

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

FREEDOM PATENTS LLC,

Plaintiff,

v.

ASUSTEK COMPUTER INC., ASUS
GLOBAL PTE. LTD., and ASUS
TECHNOLOGY PTE. LTD.,

Defendants.

CIVIL ACTION NO. 4:24-cv-534

ORIGINAL COMPLAINT FOR
PATENT INFRINGEMENT

JURY TRIAL DEMANDED

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Freedom Patents LLC (“Freedom Patents” or “Plaintiff”) files this original complaint against Defendants ASUSTeK Computer Inc., ASUS Global Pte. Ltd., and ASUS Technology Pte. Ltd. (collectively “ASUS” or “Defendants”), 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. Freedom 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. Defendant ASUSTeK Computer Inc. (“ASUSTeK”) is a foreign company organized and existing under the laws of Taiwan. It has a place of business at No. 15, Li-Te Road, Beitou District, Taipei 112, Taiwan. ASUSTeK may also be served with process by serving the Texas Secretary of State, 1019 Brazos Street, Austin, Texas 78701, as its agent for service because it engages in business in Texas but has not designated or maintained a resident

agent for service of process in Texas as required by statute. This action arises out of that business.

3. ASUSTeK—together with its subsidiaries—describes itself as a “global technology leader” that is “known for the world’s best motherboards and high-quality personal computers, monitors, graphics cards, routers and other technology solutions.”¹

4. Defendant ASUS Global Pte. Ltd. (“ASUS Global”) is a foreign company organized and existing under the laws of Singapore, with a place of business located at 15A Changi Business Park Central 1, #05-01 Eigthrium, Singapore 486035. ASUSTeK Global may be served with process by serving the Texas Secretary of State, 1019 Brazos Street, Austin, Texas 78701, as its agent for service because it engages in business in Texas but has not designated or maintained a resident agent for service of process in Texas as required by statute. This action arises out of that business.

5. ASUS Global is a wholly owned subsidiary of ASUSTeK. ASUS Global is involved in the manufacture, sale, and distribution of ASUS-branded consumer electronics, including computers (notebooks, desktops, gaming computers, etc.) and computer-related accessories.

6. Defendant ASUS Technology Pte. Ltd. (“ASUS Technology”) is a foreign company organized and existing under the laws of Singapore, with a place of business located at 15A Changi Business Park Central 1, #05-01 Eigthrium, Singapore 486035. ASUSTeK Technology may be served with process by serving the Texas Secretary of State, 1019 Brazos Street, Austin, Texas 78701, as its agent for service because it engages in business in Texas but

¹ www.asus.com/about-asus-history

has not designated or maintained a resident agent for service of process in Texas as required by statute. This action arises out of that business.

7. ASUS Technology is a wholly owned subsidiary of ASUSTeK. ASUS Technology is involved in the manufacture and distribution of ASUS-branded consumer electronics, including computers (notebooks, desktops, gaming computers, etc.) and computer-related accessories.

8. The Defendants identified in paragraphs 2–7 above (collectively, “ASUS”) lead and are part of an interrelated group of companies which together comprise one of the world’s largest computer makers. ASUS’s products include notebook computers, desktop computers, netbooks, smartphones, networking equipment, monitors, Wi-Fi routers, projectors, motherboards, graphics cards, optical storage, wearables, servers, workstations, and tablet PCs.

9. The ASUS defendants named above and their affiliates are part of the same corporate structure and distribution chain for the making, importing, offering to sell, selling, and using of the accused devices in the United States, including in the State of Texas generally and this judicial district in particular. Broadly, the business of the “ASUS Group” includes “computer-related product design, production, processing, and sales.”² ASUS explains that “[i]n general, the collaboration within the organization is to generate the best result through reciprocal support in technology, production, marketing, and sales.”³ ASUS describes itself as “a multinational company known for the world’s best motherboards and high-quality personal

² ASUS 2023 Annual Report at 186, https://www.asus.com/EVENT/Investor/Content/attachment_en/2023_Annual_Report_en.pdf.

³ *Id.*

computers, monitors, graphics cards, routers and other technology solutions.”⁴ One of its American affiliates is ASUS Computer International.

10. The ASUS defendants named above and their affiliates share the same management, common ownership, advertising platforms, facilities, distribution chains and platforms, and accused product lines and products involving related technologies.

11. The ASUS defendants named above and their affiliates regularly contract with customers regarding products made for or on behalf of those customers.

12. Thus, the ASUS defendants named above and their affiliates operate as a unitary business venture and are jointly and severally liable for the acts of patent infringement alleged herein.

13. The parties to this action are properly joined under 35 U.S.C. § 299 because the right to relief asserted against Defendants jointly and severally arises out of the same series of transactions or occurrences relating to the making and using of the same products or processes, including wireless electronics and related processes bearing at least the ASUS and Republic of Gamers (“ROG”) brands or that are otherwise made for use with services provided by ASUS. Additionally, questions of fact common to all defendants will arise in this action.

JURISDICTION AND VENUE

14. 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).

15. 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

⁴ See <https://www.asus.com/about-asus-history/>.

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/or sales via retail and wholesale stores, inducing others to commit acts of patent infringement in Texas, and/or committing at least a portion of any other infringements alleged herein in Texas. In addition, or in the alternative, this Court has personal jurisdiction over ASUS pursuant to Fed. R. Civ. P. 4(k)(2) because: (1) it has substantial contacts with the United States and committed and/or induced acts of patent infringement in the United States; and (2) it is not subject to jurisdiction in any state's courts of general jurisdiction.

16. Venue is proper in this district as to ASUS, which is organized under the laws of a foreign jurisdiction. 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.” *See also In re HTC Corp.*, 889 F.3d 1349 (Fed. Cir. 2018).

BACKGROUND

17. The patents-in-suit generally relate to improvements in wireless communication technology that allow users to communicate over a wireless network. In particular, the patents are directed to methods and systems for selecting antennas in multiple-input, multiple-output (MIMO) wireless networks.

18. The technology of the patents-in-suit was developed by engineers at the Mitsubishi Electric Research Laboratories (MERL), which is the North American arm of Mitsubishi Electric. MERL was founded in 1991 in Cambridge, Massachusetts, and has been

known for its focus on innovation and long-range research.⁵ From its beginning, MERL was focused on pioneering new technologies in various industries, including computer graphics, digital communication, medical imaging, transportation etc.⁶ In the early 2000s, for example, “MERL focused on standardization and developments of new emerging technologies,” such as “antenna selection, channel equalization, efficient channel state estimation, and Orthogonal Frequency Division Multiplexing (OFDM).”⁷

19. The inventions disclosed in the patents-in-suit have been cited during patent prosecution multiple times by electronics companies, including Apple, Broadcom, Cisco, Ericsson, Fujitsu, Hewlett Packard, Hitachi, Huawei, Intel, Kyocera, LG Electronics, Marvell, MediaTek, Motorola Mobility, Nokia, NTT Docomo, Panasonic, Philips, Qualcomm, Siemens, Samsung, Sharp, Sony, Toshiba, and ZTE.

