

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

FREEDOM PATENTS LLC,

Plaintiff,

v.

LENOVO GROUP LIMITED and  
LENOVO PC HK LIMITED

Defendants.

CIVIL ACTION NO. 4:24-cv-646

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 Lenovo Group Limited and Lenovo PC HK Limited (collectively, “Lenovo” 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 Lenovo Group Limited (“Lenovo Group”) is a corporation duly organized and existing under the laws of Hong Kong with a place of business at 23rd Floor, Lincoln House, Taikoo Place, 979 King’s Road, Quarry Bay, Hong Kong SAR. Lenovo Group 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 or a regular place of business in Texas as required by statute. This action arises out of that business.

3. Lenovo Group Limited—through its subsidiaries—manufactures and sells personal computers and handheld devices worldwide.

4. Lenovo Group Limited, together with its subsidiaries, manufactures and sells personal computers and handheld devices worldwide. Lenovo is the world’s largest PC company, whose portfolio includes PCs, workstations, smartphones, tablets, etc.<sup>1</sup> The Lenovo group of companies—collectively known as “The Lenovo Group” or “Lenovo”—have a global reach and have a strong presence in the United States.<sup>2</sup> Lenovo generated more than \$61 billion in revenue in the United States in 2023. Lenovo maintains one of its dual headquarters in the United States.<sup>3</sup>

5. Officers or executives of Lenovo Group Limited (or of other Lenovo affiliates outside of the United States) regularly work from and reside in the United States, both now and in the past. These officers or executives include Laura Quatela, Paul Rector, Kurt Skaugen, and Matthew Zielinski. Such officers or executives are involved in the marketing, distribution, sale of the accused products in the United States, as well as in other acts of infringement alleged herein.

6. Lenovo Group Limited owns or controls, either directly or indirectly, each of the other Lenovo entities. Lenovo operates and manages a global supply chain to develop, manufacture, and deliver accused computer products, such as notebook and desktop computers, to the United States and other countries. At the direction or control of Lenovo Group Limited, accused products destined for the United States are manufactured and tested in Lenovo “manufacturing centers” located around the world, including multiple facilities in China, as well as in the facilities of Compal or other contract manufacturers. At the direction or control of

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<sup>1</sup> <https://doc.irasia.com/listco/hk/lenovo/annual/2024/ar2024.pdf>

<sup>2</sup> *See id.*

<sup>3</sup> <https://www.lenovo.com/us/en/about/locations/>

Lenovo Group Limited, such accused products are packaged, shipped, and sold to customers in the United States. Lenovo Group Limited reports U.S. sales of the accused products as its own.

7. Defendant Lenovo PC HK Limited (“Lenovo PC HK”) is a company organized and existing under the laws of Hong Kong with a place of business at 23rd Floor, Lincoln House, Taikoo Place, 979 King’s Road, Quarry Bay, Hong Kong SAR. Lenovo PC HK 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 or a regular place of business in Texas as required by statute. This action arises out of that business.

8. Lenovo PC HK, an indirect subsidiary of Lenovo Group Limited, is involved in the procurement, marketing, distribution, and sale of accused desktop computers, personal computers, laptop computers, notebook computers, handheld devices, and other related products. In particular, Lenovo PC HK handles the international procurement and distribution of Lenovo accused products manufactured for the United States by Lenovo entities, such as LCFC Hefei Electronics Technology Co., Ltd. and Lenovo Centro Tecnológico, S de RL de CV. That role includes providing manufacturers with designs and specifications of accused computer products destined for the United States. Further, Lenovo PC HK has been and is involved in the shipping of accused products, such as notebook and desktop computers, to the United States—both directly and through intermediate Lenovo entities. Lenovo PC HK also has sold and sells accused Lenovo products, such as notebook and desktop computers, to at least one U.S. distributor—Lenovo (United States) Inc.—who then re-sells them to Lenovo customers residing

in the United States.<sup>4</sup> Lenovo PC HK does the above activities at the instruction and under the supervision of Lenovo Group Limited.

9. The Defendants identified in paragraphs 2–8 above (collectively, “Lenovo”) are companies that together—with their affiliates—comprise one of the world’s leading manufacturers of computers and computer-related products. Indeed, Lenovo was the world’s largest supplier of personal computers in 2023 (accounting for over 25% of global PC shipments), and the fourth largest supplier of personal computers in the United States (accounting for 16% of PC sales).<sup>5</sup> Together, Lenovo and its affiliates design, manufacture, use, import into the United States, sell, and/or offer for sale in the United States personal computers, laptop computers, notebook computers, tablets, and other related products. Lenovo’s devices are marketed, offered for sale, and/or sold throughout the United States, including within this District.

10. The Lenovo 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.

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<sup>4</sup> Order Granting in Part and Denying in Part Defendants’ Motion to Dismiss for Lack of Personal Jurisdiction and Failure to State a Claim, *Acquis LLC v. Lenovo Group Ltd, et al.*, No. 20-cv-00967 (W.D. Tex. Nov. 16, 2021).

