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UNITED STATES DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA

COMMWORKS SOLUTIONS, LLC, Plaintiff, v. TRENDNET, INC., Defendant.	Case No.: 2:23-cv-8048 **COMPLAINT FOR PATENT INFRINGEMENT** **DEMAND FOR JURY TRIAL**

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COMPLAINT FOR PATENT INFRINGEMENT

1.   Plaintiff CommWorks Solutions, LLC ("CommWorks" or "Plaintiff") hereby files this Complaint for patent infringement against Defendant TRENDnet, Inc. ("TRENDnet" or "Defendant") and alleges as follows:

PARTIES

2.   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.

3.   On information and belief, Defendant TRENDnet, Inc. is a corporation organized and existing under the laws of the State of California having its principal place of business at 20675 Manhattan Place, Torrance, CA 90501. TRENDnet may be served through its registered agent, John Sy, 362 W Garvey Ave, Monterey Park, CA 91754. TRENDnet is registered to do business in the State of California.

4.   On information and belief, TRENDnet, either itself and/or through the activities of its affiliates and/or subsidiaries, makes, uses, offers to sell, or sells within the United States, including within this District, and/or imports into the United States products that infringe the Patents-in-Suit, defined below.

JURISDICTION AND VENUE

5.   This is an action under the patent laws of the United States, 35 U.S.C. §§ 1, *et seq.*, for infringement by TRENDnet of claims of 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").

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

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7.   TRENDnet is subject to personal jurisdiction of this Court because, *inter alia*, on information and belief, (i) TRENDnet maintains its headquarters in California in this Judicial District at 20675 Manhattan Place, Torrance, CA 90501; (ii) TRENDnet regularly conducts business in the State of California including in this Judicial District; and (iii) TRENDnet has committed acts of patent infringement in the State of California including in this Judicial District, including by making, using, offering to sell, and/or selling accused products in the State of California including in this Judicial District.

8.   Venue is proper as to TRENDnet in this Judicial District under 28 U.S.C. § 1400(b) because, *inter alia*, on information and belief, TRENDnet maintains a regular and established place of business in this Judicial District at 20675 Manhattan Place, Torrance, CA 90501, 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 District.

BACKGROUND

9.   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."

10.   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.

11.   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.

12.   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."

13.   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.

14. 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, 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.

1   *Id.* at col. 3:12-21.

2   15.   On February 13, 2007, the United States Patent and Trademark Office

3 duly and lawfully issued U.S. Patent No. 7,177,285 ("the '285 Patent"), entitled

4 "Time Based Wireless Access Provisioning."

5   16.   At the time of the invention, wireless access to data networks was not

6 yet conventional. Then existent systems for provisioning access to a network were

7 impractical, such as for wireless devices which lacked a user interface configured

8 for communicating provisioning information, or for simple home-based intranets,

9 such as a wireless picture frame device lacking a control interface to read or extract

10 identification information, such as a MAC address, to facilitate wireless access

11 provisioning. '285 Patent at col. 3:13-26. Further, wireless devices that did have a

12 dedicated user interface were incapable of, or cumbersome in, communicating

13 device identification and exchanging provisioning information, still requiring a

14 user to be technically proficient to properly initiate and complete a provisioning

15 process. *Id.* at col. 3:27-36.

16   17.   The invention of the '285 Patent improved upon existent network

17 provisioning systems by enabling provisioning without requiring a user interface

18 for the initiation of a provisioning process—"a major technological advance." *Id.*

19 at col. 3:37-41. The invention of the '285 Patent further improved upon existent

20 provisioning systems by providing a wireless access provisioning structure and

21 process with minimal device requirements and/or user proficiency, whereby a

22 wireless device is readily provisioned by the provisioning system, and whereby

23 other unauthorized devices within an access region are prevented from being

24 provisioned by the provisioning system. *Id.* at col. 3:42-49. The invention of the

25 '285 Patent further improved upon existent provisioning systems by providing a

26 time-based wireless access provisioning system integrated with easily monitored

27 parameters of a wireless device, such as the time monitoring of power on and/or

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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.

18.   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."

19.   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.

