based on priority. *Id.* at col. 2:20-25.

40. CommWorks is the assignee and owner of the right, title, and interest in and to the Patents-in-Suit, including the right to assert all causes of action arising under said patents and the right to any remedies for infringement of them.

41. CommScope-Arris has infringed the Patents-in-Suit by making, using, selling, or offering for sale in the United States, or importing into the United States GPON and/or XGS-PON compatible systems, and by using methods covered by the Patents-in-Suit within the United States, and/or contributing to and/or inducing others' infringement of the Patents-in-Suit by operating products with Wi-Fi-related technology claimed in the Patents-in-Suit. Attachment A to this Complaint provides a non-exhaustive listing of Accused Products.

NOTICE

42. On information and belief, the Defendants have been on notice of the Patents-in-Suit, and of Defendants' infringement thereof, since as early as 2020.

43. For example, on May 27, 2020, CommWorks asserted the Patents-in-Suit against Cable

One, Inc. CommWorks' complaint in the *Cable One* action identified "Arris wireless gateways" as being "included in the 'Accused Products and Services.'" CommWorks further served infringement contentions including six infringement charts on CommScope-Arris's SURFboard SBB6580 Gateway (The SURFboard SBB6580 Gateway was branded as a Motorola device; Motorola was acquired by Arris in or around 2013).

44. Further, for example, on September 14, 2020, CommWorks asserted the Patents-in-Suit against RCN Telecom Services, LLC. CommWorks' complaint in the *RCN* action identified "Wi-Fi enabled modems and routers" as being "included in the 'Accused Products and Services.'" CommWorks further served infringement contentions that identified Arris routers as Accused Products.

45. On information and belief, CommScope-Arris received, and reviewed, CommWorks' prior complaints and infringement contentions setting forth infringement allegations against Arris products in prior actions for the Patents-in-Suit.

46. Further, CommWorks previously issued a subpoena dated May 28, 2021 to ARRIS US Holdings, Inc. (the "First Subpoena"). The First Subpoena included a list of accused Arris devices (defined as "Your Accused Products") and information on accused functionality.

47. On June 1, 2021, the First Subpoena was delivered to ARRIS US Holdings, Inc.'s registered agent.

48. On June 14, 2021, counsel for ARRIS US Holdings, Inc., who is also in-house counsel for CommScope, provided ARRIS US Holdings, Inc.'s responses to the First Subpoena.

49. On June 23, 2021, counsel for ARRIS US Holdings, Inc. stated via email that the process of locating and producing responsive documents is in progress.

50. On August 16, 2021, CommWorks provided an updated list of accused Arris devices.

51. Further, CommWorks issued a second subpoena dated January 5, 2022 to ARRIS US Holdings, Inc. (the "Second Subpoena"). The Second Subpoena included a list of accused Arris devices and information on accused functionality.

52. On February 9, 2022, ARRIS US Holdings, Inc. produced documents in its possession responsive to the First Subpoena.

53. CommScope-Arris was on notice and aware of accused CommScope-Arris devices and infringing functionality of those accused products as early as June 1, 2021.

54. Based on the above facts, i.e., CommScope-Arris's awareness of CommWorks' Patents-in-Suit, prior lawsuits, and the subpoenas, and CommScope-Arris's awareness of infringing functionality of accused CommScope-Arris devices disclosed in the subpoenas, on information and belief, CommScope-Arris conducted due diligence on the Patents-in-Suit resulting in awareness and knowledge of the Patents-in-Suit.

55. Further, on information and belief, one or more Internet Service Providers that were previously accused of infringing the Patents-in-Suit put CommScope-Arris on notice of its infringement of the Patents-in-Suit.

56. CommWorks has complied with the statutory and judicial requirements for collecting past damages against CommScope-Arris with respect to the Patents-in-Suit.

COUNT I: INFRINGEMENT OF THE '249 PATENT BY COMMSCOPE-ARRIS

57. Plaintiff incorporates the preceding paragraphs as if fully set forth herein.

58. On information and belief, CommScope-Arris has infringed the '249 Patent, pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by providing services to its customers that make, use, offer to sell, sell in the United States or import into the United States GPON and/or XGS-PON compatible systems, devices and/or equipment such as, for example, the CommScope XP6164S FLX Optical Line Terminal (OLT) (included in the "Accused Products").