<sup>5</sup> See Gartner Says Worldwide PC Shipments Declined 9% in Third Quarter of 2023, GARTNER (October 9, 2023), <https://www.gartner.com/en/newsroom/press-releases/2023-10-09-gartner-says-worldwide-pc-shipments-declined-9-percent-in-third-quarter-of-2023>.

11. The Lenovo 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.

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

13. Thus, the Lenovo 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.

14. 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 bearing at least the Lenovo brand or that are otherwise made for use with services provided by Lenovo. Additionally, questions of fact common to all defendants will arise in this action.

#### **JURISDICTION AND VENUE**

15. 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).

16. This Court has personal jurisdiction over Lenovo pursuant to due process and/or the Texas Long Arm Statute because, *inter alia*, (i) Lenovo has done and continues to do business in Texas; and (ii) Lenovo 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 Lenovo 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.

17. Venue is proper in this district as to Lenovo, 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**

18. 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.

19. 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.<sup>6</sup> From its beginning, MERL was focused on pioneering new technologies in various industries, including computer graphics, digital communication, medical imaging, transportation etc.<sup>7</sup> In the early 2000s, for example, “MERL focused on standardization and developments of new emerging technologies,” such as

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<sup>6</sup> See <https://www.merl.com/company/history>.

<sup>7</sup> See <https://www.merl.com/public/MERL-30Years.pdf>.

“antenna selection, channel equalization, efficient channel state estimation, and Orthogonal Frequency Division Multiplexing (OFDM).”<sup>8</sup>

20. 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**

21. 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.”

22. 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.

23. Lenovo made, had made, used, imported, provided, supplied, distributed, sold, and/or offered for sale products and/or systems including, for example, its Lenovo IdeaPad 3i, Lenovo Tab 12 Tablet, Lenovo ThinkCentre Neo 50s Gen 4, Lenovo ThinkReality VRX, and

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<sup>8</sup> *Id.* at 22.

other products<sup>9</sup> that comply with the IEEE 802.11ax-2021 standard and implement MIMO Wi-Fi capabilities (“accused products”).

