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

AMERICAN PATENTS LLC, Plaintiff, v. ASUSTEK COMPUTER INC., Defendant.	CIVIL ACTION NO. 4:18-cv-698 ORIGINAL COMPLAINT FOR PATENT INFRINGEMENT **JURY TRIAL DEMANDED**

ORIGINAL COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff American Patents LLC ("American Patents" or "Plaintiff") files this original complaint against Defendant AsusTek Computer Inc. ("Asus"), alleging, based on its own knowledge as to itself and its own actions and based on information and belief as to all other matters, as follows:

PARTIES

1. American Patents is a limited liability company formed under the laws of the State of Texas, with its principal place of business at 2325 Oak Alley, Tyler, Texas, 75703.

2. AsusTek Computer Inc. is a corporation organized and existing under the laws of Taiwan, with a place of business located at No. 15, Li-Te Road, Beitou District, Taipei 11259, Taiwan.

JURISDICTION AND VENUE

3. This is an action for infringement of United States patents arising under 35 U.S.C. §§ 271, 281, and 284–85, among others. This Court has subject matter jurisdiction of the action under 28 U.S.C. § 1331 and § 1338(a).

4. This Court has personal jurisdiction over Asus pursuant to due process and/or the Texas Long Arm Statute because, *inter alia*, (i) Asus has done and continues to do business in Texas; and (ii) Asus has committed and continues to commit acts of patent infringement in the State of Texas, including making, using, offering to sell, and/or selling accused products in Texas, and/or importing accused products into Texas, including by Internet sales and sales via retail and wholesale stores, inducing others to commit acts of patent infringement in Texas, and/or committing a least a portion of any other infringements alleged herein. In addition, or in the alternative, this Court has personal jurisdiction over Asus pursuant to Fed. R. Civ. P. 4(k)(2).

5. Venue is proper as to Defendant AsusTek Computer Inc., which is organized under the laws of Taiwan. 28 U.S.C. § 1391(c)(3) provides that "a defendant not resident in the United States may be sued in any judicial district, and the joinder of such a defendant shall be disregarded in determining where the action may be brought with respect to other defendants."

BACKGROUND

6. The patents-in-suit generally pertain to communications networks and other technology used in "smart" devices such as smartphones. The technology disclosed by the patents was developed by personnel at AT&T Mobility, Georgia Institute of Technology, and Sun Microsystems.

7. AT&T Mobility is the second largest provider of wireless services in the United States. AT&T Mobility and its parent company, AT&T Inc. have a rich history of invention and innovation. These companies can trace their roots back to the invention of the first telephone by Alexander Graham Bell in the 1870's. Since the time of Alexander Bell, AT&T (or Ma Bell as it was once called) has been a leader in the field of communications. In the 1890's AT&T built the first long distance telephone network in the United States. AT&T was instrumental throughout

the 1900's in developing and innovating telephone networks. In the early 1980's, an AT&T company created the first cellular network in the United States. In the 1990s and 2000s, AT&T was at the forefront of the wireless revolution. In 2007 as part of a partnership with Apple, AT&T exclusively sold the original iPhone to its customers.

8. Georgia Institute of Technology ("Georgia Tech") is a leading public research university located in Atlanta, Georgia. Founded in 1885, Georgia Tech is often ranked as one of the top ten public universities in the United States. Three of the patents-in-suit were developed by a professor and a graduate student in Georgia Tech's Electrical and Computer Engineering department. This undergraduate and graduate programs of this department are often ranked in the top five of their respective categories.

9. Sun Microsystems ("Sun") was founded in 1982 and was a major contributor to the evolution of computing and networking technologies. Sun developed both hardware and software for its own servers and computer workstations. As part of this development, Sun created many key technologies that are still in use today. For example, the widely used Java platform was developed by Sun. Sun was acquired by Oracle Corporation around 2010.

COUNT I

DIRECT INFRINGEMENT OF U.S. PATENT NO. 7,088,782

10. On August 8, 2006, United States Patent No. 7,088,782 ("the '782 Patent") was duly and legally issued by the United States Patent and Trademark Office for an invention entitled "Time And Frequency Synchronization In Multi-Input, Multi-Output (MIMO) Systems."

11. American Patents is the owner of the '782 Patent, with all substantive rights in and to that patent, including the sole and exclusive right to prosecute this action and enforce the '782 Patent against infringers, and to collect damages for all relevant times.

12. Asus made, had made, used, imported, provided, supplied, distributed, sold, and/or offered for sale products and/or systems including, for example, its Zenfone and AC1900 families of products that include 802.11n and/or LTE capabilities ("accused products"):

ZenFone 5Z

(Source: https://www.asus.com/us/Phone/ZenFone-5Z-ZS620KL/Tech-Specs/)

AC1900 Dual Band Gigabit WiFi Router, AiMesh for mesh wifi system, AiProtection network security powered by Trend Micro, Adaptive QoS and Parental Control

- Dual-band with the latest 802.11ac 3x3 technology for combined speeds of up to 1900 Mbps
- 1GHz Dual-core CPU enables smart multitasking by dedicating separate lanes for Wifi and USB data
- Effortless router setup with the ASUSWRT web-based interface
- Monitor and manage your network with ease from your mobile device using the intuitive ASUS Router App
- AiProtection Powered by Trend Micro™ provides multi-stage protection from vulnerability detection to protecting sensitive data
- AiMesh Supported - Connect to other compatible ASUS routers to create a powerful and flexible whole-home Wi-Fi network

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PCMag Reader's Choice 2012-2018, 7 Consecutive Years

PC Pro Technology Excellence Award 2016

(Source : https://www.asus.com/us/Networking/RTAC68U/)

Wireless Technology	WLAN 802.11 a/b/g/n/ac 2.4 & 5GHz 802.11ac WiFi with 2x2 MIMO (DL 866Mbps) Bluetooth 5.0 Wi-Fi direct NFC

(Source: https://www.asus.com/us/Phone/ZenFone-5Z-ZS620KL/Tech-Specs/)

Network Standard	GSM/GPRS/EDGE; WCDMA/HSPA+/DC-HSPA+; TD-SCDMA; CDMA BCO; FDD-LTE; TD-LTE	
	Data rate	LTE Cat13 UL up to 150Mbps / Cat15 DL 4CA 4x4 MIMO up to 800Mbps (A version) LTE Cat13 UL up to 150Mbps / Cat18 DL 5CA 4x4 MIMO up to 1.2Gbps (B, C version)
		DC-HSPA+: UL 5.76 / DL 42Mbps

(Source: https://www.asus.com/us/Phone/ZenFone-5Z-ZS620KL/Tech-Specs/)

Data Rate	802.11n : up to 450 Mbps 802.11n TurboQAM : up to 600 Mbps 802.11ac : up to 1300 Mbps
Antenna	External antenna x 3
Transmit/Receive	MIMO technology 2.4 GHz 3 x 3 5 GHz-1 3 x 3

(Source : https://www.asus.com/us/Networking/RTAC68U/specifications/)

13. By doing so, Asus has directly infringed (literally and/or under the doctrine of equivalents) at least Claim 30 of the '782 Patent. Asus's infringement in this regard is ongoing.

14. Asus has infringed the '782 Patent by making, having made, using, importing, providing, supplying, distributing, selling or offering for sale systems utilizing a method for synchronizing a Multi-Input Multi-Output (MIMO) Orthogonal Frequency Division Multiplexing (OFDM) system in time and frequency domains.

15. The methods practiced by the accused products include producing a frame of data comprising a training symbol that includes a synchronization component that aids in synchronization, a plurality of data symbols, and a plurality of cyclic prefixes.

16. The methods practiced by the accused products include transmitting the frame over a channel.

17. The methods practiced by the accused products include receiving the transmitted frame.

18. The methods practiced by the accused products include demodulating the received frame.

19. The methods practiced by the accused products include synchronizing the received demodulated frame to the transmitted frame such that the data symbols are synchronized in the time domain and frequency domain.