59. For example, on information and belief, CommScope-Arris has infringed at least claim 46 of the ’249 Patent by making, using, offering to sell, selling, and/or importing the Accused Products including a system for providing broadband communications. *See* Ex. 1 (showing that, e.g., the CommScope XP6164S FLX Optical Line Terminal (OLT) is G-PON (ITU-T G.984) and/or XGS-PON (ITU-T G.9807.1) compatible). The system for providing broadband communications comprises a multi-layered network having a plurality of Open System Interconnection (OSI) reference model layers functioning therein. *See* Ex. 2 at 35, 52, 54, Ex. 3 at S19-S20, Ex. 4, and Ex. 5 at 18 (showing that the CommScope XP6164S FLX OLT facilitates broadband communications over an OSI model multi-layered network, i.e., a network including at least a Physical layer (Layer 1) and Data Link layer (Layer 2)). The system for providing broadband communications comprises a network monitor coupled to the multi-layered network, wherein the network monitor is adapted to monitor at least one OSI reference model layer functioning in the multi-layered network. *See* Ex. 2 at 35, Ex. 3 at S18-S19, Ex. 6 at 15-18, 45 (showing that the CommScope XP6164S FLX OLT has a G-PON network monitor, such as a processor and/or software in the OLT that is adapted to monitor the PLOAM messaging channel included in the G-PON transmission convergence (GTC) layer functioning in the Data Link layer (Layer 2) of the OSI reference model); *see also* Ex. 2 at 35, 52, 117, 199 (showing that the CommScope XP6164S FLX OLT has an XGS-PON network monitor, such as a processor and/or software in the ONU/ONT that is adapted via counters and/or state machines to monitor the PLOAM messaging channel included in the XGS-PON transmission convergence (TC) layer functioning in the Data Link layer (Layer 2) of the OSI reference model). The network monitor coupled to the multi-layered network is adapted to determine that a quality of service event has occurred in the multi-layered network. *See* Ex. 5 at 18 and Ex. 6 at 11, 74, 111 (showing that the

G-PON network monitor of the CommScope XP6164S FLX OLT proactively determines that a QoS event has occurred by the OLT polling the ONU/ONT with PLOAM messages on the Data Link layer (Layer 2); and the G-PON network monitor of the CommScope XP6164S FLX OLT sends a ranging request and the response includes an incorrect CRC in a PLOAM message from the ONU/ONT); *see also* Ex. 2 at 52, 156, 175, 201 (showing that the XGS-PON network monitor of the CommScope XP6164S FLX OLT proactively determines that a QoS event has occurred by the OLT polling the ONU/ONT with downstream PLOAM messages on the Data Link layer (Layer 2); and the XGS-PON network monitor of the CommScope XP6164S FLX OLT detects the ONU's serial number, but the ONU/ONT fails to complete the bring up sequence, i.e., the ranging of the ONU failed). The network monitor coupled to the multi-layered network is adapted to determine that the quality of service event occurred at layer N in the OSI reference model. *See* Ex. 3 at S19, Ex. 5 at 18, Ex. 6 at 11, 48, 74, 85-86, 112, 119 (showing that the G-PON network monitor of the CommScope XP6164S FLX OLT determines that the QOS event occurred at the Data Link layer (Layer 2) by polling the ONU/ONT on the PLOAM messaging channel and determining that the ONU has a Start-up failure and raising a SUFi alarm); *see also* Ex. 2 at 122, 175, 201, 218 (showing that the XGS-PON network monitor of the CommScope XP6164S FLX OLT determines that the QOS event occurred at the TC, i.e., at the Data Link layer (Layer 2), by polling the ONU/ONT on the PLOAM messaging channel and determining that the ONU/ONT has a Start-up failure (i.e., ONU/ONT does not respond to a directed ranging grant) and raising a SUFi alarm). The system for providing broadband communications comprises a network controller coupled to the multi-layered network and the network monitor, wherein the network controller is adapted to respond to the quality of service event in the multi-layered network by changing the network provisioning at a layer less than N. *See* Ex. 2 at 35, Ex. 3 at S19-S20, Ex. 5 at 18, and Ex. 6 at 48, 85-86 (showing

that the G-PON network controller of the CommScope XP6164S FLX OLT, such as a processor and/or software, is coupled to the multi-layered network and the network monitor; and the G-PON network controller of the CommScope XP6164S FLX OLT responds to the QOS event and generates a loss of PHY_Layer_i notification and sends three Deactivate_ONU ID messages to the ONU, which changes the network provisioning at the Physical layer (Layer 1) which is less than the Data Link layer (Layer 2)); *see also* Ex. 2 at 35, 52, 160, 201 (showing that the XGS-PON network controller of the CommScope XP6164S FLX OLT, such as a processor and/or software, is coupled to the multi-layered network and the network monitor; and the XGS-PON network controller responds to the QOS event by sending a Deactivate_ONU ID message to the ONU, which changes the network provisioning at the Physical layer (Layer 1) which is less than the Data Link layer (Layer 2)). The network monitor monitors communication resources of the multi-layered network using a proactive monitoring process. *See* Ex. 6 at 74, 85-86, 111 (showing that the G-PON network monitor of the CommScope XP6164S FLX OLT monitors the communication resources using a proactive monitoring process, such as the OLT proactively polling the ONU/ONT on the PLOAM messaging channel to monitor ONU/ONT communication resources of the multilayered network); *see also* Ex. 2 at 122, 156, 175, 201, 218 (showing that the XGS-PON network monitor of the CommScope XP6164S FLX OLT monitors the communication resources using a proactive monitoring process, such as the OLT proactively polling the ONU/ONT on the PLOAM messaging channel to monitor ONU communication resources of the multilayered network).

