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UNITED STATES DISTRICT COURT

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FOR THE CENTRAL DISTRICT OF CALIFORNIA

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SOUTHERN DIVISION

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ANTON INNOVATIONS, INC.

Case No. SA CV 17-216

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    Plaintiff,

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  v.

[JURY DEMANDED]

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AMAZON.COM INC.,

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    Defendant.

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    Plaintiff Anton Innovations, Inc. ("Anton") complains of Amazon.com Inc.

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("Amazon") as follows:

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/ / /

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COMPLAINT

JURISDICTION AND VENUE

1.   Title 28 of the United States Code Section 1338(a) confers subject matter jurisdiction on this Court because Defendant has infringed Plaintiff's patents. The Patent Act of 1952, as amended, 35 U.S.C. § 271, *et seq.*, makes patent infringement actionable through a private cause of action.

2.   Defendant has transacted business in the State of California/Washington, and in this judicial district by making, using, selling, or offering to sell and providing technology and services that infringe Anton's patents. By way of example only, Defendant made, used, and sold the Kindle Paperwhite 3G, Kindle 2, and Kindle 3 e-readers, and Kindle Fire HD and Kindle Fire tablet computers, all of which contain multi-modal wireless transceivers, which are configurable by their users to be responsive to different modes and frequencies of wireless communications, and responsive to a variety of user criteria, including security.

3.   Venue is proper in the Central District of California under the general federal venue statute, 28 U.S.C. § 1391(d), and under the specific venue provision relating to patent infringement cases, 28 U.S.C. § 1400(b).

PARTIES

4.   Anton is a Delaware corporation with its principal place of business at 600 Anton Blvd. Suite 1350, Costa Mesa, California 92626. Anton is a subsidiary of Wi-LAN Technologies Inc. Anton is the assignee and owns all right, title and interest in and has standing to sue for infringement of U.S. Patent Nos. 7,386,322, 6,934,558, 6,134,453, and 5,854,985 ("the Anton Patents"). The predecessor owner and assignee is MLR, LLC ("MLR").[1] The Anton Patents are attached as Exhibit A.

5.   Upon information and belief, Defendant Amazon.com Inc. is a Delaware

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[1] This Complaint refers to these patents as the "Anton Patents." Because of MLR's prior licensing and litigation involving these patents, there are numerous documents, including complaints filed by MLR that refer to these same patents as the "MLR Patents."

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COMPLAINT

1 corporation with its principal place of business believed to be at 410 Terry Ave. N, Seattle,

2 Washington 98109. Defendant has previously made, used, sold, offered for sale, and/or

3 imported into the United States e-readers and tablet computers that infringe the Anton

4 Patents. Defendant has also infringed the Anton Patents through acts of inducement in

5 violation of 35 U.S.C. § 271.

6   BACKGROUND

7   6.   Anton owns patents that covered commercially significant technologies related

8 to the control of multi-mode, multi-frequency, and multi-protocol electronic

9 communications devices. The Anton Patents, for example, covered portable wireless

10 devices, such as portable e-readers and tablet computers, which can access different wireless

11 or cellular networks to facilitate wireless data communications.

12   7.   Defendant sold portable e-readers and tablet computers (among others, the

13 accused devices listed in Exhibit B to this Complaint) in the United States. Defendant's e-

14 reader products enable mobile reading of digital e-books and periodicals, and its tablet

15 products provide an alternative consumer choice for those interested in basic tablet

16 functionality. Amazon has sold many of these products.

17   8.   Amazon has knowledge of the Anton Patents and the infringement of those

18 patents. Amazon has known of the existence of the Anton Patents for many years prior to

19 this lawsuit. On December 8, 2011, MLR sent a notice of infringement to Amazon.

20   9.   MLR and Amazon then negotiated a mutual non-disclosure agreement to

21 facilitate discussions. That NDA was completed September 12, 2012.

22   10.   On February 5, 2013, counsel for Amazon, Marc Ascolese, emailed

23 inventor/co-inventor (and President of the predecessor-owner – "MLR" – of the Anton

24 Patents) Charles Leedom a list of technical and claim construction questions that related to

25 information contained in infringement claim charts sent by MLR to Amazon that

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COMPLAINT

1 demonstrated Amazon's infringement. On February 20, 2013, Mr. Leedom responded to
2 those questions, explaining in detail the technical reasons why Amazon infringed and the
3 support for claim constructions of certain terms of the Anton Patents.

4   11.   MLR then conveyed a license offer to Amazon. Mr. Ascolese indicated to Mr.
5 Leedom in an email that Jeff Dean, also counsel for Amazon, had been informed of the
6 communications between Amazon and MLR relating to MLR's notice of infringement.

7   12.   On May 14, 2013, Mr. Leedom sent an email to Mr. Dean, requesting a
8 potential counteroffer to MLR's license offer. On May 21, 2013, Mr. Dean responded to
9 Mr. Leedom's May 14, 2013 email, indicating that he would be reviewing the materials and
10 thought it would be helpful to meet with MLR's outside counsel.

11   13.   In April 2014, MLR's outside counsel met with Amazon's counsel at
12 Amazon's offices in Seattle. At that meeting, MLR presented updated claim charts
13 demonstrating the infringement.

14   14.   Discussions continued to the end of December 2015 between MLR's outside
15 counsel and Amazon's outside counsel. However, MLR and Amazon were unable to
16 resolve the matter.

17   15.   On July 14, 2016, the Anton Patents were assigned to Anton from MLR.

18   16.   At no time, throughout all of its communications with MLR and with MLR's
19 outside counsel, did Amazon ever raise any issue of validity of the Anton Patents.

20 **PATENT INFRINGEMENT**

21   17.   Defendant has infringed at least claims 5 and 16 of the '322 Patent, claim 1 of
22 the '558 Patent, claims 1 and 5 of the '453 Patent, and claim 1 of the '985 Patent in
23 violation of 35 U.S.C. § 271 through, among other activities, making, using (for example by
24 testing), offering to sell, and/or selling the e-reader and tablet computer devices listed in
25 Exhibit B ("Accused Products").

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27 **COMPLAINT**

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1   18.   Defendant's customers and end-users (and Defendant itself, through product

2 testing, among other things) directly infringed the Anton Patents when using Defendant's

3 portable e-readers and tablet computers.