Wireless Technology	WLAN 802.11 a/b/g/n/ac 2.4 & 5GHz 802.11ac WiFi with 2x2 MIMO (DL 866Mbps) Bluetooth 5.0 Wi-Fi direct NFC

(Source: https://www.asus.com/us/Phone/ZenFone-5Z-ZS620KL/Tech-Specs/)

Data Rate	802.11n : up to 450 Mbps 802.11n TurboQAM : up to 600 Mbps 802.11ac : up to 1300 Mbps
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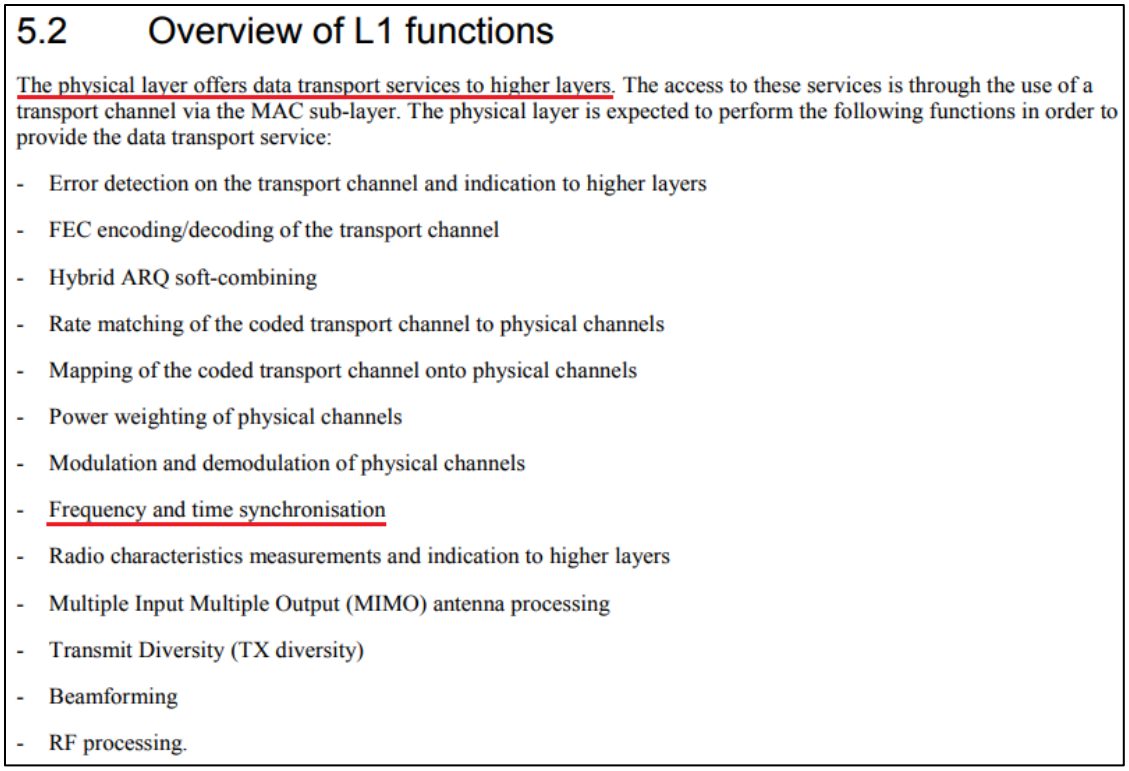
(Source : https://www.asus.com/us/Networking/RTAC68U/specifications/)



5.2 Overview of L1 functions

The physical layer offers data transport services to higher layers. The access to these services is through the use of a transport channel via the MAC sub-layer. The physical layer is expected to perform the following functions in order to provide the data transport service:

- Error detection on the transport channel and indication to higher layers
- FEC encoding/decoding of the transport channel
- Hybrid ARQ soft-combining
- Rate matching of the coded transport channel to physical channels
- Mapping of the coded transport channel onto physical channels
- Power weighting of physical channels
- Modulation and demodulation of physical channels
- Frequency and time synchronisation
- Radio characteristics measurements and indication to higher layers
- Multiple Input Multiple Output (MIMO) antenna processing
- Transmit Diversity (TX diversity)
- Beamforming
- RF processing.

(Source: https://www.etsi.org/deliver/etsi_ts/136300_136399/136302/15.00.00_60/ts_136302v150000p.pdf)

20. The methods practiced by the accused products include wherein the synchronizing in the time domain comprises coarse time synchronizing and fine time synchronizing.

21. Asus has had knowledge of the ‘782 Patent at least as of the date when it was notified of the filing of this action.

22. American Patents has been damaged as a result of the infringing conduct by Asus alleged above. Thus, Asus is liable to American Patents in an amount that adequately compensates it for such infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

23. American Patents and/or its predecessors-in-interest have satisfied all statutory obligations required to collect pre-filing damages for the full period allowed by law for infringement of the ‘782 Patent.

COUNT II

DIRECT INFRINGEMENT OF U.S. PATENT NO. 7,310,304

24. On December 18, 2007, United States Patent No. 7,310,304 (“the ‘304 Patent”) was duly and legally issued by the United States Patent and Trademark Office for an invention entitled “Estimating Channel Parameters in Multi-Input, Multi-Output (MIMO) Systems.”

25. American Patents is the owner of the ‘304 Patent, with all substantive rights in and to that patent, including the sole and exclusive right to prosecute this action and enforce the ‘304 Patent against infringers, and to collect damages for all relevant times.

26. Asus made, had made, used, imported, provided, supplied, distributed, sold, and/or offered for sale products and/or systems including, for example, its Zenfone and AC1900 families of products that include 802.11n and/or LTE capabilities (“accused products”):

ZenFone 5Z

(Source: https://www.asus.com/us/Phone/ZenFone-5Z-ZS620KL/Tech-Specs/)

AC1900 Dual Band Gigabit WiFi Router, AiMesh for mesh wifi system, AiProtection network security powered by Trend Micro, Adaptive QoS and Parental Control

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Wireless Technology	WLAN 802.11 a/b/g/n/ac 2.4 & 5GHz 802.11ac WiFi with 2x2 MIMO (DL 866Mbps) Bluetooth 5.0 Wi-Fi direct NFC

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Network Standard	GSM/GPRS/EDGE; WCDMA/HSPA+/DC-HSPA+; TD-SCDMA; CDMA BCO; FDD-LTE; TD-LTE	
	Data rate	LTE Cat13 UL up to 150Mbps / Cat15 DL 4CA 4x4 MIMO up to 800Mbps (A version) LTE Cat13 UL up to 150Mbps / Cat18 DL 5CA 4x4 MIMO up to 1.2Gbps (B, C version)
		DC-HSPA+: UL 5.76 / DL 42Mbps

(Source: https://www.asus.com/us/Phone/ZenFone-5Z-ZS620KL/Tech-Specs/)

Data Rate	802.11n : up to 450 Mbps 802.11n TurboQAM : up to 600 Mbps 802.11ac : up to 1300 Mbps
Antenna	External antenna x 3
Transmit/Receive	MIMO technology 2.4 GHz 3 x 3 5 GHz-1 3 x 3

(Source : https://www.asus.com/us/Networking/RTAC68U/specifications/)

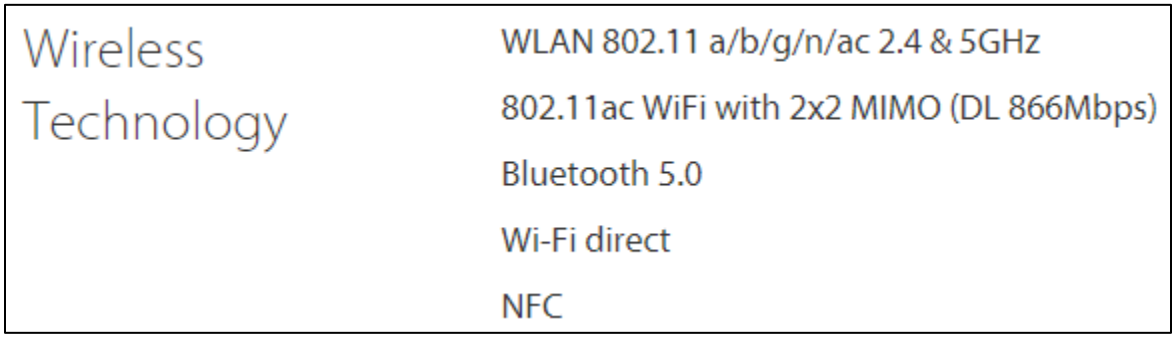
27. By doing so, Asus has directly infringed (literally and/or under the doctrine of equivalents) at least Claim 1 of the '304 Patent. Asus's infringement in this regard is ongoing.