60. On information and belief, CommScope-Arris has induced infringement of the ’249 Patent pursuant to 35 U.S.C. § 271(b), by actively and knowingly inducing, directing, causing, and encouraging others, including, but not limited to, its partners, customers, and end users, to use,

sell, and/or offer to sell in the United States, and/or import into the United States, the Accused Products by, among other things, providing the Accused Products, software and/or firmware updates, specifications, instructions, manuals, advertisements, marketing materials, and technical assistance relating to the installation, set up, use, operation, and maintenance of said products. *See* ¶¶ 42-56 above (explaining CommScope-Arris's notice of infringement); Ex. 1 (marketing materials showing that, e.g., the CommScope XP6164S FLX Optical Line Terminal (OLT) is G-PON (ITU-T G.984) and/or XGS-PON (ITU-T G.9807.1) compatible).

61. On information and belief, CommScope-Arris has committed the foregoing infringing activities without a license.

62. On information and belief, CommScope-Arris knew the '249 Patent existed and knew of exemplary infringing CommScope-Arris products and services while committing the foregoing infringing acts thereby willfully, wantonly and deliberately infringing the '249 Patent.

63. CommWorks has complied with the statutory and judicial requirements for collecting past damages with respect to the '249 Patent.

COUNT II: INFRINGEMENT OF THE '807 PATENT BY COMMSCOPE-ARRIS

64. Plaintiff incorporates the preceding paragraphs as if fully set forth herein.

65. On information and belief, CommScope-Arris has infringed the '807 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by using within the United States Wi-Fi enabled routers, access points, and gateways, such as, for example, the Arris NVG468MQ Gateway (included in the "Accused Products").

66. For example, on information and belief, CommScope-Arris has infringed at least claim 46 of the '807 Patent by using the process recited in that claim with the Accused Products having a transmitted signal and performing a process for provisioning between a wireless device and a network. *See* Exs. 7-9 (showing that CommScope-Arris routinely uses and tests Accused Products

to be Wi-Fi Certified, "an internationally recognized seal of approval for products indicating that they have met industry-agreed standards for interoperability, security, and a range of application specific protocols," and that Certification means that a product has been rigorously tested in a variety of ways to validate interoperability at an Authorized Test Laboratory (which includes labs located in the United States) or a member testing site (e.g. at a CommScope-Arris testing facility)); Exs. 10, 11 (showing, e.g., CommScope-Arris tests their gateways, modems, routers and home networking products, including Quality Assurance Engineers in Santa Clara, CA testing Commscope Access Network Solutions products); Ex. 12 (showing, e.g., CommScope-Arris automatically updating the firmware of Accused Products thereby directing and/or controlling the performance of a process for provisioning); Ex. 13 at 1-2 (showing the Arris NVG468MQ Gateway supports Wi-Fi Protected Setup (WPS)); Ex. 9 (showing the Arris NVG468MQ Gateway is WPS certified by the Wi-Fi Alliance); Ex. 14 at 1, 7, 11, 25, 80 (showing that WPS access points comprise a process for provisioning between a wireless device and a network, for example a Wireless Local Area Network ("WLAN"), and a transmitted signal). The process for provisioning performed in the Accused Products comprises the step of CommScope-Arris providing an access point connected to a network, the access point comprising an activatable provisioning time interval. *See* Ex. 13 at 1-2 (showing, e.g., CommScope-Arris provides a WPS compatible access point connected to a network, such as a WLAN, and that the Arris NVG468MQ has a WPS button); Ex. 14 at 7, 11, 19, 77-78 (showing, for example, that WPS access points comprise a PushButton Configuration ("PBC") method that activates a provisioning time interval, e.g., a 120-second walk time). The process for provisioning performed in the Accused Products further comprises initiating provisioning of the wireless device if the transmission of the wireless signal from the wireless device to the access point begins during the interval. *See* Ex. 14 at 77-78, 80 (showing,

for example, WPS access points begin provisioning of the wireless device (enrollee) if the transmission of the wireless signal, such as the Probe Request {WSC IE PBC} from the wireless device (enrollee) begins during the walk time).