4   **Direct Patent Infringement**

5   19.   Amazon made, used, sold, and offered for sale multi-modal devices that

6 contained frequency-agile and protocol-agile transceivers. These devices facilitated

7 communication over a plurality of wireless communication networks, operating at a given

8 time and location, using different frequencies and different protocols such as different

9 802.11 network protocols (*e.g.* 802.11a, 802.11b, 802.11g and 802.11n) and different

10 broadband network protocols (*e.g.* 3G). Each of the Accused Products also contained the

11 circuitry necessary to connect and facilitate the identification, selection, and connection of

12 the Accused Products to available wireless communications networks. Amazon's multi-

13 modal devices include portable e-readers and tablet computers.

14   20.   These Accused Products also included software that controlled the manner in

15 which the devices connected to different wireless communications networks, such as the

16 software included in the Fire OS (based on Google Android) operating system, which

17 software was capable of controlling connections to various wireless communications

18 networks in response to criteria determined by the device user.

19   21.   Some of these Wi-Fi capable portable devices were also supplied by Amazon

20 with wireless broadband capability enabled by built-in wireless broadband modules and

21 broadband connection manager software (such as Fire OS) that were adapted to access

22 different cellular networks using different frequencies and protocols.

23   **Infringement of the '322 Patent**

24   22.   Defendant has infringed at least claims 5 and 16 of the '322 Patent in violation

25 of 35 U.S.C. § 271 through, among other activities, making, using, offering to sell, and/or

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27   **COMPLAINT**

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1 selling the Accused Products.

2   23.   Defendant's infringing technology and products include without limitation its

3 portable e-readers and tablet computers listed in Exhibit B (the Accused Products).

4   24.   Claim 5 is an exemplary infringed claim. Its preamble states "A multi-modal

5 device for facilitating wireless communication over any one of a plurality of wireless

6 communication networks operating pursuant to differing transmission protocols and/or

7 over differing radio frequencies, comprising:." This is the preamble of the claim, and not a

8 limitation that needs to be satisfied to show infringement. Generally speaking, however,

9 Amazon supplied multi-modal devices that facilitate communication over a plurality of

10 wireless communication networks, operating at a given time and location, using different

11 frequencies and different transmission protocols such as different 802.11 network protocols

12 (*e.g.* 802.11a, 802.11b, 802.11g and 802.11n) and different broadband network protocols

13 (*e.g.* 3G).

14   25.   The Amazon devices, listed above, have embedded Wi-Fi modules and

15 operating system software (such as Fire OS) and other Wi-Fi network access control

16 software that control access to different Wi-Fi networks. Some of these Wi-Fi capable

17 portable devices are also supplied by Amazon with wireless broadband capability enabled

18 by built-in wireless broadband modules that are adapted to access different cellular

19 networks using different frequencies and protocols.

20   26.   Amazon's Wi-Fi and broadband capable portable e-readers and tablet

21 computers include multi-modal wireless components that facilitate wireless communication

22 over any one of a plurality of wireless communication networks (*e.g.* Wi-Fi networks

23 and/or 3G networks) at least some of which may be available and operating at a given time

24 and location using differing radio frequency modulation protocols and differing radio

25 frequencies.

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COMPLAINT

27. After the preamble, the first limitation of claim 5 states "a frequency agile radio transceiver adapted to operate at a radio frequency appropriate for each of the plurality of wireless communication networks as determined by a frequency control signal."

28. The Amazon Wi-Fi capable and broadband capable portable e-readers and tablet computers, such as the Kindle Fire HD, include frequency agile radio transceivers each of which operates at any one frequency of a plurality of radio frequencies appropriate for each of the plurality of wireless communication networks being accessed by that transceiver, which is or can be selected in response to a frequency control signal. A third party teardown report indicates that the Kindle Fire HD uses the Broadcom BCM4329 Wi-Fi module. *See* https://www.ifixit.com/Teardown/Kindle+Fire+HD+Teardown/10457/1 (last visited January 16, 2017). When combined with the Broadcom BCM4329 Wi-Fi module, the Kindle Fire HD wireless device includes Tx and Rx radios capable of operating in the 2.4 GHz and 5.0 GHz frequency bands assigned to Wi-Fi communications in the US. The Broadcom BCM4329 Wi-Fi module is "Broadcom's most integrated 65 nm single-chip combo device with single-band (2.4 GHz) 802.11b/g/n or dual-band (2.4 GHz and 5 GHz) 802.11a/b/g/n." *See* https://chipworks1.force.com/DefaultStore/ccrz__Products?operation=quickSearch&searchText=BRO-BCM4329HKUBG (last visited January 16, 2017). A schematic diagram of the Broadcom BCM4329 module is shown below.
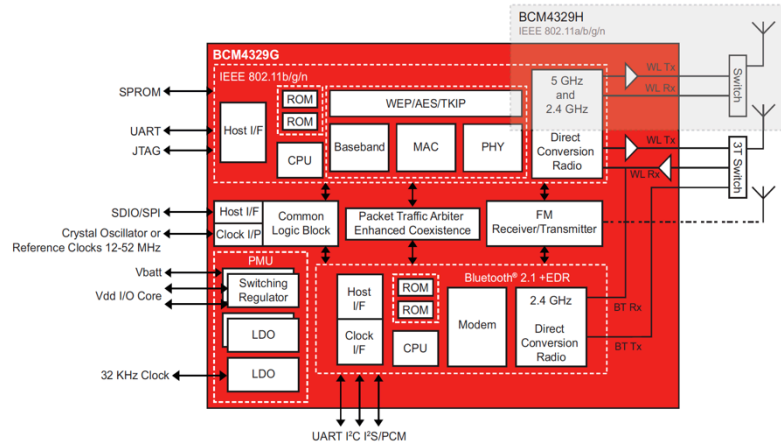
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COMPLAINT

BCM4329 Block Diagram

Source: http://www.datasheetdir.com/BCM4329+download (last visited January 16, 2017).

29.   The IEEE 802.11 standards require a radio transceiver that is frequency agile. In particular, note that "[d]irect communication between an 802.11 client radio and an access point occurs over a common channel frequency. You set the channel in the access point, and the radio card automatically tunes its transceiver to the frequency of the access point having the strongest signal. The radio card then continues with association and communications with the chosen access point…The 802.11b/g standards define a total of 14 frequency channels within the 2.4 GHz band. The FCC allows channels 1 through 11 within the U.S." ***See*** http://www.wireless-nets.com/resources/tutorials/assign_ap_channels.html (last visited January 16, 2017). Operation in accordance with 802.11 standards in the 5GHz band also requires a frequency agile transceiver. "In 2007 the radio regulatory bodies in many countries allowed the use of the 'UNII-II extended' band from 5450 MHz to 5725 MHz as long as UNII-II equipment was capable of dynamic frequency selection (DFS)." ***See*** https://community.arubanetworks.com/aruba/attachments/aruba/Aruba-VRDs/21/1/High-Density%20Wireless%20Networks%20for%20Auditoriums.pdf (last

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COMPLAINT

1   visited January 16, 2017).