COUNT I

DIRECT INFRINGEMENT OF U.S. PATENT NO. 8,284,686

20. On October 9, 2012, United States Patent No. 8,284,686 (“the ’686 Patent”) was duly and legally issued by the United States Patent and Trademark Office for an invention entitled “Antenna/Beam Selection Training in MIMO Wireless LANS with Different Sounding Frames.”

21. Freedom Patents is the owner of the ’686 Patent, with all substantive rights in and to that patent, including the sole and exclusive right to prosecute this action and enforce the ’686 Patent against infringers, and to collect damages for all relevant times.

⁵ See <https://www.merl.com/company/history>.

⁶ See <https://www.merl.com/public/MERL-30Years.pdf>.

⁷ *Id.* at 22.

22. ASUS made, had made, used, imported, provided, supplied, distributed, sold, and/or offered for sale products and/or systems including, for example, its ASUS Chromebook Flip CX5 (CS5601), ROG Phone 8, ROG Rapture GT-AX6000, and other products⁸ that comply

⁸ See, e.g., BR1100F, Chromebook CR1, Chromebook CX1, Chromebook CX9 , Chromebook Flip C436, Chromebook Flip CM5, Chromebook Flip CX3, Chromebook Flip CX5, Chromebook Flip CX5, Chromebook Vibe CX55 Flip, K571, ProArt Studiobook 16 3D OLED, ProArt Studiobook 16 OLED, ProArt Studiobook 16 OLED, ProArt Studiobook Pro 16 OLED, ProArt Studiobook Pro 16 OLED, Vivobook 13 Slate OLED, Vivobook 14, Vivobook 14, Vivobook 14, Vivobook 15, Vivobook 15, Vivobook 15, Vivobook 15, Vivobook 15, Vivobook 15, Vivobook 15 OLED, Vivobook 15X OLED, Vivobook 16, Vivobook 16X OLED, Vivobook 17, Vivobook 17, Vivobook 17, Vivobook 17X, Vivobook 17X, Vivobook Flip 14, Vivobook Flip 14, Vivobook Pro 14 OLED, Vivobook Pro 14 OLED, Vivobook Pro 14 OLED, Vivobook Pro 15, Vivobook Pro 15, Vivobook Pro 15 OLED, Vivobook Pro 15 OLED, Vivobook Pro 15 OLED, Vivobook Pro 15X, Vivobook Pro 15X OLED, Vivobook Pro 16, Vivobook Pro 16X, Vivobook Pro 16X, Vivobook Pro 16X OLED, Vivobook Pro 16X OLED, Vivobook Pro 16X OLED, Vivobook Pro 16X OLED, Vivobook S 14 Flip, Vivobook S 14 Flip, Vivobook S 14 Flip OLED, Vivobook S 14 OLED, Vivobook S 14X OLED, Vivobook S 15, Vivobook S 15, Vivobook S 15, Vivobook S 15 OLED, Vivobook S 16X, Vivobook S13, Vivobook S13, Vivobook S14, Vivobook S14, Vivobook S14, Vivobook S15, Vivobook S15, Vivobook S15, Vivobook S15, Vivobook S15 OLED, Zenbook 13, Zenbook 13, Zenbook 13, Zenbook 13 OLED, Zenbook 13 OLED, Zenbook 14, Zenbook 14, Zenbook 14, Zenbook 14, Zenbook 14, Zenbook 14, Zenbook 14 Flip OLED, Zenbook 14 Flip OLED, Zenbook 14 OLED, Zenbook 14 OLED, Zenbook 14 OLED, Zenbook 14X OLED, Zenbook 14X OLED, Zenbook 14X OLED, Zenbook 14X OLED, Zenbook 14X OLED Space Edition, Zenbook 15, Zenbook 17 Fold OLED, ZenBook Duo, Zenbook Duo 14, Zenbook Flip 13, Zenbook Flip 13 OLED, ZenBook Flip 15, Zenbook Flip 15, Zenbook Flip 15, Zenbook Flip S13 OLED, Zenbook Pro 14 Duo OLED, Zenbook Pro 14 OLED, Zenbook Pro 15, Zenbook Pro 15 OLED, Zenbook Pro 16X OLED, Zenbook Pro 17, Zenbook Pro Duo, Zenbook Pro Duo 15 OLED, Zenbook Pro Duo 15 OLED, Zenbook S, Zenbook S 13 Flip OLED, Zenbook S 13 OLED, ROG Phone 5s, ROG Phone 5s Pro, ROG Phone 6, ROG Phone 6 Pro, ROG Phone 8, Smartphone for Snapdragon Insiders, Zenfone 8, Zenfone 9, ROG Rapture GT6, ROG Rapture GT-AX6000, ROG Rapture GT-AX6000 EVA Edition, ROG Rapture GT-AX11000, ROG Rapture GT-AX11000 PRO, ROG Rapture GT-AXE11000, ROG Rapture GT-AXE16000, ROG Rapture BE-98, ROG STRIX GS-AX3000, ROG STRIX GS-AX5400, RT-AXE7800, RT-AX1800S, RT-AX3000, RT-AX55, RT-AX56U, RT-AX58U, RT-AX68U, RT-AX82U, RT-AX86 Series, RT-AX86U Pro, RT-AX88U, RT-AX89X, RT-AX92U, TUF Gaming AX5400, ZenWiFi AX (XT8), ZenWiFi AX Hybrid (XP4), ZenWiFi AX Mini (XD4), ZenWiFi ET8, ZenWiFi Pro ET12, ZenWiFi Pro XT12, ZenWiFi XD5, ZenWiFi XD6, and ZenWiFi XT9, etc.

with the IEEE 802.11ax-2021 standard and implement MIMO Wi-Fi capabilities (“accused products”).