67. On information and belief, CommScope-Arris has induced infringement of the ’807 Patent pursuant to 35 U.S.C. § 271(b), by actively and knowingly inducing, directing, causing, and encouraging others, including, but not limited to, its partners, customers, and end users, to use within the United States the Accused Products thereby infringing claim 46 of the ’807 Patent by, among other things, providing the Accused Products, software and/or firmware updates, specifications, instructions, manuals, advertisements, marketing materials, and technical assistance relating to the installation, set up, use, operation, and maintenance of said products. *See* ¶¶ 42-56 above (explaining CommScope-Arris’s notice of infringement); Ex. 13 at 1-2 (marketing materials showing that, e.g., the Arris NVG468MQ Gateway supports Wi-Fi Protected Setup (WPS)).

68. On information and belief, CommScope-Arris has committed the foregoing infringing activities without a license.

69. On information and belief, CommScope-Arris knew the ’807 Patent existed and knew of exemplary infringing CommScope-Arris products and services while committing the foregoing infringing acts thereby willfully, wantonly and deliberately infringing the ’807 Patent.

70. CommWorks has complied with the statutory and judicial requirements for collecting past damages with respect to the ’807 Patent.

COUNT III: INFRINGEMENT OF THE ’465 PATENT BY COMMSCOPE-ARRIS

71. Plaintiff incorporates the preceding paragraphs as if fully set forth herein.

72. On information and belief, CommScope-Arris has infringed the ’465 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by performing methods for

contention free traffic detection using Wi-Fi enabled routers, access points, and gateways, such as, for example, the Arris NVG468MQ Gateway (included in the "Accused Products").

73. For example, on information and belief, CommScope-Arris has infringed at least claim 1 of the '465 Patent by performing a method for detecting priority of data frames in a network. *See* Exs. 7-9 (showing that CommScope-Arris routinely uses and tests Accused Products to be Wi-Fi Certified, "an internationally recognized seal of approval for products indicating that they have met industry-agreed standards for interoperability, security, and a range of application specific protocols," and that Certification means that a product has been rigorously tested in a variety of ways to validate interoperability at an Authorized Test Laboratory (which includes labs located in the United States) or a member testing site (e.g. at a CommScope-Arris testing facility)); Exs. 10, 11 (showing, e.g., CommScope-Arris tests their gateways, modems, routers and home networking products, including Quality Assurance Engineers in Santa Clara, CA testing Commscope Access Network Solutions products); Ex. 12 (showing, e.g., CommScope-Arris automatically updating the firmware of Accused Products thereby directing and/or controlling the performance of a process for provisioning); Ex. 13 at 1-2 (showing, e.g., the Arris NVG468MQ Gateway supports and enables Wi-Fi Multimedia (WMM)); Ex. 9 (showing, e.g., the Arris NVG468MQ Gateway is WMM certified by the Wi-Fi Alliance); Ex. 15 at 7-8, 25-26 (showing, for example, that WMM compatible Access Points detect the priority of data frames in a network by mapping to the Access Category ("AC") of the Enhanced Distributed Channel Access ("EDCA") mechanism); *see also* Ex. 16 at 12, 51, 268-269 (showing, for example, 802.11-2007+ compatible Access Points detect priority data frames in a network by mapping the AC of the EDCA mechanism). The method for detecting priority of data frames comprises the step of extracting a bit pattern from a predetermined position in a frame. *See* Ex. 15 at 10, 12, 25 (showing, for example, WMM compatible Access

Points extract a bit pattern from a predetermined position in a data frame, such as in the QoS Control field); Ex. 16 at 51, 60, 67, 253 (showing, for example, 802.11-2007+ compatible Access Points extract a bit pattern from a predetermined position in a data frame, such as in the QoS Control field). The method for detecting priority of data frames further comprises the step of comparing said extracted bit pattern with a search pattern. *See* Ex. 15 at 25-26 (showing, for example, that WMM compatible Access Points compare the extracted UP bit pattern with a search pattern, such as the Access Category ("AC")); Ex. 16 at 252, 268-269 (showing, for example, that 802.11-2007+ compatible Access Points compare the extracted TID bit pattern User Priority ("UP") with the Access Category ("AC") search pattern). The method for detecting priority of data frames further comprises the step of identifying a received frame as a priority frame in case said extracted bit pattern matches with said search pattern. *See* Ex. 15 at 25-26 (showing, for example, that WMM compatible Access Points identify the priority Access Category ("AC") of the WMM Data frame if the UP of said frame matches an AC search pattern); Ex. 16 at 51, 252, 268-269 (showing, for example, that 802.11-2007+ compatible Access Points identify the priority Access Category ("AC") of the data frame if the TID UP bit pattern matches an AC search pattern). In the method for detecting priority of data frames, the predetermined position in said frame is defined by the offset of said bit pattern in said frame. *See* Ex. 15 at 10-12 (showing, for example, WMM compatible Access Points predetermine the position of the bit pattern by inspecting the Frame Control field to anticipate which non-minimal field has data present in the frame MAC Header so the offset of the UP bit pattern can be determined); Ex. 16 at 60, 62, 67 (showing, for example, 802.11-2007+ compatible Access Points predetermine the position of the bit pattern by inspecting the Frame Control field to anticipate which non-minimal field has data present in the frame MAC Header so the offset of the TID bit pattern can be determined).