28. Asus has infringed the '304 Patent by making, having made, using, importing, providing, supplying, distributing, selling or offering for sale products including an Orthogonal Frequency Division Multiplexing (OFDM) transmitter.

29. The accused products include an encoder configured to process data to be transmitted within an OFDM system, the encoder further configured to separate the data onto one or more transmit diversity branches (TDBs).

30. The accused products include one or more OFDM modulators, each OFDM modulator connected to a respective TDB, each OFDM modulator configured to produce a frame including a plurality of data symbols, a training structure, and cyclic prefixes inserted among the data symbols.

31. The accused products include one or more transmitting antennas in communication with the one or more OFDM modulators, respectively, each transmitting antenna configured to transmit the respective frame over a channel.



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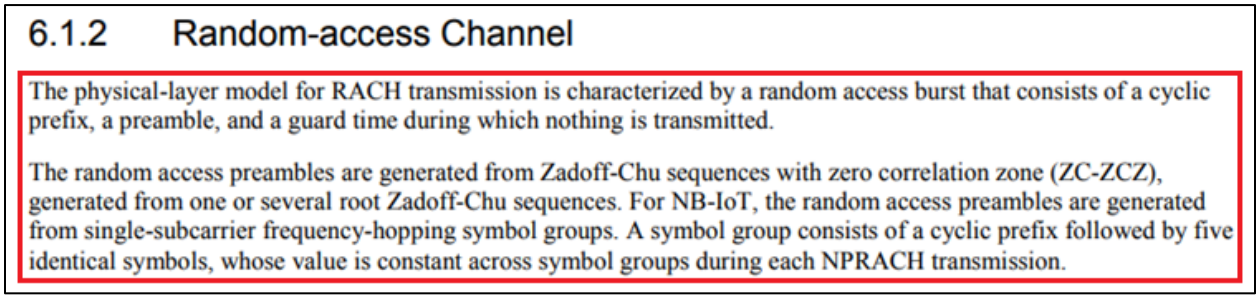

6.1.2 Random-access Channel

The physical-layer model for RACH transmission is characterized by a random access burst that consists of a cyclic prefix, a preamble, and a guard time during which nothing is transmitted.

The random access preambles are generated from Zadoff-Chu sequences with zero correlation zone (ZC-ZCZ), generated from one or several root Zadoff-Chu sequences. For NB-IoT, the random access preambles are generated from single-subcarrier frequency-hopping symbol groups. A symbol group consists of a cyclic prefix followed by five identical symbols, whose value is constant across symbol groups during each NPRACH transmission.

(Source: https://www.etsi.org/deliver/etsi_ts/136300_136399/136302/15.00.00_60/ts_136302v150000p.pdf)

32. The accused products include wherein the training structure of each frame includes a predetermined signal transmission matrix at a respective sub-channel, each training structure adjusted to have a substantially constant amplitude in a time domain, and the cyclic prefixes are further inserted within the training symbol, and wherein the cyclic prefixes within the training symbol are longer than the cyclic prefixes among the data symbols, thereby countering an extended channel impulse response and improving synchronization performance.

33. Asus has had knowledge of the ‘304 Patent at least as of the date when it was notified of the filing of this action.

34. American Patents has been damaged as a result of the infringing conduct by Asus alleged above. Thus, Asus is liable to American Patents in an amount that adequately compensates it for such infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

35. American Patents and/or its predecessors-in-interest have satisfied all statutory obligations required to collect pre-filing damages for the full period allowed by law for infringement of the ‘304 Patent.

COUNT III

DIRECT INFRINGEMENT OF U.S. PATENT NO. 7,706,458

36. On April 27, 2010, United States Patent No. 7,706,458 (“the ‘458 Patent”) was duly and legally issued by the United States Patent and Trademark Office for an invention entitled “Time And Frequency Synchronization In Multi-Input, Multi-Output (MIMO) Systems.”

37. American Patents is the owner of the ‘458 Patent, with all substantive rights in and to that patent, including the sole and exclusive right to prosecute this action and enforce the ‘458 Patent against infringers, and to collect damages for all relevant times.

38. Asus made, had made, used, imported, provided, supplied, distributed, sold, and/or offered for sale products and/or systems including, for example, its Zenfone and AC1900 families of products that include 802.11n and/or LTE capabilities (“accused products”):

ZenFone 5Z

(Source: https://www.asus.com/us/Phone/ZenFone-5Z-ZS620KL/Tech-Specs/)

AC1900 Dual Band Gigabit WiFi Router, AiMesh for mesh wifi system, AiProtection network security powered by Trend Micro, Adaptive QoS and Parental Control

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(Source : https://www.asus.com/us/Networking/RTAC68U/)

Wireless Technology	WLAN 802.11 a/b/g/n/ac 2.4 & 5GHz 802.11ac WiFi with 2x2 MIMO (DL 866Mbps) Bluetooth 5.0 Wi-Fi direct NFC

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Antenna	External antenna x 3
Transmit/Receive	MIMO technology 2.4 GHz 3 x 3 5 GHz-1 3 x 3

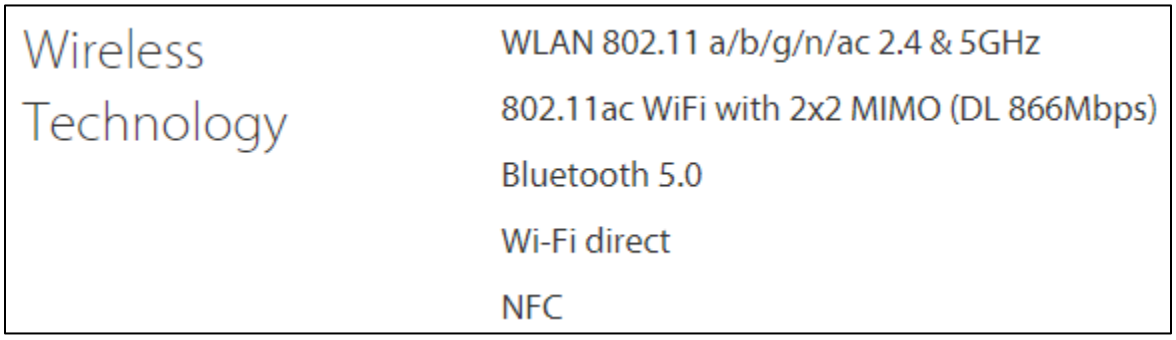
(Source : https://www.asus.com/us/Networking/RTAC68U/specifications/)

39. By doing so, Asus has directly infringed (literally and/or under the doctrine of equivalents) at least Claim 1 of the '458 Patent. Asus's infringement in this regard is ongoing.

40. Asus has infringed the '458 Patent by making, having made, using, importing, providing, supplying, distributing, selling or offering for sale products including an apparatus for synchronizing a communication system.

41. The accused products include a number (Q) of Orthogonal Frequency Division Multiplexing (OFDM) modulators, each OFDM modulator producing a frame having at least one inserted symbol, a plurality of data symbols, and cyclic prefixes.

42. The accused products include Q transmitting antennas, each transmitting antenna connected to a respective OFDM modulator, the transmitting antennas configured to transmit a respective frame over a channel.



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(Source: https://www.etsi.org/deliver/etsi_ts/136300_136399/136302/15.00.00_60/ts_136302v150000p.pdf)

43. The accused products include a number (L) of receiving antennas for receiving the transmitted frames.

44. The accused products include L OFDM demodulators, each OFDM demodulator corresponding to a respective receiving antenna, the L OFDM demodulators including a synchronization circuit that processes the received frame in order to synchronize the received frame in both time domain and frequency domain, wherein each of the L OFDM demodulators

comprises a pre-amplifier, a local oscillator, a mixer having a first input and a second input, the first input connected to an output of the pre-amplifier, the second input connected to an output of the local oscillator, an analog-to-digital converter (ADC) connected to an output of the mixer, the synchronization circuit having one input connected to an output of the ADC, a cyclic-prefix remover connected to an output of the synchronization circuit, a serial-to-parallel converter connected to an output of the cyclic prefix remover, and a discrete Fournier transform (DFT) stage connected to an output of the serial-to-parallel converter, an output of the DFT stage connected to another input to the synchronization circuit.

