

**UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

AX WIRELESS LLC,

Plaintiff,

v.

LENOVO GROUP LIMITED,

Defendant.

Case No. 2:22-cv-00280-JRG-RSP

JURY TRIAL DEMANDED

**FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiff AX Wireless LLC (“Plaintiff” or “AX Wireless”) hereby alleges patent infringement against Defendant Lenovo Group Limited (“Defendant” or “Lenovo”) as follows:

**PARTIES**

1. Plaintiff AX Wireless is a limited liability company organized and existing under the laws of the State of Texas, having a principal place of business at 2025 Guadalupe Street, Suite 260, Austin, Texas 78705.

2. Defendant Lenovo is a corporation organized and existing under the laws of the People’s Republic of China, with an address at 23rd Floor, Lincoln House, Taikoo Place, 979 King’s Road, Quarry Bay, Hong Kong.

**JURISDICTION AND VENUE**

3. This patent infringement action arises under the patent laws of the United States, Title 35 of the United States Code (“U.S.C.”) § 101 *et seq.*

4. This Court has subject matter jurisdiction under 28 U.S.C. §§ 1331, 1332, and

1338(a).

5. Defendant is subject to this Court's specific and general personal jurisdiction consistent with the principles of due process and/or the Texas Long Arm Statute.

6. Defendant sells and offers to sell products and services throughout the United States, the State of Texas, and this District, and introduces infringing products and services into the stream of commerce knowing that they will be sold in the United States, the State of Texas, and this District. For example, Defendant sells and offers to sell infringing products and services through its website, [Lenovo.com](http://Lenovo.com), which may be accessed throughout the United States, the State of Texas, and this District.

7. Defendant has authorized sellers and sales representatives that offer for sale and sell products pertinent to this Complaint throughout the State of Texas, including in this District and to consumers throughout this District, such as: Best Buy, 422 West Loop 281, Suite 100, Longview, Texas 75605; Costco Wholesale, 3650 West University Drive, McKinney, Texas 75071; Office Depot, 422 West Loop 281, Suite 300, Longview, Texas 75605; Target, 3092 North Eastman Road, Suite 100, Longview, Texas 75605; and Wal-Mart, 1701 East End Boulevard North, Marshall, Texas 75670.

8. Personal jurisdiction exists generally over Defendant because Defendant has sufficient minimum contacts with the forum as a result of business conducted within the United States, the State of Texas, and this District.

9. Personal jurisdiction also exists over Defendant because it, directly, through, or in consort with subsidiaries, affiliates, or intermediaries, including but not limited to Lenovo (Beijing) Limited, Lenovo PC HK Limited, Lenovo PC International Limited, Lenovo (United States), Inc., and Motorola Mobility LLC, some or all of which are Defendant's agents or alter

egos, makes, uses, sells, offers for sale, imports, advertises, makes available, and/or markets products and services within the United States, the State of Texas, and this District that infringe one or more claims of the asserted patents, as alleged more particularly below.

10. Venue in this District is proper under 28 U.S.C. § 1400(b). Defendant is a foreign entity for which venue is proper in any district.

11. Defendant makes, uses, sells, offers to sell, and/or imports infringing products and services into and/or within this District, maintains a permanent and/or continuing presence within this District, and/or has the requisite minimum contacts with this District such that this venue is a fair and reasonable one. Upon information and belief, Defendant has transacted and, at the time of the filing of the Complaint, is continuing to transact business within this District.

#### **AX WIRELESS PATENTS**

12. AX Wireless owns the entire right, title, and interest in and to each of the following patents, including the right to seek damages for past and ongoing infringement: U.S. Patent Nos. 9,584,262 (“the ’262 Patent”); 9,614,566 (“the ’566 Patent”); 9,973,361 (“the ’361 Patent”); 10,079,707 (“the ’707 Patent”); 10,291,449 (“the ’449 Patent”); 10,554,459 (“the ’459 Patent”); 10,917,272 (“the ’272 Patent”); and 11,212,146 (“the ’146 Patent”) (collectively, “AX Wireless Patents”).

13. The ’262 Patent issued on February 28, 2017. A true and correct copy of this patent is attached hereto as Exhibit 1.

14. The ’566 Patent issued on April 4, 2017. A true and correct copy of this patent is attached hereto as Exhibit 2.

15. The ’361 Patent issued on May 15, 2018. A true and correct copy of this patent is attached hereto as Exhibit 3.

16. The '707 Patent issued on September 18, 2018. A true and correct copy of this patent is attached hereto as Exhibit 4.