20.   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

1   other unauthorized devices within an access region are prevented from being

2   provisioned by the provisioning system. *Id.* at col. 3:42-49. The invention of the

3   '596 Patent further improved upon existent provisioning systems by providing a

4   time-based wireless access provisioning system integrated with easily monitored

5   parameters of a wireless device, such as the time monitoring of power on and/or

6   start of signal transmission, for provisioning secure encrypted communication. *Id.*

7   at col. 3:50-58. Moreover, the structure of the devices described in the '596 Patent

8   was not conventional at the time of the invention. Specifically, a device such as an

9   access point, comprising a provisioning activation button, time-based provisioning

10   logic, access control list, wired network logic, a wired network connection and a

11   transceiver were not conventional (or even available) at the time of the invention.

12   21.   On March 22, 2011, the United States Patent and Trademark Office

13   duly and lawfully issued U.S. Patent No. 7,911,979 ("the '979 Patent"), entitled

14   "Time Based Access Provisioning System and Process.

15   22.   At the time of the invention wireless access to data networks was not

16   yet conventional. Then existent systems for provisioning access to a network were

17   impractical, such as for wireless devices which lacked a user interface configured

18   for communicating provisioning information, or for simple home-based intranets,

19   such as a wireless picture frame device lacking a control interface to read or extract

20   identification information, such as a MAC address, to facilitate wireless access

21   provisioning. '979 Patent at col. 3:19-31. Further, wireless devices that did have a

22   dedicated user interface were incapable of, or cumbersome in, communicating

23   device identification and exchanging provisioning information, still requiring a

24   user to be technically proficient to properly initiate and complete a provisioning

25   process. *Id.* at col. 3:32-41.

26   23.   The invention of the '979 Patent improved upon existent network

27   provisioning systems by enabling provisioning without requiring a user interface

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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.

24.   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."

25.   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

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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.

26.   The invention of the '904 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. 2:29-32, 3:2-4, 3:52-53. The methods of the invention of the '904 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. 2:62-65. The methods of the invention of the '904 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. 3:5-8, 3:14-21. 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. 3:22-31.

27.   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.

28.   TRENDnet has infringed the Patents-in-Suit by making, using, offering for sale, or selling within the United States, or importing into the United States routers, access points, gateways, devices, and 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

29.   By letter and email dated February 2, 2022, CommWorks via its legal counsel notified TRENDnet that it infringes the '807 Patent, '285 Patent,'596 Patent, and '979 Patent, identified exemplary infringed claims and infringing TRENDnet products, and invited TRENDnet to hold a licensing discussion with CommWorks.

COUNT I: INFRINGEMENT OF THE '807 PATENT BY TRENDNET

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

31.   On information and belief, TRENDnet has infringed the '807 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by making, using, offering for sale, selling, and/or importing into the United States Wi-Fi enabled routers, access points, and gateways, such as, for example, the TRENDnet AC1200 Dual Band Wireless Router (TEW-813DRU) (included in the "Accused Products").

32.   For example, on information and belief, TRENDnet has infringed at least claim 17 of the '807 Patent by making, using, offering to sell, selling, and/or importing the Accused Products, which include a time based network access provisioning system between a wireless device and a network. *See* Ex. 1 at 1-3, 18-19, 53-54; Ex. 2 (showing the TRENDnet AC1200 Dual Band Wireless Router (TEW-813DRU) supports Wi-Fi Protected Setup ("WPS")); Ex. 3 at 1, 7, 11 (showing that WPS access points comprise a time based network access

provisioning system between a wireless device and a network, for example a Wireless Local Area Network ("WLAN")). The time based network access provisioning system comprises a network access point connected to the network, the network access point comprising logic for tracking operation of the wireless device. *See* Ex. 3 at 11-14, 25, 78, 80 (showing, for example, that WPS access points comprise logic for tracking operation of a wireless device seeking to join a WLAN domain and that WPS access points track requests to join the network from a wireless device). The time based network access provisioning system further comprises logic for provisioning the wireless device if the operation of the wireless device occurs within an activatable time interval. *See* Ex. 3 at 11-14, 77-78, 80 (showing, for example, WPS access points include logic that provision wireless devices if the WPS button on the wireless device is pressed within 120 seconds of the press ("Walk Time") of the WPS button on the access point (activatable time period)).