45. Asus has had knowledge of the ‘458 Patent at least as of the date when it was notified of the filing of this action.

46. American Patents has been damaged as a result of the infringing conduct by Asus alleged above. Thus, Asus is liable to American Patents in an amount that adequately compensates it for such infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

47. American Patents and/or its predecessors-in-interest have satisfied all statutory obligations required to collect pre-filing damages for the full period allowed by law for infringement of the ‘458 Patent.

COUNT IV

DIRECT INFRINGEMENT OF U.S. PATENT NO. 7,373,655

48. On May 13, 2008, United States Patent No. 7,373,655 ("the '655 Patent") was duly and legally issued by the United States Patent and Trademark Office for an invention entitled "System For Securing Inbound And Outbound Data Packet Flow In A Computer Network."

49. American Patents is the owner of the '655 Patent, with all substantive rights in and to that patent, including the sole and exclusive right to prosecute this action and enforce the '655 Patent against infringers, and to collect damages for all relevant times.

50. Asus made, had made, used, imported, provided, supplied, distributed, sold, and/or offered for sale products and/or systems that allow for initiation and/or control of Internet streamed content including, for example, its Zenfone family of products ("accused products"):

ZenFone 5Z

(Source: https://www.asus.com/us/Phone/ZenFone-5Z-ZS620KL/Tech-Specs/)

51. By doing so, Asus has directly infringed (literally and/or under the doctrine of equivalents) at least Claim 5 of the '655 Patent. Asus's infringement in this regard is ongoing.

52. Asus has infringed the '655 Patent by making, having made, using, importing, providing, supplying, distributing, selling or offering for sale systems utilizing a method.

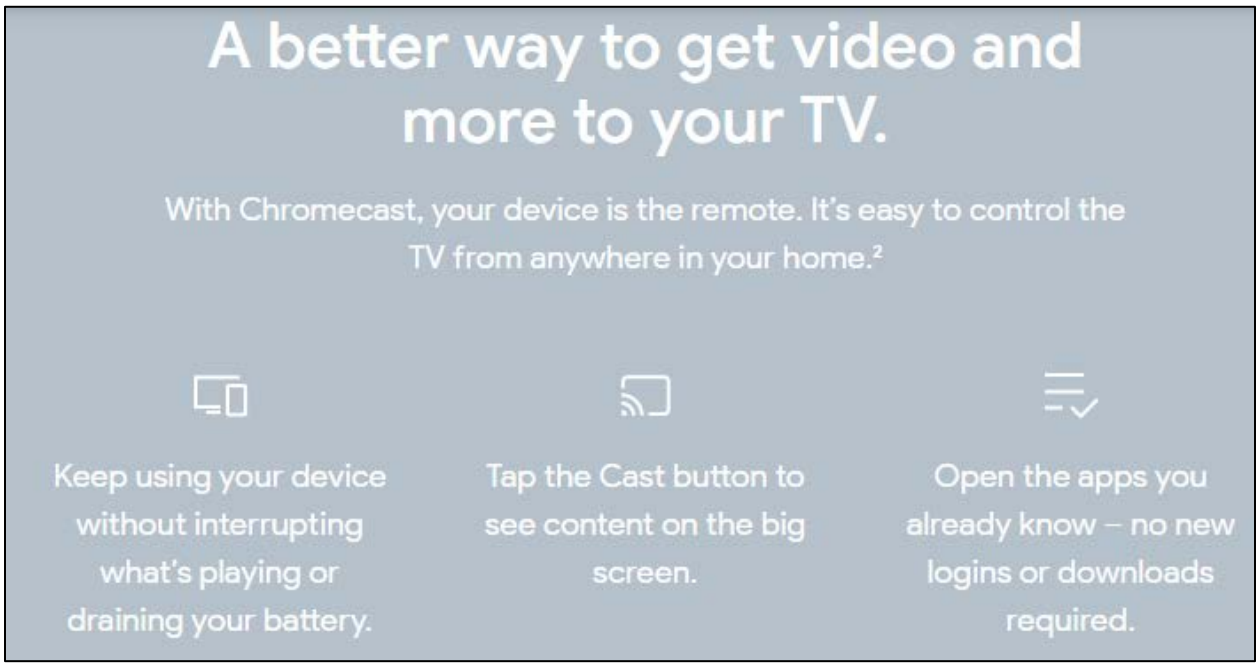
53. The methods practiced by the accused products include arranging a network element in a network, the network element being pre-authorized to access a set of network resources.

54. The methods practiced by the accused products include receiving, at the network element, a request from a user to connect to the network element.

4. Open the Google Home app by tapping the app icon on your Android device.
5. Tap **Get Started** or find the device card > **Set up.**
6. **Confirm Google Account:** Choose which Google Account that you want to link to Chromecast. You can also add a different account if you don't see the listed account that you want to use. Tap **OK.**
7. **Permissions:**
   a. **Location services –** If you don't have Location services on, tap **Go to settings** > find the Google Home app > turn on Location services > go back to the Google Home app.
   b. **Location access –** Location access is needed to find nearby devices that need to be set up Tap **OK.**
8. **Scanning for Chromecast devices:** The Google Home app scans for nearby devices that are plugged in and ready to set up.
   a. If you only have one device that needs to be set up, tap **Next.**
   b. If the Google Home app finds a list of devices, tap the device that you want to set up > **Next.**
9. **Found devices:**
   a. If one device is found, tap **Next.**
   b. If multiple devices are found, choose the device that you want to set up > **Next.**
   c. If you don't see your device, tap **Don't see your device.**
10. **Connecting to your new device:** The app will now connect your phone to your new Chromecast so that you can configure it.
11. **Making a connection:** We'll display a code on your TV to make sure that you're setting up the right device.
    a. If you see a code on your TV, tap **Yes.**
    b. If you didn't see a code, move closer to the Chromecast device and tap **Try again** > **Scan for devices.**

(Source: https://support.google.com/chromecast/answer/2998456?co=GENIE.Platform%3DAndroid&oco=1)

55. The methods practiced by the accused products include determining whether the user is authorized to connect to the network element and, if so, allowing the user to assume the identity of the network element.



(Source: https://store.google.com/product/chromecast_2015)

56. The methods practiced by the accused products include accessing, by the user, one of the set of network resources that the network element is pre-authorized to access, based on the user's assuming the identity of the network element.

57. Asus has had knowledge of the '655 Patent at least as of the date when it was notified of the filing of this action.

58. American Patents has been damaged as a result of the infringing conduct by Asus alleged above. Thus, Asus is liable to American Patents in an amount that adequately compensates it for such infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

59. American Patents and/or its predecessors-in-interest have satisfied all statutory obligations required to collect pre-filing damages for the full period allowed by law for infringement of the ‘655 Patent.

COUNT V

DIRECT INFRINGEMENT OF U.S. PATENT NO. 7,934,090

60. On April 26, 2011, United States Patent No. 7,934,090 (“the ‘090 Patent”) was duly and legally issued by the United States Patent and Trademark Office for an invention entitled “System For Securing Inbound And Outbound Data Packet Flow In A Computer Network.”

61. American Patents is the owner of the ‘090 Patent, with all substantive rights in and to that patent, including the sole and exclusive right to prosecute this action and enforce the ‘090 Patent against infringers, and to collect damages for all relevant times.