ASUS Chromebook Flip CX5 (CX5601, 12th Gen Intel)

[Overview](#) [Tech Specs](#) [Review](#) [Support](#)

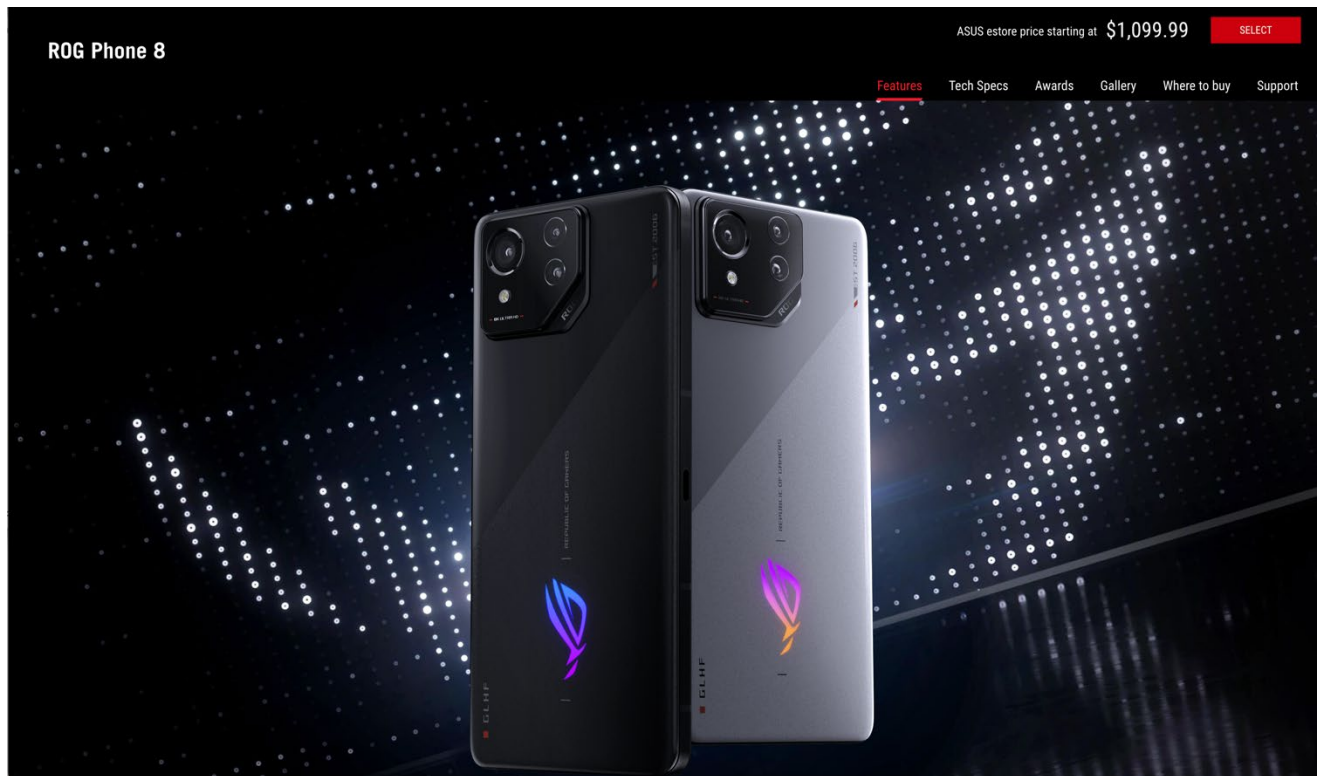


Source: <https://www.asus.com/us/laptops/for-home/chromebook/asus-chromebook-flip-cx5-cx5601-12th-gen-intel/techspec/>

Network and Communication

Wi-Fi 6(802.11ax) (Dual band) 2*2 + Bluetooth® 5.2 Wireless Card

Source: <https://www.asus.com/us/laptops/for-home/chromebook/asus-chromebook-flip-cx5-cx5601-12th-gen-intel/techspec/>



Source: <https://rog.asus.com/us/phones/rog-phone-8/>

Wireless Technology

802.11 be/ax/ac/a/b/g/n

Supports 2.4GHz/ 5GHz/ 6GHz WiFi

Bluetooth® 5.4 (HFP + A2DP + AVRCP + HID + PAN + OPP), supports Qualcomm® aptX™

Adaptive and aptX™ Lossless

Wi-Fi Direct

NFC

* WiFi 7 availability and features are dependent on regulatory limitations.

Source: <https://rog.asus.com/us/phones/rog-phone-8/spec/>



ROG Rapture GT-AX6000

★★★★★ 4.4 (140)

WHERE TO BUY

Source: <https://rog.asus.com/us/networking/rog-rapture-gt-ax6000-model/spec/>

Network Standard

IEEE 802.11a
IEEE 802.11b
IEEE 802.11g
IEEE 802.11n
IEEE 802.11ac
IEEE 802.11ax
IPv4
IPv6

Package Content

GT-AX6000 WiFi 6 Dual-Band Gaming Router
RJ-45 cable
Power Adapter
Quick Start Guide
Warranty Card

<https://rog.asus.com/us/networking/rog-rapture-gt-ax6000-model/spec/>

23. By doing so, ASUS has directly infringed (literally and/or under the doctrine of equivalents) at least Claims 1 and 21 of the '686 Patent. *See* Exhibit A. ASUS's infringement in this regard is ongoing.

24. The ASUS Chromebook Flip CX5 (CS5601), ROG Phone 8, and ROG Rapture GT-AX6000 are exemplary accused products.

25. ASUS has marketed the benefits of 802.11ax, also known as Wi-Fi 6, to its customers, and has touted its products as Wi-Fi 6 Certified.⁹ According to ASUS, "WiFi 6 technology provides up to 4X greater network capacity, which can lower latency when demand is high. WiFi 5 (802.11ac) can only handle one device at a time on each network channel, which is an inefficient use of available bandwidth."¹⁰ ASUS actively markets and promotes the advantages of Wi-Fi 6 and provides testing data to support its claims that Wi-Fi 6 produces significant advantages relative to prior generations of WiFi technology.

26. ASUS directly infringes the '686 Patent when, for example, it and/or its agents use the accused products, including during testing of the accused products. ASUS also directly infringes the '686 Patent when the accused products are used after purchase by a customer or end user. For example, the accused products are built with hardware and/or software components that control the operation of the accused products. These components cause the accused products to perform the steps of the claimed invention after, for example, receiving sounding packets. ASUS also directly infringes the '686 Patent by exercising direction or control over the use of the accused products by others, including its affiliates, its subsidiaries, its business partners (including certification and testing organizations), and/or its customers and end-

⁹ <https://www.asus.com/content/WiFi6/>.