33.   On information and belief, TRENDnet 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, resellers, distributers, customers, operators, and end users, to make, use, offer to sell, and/or sell within the United States, and/or import into the United States, the Accused Products by, among other things, providing the Accused Products, specifications, instructions, manuals, advertisements, marketing materials, and technical assistance relating to the installation, set up, use, operation, and maintenance of said products. *See* ¶ 29 above; Ex. 1 at 1-3, 18-19, 53-54.

34.   On information and belief, TRENDnet has committed the foregoing infringing activities without a license.

35.   On information and belief, TRENDnet knew the '807 Patent existed

1 and knew of an exemplary infringing TRENDnet product while committing the

2 foregoing infringing acts thereby willfully, wantonly and deliberately infringing

3 the '807 Patent.

4 **COUNT II: INFRINGEMENT OF THE '465 PATENT BY TRENDNET**

5 36.   Plaintiff incorporates the preceding paragraphs as if fully set forth

6 herein.

7 37.   On information and belief, TRENDnet has infringed the '465 Patent

8 pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by

9 performing methods for contention free traffic detection using Accused Products.

10 38.   For example, on information and belief, TRENDnet has infringed at

11 least claim 1 of the '465 Patent by performing a method for detecting priority of

12 data frames in a network. *See* Ex. 6 (showing, *e.g.*, the TRENDnet AC1200 Dual

13 Band WiFi Router (TEW-831DR) supports Wi-Fi Multimedia ("WMM")); Ex. 4 at

14 7-8, 25-26 (showing that WMM compatible Access Points detect the priority of

15 data frames in a network by mapping to the Access Category ("AC") of the

16 Enhanced Distributed Channel Access ("EDCA") mechanism); *see also* Ex. 5 at

17 12, 51, 268-269 (showing another example in which 802.11-2007+ compatible

18 Access Points detect priority data frames in a network by mapping the AC of the

19 EDCA mechanism). The method for detecting priority of data frames comprises

20 the step of extracting a bit pattern from a predetermined position in a frame. *See*

21 Ex. 4 at 10, 12, 25 (showing, for example, WMM compatible Access Points extract

22 a bit pattern from a predetermined position in a data frame, such as in the QoS

23 Control field); Ex. 5 at 51, 60, 67, 253 (showing, for example, 802.11-2007+

24 compatible Access Points extract a bit pattern from a predetermined position in a

25 data frame, such as in the QoS Control field). The method for detecting priority of

26 data frames further comprises the step of comparing said extracted bit pattern with

27 a search pattern. *See* Ex. 4 at 25-26 (showing, for example, that WMM compatible

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Access Points compare the extracted UP bit pattern with a search pattern, such as the Access Category ("AC")); Ex. 5 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. 4 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. 5 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. 4 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. 5 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).

39.   On information and belief, TRENDnet has committed the foregoing infringing activities without a license.

COUNT III: INFRINGEMENT OF THE '285 PATENT BY TRENDNET

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

41.   On information and belief, TRENDnet has infringed the '285 Patent

1 pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by

2 making, using, offering for sale, selling, and/or importing into the United States

3 Wi-Fi enabled routers, access points, and gateways, such as, for example, the

4 TRENDnet AC1200 Dual Band Wireless Router (TEW-813DRU) (included in the

5 "Accused Products").

6   42.   For example, on information and belief, TRENDnet has infringed at

7 least claim 1 of the '285 Patent by making, using, offering to sell, selling, and/or

8 importing the Accused Products, which perform a process for provisioning

9 between a wireless device and a network. *See* Ex. 1 at 1-3, 18-19, 53-54; Ex. 2

10 (showing the TRENDnet AC1200 Dual Band Wireless Router (TEW-813DRU)

11 supports Wi-Fi Protected Setup ("WPS")); Ex. 3 at 1, 7, 11 (showing that WPS

12 access points perform a process for provisioning between a wireless device and a

13 network, such as a WLAN). The process for provisioning comprises the step of

14 tracking an operating parameter of the wireless device within a service area,

15 wherein the operating parameter of the wireless device comprises an onset of a

16 signal transmission of the wireless device. *See* Ex. 3 at 11, 13, 25, 80 (showing

17 that, for example, WPS access points monitors Probe Request {WSC IE, PBC},

18 wherein said Probe Requests include an onset of a signal transmission and PBC

19 operating parameter in the onset signal Probe Request {WSC IE PBC} transmitted

20 from an in range wireless device (enrollee) seeking access to the network). The

21 process for provisioning further comprises the step of initiating provisioning of the

22 wireless device if the tracked operating parameter occurs within a time interval.