62. Asus made, had made, used, imported, provided, supplied, distributed, sold, and/or offered for sale products and/or systems that allow for initiation and/or control of Internet streamed content including, for example, its Zenfone family of products (“accused products”):

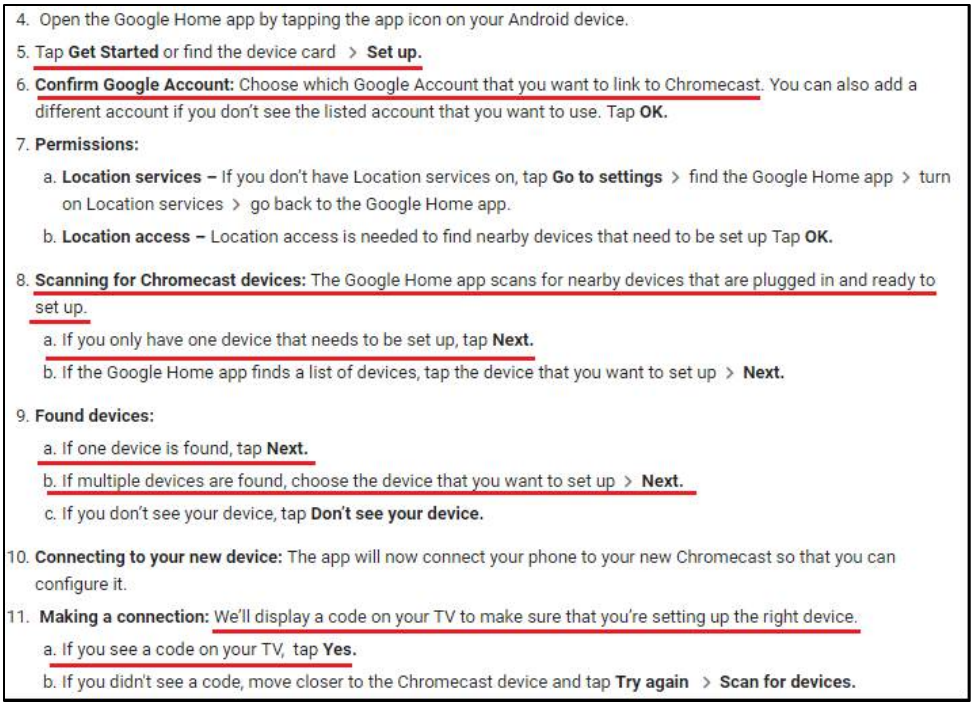
ZenFone 5Z

(Source: https://www.asus.com/us/Phone/ZenFone-5Z-ZS620KL/Tech-Specs/)

63. By doing so, Asus has directly infringed (literally and/or under the doctrine of equivalents) at least Claim 1 of the '090 Patent. Asus's infringement in this regard is ongoing.

64. Asus has infringed the '090 Patent by making, having made, using, importing, providing, supplying, distributing, selling or offering for sale systems utilizing a method for providing access to a network resource.

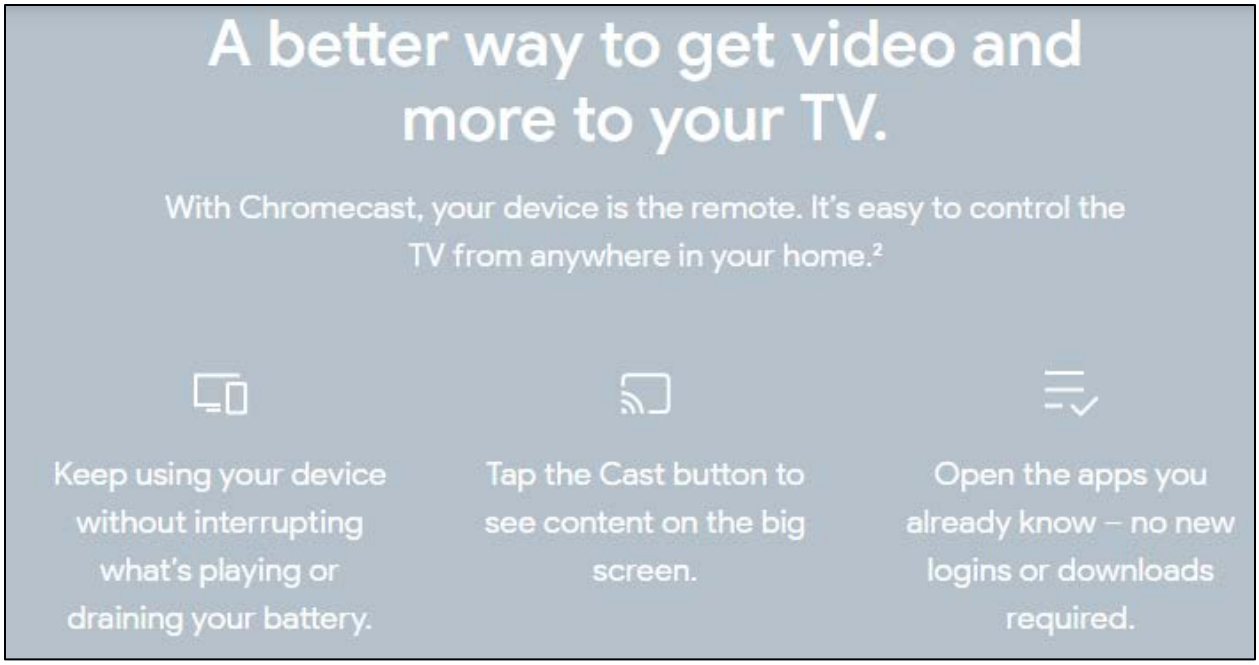
65. The methods practiced by the accused products include receiving, at a network node that is pre-authorized to access the network resource, a request to allow a first user to assume an identity of the network node, the network node that is pre-authorized having a plurality of access privileges associated therewith.



4. Open the Google Home app by tapping the app icon on your Android device.
5. Tap **Get Started** or find the device card > **Set up.**
6. **Confirm Google Account:** Choose which Google Account that you want to link to Chromecast. You can also add a different account if you don't see the listed account that you want to use. Tap **OK.**
7. **Permissions:**
   a. **Location services –** If you don't have Location services on, tap **Go to settings** > find the Google Home app > turn on Location services > go back to the Google Home app.
   b. **Location access –** Location access is needed to find nearby devices that need to be set up Tap **OK.**
8. **Scanning for Chromecast devices:** The Google Home app scans for nearby devices that are plugged in and ready to set up.
   a. If you only have one device that needs to be set up, tap **Next.**
   b. If the Google Home app finds a list of devices, tap the device that you want to set up > **Next.**
9. **Found devices:**
   a. If one device is found, tap **Next.**
   b. If multiple devices are found, choose the device that you want to set up > **Next.**
   c. If you don't see your device, tap **Don't see your device.**
10. **Connecting to your new device:** The app will now connect your phone to your new Chromecast so that you can configure it.
11. **Making a connection:** We'll display a code on your TV to make sure that you're setting up the right device.
    a. If you see a code on your TV, tap **Yes.**
    b. If you didn't see a code, move closer to the Chromecast device and tap **Try again** > **Scan for devices.**

(Source: https://support.google.com/chromecast/answer/2998456?co=GENIE.Platform%3DAndroid&oco=1)

66. The methods practiced by the accused products include allowing the first user to assume the identity of the network node that is pre-authorized, such that the first user appears to the network resource to be the network node that is pre-authorized, after verifying that the first user is authorized.



(Source: https://store.google.com/product/chromecast_2015)

67. The methods practiced by the accused products include, based on the first user assuming the identity of the network node that is pre-authorized, allowing the first user to access the network resource using the plurality of access privileges associated with the network node that is pre-authorized.

68. Asus has had knowledge of the '090 Patent at least as of the date when it was notified of the filing of this action.

69. American Patents has been damaged as a result of the infringing conduct by Asus alleged above. Thus, Asus is liable to American Patents in an amount that adequately compensates it for such infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

70. American Patents and/or its predecessors-in-interest have satisfied all statutory obligations required to collect pre-filing damages for the full period allowed by law for infringement of the '090 Patent.

COUNT VI

DIRECT INFRINGEMENT OF U.S. PATENT NO. 6,004,049

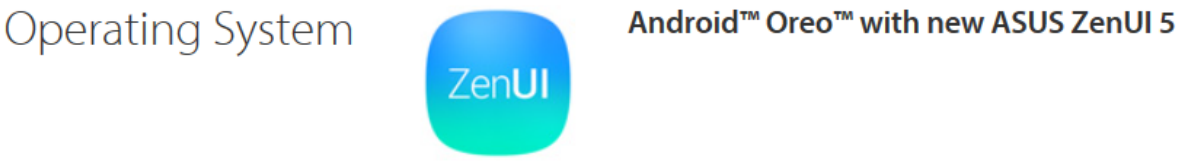
71. On December 21, 1999, United States Patent No. 6,004,049 ("the '049 Patent") was duly and legally issued by the United States Patent and Trademark Office for an invention entitled "Method And Apparatus For Dynamic Configuration Of An Input Device."