17. The '449 Patent issued on May 14, 2019. A true and correct copy of this patent is attached hereto as Exhibit 5.

18. The '459 Patent issued on February 4, 2020. A true and correct copy of this patent is attached hereto as Exhibit 6.

19. The '272 Patent issued on February 9, 2021. A true and correct copy of this patent is attached hereto as Exhibit 7.

20. The '146 Patent issued on December 28, 2021. A true and correct copy of this patent is attached hereto as Exhibit 8.

21. The named inventors of each of the AX Wireless Patents are: Marcos C. Tzannes and Joon Bae Kim.

22. The AX Wireless Patents are directed to wireless OFDM (orthogonal frequency division multiplexing) networks and systems, including wireless OFDM transceivers, which employ variable header repetition.

23. The technology claimed in the AX Wireless Patents is adopted in the 802.11ax standard promulgated by the Institute of Electrical and Electronics Engineers (IEEE), which sets forth certain technical specifications for wireless local area networks ("WLANs"), also known as "Wi-Fi."

24. The IEEE 802.11ax standard and its enhancements are marketed by the Wi-Fi Alliance as "Wi-Fi 6" and "Wi-Fi 6E." Wi-Fi 6 was approved on or about February 9, 2021 and published on or about May 19, 2021. Wi-Fi 6E is an extension of Wi-Fi 6 (2.4 GHz and 5 GHz) to the 6 GHz frequency band.

25. Wi-Fi 6 utilizes OFDM and OFDMA (orthogonal frequency-division multiple access) technology, and employs variable header repetition, to provide enhanced data throughput, increased spectral efficiency, auto-detection, backwards compatibility, and other benefits.

26. Wi-Fi 6 may be deployed in dense environments, such as corporate offices, shopping centers, and apartment complexes, and provides backwards compatibility, increased network capacity and simultaneous connectivity, greater channel width, more effective bandwidth, and reduced power consumption.

### **ACCUSED INSTRUMENTALITIES**

27. Defendant makes, uses, sells, and/or offers to sell in, and/or imports into, the United States products that implement or embody Wi-Fi 6 technology and/or implement or comply with the Wi-Fi 6 standard (“Wi-Fi 6 Instrumentalities”). Defendant’s Wi-Fi 6 Instrumentalities infringe the AX Wireless Patents, including the ‘361 Patent, ‘707 Patent, ‘272 Patent, ‘146 Patent, ‘262 Patent, ‘566 Patent, ‘449 Patent and ‘459 Patent (collectively, the “Asserted Patents”) (“Accused Instrumentalities”).

28. Wi-Fi 6 Instrumentalities include, but are not limited to, smartphones, personal computers (PCs) (desktops and laptops), tablets, networking devices, Internet of things (“IoT”) devices, appliances, and other consumer and home electronics. On information and belief, Defendant certifies the interoperability of its Wi-Fi 6 Instrumentalities as Wi-Fi CERTIFIED 6 (based on IEEE 802.11ax standard) through the Wi-Fi Alliance.

29. Appendix A provides a non-exhaustive list of Defendant’s Accused Instrumentalities. Each Accused Instrumentality comprises a Wi-Fi 6 or 802.11ax transceiver. For example, the Motorola Moto G100 comprises a Wi-Fi 6 or 802.11 ax transceiver. For

example, the ThinkPad X13 Yoga comprises a Wi-Fi 6 or 802.11 ax transceiver. On information and belief, the Accused Instrumentalities employ, implement, or utilize materially the same Wi-Fi 6 technology, such that facts material to infringement by one Accused Instrumentality will be material to all Accused Instrumentalities.

**COUNT I: THE '361 PATENT**

30. Defendant infringes at least claim 1 of the '361 Patent. Appendix B details the manner in which the Accused Instrumentalities infringe this patent by way of an exemplary chart as illustrated through a representative example. On information and belief, the Accused Instrumentalities are materially the same with respect to infringement of this patent.

**COUNT II: THE '707 PATENT**

31. Defendant infringes at least claim 1 of the '707 Patent. Appendix C details the manner in which the Accused Instrumentalities infringe this patent by way of an exemplary chart as illustrated through a representative example. On information and belief, the Accused Instrumentalities are materially the same with respect to infringement of this patent.

**COUNT III: THE '272 PATENT**

32. Defendant infringes at least claim 1 of the '272 Patent. Appendix D details the manner in which the Accused Instrumentalities infringe this patent by way of an exemplary chart as illustrated through a representative example. On information and belief, the Accused Instrumentalities are materially the same with respect to infringement of this patent.

**COUNT IV: THE '146 PATENT**

33. Defendant infringes at least claim 1 of the '146 Patent. Appendix E details the manner in which the Accused Instrumentalities infringe this patent by way of an exemplary chart as illustrated through a representative example. On information and belief, the Accused

Instrumentalities are materially the same with respect to infringement of this patent.

**COUNT V: THE '262 PATENT**

34. Defendant infringes at least claim 1 of the '262 Patent. Appendix F details the manner in which the Accused Instrumentalities infringe this patent by way of an exemplary chart as illustrated through a representative example. On information and belief, the Accused Instrumentalities are materially the same with respect to infringement of this patent.