2   30.   Each of Amazon's wireless devices is provided by Amazon with multiple

3   antennas adapted to be connected with the corresponding transceiver circuitry. For

4   example, note that the Kindle Fire HD includes dual antennas: "In addition, dual antennas

5   and Multiple In/Multiple Out (MIMO) allow for higher bandwidth and longer range. The

6   new Kindle Fire HD is the first tablet to market with all three of these latest generation Wi-

7   Fi technologies-dual-band support, dual antennas, and MIMO." See

8   http://www.knowyourmobile.com/products/amazon-kindle-fire-hd/18281/amazon-

9   kindle-fire-hd-specs-pricing-processor-and-release-date (last visited January 16, 2017).

10   31.   The transceiver in each Amazon portable computer has its frequency

11 controlled in response to a control signal. The above Broadcom schematic illustrates a

12 typical application of the Broadcom BCM4329 Wi-Fi module. In particular, the schematic

13 illustrates an SPI input/output that is "…often employed in systems for communication

14 between the central processing unit (CPU) and peripheral devices." *See*

15 http://whatis.techtarget.com/definition/serial-peripheral-interface-SPI (last visited January

16 16, 2017).

17   32.   Additionally, Amazon has provided certain Kindle devices with broadband

18 capability by including an AnyData DTP-600W wireless card in the device (or at least an

19 AnyData DTP-600W is capable of being added to the device). The AnyData DTP-600W

20 provides similar frequency agile transceivers responsive to control signals from the CPU of

21 the device in order to provide wireless communication using selected frequencies

22 appropriate to the cellular network being accessed. In particular, the DTP-600W operates

23 on quad band GSM networks (GSM/GPRS/EDGE 850/900/1800/1900) as well as tri-

24 band UMTS networks (850/1900/2100), and is therefore frequency-agile. *See*

25 http://www.evdoinfo.com/content/view/3134/64/ (last visited January 16, 2017). The

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27 **COMPLAINT**

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1 Kindle operating system permits the user to control the 3G connection: "From Home, press
2 the Menu button, select Settings, and then select Turn Wireless On." *See*
3 https://www.amazon.com/gp/help/customer/display.html?nodeId=201176040 (last
4 visited January 16, 2017). The addition of broadband capability adds additional infringing
5 features that are independent of the infringement caused by the Wi-Fi components and
6 function of each Amazon wireless device.

7   33.   After the first limitation, the second limitation of claim 5 states "a digital
8 interface circuit for interconnecting said frequency agile radio transceiver with external
9 devices to allow information to be sent and received over said frequency agile radio
10 transceiver."

11   34.   Amazon's exemplary Amazon Kindle HD tablet, and indeed each of the
12 Accused Products meets this limitation. The transceivers are identified in ¶¶ 26-30, *supra*.
13 Each of the Tx and Rx radios of the Broadcom BCM4329 module, and the transceivers
14 within the AnyData DTP-600W module contained in the Accused Products are connected
15 with a baseband circuit, to allow digital signal information to be sent and received over
16 corresponding frequency agile radio transceivers. For example, in the schematic for the
17 Broadcom BCM4329 module, the baseband circuit is identified as "Baseband." Upon
18 information and belief, the baseband circuit performs the function of a digital interface
19 circuit for interconnecting the frequency agile radio transceiver with external digital signal
20 processing devices to allow digital signal information to be sent and received over said
21 frequency agile radio transceiver.

22   35.   After the second limitation, the third limitation of claim 5 states "protocol agile
23 operating circuit means for operating said frequency agile radio transceiver and said digital
24 interface circuit in accordance with one of the transmission protocols as determined by a
25 protocol control signal."

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COMPLAINT

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36.   The Amazon Accused Products have protocol operating circuit means that operate the transceivers and circuits noted above. For example, the Broadcom BCM4329 Wi-Fi modules present in various Amazon products include a diplexer that works with an antenna, power amplifier, mixer, local oscillator, modulator, and a demodulator in the Accused Products in response to a signal indicating the proper protocol to be used. The diplexer is shown in the schematic diagram above as "Switch." The antenna is the 2.4GHz and 5.0GHz antenna at the upper right corner of the schematic. The Broadcom module includes an amplifier because all Wi-Fi modules require a power amplifier (PA) in order to have sufficient signal strength to establish a wireless link. The Broadcom module requires mixers to allow digital information to be transmitted and received using radio frequency broadcast signals. The "Crystal Oscillator" in the above schematic is the oscillator. The "Baseband" includes a modulator and demodulator. The presence of this claim element is shown by the fact that each Amazon Wi-Fi capable table computer is able to automatically access different 802.11 networks using appropriate 802.11(a, b, g, and/or n) protocols. In a similar fashion, Amazon's broadband capable devices include a protocol agile operating circuit that cause the frequency agile transceiver to operate using one of a plurality of modulation protocols in response to a protocol control signal. The AnyData module operates using one of a plurality of modulation protocols, including HSDPA, WCDMA, and EDGE.

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37.   After the third limitation, the fourth and final limitation of claim 5 states "adaptive control means for accessing a selected wireless communication network and for generating the frequency control signal and the protocol control signal in response to a user defined criteria to cause the device to communicate with the selected wireless communication network using the frequency determined by the frequency control signal and the protocol determined by the protocol control signal."

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1   38.   The Amazon Wi-Fi and broadband capable computers undertake an

2   exchange with base stations to determine which wireless communications networks are

3   available at a given location and time, and thus to ultimately access a selected wireless

4   communication network as well as to generate the frequency control signal and the protocol

5   control signal in response to a user defined criteria to cause the device to communicate with

6   the selected wireless communication network using the frequency and modulation protocol

7   suitable for transmission of said signal information over said selected wireless

8   communication network.