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<sup>9</sup> See, e.g., Lenovo IdeaPad (1i (15” Intel), 3 (15” Intel), 3i (15” Intel), 5 (15” AMD), 5i (15” Intel), 5 Pro (16” AMD), Flex 3i Chromebook, Flex 5 (14” AMD), Flex 5i (14” Intel), Gaming 3 (15” AMD), Gaming 3i (15”), Slim 9i (14” Intel), Windows Duet 5i (12” Intel), 5 2-in-1 (16” AMD), 5i 2-in-1 (14” Intel), 5i 2-in-1 (16” Intel), Flex 5i Chromebook Plus Gen 7 (14” Intel), Flex 5i (16” Intel) 2-in-1, Flex 5i (14” Intel) 2 in 1, Flex 5 (16” AMD) 2 in 1, Flex 5 (14” AMD) 2 in 1, Pro 5i (16” Intel), Flex 5i Chromebook (14” Intel), Slim 3 Chromebook (14” MediaTek), Slim 3i Chromebook (14” Intel), Slim 5 (16” AMD), Slim 3 (15” AMD), Slim 3i (15” Intel), Slim 5i (16” Intel), 1 (15” AMD), 5 2-in-1 (14” AMD), Lenovo 3i Chromebook (15” Intel), Lenovo Slim 7 Pro X (14” AMD), Lenovo Slim 7i (14” Intel), Lenovo Slim 7i Pro X (14” Intel), Lenovo Slim 9i (14” Intel), Lenovo 500w Gen 3 (11” Intel), Lenovo K14 Intel (14”), K14 AMD (14”), Lenovo Slim Pro 7 (14” AMD), Lenovo Slim 7i (16” Intel), Lenovo Legion (5 Gen 7 (15” AMD), 5 Pro Gen 7 (16” AMD), 5i Gen 7 (15” Intel), 5i Pro Gen 6 (16” Intel), 5i Pro Gen 7 (16” Intel), 7 Gen 7 (16” AMD), 7i Gen 7 (16” Intel), Slim 7 Gen 7 (16” AMD), Slim 7i Gen 7 (16” Intel), Pro 7i Gen 8 Intel (16”) with RTX 4070, Pro 7i Gen 8 Intel (16”) with RTX 4090, Pro 5i Gen 8 Intel (16”) with RTX™ 4060, Pro 7i Gen 9 Intel (16”) with RTX™ 4090, Slim 7i Gen 8 Intel (16”) - RTX 4060, Pro 5 Gen 8 AMD (16”) with RTX™ 4060, Slim 5i Gen 8 Intel (16”) with RTX 4050, Pro 5i Gen 8 Intel (16”) with RTX™ 4060, Slim 5 Gen 8 AMD (16”) - RTX 4050, 9i Gen 9 Intel (16”) with up to RTX 4090, Pro 5i Gen 8 Intel (16”) with RTX™ 4050, Pro 5 Gen 8 AMD (16”) with RTX™ 4050, 5i Gen 9 Intel (16”) with up to RTX 4070, Pro 5i Gen 9 Intel (16”) with up to RTX 4070, Pro 5 Gen 8 AMD (16”) with up to RTX™ 4070, Slim 5 Gen 9 AMD (16”) with RTX 4070, 5i Gen 9 Intel (16”) with RTX 4060, Slim 5 Gen 8 AMD (14”) with RTX™ 4060, Pro 5i Gen 9 Intel (16”) with RTX™ 4060, 7i Gen 9 Intel (16”) with RTX™ 4070, Pro 7 Gen 8 AMD (16”) with RTX™ 4080, Pro 7i Gen 9 Intel (16”) with RTX™ 4080, Pro 7 Gen 8 AMD (16”) with RTX™ 4090, Slim 7i Gen 8 Intel (16”) - RTX 4070), Lenovo ThinkBook (13s Gen 4 (13” AMD), 13s Gen 4 (13” Intel), 13x Gen 2 (13” Intel), 13x (13” Intel), 14 Gen 4 (14” AMD), 14 Gen 4 (14” Intel), 14p Gen 3 (14” AMD), 14s Yoga Gen 2 (14” Intel), 15 Gen 2 (15” Intel), 15 Gen 4 (15” AMD), 15 Gen 4 (15” Intel), 16p Gen 3 (16” AMD), Plus Gen 2 (Intel), 16 Gen 6 Intel (16”), 14 Gen 6 Intel (14”), 16 Gen 6 AMD (16”), 14 Gen 6 AMD (14”), 13x Gen 4 Intel (13”), 16p Gen 4 Intel (16”), 14 Gen 7 Intel (14”), 14 2-in-1 Gen 4 Intel (14”), 16p Gen 5 (16” Intel), 16 Gen 7 (16” Intel), 16 Gen 6 Intel (16”), Plus Gen 3 (17” Intel)), Lenovo ThinkPad (C14 Chromebook Enterprise (14” Intel), E14 Gen 4 (14” AMD), E14 Gen 4 (14” Intel), E15 Gen 4 (15” AMD), E15 Gen 4 (15” Intel), L13 Gen 3 (13” AMD), L13 Gen 3 (13” Intel), L13 Yoga Gen 3 (13” AMD), L13 Yoga Gen 3 (13” Intel), L14 Gen 1 (14” AMD), L14 Gen 2 (14” Intel), L14 Gen 3 (14” AMD), L14 Gen 3 (14” Intel), L15 Gen 2 (15” Intel), L15 Gen 3 (15” AMD), L15 Gen 3 (15” Intel), P1 Gen 2 (15”) Mobile Workstation, P1 Gen 5 (16” Intel), P14s Gen 3 (14” AMD), P14s Gen 3 (14” Intel), P15s (15”) Mobile Workstation, P15v Gen 3 (15” AMD), P15v Gen 3 (15” Intel), P16 Gen 1 (16” Intel), P16s (16” AMD), P16s Gen 1 (16” Intel), P53 (15”) Mobile Workstation, P73, T14 Gen 3 (14” AMD), T14 Gen 3 (14” Intel), T14s Gen 2 (14” Intel), T14s Gen 3 (14” AMD), T14s Gen 3 (14” Intel), T15 Gen 2 (15” Intel), T15p Gen 2 (15” Intel), T15p Gen 3 (15” Intel), T16 Gen 1 (16” AMD), T16 Gen 1 (16” Intel), X1 Carbon Gen 10 (14” Intel), X1 Carbon Gen 9 (14” Intel), X1 Extreme Gen 4 (16” Intel), X1