**COUNT VI: THE '566 PATENT**

35. Defendant infringes at least claim 1 of the '566 Patent. Appendix G details the manner in which the Accused Instrumentalities infringe this patent by way of an exemplary chart as illustrated through a representative example. On information and belief, the Accused Instrumentalities are materially the same with respect to infringement of this patent.

**COUNT VII: THE '449 PATENT**

36. Each Defendant infringes at least claim 1 of the '449 Patent. Appendix H details the manner in which the Accused Instrumentalities infringe this patent by way of an exemplary chart as illustrated through a representative example. On information and belief, the Accused Instrumentalities are materially the same with respect to infringement of this patent.

**COUNT VIII: THE '459 PATENT**

37. Each Defendant infringes at least claim 1 of the '459 Patent. Appendix I details the manner in which the Accused Instrumentalities infringe this patent by way of an exemplary chart as illustrated through a representative example. On information and belief, the Accused Instrumentalities are materially the same with respect to infringement of this patent.

38. Defendant had actual notice of the Asserted Patents and/or its infringing activities since prior to and no later than the filing of the Complaint, including but not limited to notice via

a January 27, 2022 letter, which identified specific AX Wireless Patents and infringing instrumentalities.

39. Defendant has committed and continues to commit acts of direct infringement of the Asserted Patents by making, using, selling, offering to sell, and/or importing Accused Instrumentalities.

40. Defendant has been and is indirectly infringing the Asserted Patents by actively inducing or contributing to the direct infringement by others of the Asserted Patents, in the United States, the State of Texas, and this District.

41. Defendant has induced and continues to induce its subsidiaries and affiliates, customers, and other third parties, such as resellers and end-consumers of Accused Instrumentalities, to directly infringe the Asserted Patents by making, using, selling, offering to sell, and/or importing into the United States the Accused Instrumentalities through affirmative acts.

42. The affirmative acts of inducement by Defendant include, but are not limited to, any one or a combination of encouraging and/or facilitating third-party infringement through the advertisement, marketing, and dissemination of the Accused Instrumentalities and their components; and creating and publishing promotional and marketing materials, supporting materials, product manuals, and/or technical support and information relating to the Accused Instrumentalities.

43. Defendant specifically intended and was aware that the ordinary and customary use of the Accused Instrumentalities would infringe the Asserted Patents.

44. Defendant knew that the induced conduct would constitute infringement, and intended said infringement at the time of committing the aforementioned acts, such that those



acts and conduct have been and continue to be committed with the specific intent to induce infringement, or to deliberately avoid learning of the infringing circumstances at the time those acts were committed, so as to be willfully blind to the infringement they induced.

45. Defendant took active steps to encourage end users to use and operate the Accused Instrumentalities, despite knowing of the Asserted Patents in the United States, in a manner it knew directly infringes each element of the claims of the Asserted Patents. Further, Defendant provided product manuals and other technical information that cause its subscribers, customers, and other third parties to use and to operate the Accused Instrumentalities for their ordinary and customary use, such that Defendant's customers and other third parties have directly infringed the Asserted Patents, through the normal and customary use of the Accused Instrumentalities.

46. Therefore, Defendant is liable for infringement of the Asserted Patents and that infringement has been and continues to be willful in nature.

47. AX Wireless has incurred and will continue to incur substantial damages; and has been and continues to be irreparably harmed by Defendant's infringement. Therefore, AX Wireless is entitled to an injunction, actual and/or compensatory damages, reasonable royalties, pre- and post-judgment interest, enhanced damages, attorney fees, and costs.

#### **PRAYER FOR RELIEF**

WHEREFORE, Plaintiff AX Wireless respectfully requests that this Court:

A. Enter judgment in favor of AX Wireless that each of the Asserted Patents is valid and enforceable;

B. Enter judgment in favor of AX Wireless that Defendant has infringed and continues to infringe each of the Asserted Patents, and that such infringement is willful;

C. Award AX Wireless all monetary relief available under the laws of the United States, including but not limited to 35 U.S.C. § 284;

D. Order Defendant to pay ongoing royalties in an amount to be determined for any continued infringement after the date of judgment;

E. Declare this case exceptional and award AX Wireless its reasonable attorney fees under 35 U.S.C. § 285;

F. Enjoin Defendant and its subsidiaries, and their officers, agents, servants, employees, and all persons in active concert with any of the foregoing from further infringement; and

G. Grant AX Wireless all such other relief as the Court deems just and reasonable.

#### **DEMAND FOR JURY TRIAL**

AX Wireless demands a jury trial on all issues so triable pursuant to Federal Rule of Civil Procedure 38.

Date: January 3, 2023

/s/ Andrew Y. Choung

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**CERTIFICATE OF SERVICE**

I hereby certify that the foregoing document is being served on all counsel of record via CM/ECF on this January 3, 2023.

*/s/ Andrew Y. Choung*