¹⁰ *Id.*

users. ASUS contracts with, advises, and/or encourages such persons to engage in conduct satisfying one or more elements of the asserted claims, deriving a financial or other benefit (e.g., improved wireless communications) from doing so. ASUS conditions these benefits on, for example, such persons performing certain activities involving the accused products during specified conditions that cause the accused products to perform the steps of the claimed method (e.g., after receiving sounding packets).

27. ASUS has had knowledge of the '686 Patent at least as of the date when it was notified of the filing of this action.

28. Freedom Patents has been damaged as a result of the infringing conduct by ASUS alleged above. Thus, ASUS is liable to Freedom 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.

29. Freedom Patents has neither made nor sold unmarked articles that practice the '686 Patent, and is entitled to collect pre-filing damages for the full period allowed by law for infringement of the '686 Patent.

COUNT II

DIRECT INFRINGEMENT OF U.S. PATENT NO. 8,374,096

30. On February 12, 2013, United States Patent No. 8,374,096 (“the '096 Patent”) was duly and legally issued by the United States Patent and Trademark Office for an invention entitled “Method for Selecting Antennas and Beams in MIMO Wireless LANs.”

31. Freedom Patents is the owner of the '096 Patent, with all substantive rights in and to that patent, including the sole and exclusive right to prosecute this action and enforce the '096 Patent against infringers, and to collect damages for all relevant times.

32. ASUS used products and/or systems including, for example, its ASUS Chromebook Flip CX5 (CS5601), ROG Phone 8, ROG Rapture GT-AX6000, and other products¹¹ that comply with the IEEE 802.11ax-2021 standard and implement MIMO Wi-Fi capabilities (“accused products”).

¹¹ See, e.g., BR1100F, Chromebook CR1, Chromebook CX1, Chromebook CX9, Chromebook Flip C436, Chromebook Flip CM5, Chromebook Flip CX3, Chromebook Flip CX5, Chromebook Flip CX5, Chromebook Flip CX5, Chromebook Vibe CX55 Flip, K571, ProArt Studiobook 16 3D OLED, ProArt Studiobook 16 OLED, ProArt Studiobook 16 OLED, ProArt Studiobook Pro 16 OLED, ProArt Studiobook Pro 16 OLED, Vivobook 13 Slate OLED, Vivobook 14, Vivobook 14, Vivobook 14, Vivobook 15, Vivobook 15, Vivobook 15, Vivobook 15, Vivobook 15, Vivobook 15, Vivobook 15 OLED, Vivobook 15X OLED, Vivobook 16, Vivobook 16X OLED, Vivobook 17, Vivobook 17, Vivobook 17, Vivobook 17X, Vivobook 17X, Vivobook Flip 14, Vivobook Flip 14, Vivobook Pro 14 OLED, Vivobook Pro 14 OLED, Vivobook Pro 14 OLED, Vivobook Pro 15, Vivobook Pro 15, Vivobook Pro 15 OLED, Vivobook Pro 15 OLED, Vivobook Pro 15 OLED, Vivobook Pro 15X, Vivobook Pro 15X OLED, Vivobook Pro 16, Vivobook Pro 16X, Vivobook Pro 16X, Vivobook Pro 16X OLED, Vivobook Pro 16X OLED, Vivobook Pro 16X OLED, Vivobook Pro 16X OLED, Vivobook S 14 Flip, Vivobook S 14 Flip, Vivobook S 14 Flip OLED, Vivobook S 14 OLED, Vivobook S 14X OLED, Vivobook S 15, Vivobook S 15, Vivobook S 15, Vivobook S 15 OLED, Vivobook S 16X, Vivobook S13, Vivobook S13, Vivobook S14, Vivobook S14, Vivobook S14, Vivobook S15, Vivobook S15, Vivobook S15, Vivobook S15, Vivobook S15 OLED, Zenbook 13, Zenbook 13, Zenbook 13, Zenbook 13 OLED, Zenbook 13 OLED, Zenbook 14, Zenbook 14, Zenbook 14, Zenbook 14, Zenbook 14, Zenbook 14, Zenbook 14 Flip OLED, Zenbook 14 Flip OLED, Zenbook 14 OLED, Zenbook 14 OLED, Zenbook 14 OLED, Zenbook 14X OLED, Zenbook 14X OLED, Zenbook 14X OLED, Zenbook 14X OLED, Zenbook 14X OLED Space Edition, Zenbook 15, Zenbook 17 Fold OLED, ZenBook Duo, Zenbook Duo 14, Zenbook Flip 13, Zenbook Flip 13 OLED, ZenBook Flip 15, Zenbook Flip 15, Zenbook Flip 15, Zenbook Flip S13 OLED, Zenbook Pro 14 Duo OLED, Zenbook Pro 14 OLED, Zenbook Pro 15, Zenbook Pro 15 OLED, Zenbook Pro 16X OLED, Zenbook Pro 17, Zenbook Pro Duo, Zenbook Pro Duo 15 OLED, Zenbook Pro Duo 15 OLED, Zenbook S, Zenbook S 13 Flip OLED, Zenbook S 13 OLED, ROG Phone 5s, ROG Phone 5s Pro, ROG Phone 6, ROG Phone 6 Pro, ROG Phone 8, Smartphone for Snapdragon Insiders, Zenfone 8, Zenfone 9, ROG Rapture GT6, ROG Rapture GT-AX6000, ROG Rapture GT-AX6000 EVA Edition, ROG Rapture GT-AX11000, ROG Rapture GT-AX11000 PRO, ROG Rapture GT-AXE11000, ROG Rapture GT-AXE16000, ROG Rapture BE-98, ROG STRIX GS-AX3000, ROG STRIX GS-AX5400, RT-AXE7800, RT-AX1800S, RT-AX3000, RT-AX55, RT-AX56U, RT-AX58U, RT-AX68U, RT-AX82U, RT-AX86 Series, RT-AX86U Pro, RT-AX88U, RT-AX89X, RT-AX92U, TUF Gaming AX5400, ZenWiFi AX (XT8), ZenWiFi AX Hybrid (XP4), ZenWiFi AX Mini (XD4), ZenWiFi ET8, ZenWiFi Pro ET12, ZenWiFi Pro XT12, ZenWiFi XD5, ZenWiFi XD6, and ZenWiFi XT9, etc.