Extreme Gen 5 (16" Intel), X1 Nano Gen 2 (13" Intel), X1 Yoga Gen 6, X1 Yoga Gen 7 (14" Intel), X13 Gen 2 (13" Intel), X13 Gen 3 (13" AMD), X13 Gen 3 (13" Intel), X13 Yoga Gen 3 (13" Intel), X13s (13" Snapdragon), Z13 Gen 1 (13" AMD), Z16 Gen 1 (16" AMD), X1 Carbon Gen 11 Intel (14"), E16 Gen 1 (16" Intel), P14s Gen 4 (14" AMD) mobile workstation, T16 Gen 2 (16" AMD), X1 Yoga Gen 8 Intel (14"), T14 Gen 4 (14" Intel), E16 Gen 1 (16" AMD), T16 Gen 2 (16" Intel), P16s Gen 2 Intel (16") Mobile Workstation, E14 Gen 5 Intel (14"), T14 Gen 4 AMD (14"), P1 Gen 6 Intel (16") Mobile Workstation, E14 Gen 5 AMD (14"), T14s Gen 4 Intel (14"), X1 Nano Gen 3 (13" Intel) Laptop, X13 Gen 4 Intel (13"), P14s Gen 4 (14" Intel) Mobile Workstation, T14s Gen 4 AMD (14"), P16 Gen 2 Intel (16") Mobile Workstation, P16v (16" Intel) mobile workstation, X13 Gen 4 AMD (13"), X1 Fold (16" Intel), L15 Gen 4 (15" AMD), X13 Yoga Gen 4 (13" Intel) 2-in-1, P16 Gen 2 Intel (16") Mobile Workstation, L15 (15") AMD, P16v Gen 1 (16" AMD) mobile workstation, Z16 Gen 2 AMD (16"), L16 Gen 1 Intel (16"), E14 Gen 6 Intel (14"), X13 Gen 5 (13" Intel), L13 Yoga Gen 2 Intel (13"), E16 Gen 2 (16" Intel), Z13 Gen 2 (13" AMD), X1 Carbon Gen 12 Intel (14"), X13 2-in-1 Gen 5 Intel (13"), X1 2-in-1 Gen 9 Intel (14"), T14 Gen 5 (14" Intel), T16 Gen 3 Intel (16"), T14s Gen 5 Intel (14"), P16s Gen 2 (16" AMD) Mobile Workstation, Lenovo Yoga (6 (13" AMD), 7i (14" Intel), 7i (15" Intel), 7i (16" Intel), 9i (14" Intel), 9i 2-in-1 Intel (14"), Book 9i Intel (13"), 7 (16" AMD), Pro 9i (16" Intel), 7 2-in-1 (16" AMD), 7 2-in-1 (14" AMD), 7 Gen 9 (14" AMD), 7i 2-in-1 (14" Intel), 7i Gen 9 (16" Intel), 7i 2-in-1 (16" Intel), Pro 7 (14" AMD)), Lenovo LOQ ((16" Intel) with RTX 4060, (15" Intel) with RTX 4050, (16" AMD) with RTX 4050, (15" AMD) with RTX 3050, (15" AMD) with RTX 4050, (16" AMD) with RTX 4060, (15" AMD) with RTX 4060, (15" Intel) with RTX 3050, (15" Intel) with RTX 4060), Lenovo Tab Series (Tab P11 Pro Gen 2, Tab P12, P11 Gen 2 (11" MTK)), Lenovo IdeaCentre (3i (Intel) Desktop Tower, 5 (AMD) Desktop, 5i 27" All in One, 5i Home Desktop Computer, AIO 3 (24" AMD) All In One, AIO 3i (22" Intel) Desktop, AIO 3i (24" Intel) All In One, AIO 3i (27" Intel) Desktop, AIO 5i (24" Intel) Desktop, AIO 5i (27" Intel) All in one, Mini 5i, Mini, AIO 3 AMD (27"), AIO AMD (24"), Tower (Intel), AIO I Intel (27"), AIO AMD (27")), Lenovo Legion (Tower 5 (AMD) Gaming Computer, Tower 5i Gen 6 (Intel) Gaming Desktop, Tower 7i Gen 7 (Intel) Gaming Desktop, Tower 5 Gen 8 (AMD) with RTX 3050, Tower 5 Gen 8 (AMD) with RTX 3060, Tower 5i Gen 8 (Intel) with RTX 3060, Tower 7i Gen 8 (Intel) with RTX 4080 Super, Tower 5 Gen 8 (AMD) with RX 7600, Tower 5i Gen 8 (Intel) with RTX 4070, Tower 5 Gen 8 (AMD) with RTX 4070 Super, Tower 5 Gen 8 (AMD) with RTX 4070 Ti Super, Tower 7i Gen 8 (Intel) with RTX 4070 Ti Super), Lenovo ThinkCentre (M60e Tiny Desktop, M70a All-in-One PC, M70a Gen 3 AIO (21" Intel) PC, M70s Gen 3 (Intel) Small Form Factor, M70q Tiny Desktop, M70t Gen 3 (Intel) Tower Desktop, M70t Tower Desktop, M75n IoT Nano Desktop, M75q Tiny Gen 2, M80q Tiny Desktop, M75s Gen 2 Small Form Factor Desktop, M90a All-in-One PC, M90a Pro Gen 3 (24" Intel) All-In-One PC, M90q Gen 3 Tiny (Intel) Desktop, M90s Gen 3 (Intel) Small Form Factor Desktop, M90s Small Form Factor Desktop, M90t Desktop Tower, M90t Gen 3 (Intel) Tower Desktop, Neo 30a (24" Intel) All-in-One, Neo 50s (Intel) SFF, M80q Gen 4 Tiny (Intel), Neo 50s Gen 4 (Intel) SFF, Neo 50q Gen 4 Thin Client (Intel), M70q Gen 3 Tiny (Intel), M70q Gen 4 Tiny (Intel), M80s Gen 3, M70a Gen 3 Intel (21") All-in-One, M60q Chromebox Enterprise, M80t Gen 3 (Intel) Tower, Neo 50q Gen 4 Tiny), Lenovo Yoga (AIO 7 (27" AMD) All in One Desktop Computer, AIO 9i (32" Intel)), Lenovo ThinkStation (P340 SFF Workstation, P340 Tower Workstation, P348 Tower Workstation, P350 SFF Workstation, P350 Tower Workstation, P358 Tower (AMD), P360 Tiny Workstation, P360 Tower Workstation,

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The image shows a dark blue Lenovo IdeaPad 3i laptop with a 15-inch screen. The screen displays the Windows 11 desktop with the Start menu open. The laptop is shown from a front-three-quarter view. To the right of the laptop are navigation arrows (left and right).