9   39.   The control signals act in response to device user's defined criteria for

10   connection. As an example, the operating system installed on the Amazon Accused

11   Products allows the user to change security settings of Amazon Wi-Fi and broadband

12   capable devices to define a user criteria for selecting a network through implementation of a

13   dynamic negotiation of authentication and encryption algorithms between access points

14   and mobile devices known as RSN under the 802.11i standards adopted by the IEEE. For

15   example, the particular operating system installed on Amazon e-readers and tablet

16   computers allows users to define criteria for network selection including the selection of

17   different security settings such as WEP, WPA, and WPA-2. Documentation for the Kindle

18   Fire HD indicates the device "[s]upports public and private Wi-Fi networks or hotspots that

19   use the 802.11a, 802.11b, 802.11g, or 802.11n standard with support for WEP, WPA and

20   WPA2 security using password authentication."

21   https://www.amazon.com/gp/product/B008GFRBBW/ref=fs_jw (last visited January 16,

22   2017). An Amazon Kindle Fire user is able to define a preferred security when adding a

23   Wi-Fi network. According to the IEEE 802.11 standards, a portable Wi-Fi device (STA)

24   determines the operational characteristics of an access point (AP) for a wireless

25   communication network and determines if those operational characteristics (such as a user

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27   **COMPLAINT**

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1 defined "security" criteria) is possible. Then and only then is access to the network granted

2 by the access point.

> A STA learns what APs are present and what operational capabilities are available from each of those APs and then invokes the association service to establish an association. For details of how a STA learns about what APs are present, see 10.1.4.

6 http://standards.ieee.org/getieee802/download/802.11-2012.pdf (last visited January 16,

7 2017), page 72. The following passage from the 2012 802.11 standards explains how

8 security is handled in a Wi-Fi environment. The 802.1X port determines when to allow

9 data traffic across an 802.11 link:

> Within a robust security network (RSN), association is handled differently. In an RSNA, the IEEE 802.1X Port determines when to allow data traffic across an IEEE 802.11 link. A single IEEE 802.1X Port maps to one association, and each association maps to an IEEE 802.1X Port. An IEEE 802.1X Port consists of an IEEE 802.1X Controlled Port and an IEEE 802.1X Uncontrolled Port. The IEEE 802.1X Controlled Port is blocked from passing general data traffic between two STAs until an IEEE 802.1X authentication procedure completes successfully over the IEEE 802.1X Uncontrolled Port. Once the AKM completes successfully, data protection is enabled to prevent unauthorized access, and the IEEE 802.1X Controlled Port unblocks to allow protected data traffic. IEEE 802.1X Supplicants and Authenticators exchange protocol information via the IEEE 802.1X Uncontrolled Port. It is expected that most other protocol exchanges will make use of the IEEE 802.1X Controlled Ports. However, a given protocol might need to bypass the authorization function and make use of the IEEE 802.1X Uncontrolled Port.

17 http://standards.ieee.org/getieee802/download/802.11-2012.pdf (last visited January 16,

18 2017), page 72. Accordingly, an 802.11 STA (which can be a "multi-mode device" as

19 called for in the claims of the Anton Patents) determines the operational capabilities (**e.g.**

20 the "operating characteristics" as defined in the claims of the Anton Patents) and then

21 determines if data traffic across an 802.11 network can be allowed. If the user has defined

22 that a certain type of security (**e.g.** WEP or WPA) is to be used, then communication is

23 allowed only if the network (as accessed by the AC) is able to satisfy the user defined

24 security criteria. Wi-Fi networks on an Amazon Kindle can be added manually, and when

25 doing so, the user will "[c]hoose the network security type from the Security drop-down

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COMPLAINT

1 menu."

2 https://www.amazon.com/gp/help/customer/display.html/ref=hp_left_v4_sib?ie=UTF8

3 &nodeId=201730020 (last visited January 16, 2017). The screenshots below were taken

4 while using an Amazon Kindle device, and illustrates an example of using security as a
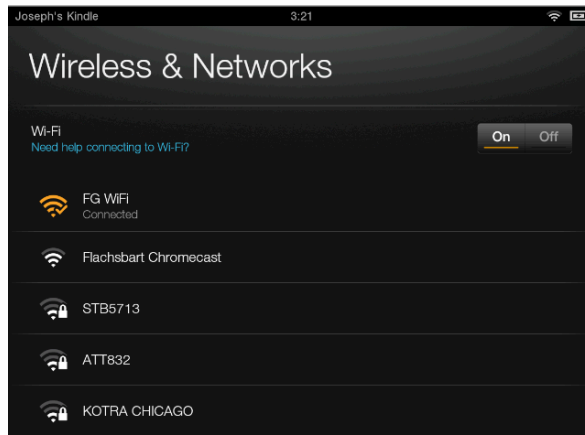
5 user-defined criterion.
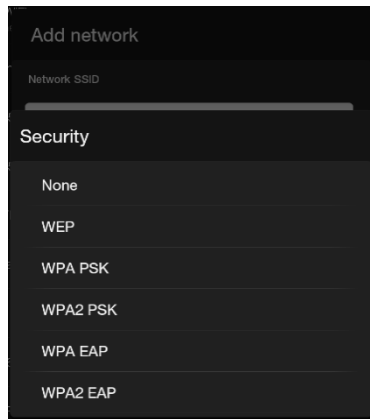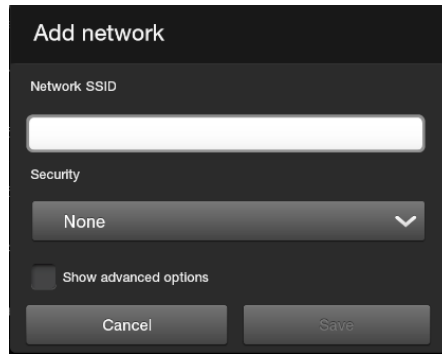
20 An Amazon Kindle Fire user is able to define a preferred security when selecting from Wi-
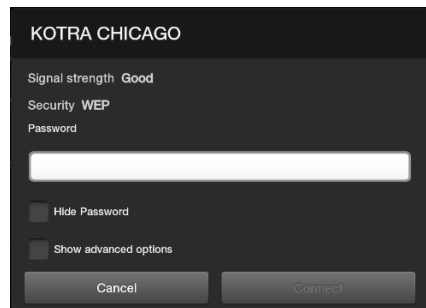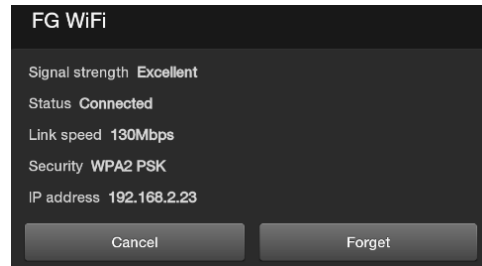
21 Fi networks that are presented.

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27 **COMPLAINT**

Different networks are affiliated with different security/encryption settings, enabling a user to define security as a criterion for selecting a particular Wi-Fi network.