74. On information and belief, CommScope-Arris has committed the foregoing infringing activities without a license.

75. CommWorks has complied with the statutory and judicial requirements for collecting past damages with respect to the ’465 Patent.

COUNT IV: INFRINGEMENT OF THE ’285 PATENT BY COMMSCOPE-ARRIS

76. Plaintiff incorporates the preceding paragraphs as if fully set forth herein.

77. On information and belief, CommScope-Arris has infringed the ’285 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by using within the United States Wi-Fi enabled routers, access points, and gateways, such as, for example, the Arris NVG468MQ Gateway (included in the “Accused Products”).

78. For example, on information and belief, CommScope-Arris has infringed at least claim 1 of the ’285 Patent by using the process recited in that claim with the Accused Products performing a process for provisioning between a wireless device and a network. *See* Exs. 7-9 (showing that CommScope-Arris routinely uses and tests Accused Products to be Wi-Fi Certified, “an internationally recognized seal of approval for products indicating that they have met industry-agreed standards for interoperability, security, and a range of application specific protocols,” and that Certification means that a product has been rigorously tested in a variety of ways to validate interoperability at an Authorized Test Laboratory (which includes labs located in the United States) or a member testing site (e.g. at a CommScope-Arris testing facility)); Exs. 10, 11 (showing, e.g., CommScope-Arris tests their gateways, modems, routers and home networking products, including Quality Assurance Engineers in Santa Clara, CA testing Commscope Access Network Solutions products); Ex. 12 (showing, e.g., CommScope-Arris automatically updating the firmware of Accused Products thereby directing and/or controlling the performance of a process for provisioning); Ex. 13 at 1-2 (showing the Arris NVG468MQ Gateway supports Wi-Fi

Protected Setup (WPS)); Ex. 9 (showing the Arris NVG468MQ Gateway is WPS certified by the Wi-Fi Alliance); Ex. 14 at 1, 7, 11 (showing that WPS access points perform a process for provisioning between a wireless device and a network, such as a WLAN). The process for provisioning performed in the Accused Products comprises the step of tracking an operating parameter of the wireless device within a service area, wherein the operating parameter of the wireless device comprises an onset of a signal transmission of the wireless device. *See* Ex. 14 at 11, 13, 25, 80 (showing that, for example, WPS access points monitors Probe Request {WSC IE, PBC}, wherein said Probe Requests include an onset of a signal transmission and PBC operating parameter in the onset signal Probe Request {WSC IE PBC} transmitted from an in range wireless device (enrollee) seeking access to the network). The process for provisioning performed in the Accused Products further comprises the step of initiating provisioning of the wireless device if the tracked operating parameter occurs within a time interval. *See* Ex. 14 at 12-13, 25, 77-78, 80 (showing that, for example, WPS access points initiate provisioning of the wireless device if the tracked operating parameter (transmission of signal seeking access) occurs within the 120-second time period ("Walk Time")).

79. On information and belief, CommScope-Arris has induced infringement of the '285 Patent pursuant to 35 U.S.C. § 271(b), by actively and knowingly inducing, directing, causing, and encouraging others, including, but not limited to, its partners, customers, and end users, to use within the United States the Accused Products thereby infringing claim 1 of the '285 Patent by, among other things, providing the Accused Products, software and/or firmware updates, specifications, instructions, manuals, advertisements, marketing materials, and technical assistance relating to the installation, set up, use, operation, and maintenance of said products. ¶¶ 42-56 above (explaining CommScope-Arris's notice of infringement); Ex. 13 at 1-2 (marketing

materials showing that, e.g., the Arris NVG468MQ Gateway supports Wi-Fi Protected Setup (WPS)).

80. On information and belief, CommScope-Arris has committed the foregoing infringing activities without a license.

81. On information and belief, CommScope-Arris knew the '285 Patent existed and knew of exemplary infringing CommScope-Arris products and services while committing the foregoing infringing acts thereby willfully, wantonly and deliberately infringing the '285 Patent.

82. CommWorks has complied with the statutory and judicial requirements for collecting past damages with respect to the '285 Patent.