**Source:** [https://www.lenovo.com/us/en/p/laptops/ideapad/ideapad-300/ideapad-3i-gen-6-\(15-inch-intel\)/82h803sbus](https://www.lenovo.com/us/en/p/laptops/ideapad/ideapad-300/ideapad-3i-gen-6-(15-inch-intel)/82h803sbus)

**WLAN**

Wi-Fi 6 2x2 AX & Bluetooth® 5.1 or above

**Source:** [https://www.lenovo.com/us/en/p/laptops/ideapad/ideapad-300/ideapad-3i-gen-6-\(15-inch-intel\)/82h803sbus](https://www.lenovo.com/us/en/p/laptops/ideapad/ideapad-300/ideapad-3i-gen-6-(15-inch-intel)/82h803sbus)

P360 Ultra (Intel), P620 Tower Workstation, P3 Tiny Workstation, P3 Tower Workstation, P3 Ultra Small Form Factor Workstation, P7 Workstation, P5 Workstation, PX Workstation, P8 Workstation), Lenovo LOQ (Tower (Intel) with RTX 3050, Gaming Tower (Intel) with RTX 4060), Lenovo ThinkSmart (Core Full Room Kit, Core standalone computing device, ThinkReality VRX, Core + IP Controller for Microsoft Teams Rooms, View Plus, One + Controller for Teams, One + Controller for Zoom, One + IP Controller for Teams, One + IP Controller for Zoom, Core Full Room Kit for Zoom Rooms), Netgear Nighthawk Pro Gaming XR1000, Netgear Orbi CBR750, TP-Link Archer AX10, TP-Link AX5400 Ceiling Mount Dual-Band Wi-Fi 6 Access Point, TP-Link EAP615-Wall Omada SDN AX1800 WiFi 6 in-Wall Access Point, TP-Link AX3000 Ceiling Mount Dual-Band Wi-Fi 6 Access Point, TP-Link AX1800 Indoor/Outdoor Dual-Band Wi-Fi 6 Access Point, TP-Link AX1800 High Gain Dual Band Wi-Fi 6 USB Adapter, etc.

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Source: [https://www.lenovo.com/us/en/p/tablets/android-tablets/lenovo-tab-series/lenovo-tab-p12/len10310018#tech\\_specs](https://www.lenovo.com/us/en/p/tablets/android-tablets/lenovo-tab-series/lenovo-tab-p12/len10310018#tech_specs)

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## WiFi Wireless LAN Adapters

Intel® Wi-Fi 6 AX201 2x2 AX & Bluetooth® 5.1 or above

**Source:** [https://www.lenovo.com/us/en/p/desktops/thinkcentre/thinkcentre-neo-series/thinkcentre-neo-50s-gen-4-\(intel\)-sff/12jf000qus?cid=us:sem%7Cse%7Cgoogle%7Cpmax\\_smb\\_pcs%7C%7C%7C12JF000QUS%7C18337003604%7C%7C%7Cshopping%7Cmix%7Ccommercialconsumer&gad\\_source=1&gclid=CjwKCAjwmYCzBhA6EiwAxFwfgA75ihSj4oaMjP-sUk5rqjGXsL6rZYTye6X-k1Ft0xlmduTXGJ7OyBoC19kQAvD\\_BwE](https://www.lenovo.com/us/en/p/desktops/thinkcentre/thinkcentre-neo-series/thinkcentre-neo-50s-gen-4-(intel)-sff/12jf000qus?cid=us:sem%7Cse%7Cgoogle%7Cpmax_smb_pcs%7C%7C%7C12JF000QUS%7C18337003604%7C%7C%7Cshopping%7Cmix%7Ccommercialconsumer&gad_source=1&gclid=CjwKCAjwmYCzBhA6EiwAxFwfgA75ihSj4oaMjP-sUk5rqjGXsL6rZYTye6X-k1Ft0xlmduTXGJ7OyBoC19kQAvD_BwE)

## ThinkReality VRX

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### Engineered exclusively for enterprise

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- Ideal for soft skills training and simulation with 3DoF & 6DoF capabilities
- Full-color, high-resolution pass-through imaging for Mixed Reality applications
- Full suite of end-to-end services with global support and service

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**\$1,299.00**



**Source:** [https://www.lenovo.com/us/en/p/smart-devices/virtual-reality/thinkreality-vrx/len101r0001#tech\\_specs](https://www.lenovo.com/us/en/p/smart-devices/virtual-reality/thinkreality-vrx/len101r0001#tech_specs)

**WiFi Wireless LAN Adapters : Wi-Fi 6E 802.11ax 2x2 MIMO**

**Source:** [https://www.lenovo.com/us/en/p/smart-devices/virtual-reality/thinkreality-vrx/len101r0001#tech\\_specs](https://www.lenovo.com/us/en/p/smart-devices/virtual-reality/thinkreality-vrx/len101r0001#tech_specs)

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

25. The Lenovo IdeaPad 3i, Lenovo Tab 12 Tablet, Lenovo ThinkCentre Neo 50s Gen 4, and Lenovo ThinkReality VRX are exemplary accused products.