72. American Patents is the owner of the '049 Patent, with all substantive rights in and to that patent, including the sole and exclusive right to prosecute this action and enforce the '049 Patent against infringers, and to collect damages for all relevant times.

73. Asus made, had made, used, imported, provided, supplied, distributed, sold, and/or offered for sale products and/or systems that include advanced keyboard layouts including, for example, its Zenfone family of products having predictive text and other advanced keyboard layout capabilities ("accused products"):

ZenFone 5Z

(Source: https://www.asus.com/us/Phone/ZenFone-5Z-ZS620KL/Tech-Specs/)

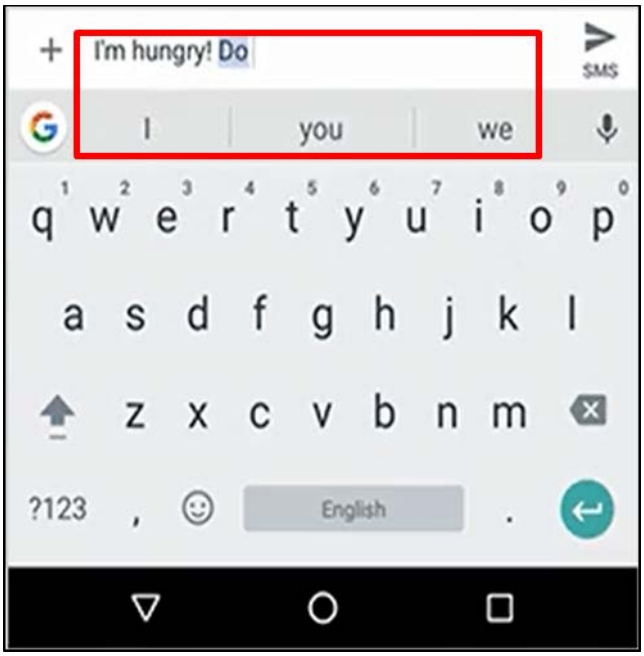


(Source: https://www.asus.com/us/Phone/ZenFone-5Z-ZS620KL/Tech-Specs/)

74. By doing so, Asus has directly infringed (literally and/or under the doctrine of equivalents) at least Claims 1 and 10 of the '049 Patent. Asus's infringement in this regard is ongoing.

75. Asus has infringed the '049 Patent by making, having made, using, importing, providing, supplying, distributing, selling or offering for sale systems utilizing a method of configuring an input device for a data processing system, the input device having a set of display elements capable of displaying symbols.

76. The methods practiced by the accused products include selecting an input device layout.



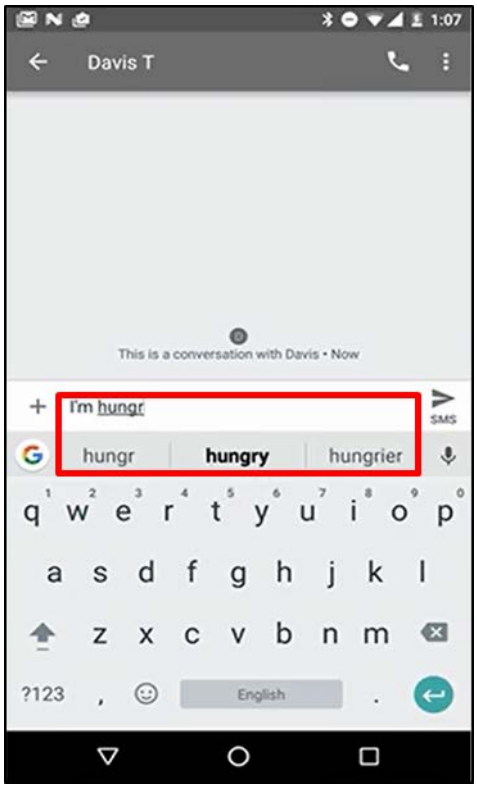
(Source: https://www.blog.google/products/search/express-yourself-GBoard-androids-newest-features/)

77. The methods practiced by the accused products include determining whether the selected input device layout is displayed.

78. The methods practiced by the accused products include determining a location of the selected input device layout when it is determined that the selected input device layout is not displayed.

79. The methods practiced by the accused products include retrieving the selected input device layout.

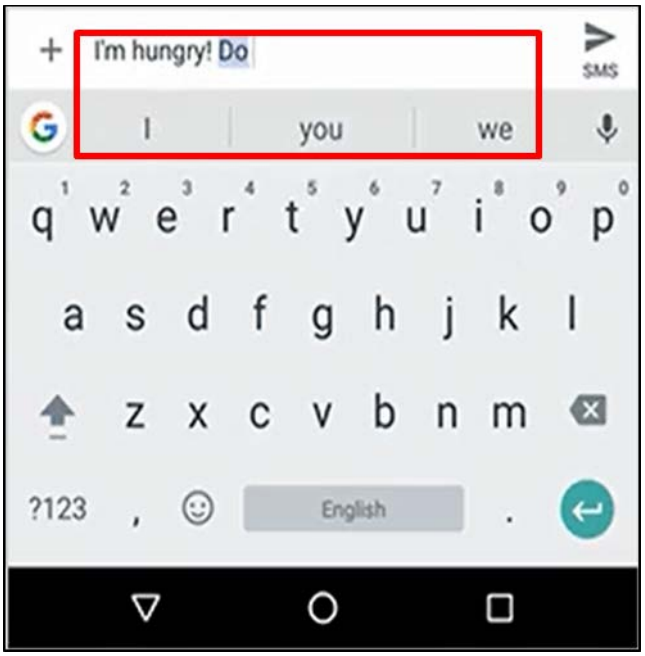
80. The methods practiced by the accused products include displaying a set of symbols on the display elements corresponding to the input device layout.



(Source: https://www.blog.google/products/search/express-yourself-GBoard-androids-newest-features/)

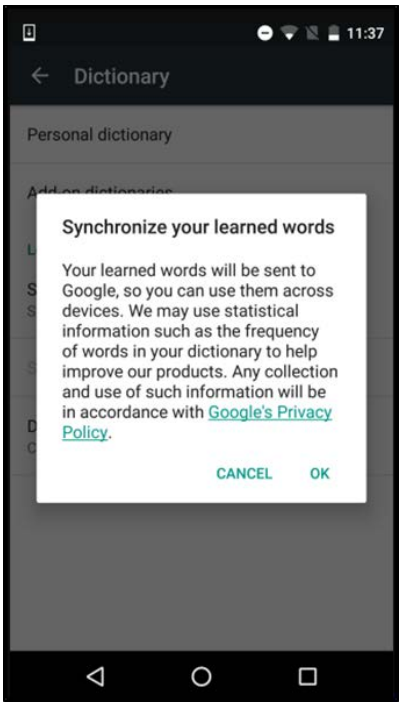
81. Asus has infringed the '049 Patent by making, having made, using, importing, providing, supplying, distributing, selling or offering for sale systems having an input device for a data processing system, the input device having a set of display elements capable of displaying symbols.

82. The accused products include a memory having program instructions to display symbols on the input device.



(Source: https://www.blog.google/products/search/express-yourself-GBoard-androids-newest-features/)

83. The accused products include a processor responsive to the program instructions to select an input device layout, determine whether the selected input device layout is displayed, determine a location of the selected input device layout when it is determined that the selected input device layout is not displayed, retrieve the selected input device layout from a network, and display a set of symbols on the display elements corresponding to the input device layout.



(Source: https://www.addictivetips.com/android/how-to-sync-your-dictionary-learned-words-between-android-devices/)

84. Asus has had knowledge of the '049 Patent at least as of the date when it was notified of the filing of this action.

85. American Patents has been damaged as a result of the infringing conduct by Asus alleged above. Thus, Asus is liable to American Patents in an amount that adequately compensates it for such infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

86. American Patents and/or its predecessors-in-interest have satisfied all statutory obligations required to collect pre-filing damages for the full period allowed by law for infringement of the '049 Patent.