COUNT V: INFRINGEMENT OF THE '596 PATENT BY COMMSCOPE-ARRIS

83. Plaintiff incorporates the preceding paragraphs as if fully set forth herein.

84. On information and belief, CommScope-Arris has infringed the '596 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by using within the United States Wi-Fi enabled routers, access points, and gateways, such as, for example, the Arris NVG468MQ Gateway (included in the "Accused Products").

85. For example, on information and belief, CommScope-Arris has infringed at least claim 1 of the '596 Patent by using the process recited in that claim with the Accused Products performing a process for associating devices. *See* Exs. 7-9 (showing that CommScope-Arris routinely uses and tests Accused Products to be Wi-Fi Certified, "an internationally recognized seal of approval for products indicating that they have met industry-agreed standards for interoperability, security, and a range of application specific protocols," and that Certification means that a product has been rigorously tested in a variety of ways to validate interoperability at an Authorized Test Laboratory (which includes labs located in the United States) or a member testing site (e.g. at a CommScope-Arris testing facility)); Exs. 10, 11 (showing, e.g., CommScope-Arris tests their gateways,

modems, routers and home networking products, including Quality Assurance Engineers in Santa Clara, CA testing Commscope Access Network Solutions products); Ex. 12 (showing, e.g., CommScope-Arris automatically updating the firmware of Accused Products thereby directing and/or controlling the performance of a process for provisioning); Ex. 13 at 1-2 (showing the Arris NVG468MQ Gateway supports Wi-Fi Protected Setup (WPS)); Ex. 9 (showing the Arris NVG468MQ Gateway is WPS certified by the Wi-Fi Alliance); Ex. 14 at 1, 9, 11 (showing, for example, that WPS access points perform a process for associating devices, such as the PushButton Configuration ("PBC") method). The process for associating devices performed in the Accused Products comprises the step of tracking an operating parameter of a first device, wherein the operating parameter of the first device comprises any of a power on of the first device, and an onset of a signal transmission of the first device. *See* Ex. 14 at 9, 11-13, 25, 77, 80 (showing, for example, WPS access points track racks the PBC operating parameter of the first device found in the onset signal of the Probe Request {WSC IE PBC}, where the Probe Request is activated by pressing a PBC button on the first device (enrollee) that is seeking access to the network). The process for associating devices performed in the Accused Products further comprises the step of automatically associating the first device with at least one other device if the tracked operating parameter occurs within a time interval. *See* Ex. 14 at 12-13, 77-78, 80 (showing, for example, WPS access points automatically associate the wireless device seeking access with the access point if the signal transmission initiated by a button on the wireless device occurs within the 120-second time period ("Walk Time")).

86. On information and belief, CommScope-Arris has induced infringement of the '596 Patent pursuant to 35 U.S.C. § 271(b), by actively and knowingly inducing, directing, causing, and encouraging others, including, but not limited to, its partners, customers, and end users, to use

within the United States the Accused Products thereby infringing claim 1 of the ’596 Patent by, among other things, providing the Accused Products, software and/or firmware updates, specifications, instructions, manuals, advertisements, marketing materials, and technical assistance relating to the installation, set up, use, operation, and maintenance of said products. *See* ¶¶ 42-56 above (explaining CommScope-Arris’s notice of infringement); Ex. 13 at 1-2 (marketing materials showing that, e.g., the Arris NVG468MQ Gateway supports Wi-Fi Protected Setup (WPS)).

87. On information and belief, CommScope-Arris has committed the foregoing infringing activities without a license.

88. On information and belief, CommScope-Arris knew the ’596 Patent existed and knew of exemplary infringing CommScope-Arris products while committing the foregoing infringing acts thereby willfully, wantonly and deliberately infringing the ’596 Patent.

89. CommWorks has complied with the statutory and judicial requirements for collecting past damages with respect to the ’596 Patent.

COUNT VI: INFRINGEMENT OF THE ’979 PATENT BY COMMSCOPE-ARRIS

90. Plaintiff incorporates the preceding paragraphs as if fully set forth herein.

91. On information and belief, CommScope-Arris has infringed the ’979 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by using within the United States Wi-Fi enabled routers, access points, and gateways, such as, for example, the Arris NVG468MQ Gateway (included in the “Accused Products”).