26. Lenovo directly infringes the '686 Patent when, for example, it and/or its agents use the accused products, including during testing of the accused products. Lenovo 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. Lenovo 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-users. Lenovo 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. Lenovo 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. Lenovo 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 Lenovo alleged above. Thus, Lenovo 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. Lenovo used products and/or systems including, for example, its Lenovo IdeaPad 3i, Lenovo Tab 12 Tablet, Lenovo ThinkCentre Neo 50s Gen 4, Lenovo ThinkReality VRX, and



other products<sup>10</sup> that comply with the IEEE 802.11ax-2021 standard and implement MIMO Wi-Fi capabilities (“accused products”).

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<sup>10</sup> See, e.g., Lenovo IdeaPad (1i (15” Intel), 3 (15” Intel), 3i (15” Intel), 5 (15” AMD), 5i (15” Intel), 5 Pro (16” AMD), Flex 3i Chromebook, Flex 5 (14” AMD), Flex 5i (14” Intel), Gaming 3 (15” AMD), Gaming 3i (15”), Slim 9i (14” Intel), Windows Duet 5i (12” Intel), 5 2-in-1 (16” AMD), 5i 2-in-1 (14” Intel), 5i 2-in-1 (16” Intel), Flex 5i Chromebook Plus Gen 7 (14” Intel), Flex 5i (16” Intel) 2-in-1, Flex 5i (14” Intel) 2 in 1, Flex 5 (16” AMD) 2 in 1, Flex 5 (14” AMD) 2 in 1, Pro 5i (16” Intel), Flex 5i Chromebook (14” Intel), Slim 3 Chromebook (14” MediaTek), Slim 3i Chromebook (14” Intel), Slim 5 (16” AMD), Slim 3 (15” AMD), Slim 3i (15” Intel), Slim 5i (16” Intel), 1 (15” AMD), 5 2-in-1 (14” AMD), Lenovo 3i Chromebook (15” Intel), Lenovo Slim 7 Pro X (14” AMD), Lenovo Slim 7i (14” Intel), Lenovo Slim 7i Pro X (14” Intel), Lenovo Slim 9i (14” Intel), Lenovo 500w Gen 3 (11” Intel), Lenovo K14 Intel (14”), K14 AMD (14”), Lenovo Slim Pro 7 (14” AMD), Lenovo Slim 7i (16” Intel), Lenovo Legion (5 Gen 7 (15” AMD), 5 Pro Gen 7 (16” AMD), 5i Gen 7 (15” Intel), 5i Pro Gen 6 (16” Intel), 5i Pro Gen 7 (16” Intel), 7 Gen 7 (16” AMD), 7i Gen 7 (16” Intel), Slim 7 Gen 7 (16” AMD), Slim 7i Gen 7 (16” Intel), Pro 7i Gen 8 Intel (16”) with RTX 4070, Pro 7i Gen 8 Intel (16”) with RTX 4090, Pro 5i Gen 8 Intel (16”) with RTX™ 4060, Pro 7i Gen 9 Intel (16”) with RTX™ 4090, Slim 7i Gen 8 Intel (16”) - RTX 4060, Pro 5 Gen 8 AMD (16”) with RTX™ 4060, Slim 5i Gen 8 Intel (16”) with RTX 4050, Pro 5i Gen 8 Intel (16”) with RTX™ 4060, Slim 5 Gen 8 AMD (16”) - RTX 4050, 9i Gen 9 Intel (16”) with up to RTX 4090, Pro 5i Gen 8 Intel (16”) with RTX™ 4050, Pro 5 Gen 8 AMD (16”) with RTX™ 4050, 5i Gen 9 Intel (16”) with up to RTX 4070, Pro 5i Gen 9 Intel (16”) with up to RTX 4070, Pro 5 Gen 8 AMD (16”) with up to RTX™ 4070, Slim 5 Gen 9 AMD (16”) with RTX 4070, 5i Gen 9 Intel (16”) with RTX 4060, Slim 5 Gen 8 AMD (14”) with RTX™ 4060, Pro 5i Gen 9 Intel (16”) with RTX™ 4060, 7i Gen 9 Intel (16”) with RTX™ 4070, Pro 7 Gen 8 AMD (16”) with RTX™ 4080, Pro 7i Gen 9 Intel (16”) with RTX™ 4080, Pro 7 Gen 8 AMD (16”) with RTX™ 4090, Slim 7i Gen 8 Intel (16”) - RTX 4070), Lenovo ThinkBook (13s Gen 4 (13” AMD), 13s Gen 4 (13” Intel), 13x Gen 2 (13” Intel), 13x (13” Intel), 14 Gen 4 (14” AMD), 14 Gen 4 (14” Intel), 14p Gen 3 (14” AMD), 14s Yoga Gen 2 (14” Intel), 15 Gen 2 (15” Intel), 15 Gen 4 (15” AMD), 15 Gen 4 (15” Intel), 16p Gen 3 (16” AMD), Plus Gen 2 (Intel), 16 Gen 6 Intel (16”), 14 Gen 6 Intel (14”), 16 Gen 6 AMD (16”), 14 Gen 6 AMD (14”), 13x Gen 4 Intel (13”), 16p Gen 4 Intel (16”), 14 Gen 7 Intel (14”), 14 2-in-1 Gen 4 Intel (14”), 16p Gen 5 (16” Intel), 16 Gen 7 (16” Intel), 16 Gen 6 Intel (16”), Plus Gen 3 (17” Intel)), Lenovo ThinkPad (C14 Chromebook Enterprise (14” Intel), E14 Gen 4 (14” AMD), E14 Gen 4 (14” Intel), E15 Gen 4 (15” AMD), E15 Gen 4 (15” Intel), L13 Gen 3 (13” AMD), L13 Gen 3 (13” Intel), L13 Yoga Gen 3 (13” AMD), L13 Yoga Gen 3 (13” Intel), L14 Gen 1 (14” AMD), L14 Gen 2 (14” Intel), L14 Gen 3 (14” AMD), L14 Gen 3 (14” Intel), L15 Gen 2 (15” Intel), L15 Gen 3 (15” AMD), L15 Gen 3 (15” Intel), P1 Gen 2 (15”) Mobile Workstation, P1 Gen 5 (16” Intel), P14s Gen 3 (14” AMD), P14s Gen 3 (14” Intel), P15s (15”) Mobile Workstation, P15v Gen 3 (15” AMD), P15v Gen 3 (15” Intel), P16 Gen 1 (16” Intel), P16s (16” AMD), P16s Gen 1 (16” Intel), P53 (15”) Mobile Workstation, P73, T14 Gen 3 (14” AMD), T14 Gen 3 (14” Intel), T14s Gen 2 (14” Intel), T14s Gen 3 (14” AMD), T14s Gen 3 (14” Intel), T15 Gen 2 (15” Intel), T15p Gen 2 (15” Intel), T15p Gen 3 (15” Intel), T16 Gen 1 (16” AMD), T16 Gen 1 (16” Intel), X1 Carbon Gen 10 (14” Intel), X1 Carbon Gen 9 (14” Intel), X1 Extreme Gen 4 (16” Intel), X1