COUNT VII

DIRECT INFRINGEMENT OF U.S. PATENT NO. 6,301,626

87. On October 9, 2001, United States Patent No. 6,301,626 ("the '626 Patent") was duly and legally issued by the United States Patent and Trademark Office for an invention entitled "System For Dynamic Configuration Of An Input Device By Downloading An Input Device From Server If The Layout Is Not Already Displayed On The Input Device."

88. American Patents is the owner of the '626 Patent, with all substantive rights in and to that patent, including the sole and exclusive right to prosecute this action and enforce the '626 Patent against infringers, and to collect damages for all relevant times.

89. Asus made, had made, used, imported, provided, supplied, distributed, sold, and/or offered for sale products and/or systems that include advanced keyboard layouts including, for example, its Zenfone family of products having predictive text and other advanced keyboard layout capabilities ("accused products"):

ZenFone 5Z

(Source: https://www.asus.com/us/Phone/ZenFone-5Z-ZS620KL/Tech-Specs/)

Operating System ZenUI Android™ Oreo™ with new ASUS ZenUI 5

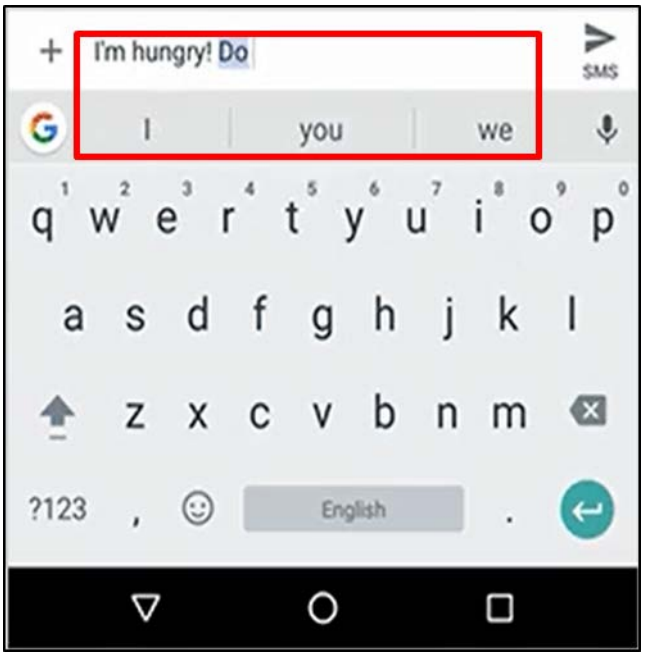
(Source: https://www.asus.com/us/Phone/ZenFone-5Z-ZS620KL/Tech-Specs/)

90. By doing so, Asus has directly infringed (literally and/or under the doctrine of equivalents) at least Claims 1 and 8 of the '626 Patent. Asus's infringement in this regard is ongoing.

91. Asus has infringed the '626 Patent by making, having made, using, importing, providing, supplying, distributing, selling or offering for sale systems utilizing a computer-

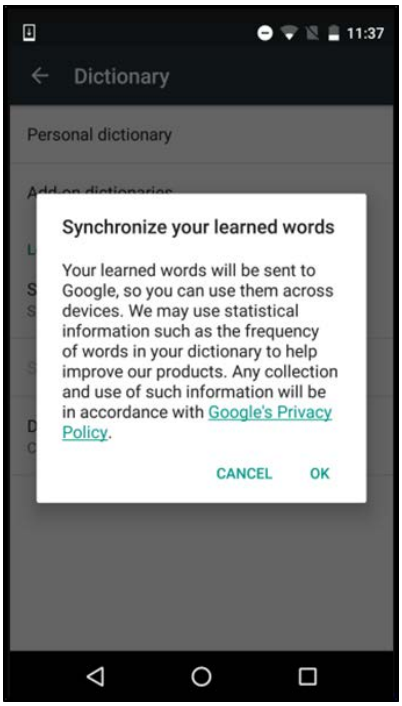
readable medium containing instructions for performing a method to configure an input device having a set of display elements capable of displaying symbols.

92. The methods performed by the accused products include selecting an input device layout.



(Source: https://www.blog.google/products/search/express-yourself-GBoard-androids-newest-features/)

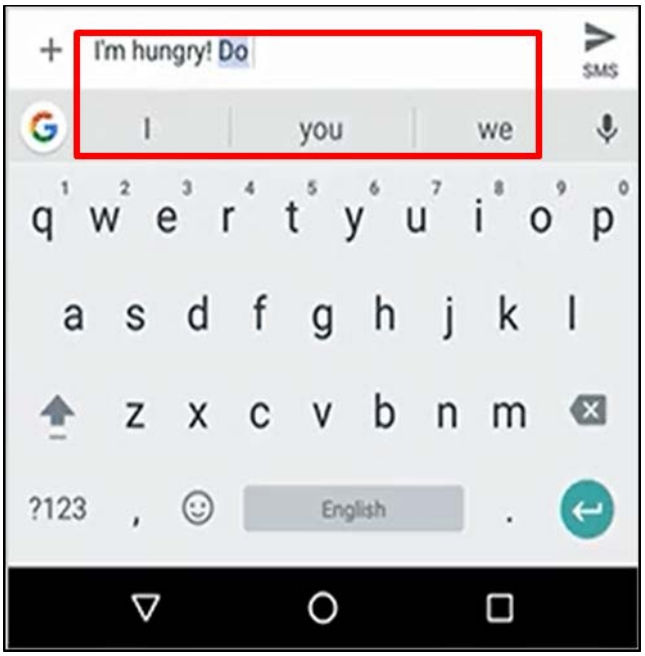
93. The methods performed by the accused products include retrieving the input device layout from a network, wherein the retrieving step further includes the steps of determining if the identified input device layout is already displayed on the input device, and downloading the identified input device layout over the network from a server having a plurality of input device layouts based upon the determination, and displaying a set of symbols on the display elements corresponding to the input device layout.



(Source: https://www.addictivetips.com/android/how-to-sync-your-dictionary-learned-words-between-android-devices/)

94. Asus has infringed the '626 Patent by making, having made, using, importing, providing, supplying, distributing, selling or offering for sale systems having a processor designed to configure an input device having a set of display elements capable of displaying symbols.

95. The accused products include means for identifying an input device layout.

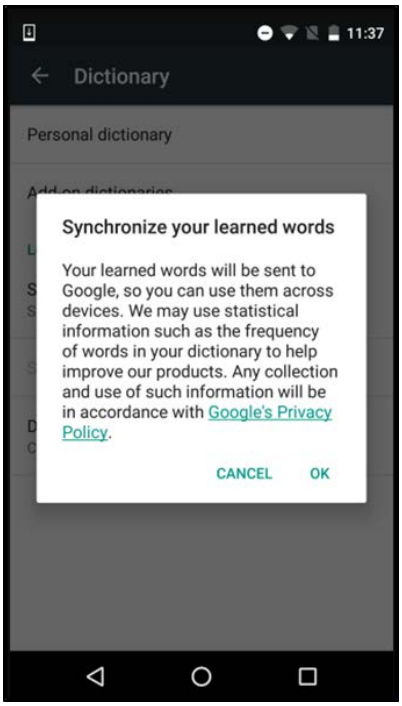


(Source: https://www.blog.google/products/search/express-yourself-GBoard-androids-newest-features/)

96. The accused products include means for accessing the input device layout over a network.

97. The accused products include means for determining if the identified input device layout is already displayed on the input device.

98. The accused products include means for downloading the identified input device layout over the network from a server having a plurality of input device layouts based upon the determination.



(Source: https://www.addictivetips.com/android/how-to-sync-your-dictionary-learned-words-between-android-devices/)

99. The accused products include means for displaying a set of symbols on the display elements corresponding to the input device layout.

100. Asus has had knowledge of the '626 Patent at least as of the date when it was notified of the filing of this action.

101. American Patents has been damaged as a result of the infringing conduct by Asus alleged above. Thus, Asus is liable to American Patents in an amount that adequately compensates it for such infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

102. American Patents and/or its predecessors-in-interest have satisfied all statutory obligations required to collect pre-filing damages for the full period allowed by law for infringement of the '626 Patent.