92. For example, on information and belief, CommScope-Arris has infringed at least claim 1 of the ’979 Patent by using the process recited in that claim with the Accused Products performing a provisioning process performed by a provisioning system having provisioning logic. *See* Exs. 7-9 (showing that CommScope-Arris routinely uses and tests Accused Products to be Wi-Fi

Certified, "an internationally recognized seal of approval for products indicating that they have met industry-agreed standards for interoperability, security, and a range of application specific protocols," and that Certification means that a product has been rigorously tested in a variety of ways to validate interoperability at an Authorized Test Laboratory (which includes labs located in the United States) or a member testing site (e.g. at a CommScope-Arris testing facility)); Exs. 10, 11 (showing, e.g., CommScope-Arris tests their gateways, modems, routers and home networking products, including Quality Assurance Engineers in Santa Clara, CA testing Commscope Access Network Solutions products); Ex. 12 (showing, e.g., CommScope-Arris automatically updating the firmware of Accused Products thereby directing and/or controlling the performance of a process for provisioning); Ex. 13 at 1-2 (showing the Arris NVG468MQ Gateway supports Wi-Fi Protected Setup (WPS)); Ex. 9 (showing the Arris NVG468MQ Gateway is WPS certified by the Wi-Fi Alliance); Ex. 14 at 1, 11-14 (showing, for example, that WPS access points include provisioning system having a provisioning logic (i.e. software and/or hardware components used to implement interfaces such as A, M, and/or E illustrated below) that perform the PushButton Configuration ("PBC") provisioning process). The provisioning process performed in the Accused Products comprises tracking, by the provisioning logic, an operating parameter of a first device, wherein the operating parameter of the first device comprises any of a power on of the first device, and an onset of a signal transmission of the first device. *See* Ex. 14 at 12-13, 25, 80 (showing, for example, WPS access points' provisioning logic tracks and monitors a PBC operating parameter, such as an onset of a Probe Request {WSC IE PBC} sent by the first device (enrollee)). The provisioning process performed in the Accused Products further comprises sending a signal to initiate provisioning of the first device with a network if the tracked operating parameter occurs within a designated time interval. *See* Ex. 14 at 12-13, 77-78, 80 (showing that, for example, WPS

access points' send a Probe Response {WSC IE, PBC} signal to initiate provisioning of the first device (enrollee) if the Probe Request {WSC IE PBC} occurs within the 120-second walk time).

93. On information and belief, CommScope-Arris has induced infringement of the '979 Patent pursuant to 35 U.S.C. § 271(b), by actively and knowingly inducing, directing, causing, and encouraging others, including, but not limited to, its partners, customers, and end users, to use within the United States the Accused Products thereby infringing claim 1 of the '979 Patent by, among other things, providing the Accused Products, software and/or firmware updates, specifications, instructions, manuals, advertisements, marketing materials, and technical assistance relating to the installation, set up, use, operation, and maintenance of said products. *See* ¶¶ 42-56 above (explaining CommScope-Arris's notice of infringement); Ex. 13 at 1-2 (marketing materials showing that, e.g., the Arris NVG468MQ Gateway supports Wi-Fi Protected Setup (WPS)).

94. On information and belief, CommScope-Arris has committed the foregoing infringing activities without a license.

95. On information and belief, CommScope-Arris knew the '979 Patent existed and knew of exemplary infringing CommScope-Arris products and services while committing the foregoing infringing acts thereby willfully, wantonly and deliberately infringing the '979 Patent.

96. CommWorks has complied with the statutory and judicial requirements for collecting past damages with respect to the '979 Patent.

COUNT VII: INFRINGEMENT OF THE '904 PATENT BY COMMSCOPE-ARRIS

97. Plaintiff incorporates the preceding paragraphs as if fully set forth herein.

98. On information and belief, CommScope-Arris has infringed the '904 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by performing methods for contention free traffic detection using Wi-Fi enabled routers, access points, and gateways, such as,

for example, the Arris NVG468MQ Gateway (included in the "Accused Products").

99. For example, on information and belief, CommScope-Arris has infringed at least claim 7 of the '904 Patent by performing a method comprising detecting a received frame is a priority frame based, at least in part, on information in the received frame. *See* Exs. 7-9 (showing that CommScope-Arris routinely uses and tests Accused Products to be Wi-Fi Certified, "an internationally recognized seal of approval for products indicating that they have met industry-agreed standards for interoperability, security, and a range of application specific protocols," and that Certification means that a product has been rigorously tested in a variety of ways to validate interoperability at an Authorized Test Laboratory (which includes labs located in the United States) or a member testing site (e.g. at a CommScope-Arris testing facility)); Exs. 10, 11 (showing, e.g., CommScope-Arris tests their gateways, modems, routers and home networking products, including Quality Assurance Engineers in Santa Clara, CA testing Commscope Access Network Solutions products); Ex. 12 (showing, e.g., CommScope-Arris automatically updating the firmware of Accused Products thereby directing and/or controlling the performance of a process for provisioning); Ex. 13 at 1-2 (showing, e.g., the Arris NVG468MQ Gateway supports and enables Wi-Fi Multimedia (WMM)); Ex. 9 (showing, e.g., the Arris NVG468MQ Gateway is WMM certified by the Wi-Fi Alliance); Ex. 15 at 7, 10, 12, 25-26 (showing, for example, that WMM compatible Access Points detect the priority of data frames by mapping to an Access Category ("AC") based, at least in part, on information in the QoS Control field of a received frame, such as the User Priority ("UP") subfield); Ex. 16 at 12, 51, 60, 67, 287 (showing, for example, that 802.11-2007+ compatible Access Points detect the priority of data frames by mapping to an Access Category ("AC") based, at least in part, on information in the QoS Control field of a received frame, such as the User Priority ("UP") TID subfield). The method further