Kindle Fire devices can connect to Open, WEP, WPA PSK, WPA2 PSK, WPA EAP, and WPA2 EAP encrypted networks, and B, G, & N type routers on 2.4Ghz. *See* https://s3-us-west-2.amazonaws.com/customerdocumentation/Kindle_Fire_1st_Gen_Help/Kindle_Fire_1st_Generation_Connect_Wirelessly_PDF.pdf (last visited January 16, 2017). Users can also configure the device to "forget a Wi-Fi network so that the Kindle Fire doesn't connect to it

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COMPLAINT

1   automatically in the future." *Id*. Fire HD also supports A and N routers on 5GHZ. When

2   adding a network that uses the WPA EAP security protocol, the user also selects the EAP

3   method, Phase 2 authentication, CA certificate, and User certificate. See below.
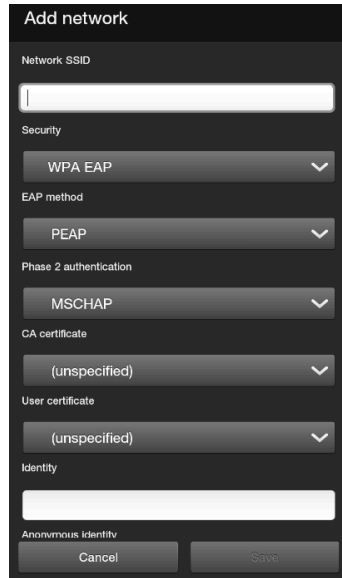
14   Moreover, if a user tries to add a network that is incompatible with the encryption scheme

15   used by a server, then the connection will fail. As shown above, FG Wi-Fi utilizes the

16   WPA2 PSK security protocol. Below, when the user attempted to select the WEP protocol

17   for FG Wi-Fi, the connection was unsuccessful. This shows that security is a user-defined

18   criterion. Attempt to add FG Wi-Fi with WEP:

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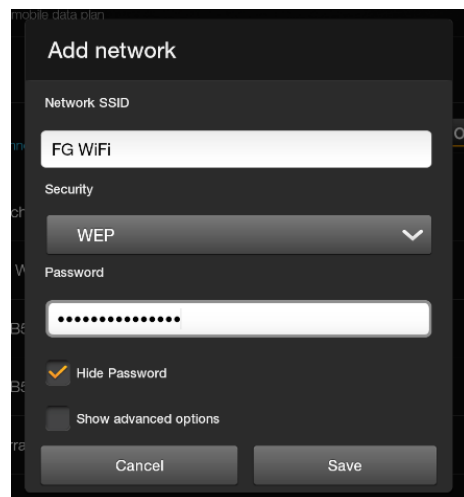
1   Connection unsuccessful (FG Wi-Fi "Not in range"):
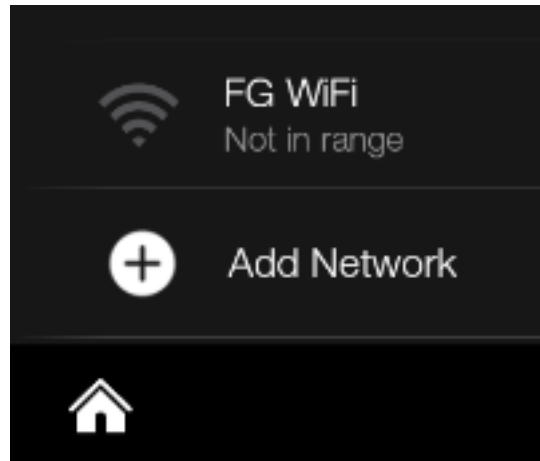

10   Different security and pass keys are supported. For WEP (64-bit WEP keys – 10 digits and

11   128-bit WEP keys – 10 digits) and for WPA, the pass key must be 8-63 digits in length.

12   Kindle Paperwhite supports the following 802.1X authentication methods for WPA

13   Enterprise and WPA2 Enterprise networks: EAP-PEAP with MSCHAPv2; EAP-TTLS

14   with PAP; EAP TTLS with MSCHAP v2

15   https://community.verizonwireless.com/thread/813777 (last visited January 16, 2017).

16   Refer also to the discussion of setting up a Kindle Paperwhite device

17   (https://louisville.edu/it/departments/communications/wireless/configuration-

18   guides/kindle-paperwhite-wireless-setup - last visited January 16, 2017), where the user

19   selects a "Security Type", "Version", "EAP Method", and "Phase 2 Authentication":

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COMPLAINT
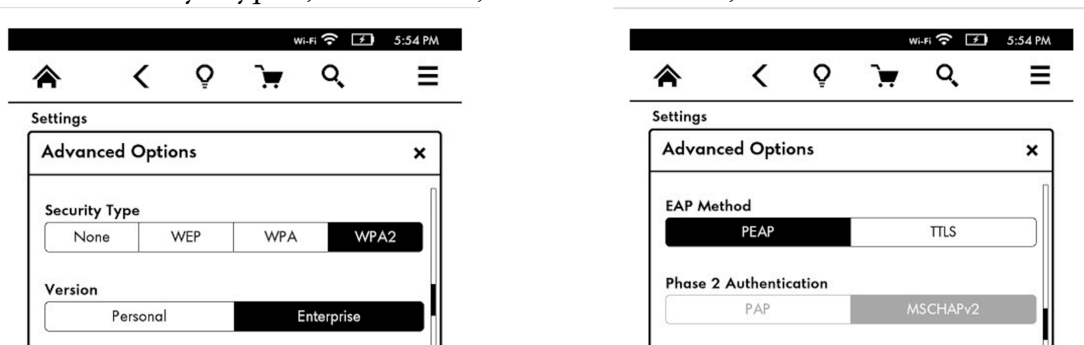
1 In addition to connection management software that comes with Fire OS 3.0, the Amazon

2 Kindle allows the user to control/manage "Mobile Network" and "Data Roaming."
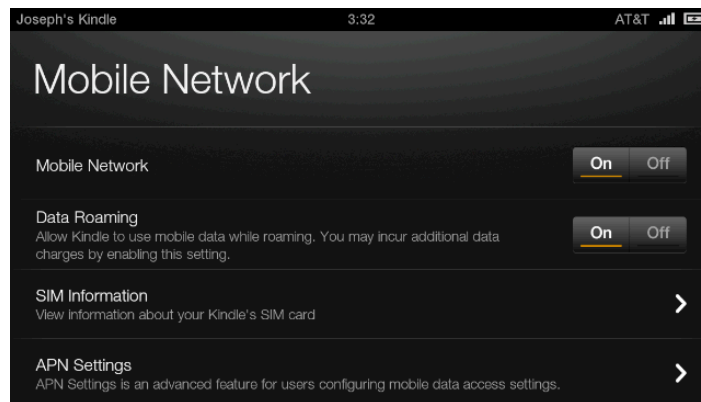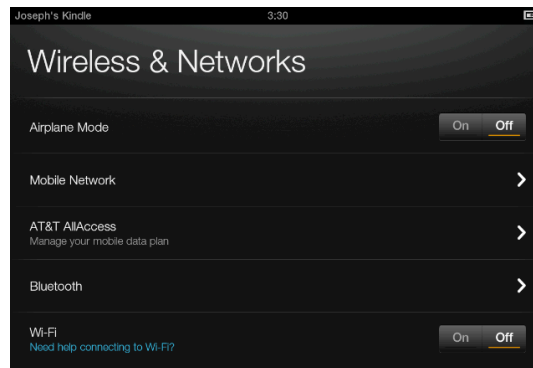
16 By allowing the user to set "Data Roaming" preferences (On/Off), the user is allowed to