Extreme Gen 5 (16" Intel), X1 Nano Gen 2 (13" Intel), X1 Yoga Gen 6, X1 Yoga Gen 7 (14" Intel), X13 Gen 2 (13" Intel), X13 Gen 3 (13" AMD), X13 Gen 3 (13" Intel), X13 Yoga Gen 3 (13" Intel), X13s (13" Snapdragon), Z13 Gen 1 (13" AMD), Z16 Gen 1 (16" AMD), X1 Carbon Gen 11 Intel (14"), E16 Gen 1 (16" Intel), P14s Gen 4 (14" AMD) mobile workstation, T16 Gen 2 (16" AMD), X1 Yoga Gen 8 Intel (14"), T14 Gen 4 (14" Intel), E16 Gen 1 (16" AMD), T16 Gen 2 (16" Intel), P16s Gen 2 Intel (16") Mobile Workstation, E14 Gen 5 Intel (14"), T14 Gen 4 AMD (14"), P1 Gen 6 Intel (16") Mobile Workstation, E14 Gen 5 AMD (14"), T14s Gen 4 Intel (14"), X1 Nano Gen 3 (13" Intel) Laptop, X13 Gen 4 Intel (13"), P14s Gen 4 (14" Intel) Mobile Workstation, T14s Gen 4 AMD (14"), P16 Gen 2 Intel (16") Mobile Workstation, P16v (16" Intel) mobile workstation, X13 Gen 4 AMD (13"), X1 Fold (16" Intel), L15 Gen 4 (15" AMD), X13 Yoga Gen 4 (13" Intel) 2-in-1, P16 Gen 2 Intel (16") Mobile Workstation, L15 (15") AMD, P16v Gen 1 (16" AMD) mobile workstation, Z16 Gen 2 AMD (16"), L16 Gen 1 Intel (16"), E14 Gen 6 Intel (14"), X13 Gen 5 (13" Intel), L13 Yoga Gen 2 Intel (13"), E16 Gen 2 (16" Intel), Z13 Gen 2 (13" AMD), X1 Carbon Gen 12 Intel (14"), X13 2-in-1 Gen 5 Intel (13"), X1 2-in-1 Gen 9 Intel (14"), T14 Gen 5 (14" Intel), T16 Gen 3 Intel (16"), T14s Gen 5 Intel (14"), P16s Gen 2 (16" AMD) Mobile Workstation, Lenovo Yoga (6 (13" AMD), 7i (14" Intel), 7i (15" Intel), 7i (16" Intel), 9i (14" Intel), 9i 2-in-1 Intel (14"), Book 9i Intel (13"), 7 (16" AMD), Pro 9i (16" Intel), 7 2-in-1 (16" AMD), 7 2-in-1 (14" AMD), 7 Gen 9 (14" AMD), 7i 2-in-1 (14" Intel), 7i Gen 9 (16" Intel), 7i 2-in-1 (16" Intel), Pro 7 (14" AMD)), Lenovo LOQ ((16" Intel) with RTX 4060, (15" Intel) with RTX 4050, (16" AMD) with RTX 4050, (15" AMD) with RTX 3050, (15" AMD) with RTX 4050, (16" AMD) with RTX 4060, (15" AMD) with RTX 4060, (15" Intel) with RTX 3050, (15" Intel) with RTX 4060), Lenovo Tab Series (Tab P11 Pro Gen 2, Tab P12, P11 Gen 2 (11" MTK)), Lenovo IdeaCentre (3i (Intel) Desktop Tower, 5 (AMD) Desktop, 5i 27" All in One, 5i Home Desktop Computer, AIO 3 (24" AMD) All In One, AIO 3i (22" Intel) Desktop, AIO 3i (24" Intel) All In One, AIO 3i (27" Intel) Desktop, AIO 5i (24" Intel) Desktop, AIO 5i (27" Intel) All in one, Mini 5i, Mini, AIO 3 