comprises extracting a bit pattern from a predetermined position in the received frame. *See* Ex. 15 at 10, 12, 25 (showing, for example, that in WMM compatible Access Points extract a bit pattern (i.e. UP subfield bit pattern) from a predetermined position in a data frame, such as in the QoS Control field); Ex. 16 at 51, 60, 67, 253 (showing, for example, that 802.11-2007+ compatible Access Points extract a bit pattern (i.e. TID) UP from a predetermined position in a data frame, such as in the QoS Control field). The method further comprises comparing the extracted bit pattern with a search pattern. *See* Ex. 15 at 25-26 (showing, for example, that WMM compatible Access Points compare the extracted UP bit pattern with a search pattern, such as the AC); Ex. 16 at 252, 258-259 (showing, for example, that 802.11-2007+ compatible Access Points compare the extracted TID bit pattern UP with the AC search pattern). In the method, the detecting is based on a match between the extracted bit pattern and the search pattern. *See* Ex. 15 at 25-26 (showing, for example, that WMM compatible Access Points determine the AC of the WMM Data frame if the UP of said frame matches to an AC search pattern); Ex. 16 at 51, 252, 268-269 (showing, for example, that 802.11-2007+ compatible Access Points determine the priority AC of the data frame if the TID UP bit pattern matches an AC search pattern). The method further comprises transmitting the received frame in a transmit period reserved for priority frames in response to the detecting. *See* Ex. 15 at 25-27, 39 (showing, for example, that WMM compatible Access Points detect a data frame to be high priority and transmits said frame from a high priority queue, with the transmitting occurring while frames in said queue are being sent in succession onto the wireless medium during said queue's Transmission Opportunity ("TXOP") interval); Ex. 16 at 5, 15, 51, 69, 252-253, 268-269, 1021-1023 (showing, for example, that 802.11-2007+ compatible Access Points detect a data frame to be high priority and transmits said frame from a high priority queue, with the transmitting occurring while frames in said queue are being sent in succession onto the

wireless medium during said queue's Transmission Opportunity ("TXOP") interval). The method adjusts a duration of the transmit period reserved for priority frames based on statistic information regarding sent priority frames. *See* Ex. 15 at 25, 27 (showing, for example, that WMM compatible Access Points adjust the duration of the TXOP interval (such as the TXOP limit) based on statistic information regarding sent priority frames, such as when using a lower PHY rate than selected for the initial transmission attempt of the first data frame, for retransmission of a data frame or for the initial transmission of a data frame if any previous data frame in the current data frame set has been retransmitted); Ex. 16 at 5, 15, 287, 1024-1025 (showing, for example, that 802.11-2007+ compatible Access Points adjust the duration of the TXOP based on statistic information regarding sent priority frames, such as when using a lower PHY rate than selected for the initial transmission attempt of the first data frame, for retransmission of a data frame or for the initial transmission of a data frame if any previous data frame in the current data frame set has been retransmitted).

100. On information and belief, CommScope-Arris has committed the foregoing infringing activities without a license.

101. CommWorks has complied with the statutory and judicial requirements for collecting past damages with respect to the '904 Patent.

PRAYER FOR RELIEF

WHEREFORE, CommWorks prays for judgment in its favor against CommScope-Arris for the following relief:

A. Entry of judgment in favor of CommWorks against CommScope-Arris on all counts;

B. Entry of judgment that CommScope-Arris has infringed the Patents-in-Suit;

C. Award of compensatory damages adequate to compensate CommWorks for CommScope-Arris's infringement of the '249 Patent, '807 Patent, '285 Patent, '596 Patent, and the '979 Patent, in no event less than a reasonable royalty trebled as provided by 35 U.S.C. § 284;

D. Award of compensatory damages adequate to compensate CommWorks for CommScope-Arris's infringement of the '465 Patent and the '904 Patent, in no event less than a reasonable royalty as provided by 35 U.S.C. § 284;

E. CommWorks' costs;

F. Pre-judgment and post-judgment interest on CommWorks' award; and

G. All such other and further relief as the Court deems just or equitable.

DEMAND FOR JURY TRIAL

Pursuant to Rule 38 of the Fed. R. Civ. Proc., Plaintiff hereby demands trial by jury in this action of all claims so triable.

Dated: November 3, 2023

Respectfully submitted,

/s/ Stafford Davis

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