23 *See* Ex. 3 at 12-13, 25, 77-78, 80 (showing that, for example, WPS access points

24 initiate provisioning of the wireless device if the tracked operating parameter

25 (transmission of signal seeking access) occurs within the 120-second time period

26 ("Walk Time")).

27   43.   On information and belief, TRENDnet has induced infringement of

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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, resellers, distributers, customers, operators, and end users, to make, use, offer to sell, and/or sell within the United States, and/or import into the United States, the Accused Products by, among other things, providing the Accused Products, specifications, instructions, manuals, advertisements, marketing materials, and technical assistance relating to the installation, set up, use, operation, and maintenance of said products. *See* ¶ 29 above; Ex. 1 at 1-3, 18-19, 53-54.

44.   On information and belief, TRENDnet has committed the foregoing infringing activities without a license.

45.   On information and belief, TRENDnet knew the '285 Patent existed and knew of an exemplary infringing TRENDnet product while committing the foregoing infringing acts thereby willfully, wantonly and deliberately infringing the '285 Patent.

COUNT IV: INFRINGEMENT OF THE '596 PATENT BY TRENDNET

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

47.   On information and belief, TRENDnet has infringed the '596 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by making, using, offering for sale, selling, and/or importing into the United States Wi-Fi enabled routers, access points, and gateways, such as, for example, the TRENDnet AC1200 Dual Band Wireless Router (TEW-813DRU) (included in the "Accused Products").

48.   For example, on information and belief, TRENDnet has infringed at least claim 1 of the '596 Patent by making, using, offering to sell, selling, and/or importing the Accused Products, which perform a process for associating devices.

See Ex. 1 at 1-3, 18-19, 53-54; Ex. 2 (showing the TRENDnet AC1200 Dual Band Wireless Router (TEW-813DRU) supports Wi-Fi Protected Setup ("WPS")); Ex. 3 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 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. 3 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 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. 3 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")).

49.   On information and belief, TRENDnet 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, resellers, distributers, customers, operators, and end users, to make, use, offer to sell, and/or sell within the United States, and/or import into the United States, the Accused Products by, among other things, providing the Accused Products, specifications, instructions, manuals, advertisements, marketing materials, and technical assistance relating to the installation, set up, use, operation, and maintenance of said products. *See* ¶ 29 above; Ex. 1 at 1-3, 18-19,

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53-54.

50.   On information and belief, TRENDnet has committed the foregoing infringing activities without a license.

51.   On information and belief, TRENDnet knew the '596 Patent existed and knew of an exemplary infringing TRENDnet product while committing the foregoing infringing acts thereby willfully, wantonly and deliberately infringing the '596 Patent.

COUNT V: INFRINGEMENT OF THE '979 PATENT BY TRENDNET

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

53.   On information and belief, TRENDnet has infringed the '979 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by making, using, offering for sale, selling, and/or importing into the United States Wi-Fi enabled routers, access points, and gateways, such as, for example, the TRENDnet AC1200 Dual Band Wireless Router (TEW-813DRU) (included in the "Accused Products").

54.   For example, on information and belief, TRENDnet has infringed at least claim 19 of the '979 Patent by making, using, offering to sell, selling, and/or importing the Accused Products, which include a network access device comprising access control logic. *See* Ex. 1 at 1-3, 18-19, 53-54; Ex. 2 (showing the TRENDnet AC1200 Dual Band Wireless Router (TEW-813DRU) supports Wi-Fi Protected Setup ("WPS")); Ex. 3 at 1, 11-14 (showing, for example, that WPS access points include a network access device with access control logic (i.e. software and/or hardware components used to implement interfaces such as A, M, and/or E illustrated below) configured to provision devices accessing a network using the PushButton Configuration ("PBC") method). The control logic of the Accused Products is configured to track an operating parameter of a first device,

wherein the operating parameter of the first device includes any of an indication of a power-on of the first device, and an onset of a signal transmission from the first device. *See* Ex. 3 at 12-13, 25, 80 (showing, for example, WPS access points' access control 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 control logic of the Accused Products is further configured to send 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. 3 at 12-13, 77-78, 80 (showing that, for example, WPS access points' access control logic sends 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).