ASUS Chromebook Flip CX5 (CX5601, 12th Gen Intel)

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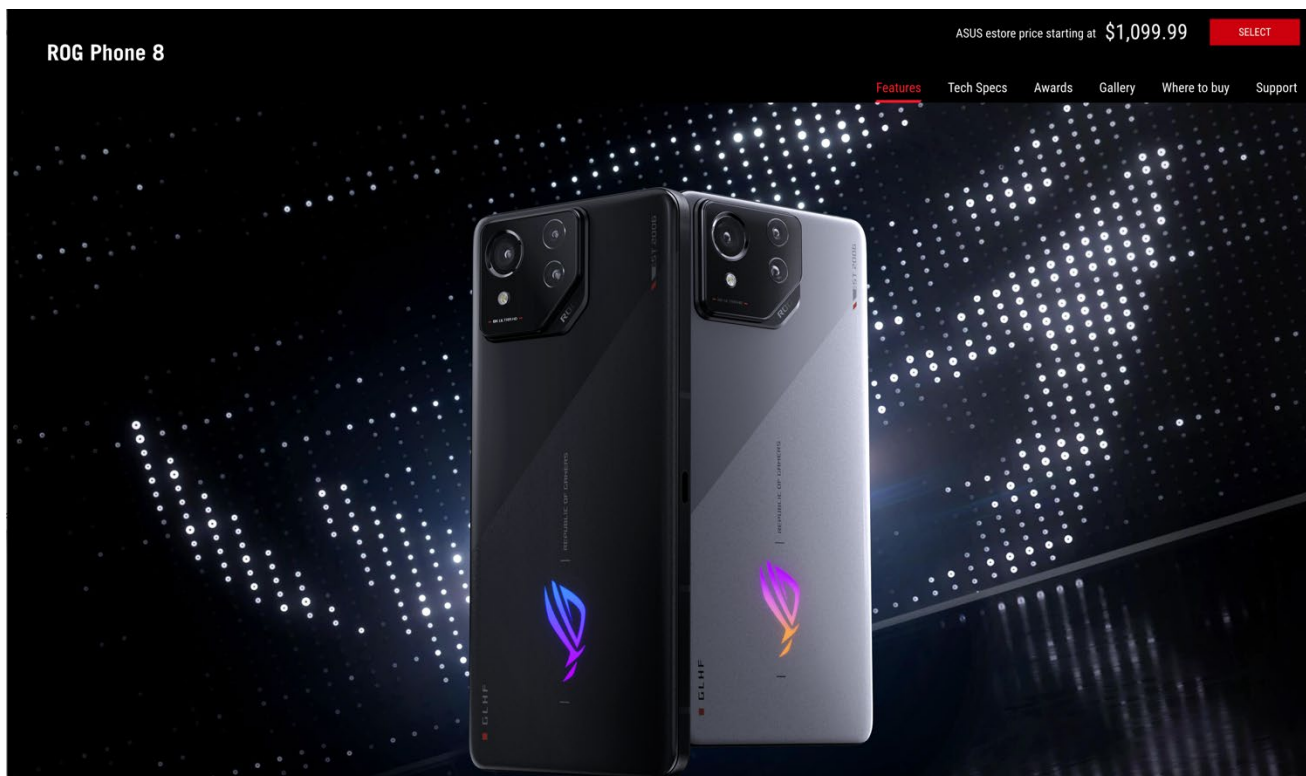


Source: <https://www.asus.com/us/laptops/for-home/chromebook/asus-chromebook-flip-cx5-cx5601-12th-gen-intel/techspec/>

Network and Communication

Wi-Fi 6(802.11ax) (Dual band) 2*2 + Bluetooth® 5.2 Wireless Card

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Source: <https://rog.asus.com/us/phones/rog-phone-8/>

Wireless Technology

802.11 be/ax/ac/a/b/g/n

Supports 2.4GHz/ 5GHz/ 6GHz WiFi

Bluetooth® 5.4 (HFP + A2DP + AVRCP + HID + PAN + OPP), supports Qualcomm® aptX™

Adaptive and aptX™ Lossless

Wi-Fi Direct

NFC

* WiFi 7 availability and features are dependent on regulatory limitations.

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ROG Rapture GT-AX6000

★★★★★ 4.4 (140)

WHERE TO BUY

Source: <https://rog.asus.com/us/networking/rog-rapture-gt-ax6000-model/spec/>

Network Standard

IEEE 802.11a
IEEE 802.11b
IEEE 802.11g
IEEE 802.11n
IEEE 802.11ac
IEEE 802.11ax
IPv4
IPv6

Package Content

GT-AX6000 WiFi 6 Dual-Band Gaming Router
RJ-45 cable
Power Adapter
Quick Start Guide
Warranty Card

<https://rog.asus.com/us/networking/rog-rapture-gt-ax6000-model/spec/>

33. By doing so, ASUS has directly infringed (literally and/or under the doctrine of equivalents) at least Claim 1 of the '096 Patent. *See* Exhibit B. ASUS's infringement in this regard is ongoing.

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36. ASUS directly infringes the '096 Patent when, for example, it and/or its agents use the accused products, including during testing of the accused products. ASUS also directly infringes the '096 Patent when the accused products are used after purchase by a customer or end user. For example, the accused products are built with hardware and/or software components that control the operation of the accused products. These components cause the accused products to perform the steps of the claimed invention after, for example, receiving sounding packets. ASUS also directly infringes the '096 Patent by exercising direction or control over the use of the accused products by others, including its affiliates, its subsidiaries, its business partners (including certification and testing organizations), and/or its customers and end-

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¹³ *Id.*

users. ASUS contracts with, advises, and/or encourages such persons to engage in conduct satisfying one or more elements of the asserted claims, deriving a financial or other benefit (e.g., improved wireless communications) from doing so. ASUS conditions these benefits on, for example, such persons performing certain activities involving the accused products during specified conditions that cause the accused products to perform the steps of the claimed method (e.g., after receiving sounding packets).

37. ASUS has had knowledge of the '096 Patent at least as of the date when it was notified of the filing of this action.

38. Freedom Patents has been damaged as a result of the infringing conduct by ASUS alleged above. Thus, ASUS is liable to Freedom 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.

39. Freedom Patents has neither made nor sold unmarked articles that practice the '096 Patent, and is entitled to collect pre-filing damages for the full period allowed by law for infringement of the '096 Patent.

COUNT III

DIRECT INFRINGEMENT OF U.S. PATENT NO. 8,514,815

40. On August 20, 2013, United States Patent No. 8,514,815 (“the '815 Patent”) was duly and legally issued by the United States Patent and Trademark Office for an invention entitled “Training Signals for Selecting Antennas and Beams in MIMO Wireless LANs.”

41. Freedom Patents is the owner of the '815 Patent, with all substantive rights in and to that patent, including the sole and exclusive right to prosecute this action and enforce the '815 Patent against infringers, and to collect damages for all relevant times.