17 define criteria relating to network accessing costs. Thus the user is defining a criterion that

18 will automatically select the highest-speed network available and improve thereby the

19 quality of the communication. Additionally, a user may "set the maximum charge you are

20 willing to pay for a single personal document sent wirelessly to your Kindle. Any personal

21 document exceeding this charge will be stored in your Kindle Library if you have enabled

22 archiving of your personal documents and be available for download at a later date from

23 your archived items on your Kindle."

24 http://www.tccsa.net/sites/tccsa.net/files/files/Managing%20Your%20Kindle%20Conte

25 nt.pdf (last visited January 16, 2017). "For Kindle models that include free 3G, wireless

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1   connectivity is automatic (with no monthly fees or annual contracts). If you see one of the

2   3G network indicators (3G, EDGE, or GPRS) in the upper right corner of your Kindle

3   screen, your Kindle is already connected wirelessly using 3G."

4   https://www.amazon.com/gp/help/customer/display.html?nodeId=201176040 (last

5   visited January 16, 2017). "Connect your Kindle Keyboard to a Wi-Fi or 3G network."

6   https://www.amazon.com/gp/help/customer/display.html?nodeId=200505540&#3Gma

7   p (last visited January 16, 2017). Accordingly, Amazon's Wi-Fi capable wireless devices

8   computers include an adaptive control means by which users are allowed to enter user-

9   defined criteria to cause the device to communicate with an automatically selected wireless

10   communication network using a frequency and modulation protocol suitable for

11   transmission of digital signal information over said selected wireless communications

12   network. The addition of broadband capability adds additional infringing features that are

13   independent of the infringement caused by the Wi-Fi components and function of each

14   Amazon wireless device.

15   40.   As a direct and proximate consequence of Defendant's infringement, Anton

16   has been injured in its business and property rights, and has suffered injury and damages

17   for which it is entitled to relief under 35 U.S.C. § 284 adequate to compensate for such

18   infringement, but in no event less than a reasonable royalty.

19   <div align="center">**Infringement of the '558 Patent**</div>

20   41.   Defendant has infringed at least claim 1 of the '558 Patent in violation of 35

21   U.S.C. § 271 through, among other activities, making, using, offering to sell, and/or selling

22   the Accused Products.

23   42.   Defendant's infringing technology and products include without limitation its

24   portable e-readers and tablet computers listed in Exhibit B (the Accused Products).

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43.   Claim 1 is an exemplary infringed claim. Its preamble states "A multi-modal device for facilitating wireless communication over any one of a plurality of wireless communication networks at least some of which may be available and operating at a given time and location using differing radio frequency modulation protocols and over differing radio frequencies, comprising." This is the preamble of the claim, and not a limitation that needs to be satisfied to show infringement. Generally speaking, however, Amazon supplies multi-modal devices that facilitate communication over a plurality of wireless communication networks, operating at a given time and location, using different frequencies and different transmission protocols such as different 802.11 network protocols (*e.g.* 802.11a, 802.11b, 802.11g and 802.11n) and different broadband network protocols (*e.g.* 3G).

44.   The Amazon devices, listed above, have embedded Wi-Fi modules and operating system software (such as Fire OS) and other Wi-Fi network access control software that control access to different Wi-Fi networks. Some of these Wi-Fi capable portable devices are also supplied by Amazon with wireless broadband capability enabled by built-in wireless broadband modules that are adapted to access different cellular networks using different frequencies and protocols.

45.   Amazon's Wi-Fi and broadband capable portable computers include multi-modal wireless components that facilitate wireless communication over any one of a plurality of wireless communication networks (*e.g.* Wi-Fi networks and/or 3G networks) at least some of which may be available and operating at a given time and location using differing radio frequency modulation protocols and differing radio frequencies.

46.   After the preamble, the first limitation of claim 1 states "a frequency agile radio transceiver capable of operating at any frequency or frequencies appropriate for each

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of the plurality of wireless communication networks, said frequency or frequencies selected in response to a frequency control signal."

47. The Amazon Accused Products include frequency agile transceivers as set forth above in ¶¶ 28-32.

48. After the first limitation, the second limitation of claim 1 states "an interface circuit for interconnecting said frequency agile radio transceiver with an external signal circuit to allow signal information to be sent and received over said frequency agile radio transceiver."

49. The Amazon Accused Products include an interface circuit as required by this claim element as set forth above in ¶ 34.

50. After the second limitation, the third limitation of claim 1 states "a protocol agile operating circuit for operating said frequency agile radio transceiver and said interface circuit in accordance with any one modulation protocol of a plurality of modulation protocols, said one modulation protocol selected in response to a protocol control signal."

51. The Amazon Accused Products include a protocol agile operating circuit as set forth above in ¶ 36.

52. After the third limitation, the fourth limitation of claim 1 states "adaptive control circuit for determining which wireless communications networks are available at a given location and time, for accessing a selected wireless communication network, and for generating the frequency control signal and the protocol control signal in response to a user defined individual priority to cause the device to communicate with the selected wireless communication network using the frequencies and modulation protocol suitable for transmission of said signal information over said selected wireless communication network."

53. The Amazon Accused Products include an adaptive control circuit as set forth above in ¶¶ 38-39.

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1   54.   After the fourth limitation, the fifth limitation of claim 1 states "input means

2   for receiving and storing the user defined individual priority for selecting among the

3   plurality of wireless communication networks and for allowing subsequent changes by the

4   user of the stored user defined individual priority whenever desired by the user, said user

5   defined individual priority defining which one of the wireless communication networks is

6   accessed among the wireless communication networks that are determined by said adaptive

7   control circuit to be available."