55.   On information and belief, TRENDnet 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, resellers, distributers, customers, operators, and end users, to make, use, offer to sell, and/or sell within the United States, and/or import into the United States, the Accused Products by, among other things, providing the Accused Products, specifications, instructions, manuals, advertisements, marketing materials, and technical assistance relating to the installation, set up, use, operation, and maintenance of said products. *See* ¶ 29 above; Ex. 1 at 1-3, 18-19, 53-54.

56.   On information and belief, TRENDnet has committed the foregoing infringing activities without a license.

57.   On information and belief, TRENDnet knew the '979 Patent existed and knew of an exemplary infringing TRENDnet product while committing the foregoing infringing acts thereby willfully, wantonly and deliberately infringing

1 the '979 Patent.

2 **COUNT VI: INFRINGEMENT OF THE '904 PATENT BY TRENDNET**

3   58.   Plaintiff incorporates the preceding paragraphs as if fully set forth

4 herein.

5   59.   On information and belief, TRENDnet has infringed the '904 Patent

6 pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by

7 performing methods for contention free traffic detection using Accused Products.

8   60.   For example, on information and belief, TRENDnet has infringed at

9 least claim 7 of the '904 Patent by performing a method comprising detecting a

10 received frame is a priority frame based, at least in part, on information in the

11 received frame. *See* Ex. 1 at 62, Ex. 2 (showing, *e.g.*, the TRENDnet AC1200

12 Dual Band WiFi Router (TEW-831DR) supports Wi-Fi Multimedia ("WMM"));

13 Ex. 4 at 7, 10, 12, 25-26 (showing that, for example, WMM compatible Access

14 Points detect the priority of data frames by mapping to an Access Category ("AC")

15 based, at least in part, on information in the QoS Control field of a received frame,

16 such as the User Priority ("UP") subfield); Ex. 5 at 12, 51, 60, 67, 287 (showing

17 that, for example, 802.11-2007+ compatible Access Points detect the priority of

18 data frames by mapping to an Access Category ("AC") based, at least in part, on

19 information in the QoS Control field of a received frame, such as the User Priority

20 ("UP") TID subfield). The method further comprises extracting a bit pattern from

21 a predetermined position in the received frame. *See* Ex. 4 at 10, 12, 25 (showing,

22 for example, that in WMM compatible Access Points extract a bit pattern (i.e. UP

23 subfield bit pattern) from a predetermined position in a data frame, such as in the

24 QoS Control field); Ex. 5 at 51, 60, 67, 253 (showing, for example, that 802.11-

25 2007+ compatible Access Points extract a bit pattern (i.e. TID) UP from a

26 predetermined position in a data frame, such as in the QoS Control field). The

27 method further comprises comparing the extracted bit pattern with a search pattern.

28

See Ex. 4 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. 5 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. 4 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. 5 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. 4 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. 5 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. 4 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. 5 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).

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

PRAYER FOR RELIEF

WHEREFORE, Plaintiff CommWorks prays for the judgment in its favor against TRENDnet, and specifically, for the following relief:

A.   Entry of judgment in favor of CommWorks against TRENDnet on all counts;

B.   Entry of judgment that TRENDnet has infringed the Patent-in-Suit;

C.   Entry of judgment that TRENDnet's infringement of the '807 Patent, the '285 Patent, the '596 Patent, and the '979 Patent has been willful;

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

E.   Award of compensatory damages adequate to compensate CommWorks for TRENDnet'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;

F.   Award of reasonable attorneys' fees and expenses against TRENDnet

pursuant to 35 U.S.C. § 285;

G.   CommWorks' costs;

H.   Pre-judgement and post-judgement interest on CommWorks' award;

and

I.   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. P., Plaintiff CommWorks hereby demands trial by jury in this action of all claims so triable.

Respectfully Submitted,

Date: September 26, 2023   By: /s/ *Ryan E. Hatch*

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