42. ASUS used products and/or systems including, for example, its ASUS Chromebook Flip CX5 (CS5601), ROG Phone 8, ROG Rapture GT-AX6000, and other products¹⁴ that comply with the IEEE 802.11ax-2021 standard and implement MIMO Wi-Fi capabilities (“accused products”).

¹⁴ See, e.g., BR1100F, Chromebook CR1, Chromebook CX1, Chromebook CX9, Chromebook Flip C436, Chromebook Flip CM5, Chromebook Flip CX3, Chromebook Flip CX5, Chromebook Flip CX5, Chromebook Vibe CX55 Flip, K571, ProArt Studiobook 16 3D OLED, ProArt Studiobook 16 OLED, ProArt Studiobook 16 OLED, ProArt Studiobook Pro 16 OLED, ProArt Studiobook Pro 16 OLED, Vivobook 13 Slate OLED, Vivobook 14, Vivobook 14, Vivobook 14, Vivobook 15, Vivobook 15, Vivobook 15, Vivobook 15, Vivobook 15, Vivobook 15, Vivobook 15 OLED, Vivobook 15X OLED, Vivobook 16, Vivobook 16X OLED, Vivobook 17, Vivobook 17, Vivobook 17, Vivobook 17X, Vivobook 17X, Vivobook Flip 14, Vivobook Flip 14, Vivobook Pro 14 OLED, Vivobook Pro 14 OLED, Vivobook Pro 14 OLED, Vivobook Pro 15, Vivobook Pro 15, Vivobook Pro 15 OLED, Vivobook Pro 15 OLED, Vivobook Pro 15 OLED, Vivobook Pro 15X, Vivobook Pro 15X OLED, Vivobook Pro 16, Vivobook Pro 16X, Vivobook Pro 16X, Vivobook Pro 16X OLED, Vivobook Pro 16X OLED, Vivobook Pro 16X OLED, Vivobook Pro 16X OLED, Vivobook S 14 Flip, Vivobook S 14 Flip, Vivobook S 14 Flip OLED, Vivobook S 14 OLED, Vivobook S 14X OLED, Vivobook S 15, Vivobook S 15, Vivobook S 15, Vivobook S 15 OLED, Vivobook S 16X, Vivobook S13, Vivobook S13, Vivobook S14, Vivobook S14, Vivobook S14, Vivobook S15, Vivobook S15, Vivobook S15, Vivobook S15, Vivobook S15 OLED, Zenbook 13, Zenbook 13, Zenbook 13, Zenbook 13 OLED, Zenbook 13 OLED, Zenbook 14, Zenbook 14, Zenbook 14, Zenbook 14, Zenbook 14, Zenbook 14, Zenbook 14 Flip OLED, Zenbook 14 Flip OLED, Zenbook 14 OLED, Zenbook 14 OLED, Zenbook 14 OLED, Zenbook 14X OLED, Zenbook 14X OLED, Zenbook 14X OLED, Zenbook 14X OLED, Zenbook 14X OLED Space Edition, Zenbook 15, Zenbook 17 Fold OLED, ZenBook Duo, Zenbook Duo 14, Zenbook Flip 13, Zenbook Flip 13 OLED, ZenBook Flip 15, Zenbook Flip 15, Zenbook Flip 15, Zenbook Flip S13 OLED, Zenbook Pro 14 Duo OLED, Zenbook Pro 14 OLED, Zenbook Pro 15, Zenbook Pro 15 OLED, Zenbook Pro 16X OLED, Zenbook Pro 17, Zenbook Pro Duo, Zenbook Pro Duo 15 OLED, Zenbook Pro Duo 15 OLED, Zenbook S, Zenbook S 13 Flip OLED, Zenbook S 13 OLED, ROG Phone 5s, ROG Phone 5s Pro, ROG Phone 6, ROG Phone 6 Pro, ROG Phone 8, Smartphone for Snapdragon Insiders, Zenfone 8, Zenfone 9, ROG Rapture GT6, ROG Rapture GT-AX6000, ROG Rapture GT-AX6000 EVA Edition, ROG Rapture GT-AX11000, ROG Rapture GT-AX11000 PRO, ROG Rapture GT-AXE11000, ROG Rapture GT-AXE16000, ROG Rapture BE-98, ROG STRIX GS-AX3000, ROG STRIX GS-AX5400, RT-AXE7800, RT-AX1800S, RT-AX3000, RT-AX55, RT-AX56U, RT-AX58U, RT-AX68U, RT-AX82U, RT-AX86 Series, RT-AX86U Pro, RT-AX88U, RT-AX89X, RT-AX92U, TUF Gaming AX5400, ZenWiFi AX (XT8), ZenWiFi AX Hybrid (XP4), ZenWiFi AX Mini (XD4), ZenWiFi ET8, ZenWiFi Pro ET12, ZenWiFi Pro XT12, ZenWiFi XD5, ZenWiFi XD6, and ZenWiFi XT9, etc.

ASUS Chromebook Flip CX5 (CX5601, 12th Gen Intel)

[Overview](#) [Tech Specs](#) [Review](#) [Support](#)