8   55.   Each above-identified Amazon Wi-Fi capable and/or broadband capable

9   computers employs a touch-sensitive screen or keyboard for receiving (and forwarding to

10 memory for storage) user commands and requests for information. The touchscreen or

11 keyboard can be used to enter user defined priorities for controlling network access,

12 including criteria for permitting automatic or manual network selection, and for controlling

13 roaming as implemented by the installed operating system or cost-control settings inserted

14 via the touchscreen of its Wi-Fi and/or broadband capable computers.

15 56.   After the fifth limitation, the sixth and final limitation of claim 1 states

16 "wherein said adaptive control circuit operates to generate said frequency control signal

17 and said protocol control signal appropriate for the wireless communication network that is

18 determined by said adaptive control circuit to be available and satisfies said user defined

19 individual priority."

20 57.   The Amazon Accused Products include an adaptive control circuit that

21 generates a frequency control signal and a protocol control signal as set forth above in ¶¶

22 38-39.

23 58.   As a direct and proximate consequence of Defendant's infringement, Anton

24 has been injured in its business and property rights, and has suffered injury and damages

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1 for which it is entitled to relief under 35 U.S.C. § 284 adequate to compensate for such

2 infringement, but in no event less than a reasonable royalty.

Infringement of the '453 Patent

4 59.   Defendant has infringed at least claims 1 and 5 of the '453 Patent in violation

5 of 35 U.S.C. § 271 through, among other activities, making, using, offering to sell, and/or

6 selling the Accused Products.

7 60.   Defendant's infringing technology and products include without limitation its

8 portable e-readers and tablet computers listed in Exhibit B (the Accused Products).

9 61.   Claim 1 is an exemplary infringed claim. Its preamble states "A multi-modal

10 device for facilitating wireless communication over any one of a plurality of wireless

11 communication networks at least some of which may be available and operating at a given

12 time and location using differing radio frequency modulation protocols and over differing

13 radio frequencies, comprising:." This is the preamble of the claim, and not a limitation that

14 needs to be satisfied to show infringement. Generally speaking, however, Amazon supplies

15 multi-modal devices that facilitate communication over a plurality of wireless

16 communication networks, operating at a given time and location, using different

17 frequencies and different transmission protocols such as different 802.11 network protocols

18 (*e.g.* 802.11a, 802.11b, 802.11g and 802.11n) and different broadband network protocols

19 (*e.g.* 3G).

20 62.   The Amazon devices, listed above, have embedded Wi-Fi modules and

21 operating system software (such as Fire OS) and other Wi-Fi network access control

22 software that control access to different Wi-Fi networks. Some of these Wi-Fi capable

23 portable devices are also supplied by Amazon with wireless broadband capability enabled

24 by built-in wireless broadband modules that are adapted to access different cellular

25 networks using different frequencies and protocols.

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63.   Amazon's Wi-Fi and broadband capable portable computers include multi-modal wireless components that facilitate wireless communication over any one of a plurality of wireless communication networks (*e.g.* Wi-Fi networks and/or 3G networks) at least some of which may be available and operating at a given time and location using differing radio frequency modulation protocols and differing radio frequencies.

64.   After the preamble, the first limitation of claim 1 states "a frequency agile radio transceiver operating at any frequency of a plurality of radio frequencies appropriate for each of the plurality of wireless communication networks, said frequency selected in response to a frequency control signal."

65.   The Amazon Accused Products include frequency agile transceivers as set forth above in ¶¶ 28-32.

66.   After the first limitation, the second limitation of claim 1 states "an interface circuit for interconnecting said frequency agile radio transceiver with an external signal circuit to allow signal information to be sent and received over said frequency agile radio transceiver."

67.   The Amazon Accused Products include an interface circuit as required by this claim element as set forth above in ¶ 34.

68.   After the second limitation, the third limitation of claim 1 states "a protocol agile operating circuit for operating said frequency agile radio transceiver and said interface circuit in accordance with any one modulation protocol of a plurality of modulation protocols, said one modulation protocol selected in response to a protocol control signal."

69.   The Amazon Accused Products include a protocol agile operating circuit as set forth above in ¶ 36.

70.   After the third limitation, the fourth limitation of claim 1 states "adaptive control circuit for determining which wireless communications networks are available at a

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1 given location and time, for accessing a selected wireless communication network, for

2 communicating with said selected wireless communication network to determine on a real

3 time basis the operating characteristics of the wireless communication network, and for

4 generating the frequency control signal and the protocol control signal in response to a user

5 defined criteria to cause the device to communicate with the selected wireless

6 communication network using the frequencies and modulation protocol suitable for

7 transmission of said signal information over said selected wireless communications

8 network."

9   71. The Amazon Accused Products include an adaptive control circuit as set forth

10 above in ¶¶ 38-39.

11   72. After the fourth limitation, the fifth limitation of claim 1 states "input means

12 for receiving said user defined criteria, said user defined criteria comprising at least one of

13 the cost of using the wireless communication network, the quality of the wireless

14 communication network, the potential for being dropped by the wireless communication

15 network, and the security of the wireless communication network."

16   73. The Amazon Accused Products include input means as set forth in ¶ 55.

17   74. After the fifth limitation, the sixth and final limitation of claim 1 states

18 "wherein said adaptive control circuit operates to generate said frequency control signal

19 and said modulation protocol control signal by comparing said operating characteristics

20 with said user defined criteria."

21   75. The Amazon Accused Products include an adaptive control circuit that

22 generates a frequency control signal and a protocol control signal as set forth above in ¶¶

23 38-39.

24   76. As a direct and proximate consequence of Defendant's infringement, Anton

25 has been injured in its business and property rights, and has suffered injury and damages

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for which it is entitled to relief under 35 U.S.C. § 284 adequate to compensate for such infringement, but in no event less than a reasonable royalty.

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Infringement of the '985 Patent

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77.   Defendant has infringed at least claim 1 of the '985 Patent in violation of 35 U.S.C. § 271 through, among other activities, making, using, offering to sell, and/or selling the Accused Products.

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78.   Defendant's infringing technology and products include without limitation its portable e-readers and tablet computers listed in Exhibit B (the Accused Products).

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79.   Claim 1 is an exemplary infringed claim. Its preamble states "A multi-modal device for facilitating wireless communication over any one of a plurality of wireless communication networks at least some of which may be available and operating at a given time and location using differing radio frequency modulation protocols and over differing radio frequencies, comprising:." This is the preamble of the claim, and not a limitation that needs to be satisfied to show infringement. Generally speaking, however, Amazon supplies multi-modal devices that facilitate communication over a plurality of wireless communication networks, operating at a given time and location, using different frequencies and different transmission protocols such as different 802.11 network protocols (*e.g.* 802.11a, 802.11b, 802.11g and 802.11n) and different broadband network protocols (*e.g.* 3G).