ADDITIONAL ALLEGATIONS REGARDING INDIRECT INFRINGEMENT

103. Asus has also indirectly infringed the ‘782 Patent, the ‘304 Patent, the ‘458 Patent, the ‘655 Patent, the ‘090 Patent, the ‘049 Patent, and the ‘626 Patent by inducing others to directly infringe the ‘782 Patent, the ‘304 Patent, the ‘458 Patent, the ‘655 Patent, the ‘090 Patent, the ‘049 Patent, and the ‘626 Patent. Asus has induced the end-users, Asus’s customers, to directly infringe (literally and/or under the doctrine of equivalents) the ‘782 Patent, the ‘304 Patent, the ‘458 Patent, the ‘655 Patent, the ‘090 Patent, the ‘049 Patent, and the ‘626 Patent by using the accused products. Asus took active steps, directly and/or through contractual relationships with others, with the specific intent to cause them to use the accused products in a manner that infringes one or more claims of the patents-in-suit, including, for example, Claim 30 of the ‘782 Patent, Claim 1 of the ‘304 Patent, Claim 1 of the ‘458 Patent, Claim 5 of the ‘655 Patent, Claim 1 of the ‘090 Patent, Claims 1 and 10 of the ‘049 Patent, and Claims 1 and 8 of the ‘626 Patent. Such steps by Asus included, among other things, advising or directing customers and end-users to use the accused products in an infringing manner; advertising and promoting the use of the accused products in an infringing manner; and/or distributing instructions that guide users to use the accused products in an infringing manner. Asus is performing these steps, which constitute induced infringement, with the knowledge of the ‘782 Patent, the ‘304 Patent, the ‘458 Patent, the ‘655 Patent, the ‘090 Patent, the ‘049 Patent, and the ‘626 Patent and with the knowledge that the induced acts constitute infringement. Asus was and is aware that the normal and customary use of the accused products by Asus’s customers would infringe the ‘782 Patent, the ‘304 Patent, the ‘458 Patent, the ‘655 Patent, the ‘090 Patent, the ‘049 Patent, and the ‘626 Patent. Asus’s inducement is ongoing.

104. Asus has also induced its affiliates, or third-party manufacturers, shippers, distributors, retailers, or other persons acting on its or its affiliates’ behalf, to directly infringe

(literally and/or under the doctrine of equivalents) the ‘782 Patent, the ‘304 Patent, the ‘458 Patent, the ‘655 Patent, the ‘090 Patent, the ‘049 Patent, and the ‘626 Patent by importing, selling or offering to sell the accused products. Asus took active steps, directly and/or through contractual relationships with others, with the specific intent to cause such persons to import, sell, or offer to sell the accused products in a manner that infringes one or more claims of the patents-in-suit, including, for example, Claim 30 of the ‘782 Patent, Claim 1 of the ‘304 Patent, Claim 1 of the ‘458 Patent, Claim 5 of the ‘655 Patent, Claim 1 of the ‘090 Patent, Claims 1 and 10 of the ‘049 Patent, and Claims 1 and 8 of the ‘626 Patent. Such steps by Asus included, among other things, making or selling the accused products outside of the United States for importation into or sale in the United States, or knowing that such importation or sale would occur; and directing, facilitating, or influencing its affiliates, or third-party manufacturers, shippers, distributors, retailers, or other persons acting on its or their behalf, to import, sell, or offer to sell the accused products in an infringing manner. Asus performed these steps, which constitute induced infringement, with the knowledge of the ‘782 Patent, the ‘304 Patent, the ‘458 Patent, the ‘655 Patent, the ‘090 Patent, the ‘049 Patent, and the ‘626 Patent and with the knowledge that the induced acts would constitute infringement. Asus performed such steps in order to profit from the eventual sale of the accused products in the United States. Asus’s inducement is ongoing.

105. Asus has also indirectly infringed by contributing to the infringement of the ‘782 Patent, the ‘304 Patent, the ‘458 Patent, the ‘655 Patent, the ‘090 Patent, the ‘049 Patent, and the ‘626 Patent. Asus has contributed to the direct infringement of the ‘782 Patent, the ‘304 Patent, the ‘458 Patent, the ‘655 Patent, the ‘090 Patent, the ‘049 Patent, and the ‘626 Patent by the end-user of the accused products. The accused products have special features that are specially

designed to be used in an infringing way and that have no substantial uses other than ones that infringe the ‘782 Patent, the ‘304 Patent, the ‘458 Patent, the ‘655 Patent, the ‘090 Patent, the ‘049 Patent, and the ‘626 Patent, including, for example, Claim 30 of the ‘782 Patent, Claim 1 of the ‘304 Patent, Claim 1 of the ‘458 Patent, Claim 5 of the ‘655 Patent, Claim 1 of the ‘090 Patent, Claims 1 and 10 of the ‘049 Patent, and Claims 1 and 8 of the ‘626 Patent. The special features include improved wireless communication capabilities, initiation and/or control of Internet streamed content, and advanced keyboard layout capabilities in a manner that infringes the ‘782 Patent, the ‘304 Patent, the ‘458 Patent, the ‘655 Patent, the ‘090 Patent, the ‘049 Patent, and the ‘626 Patent. The special features constitute a material part of the invention of one or more of the claims of the ‘782 Patent, the ‘304 Patent, the ‘458 Patent, the ‘655 Patent, the ‘090 Patent, the ‘049 Patent, and the ‘626 Patent and are not staple articles of commerce suitable for substantial non-infringing use. Asus’s contributory infringement is ongoing.

106. Furthermore, Asus has a policy or practice of not reviewing the patents of others (including instructing its employees to not review the patents of others), and thus has been willfully blind of American Patents’ patent rights.

107. Asus’s actions are at least objectively reckless as to the risk of infringing valid patents and this objective risk was either known or should have been known by Asus.

108. Asus’s direct and indirect infringement of the ‘782 Patent, the ‘304 Patent, the ‘458 Patent, the ‘655 Patent, the ‘090 Patent, the ‘049 Patent, and the ‘626 Patent is, has been, and continues to be willful, intentional, deliberate, and/or in conscious disregard of American Patents’ rights under the patents.

109. American Patents has been damaged as a result of the infringing conduct by Asus alleged above. Thus, Asus is liable to American Patents in an amount that adequately

compensates it for such infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

JURY DEMAND

American Patents hereby requests a trial by jury on all issues so triable by right.

PRAYER FOR RELIEF

American Patents requests that the Court find in its favor and against Asus, and that the Court grant American Patents the following relief:

a. Judgment that one or more claims of the ‘782 Patent, the ‘304 Patent, the ‘458 Patent, the ‘655 Patent, the ‘090 Patent, the ‘049 Patent, and the ‘626 Patent have been infringed, either literally and/or under the doctrine of equivalents, by Asus and/or all others acting in concert therewith;

b. A permanent injunction enjoining Asus and its officers, directors, agents, servants, affiliates, employees, divisions, branches, subsidiaries, parents, and all others acting in concert therewith from infringement of the ‘782 Patent, the ‘304 Patent, the ‘458 Patent, the ‘655 Patent, the ‘090 Patent, the ‘049 Patent, and the ‘626 Patent; or, in the alternative, an award of a reasonable ongoing royalty for future infringement of the ‘782 Patent, the ‘304 Patent, the ‘458 Patent, the ‘655 Patent, the ‘090 Patent, the ‘049 Patent, and the ‘626 Patent by such entities;

c. Judgment that Asus account for and pay to American Patents all damages to and costs incurred by American Patents because of Asus’s infringing activities and other conduct complained of herein, including an award of all increased damages to which American Patents is entitled under 35 U.S.C. § 284;

d. That American Patents be granted pre-judgment and post-judgment interest on the damages caused by Asus’s infringing activities and other conduct complained of herein;

e. That this Court declare this an exceptional case and award American Patents its reasonable attorney's fees and costs in accordance with 35 U.S.C. § 285; and

f. That American Patents be granted such other and further relief as the Court may deem just and proper under the circumstances.

Dated: October 4, 2018

Respectfully submitted,

/s/ *Zachariah S. Harrington*
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