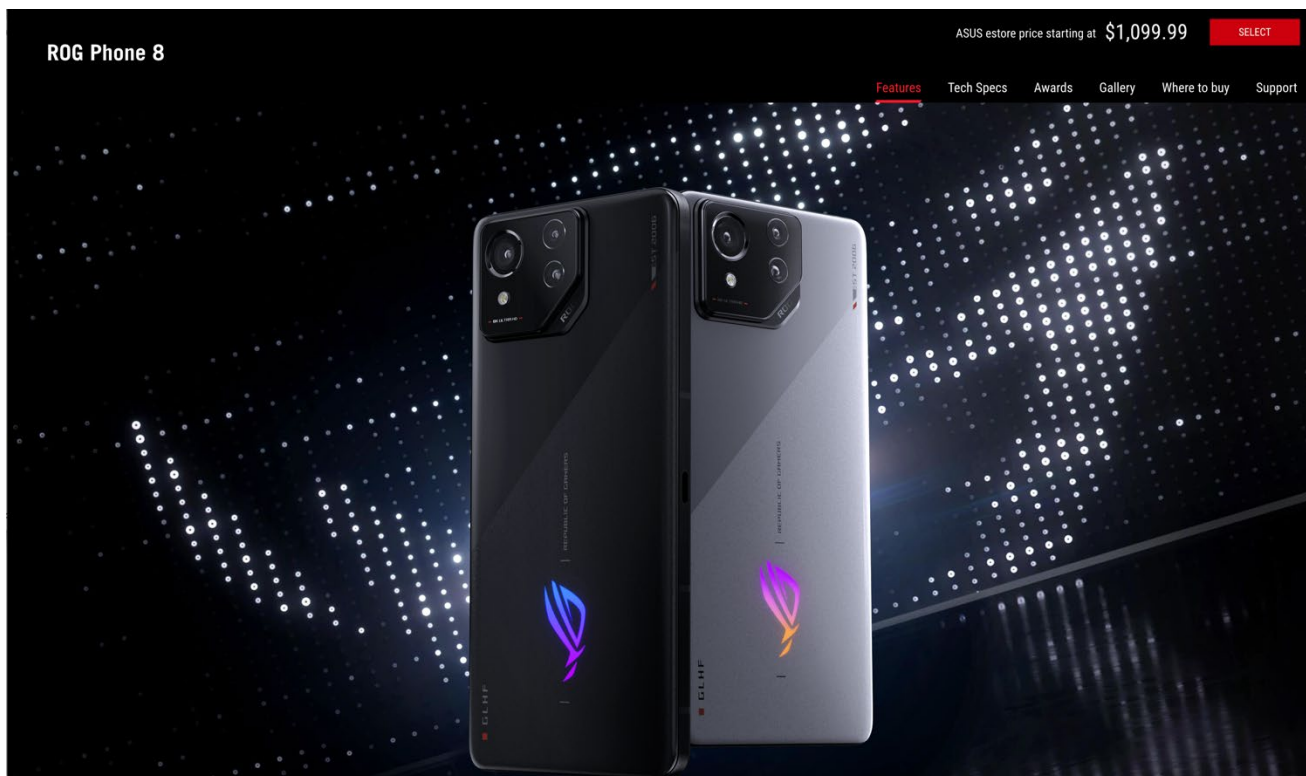


Source: <https://www.asus.com/us/laptops/for-home/chromebook/asus-chromebook-flip-cx5-cx5601-12th-gen-intel/techspec/>

Network and Communication

Wi-Fi 6(802.11ax) (Dual band) 2*2 + Bluetooth® 5.2 Wireless Card

Source: <https://www.asus.com/us/laptops/for-home/chromebook/asus-chromebook-flip-cx5-cx5601-12th-gen-intel/techspec/>



Source: <https://rog.asus.com/us/phones/rog-phone-8/>

Wireless Technology

802.11 be/ax/ac/a/b/g/n

Supports 2.4GHz/ 5GHz/ 6GHz WiFi

Bluetooth® 5.4 (HFP + A2DP + AVRCP + HID + PAN + OPP), supports Qualcomm® aptX™

Adaptive and aptX™ Lossless

Wi-Fi Direct

NFC

* WiFi 7 availability and features are dependent on regulatory limitations.

Source: <https://rog.asus.com/us/phones/rog-phone-8/spec/>



ROG Rapture GT-AX6000

★★★★★ 4.4 (140)

WHERE TO BUY

Source: <https://rog.asus.com/us/networking/rog-rapture-gt-ax6000-model/spec/>

Network Standard

- IEEE 802.11a
- IEEE 802.11b
- IEEE 802.11g
- IEEE 802.11n
- IEEE 802.11ac
- IEEE 802.11ax
- IPv4
- IPv6

Package Content

- GT-AX6000 WiFi 6 Dual-Band Gaming Router
- RJ-45 cable
- Power Adapter
- Quick Start Guide
- Warranty Card

<https://rog.asus.com/us/networking/rog-rapture-gt-ax6000-model/spec/>

43. By doing so, ASUS has directly infringed (literally and/or under the doctrine of equivalents) at least Claim 1 of the '815 Patent. *See* Exhibit C. ASUS's infringement in this regard is ongoing.

44. The ASUS Chromebook Flip CX5 (CS5601), ROG Phone 8, and ROG Rapture GT-AX6000 are exemplary accused products.

45. ASUS has marketed the benefits of 802.11ax, also known as Wi-Fi 6, to its customers, and has touted its products as Wi-Fi 6 Certified.¹⁵ According to ASUS, "WiFi 6 technology provides up to 4X greater network capacity, which can lower latency when demand is high. WiFi 5 (802.11ac) can only handle one device at a time on each network channel, which is an inefficient use of available bandwidth."¹⁶ ASUS actively markets and promotes the advantages of Wi-Fi 6 and provides testing data to support its claims that Wi-Fi 6 produces significant advantages relative to prior generations of WiFi technology.

46. ASUS directly infringes the '815 Patent when, for example, it and/or its agents use the accused products, including during testing of the accused products. ASUS also directly infringes the '815 Patent when the accused products are used after purchase by a customer or end user. For example, the accused products are built with hardware and/or software components that control the operation of the accused products. These components cause the accused products to perform the steps of the claimed invention after, for example, receiving sounding packets. ASUS also directly infringes the '815 Patent by exercising direction or control over the use of the accused products by others, including its affiliates, its subsidiaries, its business partners (including certification and testing organizations), and/or its customers and end-

¹⁵ <https://www.asus.com/content/WiFi6/>.

¹⁶ *Id.*

users. ASUS contracts with, advises, and/or encourages such persons to engage in conduct satisfying one or more elements of the asserted claims, deriving a financial or other benefit (e.g., improved wireless communications) from doing so. ASUS conditions these benefits on, for example, such persons performing certain activities involving the accused products during specified conditions that cause the accused products to perform the steps of the claimed method (e.g., after receiving sounding packets).

47. ASUS has had knowledge of the '815 Patent at least as of the date when it was notified of the filing of this action.

48. Freedom Patents has been damaged as a result of the infringing conduct by ASUS alleged above. Thus, ASUS is liable to Freedom 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.

49. Freedom Patents has neither made nor sold unmarked articles that practice the '815 Patent, and is entitled to collect pre-filing damages for the full period allowed by law for infringement of the '815 Patent.

**ADDITIONAL ALLEGATIONS REGARDING INFRINGEMENT
AND PERSONAL JURISDICTION**

50. ASUS has also indirectly infringed the '686 Patent, the '096 Patent, and the '815 Patent by inducing others to directly infringe the '686 Patent, the '096 Patent, and the '815 Patent.

51. ASUS has induced the end users and/or ASUS's customers to directly infringe (literally and/or under the doctrine of equivalents) the '686 Patent, the '096 Patent, and the '815 Patent by using the accused products.