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80.   The Amazon devices, listed above, have embedded Wi-Fi modules and operating system software (such as Fire OS) and other Wi-Fi network access control software that control access to different Wi-Fi networks. Some of these Wi-Fi capable portable devices are also supplied by Amazon with wireless broadband capability enabled by built-in wireless broadband modules that are adapted to access different cellular networks using different frequencies and protocols.

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81.   Amazon's Wi-Fi and broadband capable portable computers include multi-modal wireless components that facilitate wireless communication over any one of a plurality of wireless communication networks (*e.g.* Wi-Fi networks and/or 3G networks) at least some of which may be available and operating at a given time and location using differing radio frequency modulation protocols and differing radio frequencies.

82.   After the preamble, the first limitation of claim 1 states "a frequency agile radio transceiver operating at any one frequency of a plurality of radio frequencies appropriate for each of the plurality of wireless communication networks, said one frequency selected in response to a frequency control signal."

83.   The Amazon Accused Products include frequency agile transceivers as set forth above in ¶¶ 28-32.

84.   After the first limitation, the second limitation of claim 1 states "a digital interface circuit for interconnecting said frequency agile radio transceiver with external digital signal processing devices to allow digital signal information to be sent and received over said frequency agile radio transceiver."

85.   The Amazon Accused Products include a digital interface circuit as required by this claim element as set forth above in ¶ 34.

86.   After the second limitation, the third limitation of claim 1 states "protocol agile operating circuit means for operating said frequency agile radio transceiver and said digital interface circuit in accordance with any one modulation protocol of a plurality of modulation protocols, said one modulation protocol selected in response to a protocol control signal."

87.   The Amazon Accused Products include a protocol agile operating circuit means as set forth above in ¶ 36.

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88.   After the third limitation, the fourth limitation of claim 1 states "adaptive control means for determining which wireless communications networks are available at a given location and time, for accessing a selected wireless communication network, for communicating with said selected wireless communication network to determine on a real time basis the operating characteristics of the wireless communication network, and for generating the frequency control signal and the protocol control signal in response to a user defined criteria to cause the device to communicate with the selected wireless communication network using a frequency and modulation protocol suitable for transmission of said digital signal information over said selected wireless communications network."

89.   The Amazon Accused Products include an adaptive control means as set forth above in ¶¶ 38-39.

90.   After the fourth limitation, the fifth limitation of claim 1 states "input means for receiving said user defined criteria, said user defined criteria comprising at least one of the cost of using the wireless communication network, the quality of the wireless communication network, the potential for being dropped by the wireless communication network, and the security of the wireless communication network."

91.   The Amazon Accused Products include input means as set forth in ¶ 55.

92.   After the fifth limitation, the sixth and final limitation of claim 1 states "wherein said adaptive control means operates to generate said frequency control signal and said modulation protocol control signal by comparing said operating characteristics with said user defined criteria."

93.   The Amazon Accused Products include an adaptive control means that generates a frequency control signal and a protocol control signal as set forth above in ¶¶ 38-39.

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1   94.   As a direct and proximate consequence of Defendant's infringement, Anton

2 has been injured in its business and property rights, and has suffered injury and damages

3 for which it is entitled to relief under 35 U.S.C. § 284 adequate to compensate for such

4 infringement, but in no event less than a reasonable royalty.

5   **Inducement of Direct Patent Infringement**

6   95.   Defendant has infringed the Anton Patents indirectly through acts of

7 inducement.

8   96.   Defendant's infringing products include multi-mode Wi-Fi enabled and

9 broadband-capable portable e-readers and tablet computers. In addition to Amazon's

10 direct infringement, Amazon's customers (end-users) also directly infringed the Anton

11 Patents. Defendant knew of the Anton Patents at least as early as December 8, 2011, the

12 date the notice of infringement was sent to Amazon.com, Inc. Defendant continued to

13 instruct its customers how to use the Accused Products in an infringing manner after being

14 advised of the Anton Patents and being aware of the infringement of the Anton Patents.

15   97.   Defendant has knowingly and intentionally actively aided, abetted and

16 induced others to infringe (such as its customers, users and/or business partners in this

17 judicial district and throughout the United States). Amazon induced infringement through

18 its Fire OS operating system which forms multi-mode devices including wireless technology

19 for wirelessly accessing Wi-Fi networks using different frequencies and different protocols.

20   98.   Defendant knew that these customer acts constituted infringement, and

21 induced that infringement by, for example, providing instructions to end-users instructing

22 them on how to configure their purchased Amazon portable e-readers and tablet computers

23 to wirelessly access different Wi-Fi networks, and different broadband networks using

24 different frequencies and different protocols in response to criteria provided by these end-

25 users. *See, e.g.*, https://s3-us-west-

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2.amazonaws.com/customerdocumentation/Kindle_Fire_1st_Gen_Help/Kindle_Fire_1st _Generation_Connect_Wirelessly_PDF.pdf (last visited January 16, 2017) (discussing how to connect to Wi-Fi networks, how to manually add Wi-Fi networks, and how to "forget a Wi-Fi network so that the Kindle Fire doesn't connect to it automatically in the future").

99.   Defendant has sold its portable e-readers and tablet computers, knowing of the Anton Patents and with the specific intent that its customers infringe the Anton Patents.

100.   Defendant's indirect infringement by inducement has injured Anton. Anton is therefore entitled to recover damages adequate to compensate it for such infringement, but in no event less than a reasonable royalty.

101.   Defendant's indirect infringement by inducement has been willful because Defendant has known of the Anton Patents and has nonetheless injured Anton.

<div align="center">JURY DEMAND</div>

Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure, Anton demands a trial by jury on all issues presented that can properly be tried by a jury.

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REQUEST FOR RELIEF

THEREFORE, Anton asks this Court to enter judgment against Defendant and against its subsidiaries, affiliates, agents, servants, employees and all persons in active concert or participation with Defendant, granting the following relief:

A.   An award of damages adequate to compensate Anton for the infringement that has occurred, together with pre-judgment interest from the date infringement began and post-judgment interest;

B.   All other damages permitted by 35 U.S.C. § 284; and

C.   Such other and further relief as this Court or a jury may deem proper and just.

Dated: February 7, 2017   Respectfully submitted,

_____/s/_____
William W. Flachsbart
Michael R. La Porte
FLACHSBART & GREENSPOON, LLC

H. H. (Shashi) Kewalramani
SHK LEGAL, APC

Counsel for Anton Innovations, Inc.

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