52. 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 '686 Patent, the '096 Patent, and the '815 Patent, including, for example, claims 1 and 21 of the '686 Patent, claim 1 of the '096 Patent, and claim 1 of the '815 Patent.

53. Such steps by ASUS included, among other things, advising or directing customers, end users, and others (including distributors and equipment services entities) 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.

54. ASUS performed these steps, which constitute joint and/or induced infringement, with the knowledge of the '686 Patent, the '096 Patent, and the '815 Patent and with the knowledge that the induced acts constitute infringement.

55. ASUS was and is aware that the normal and customary use of the accused products by ASUS's customers would infringe the '686 Patent, the '096 Patent, and the '815 Patent. ASUS's inducement is ongoing.

56. 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) at least claim 21 of the '686 Patent by importing, selling or offering to sell the accused products.

57. ASUS has a significant role in placing the accused products in the stream of commerce with the expectation and knowledge that they will be purchased by consumers in Texas and elsewhere in the United States.

58. ASUS purposefully directs or controls the making of accused products and their shipment to the United States, using established distribution channels, for sale in Texas and elsewhere within the United States.

59. ASUS purposefully directs or controls the sale of the accused products into established United States distribution channels, including sales to nationwide retailers and wholesalers, including, for example, Best Buy, Walmart, and Staples. ASUS's established United States distribution channels include one or more United States based affiliates (e.g., ASUS Computer International) and third-parties working on behalf of ASUS.

60. ASUS's United States based affiliates (e.g., ASUS Computer International) operate entirely in support of ASUS and are not free to sell products of ASUS's competitors.

61. ASUS's United States based affiliates (e.g., ASUS Computer International) were formed by ASUS to further its domestic sales of the accused infringing products and are controlled by ASUS to ensure that result.

62. ASUS purposefully directs or controls the sale of the accused products online and in nationwide retailers and wholesalers, including for sale in Texas and elsewhere in the United States, and expects and intends that the accused products will be so sold.

63. ASUS purposefully places the accused products—whether by itself or through subsidiaries, affiliates, or third parties—into an international supply chain, knowing that the accused products will be sold in the United States, including Texas. Therefore, ASUS also facilitates the sale of the accused products in Texas.

64. 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 claim 21 of the '686 Patent.

65. 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 its affiliates' behalf, to import, sell, or offer to sell the accused products in an infringing manner.

66. ASUS performed these steps, which constitute induced infringement, with the knowledge of the '686 Patent, the '096 Patent, and the '815 Patent, and with the knowledge that the induced acts would constitute infringement.

67. ASUS performed such steps in order to profit from the eventual sale of the accused products in the United States.

68. ASUS's inducement is ongoing.

69. ASUS has also indirectly infringed by contributing to the infringement of the '686 Patent, the '096 Patent, and the '815 Patent. ASUS has contributed to the direct infringement of the '686 Patent, the '096 Patent, and the '815 Patent by the end user of the accused products.

70. 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 '686 Patent, the '096 Patent, and the '815 Patent, including, for example, claims 1 and 21 of the '686 Patent, claim 1 of the '096 Patent, and claim 1 of the '815 Patent.

71. The special features include, for example, hardware and/or software components especially adapted for transmitting/receiving sounding packets and estimating channel matrices for the selection of antennas in a multiple-input, multiple-output wireless network, used in a manner that infringes the '686 Patent, the '096 Patent, and the '815 Patent.

72. These special features constitute a material part of the invention of one or more of the claims of the '686 Patent, the '096 Patent, and the '815 Patent, and are not staple articles of commerce suitable for substantial non-infringing use.

73. ASUS's contributory infringement is ongoing.

74. ASUS has had actual knowledge of the '686 Patent, the '096 Patent, and the '815 Patent at least as of the date when it was notified of the filing of this action. Since at least that time, ASUS has known the scope of the claims of the '686 Patent, the '096 Patent, and the '815 Patent, the products that practice the '686 Patent, the '096 Patent, and the '815 Patent, and that Freedom Patents is the owner of the '686 Patent, the '096 Patent, and the '815 Patent.

75. By the time of trial, ASUS will have known and intended (since receiving such notice) that its continued actions would infringe and actively induce and contribute to the infringement of one or more claims of the '686 Patent, the '096 Patent, and the '815 Patent.

76. 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 Freedom Patents' patent rights. *See, e.g.,* M. Lemley, "Ignoring Patents," 2008 Mich. St. L. Rev. 19 (2008).

77. ASUS's customers have infringed the '686 Patent, the '096 Patent, and the '815 Patent. ASUS encouraged its customers' infringement.

78. ASUS's direct and indirect infringement of the '686 Patent, the '096 Patent, and the '815 Patent has been, and/or continues to be willful, intentional, deliberate, and/or in conscious disregard of Freedom Patents' rights under the patents-in-suit.

79. Freedom Patents has been damaged as a result of ASUS's infringing conduct alleged above. Thus, ASUS is liable to Freedom 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

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

PRAYER FOR RELIEF

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

a. Judgment that one or more claims of the '686 Patent, the '096 Patent, and the '815 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 '686 Patent, the '096 Patent, and the '815 Patent; or, in the alternative, an award of a reasonable ongoing royalty for future infringement of the '686 Patent, the '096 Patent, and the '815 Patent by such entities;

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

d. That Freedom 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 Freedom Patents its reasonable attorney's fees and costs in accordance with 35 U.S.C. § 285; and

f. That Freedom Patents be granted such other and further relief as the Court may

deem just and proper under the circumstances.

Dated: June 14, 2024

Respectfully submitted,

/s/ Zachariah S. Harrington

Matthew J. Antonelli

Texas Bar No. 24068432

matt@ahtlawfirm.com

Zachariah S. Harrington

Texas Bar No. 24057886

zac@ahtlawfirm.com

Larry D. Thompson, Jr.

Texas Bar No. 24051428

larry@ahtlawfirm.com

Rehan M. Safiullah

Texas Bar No. 24066017

rehan@ahtlawfirm.com

Hannah D. Price

Texas Bar No. 24116921

hannah@ahtlawfirm.com

ANTONELLI, HARRINGTON

& THOMPSON LLP

4306 Yoakum Blvd., Ste. 450

Houston, TX 77006

(713) 581-3000

Stafford Davis

State Bar No. 24054605

sdavis@stafforddavisfirm.com

Catherine Bartles

Texas Bar No. 24104849

cbartles@stafforddavisfirm.com

THE STAFFORD DAVIS FIRM

815 South Broadway Avenue

Tyler, Texas 75701

(903) 593-7000

(903) 705-7369 fax

Attorneys for Freedom Patents LLC