AMD (27"), AIO AMD (24"), Tower (Intel), AIO I Intel (27"), AIO AMD (27")), Lenovo Legion (Tower 5 (AMD) Gaming Computer, Tower 5i Gen 6 (Intel) Gaming Desktop, Tower 7i Gen 7 (Intel) Gaming Desktop, Tower 5 Gen 8 (AMD) with RTX 3050, Tower 5 Gen 8 (AMD) with RTX 3060, Tower 5i Gen 8 (Intel) with RTX 3060, Tower 7i Gen 8 (Intel) with RTX 4080 Super, Tower 5 Gen 8 (AMD) with RX 7600, Tower 5i Gen 8 (Intel) with RTX 4070, Tower 5 Gen 8 (AMD) with RTX 4070 Super, Tower 5 Gen 8 (AMD) with RTX 4070 Ti Super, Tower 7i Gen 8 (Intel) with RTX 4070 Ti Super), Lenovo ThinkCentre (M60e Tiny Desktop, M70a All-in-One PC, M70a Gen 3 AIO (21" Intel) PC, M70s Gen 3 (Intel) Small Form Factor, M70q Tiny Desktop, M70t Gen 3 (Intel) Tower Desktop, M70t Tower Desktop, M75n IoT Nano Desktop, M75q Tiny Gen 2, M80q Tiny Desktop, M75s Gen 2 Small Form Factor Desktop, M90a All-in-One PC, M90a Pro Gen 3 (24" Intel) All-In-One PC, M90q Gen 3 Tiny (Intel) Desktop, M90s Gen 3 (Intel) Small Form Factor Desktop, M90s Small Form Factor Desktop, M90t Desktop Tower, M90t Gen 3 (Intel) Tower Desktop, Neo 30a (24" Intel) All-in-One, Neo 50s (Intel) SFF, M80q Gen 4 Tiny (Intel), Neo 50s Gen 4 (Intel) SFF, Neo 50q Gen 4 Thin Client (Intel), M70q Gen 3 Tiny (Intel), M70q Gen 4 Tiny (Intel), M80s Gen 3, M70a Gen 3 Intel (21") All-in-One, M60q Chromebox Enterprise, M80t Gen 3 (Intel) Tower, Neo 50q Gen 4 Tiny), Lenovo Yoga (AIO 7 (27" AMD) All in One Desktop Computer, AIO 9i (32" Intel)), Lenovo ThinkStation (P340 SFF Workstation, P340 Tower Workstation, P348 Tower Workstation, P350 SFF Workstation, P350 Tower Workstation, P358 Tower (AMD), P360 Tiny Workstation, P360 Tower Workstation,



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### WLAN

Wi-Fi 6 2x2 AX & Bluetooth® 5.1 or above

**Source:** [https://www.lenovo.com/us/en/p/laptops/ideapad/ideapad-300/ideapad-3i-gen-6-\(15-inch-intel\)/82h803sbus](https://www.lenovo.com/us/en/p/laptops/ideapad/ideapad-300/ideapad-3i-gen-6-(15-inch-intel)/82h803sbus)

P360 Ultra (Intel), P620 Tower Workstation, P3 Tiny Workstation, P3 Tower Workstation, P3 Ultra Small Form Factor Workstation, P7 Workstation, P5 Workstation, PX Workstation, P8 Workstation), Lenovo LOQ (Tower (Intel) with RTX 3050, Gaming Tower (Intel) with RTX 4060), Lenovo ThinkSmart (Core Full Room Kit, Core standalone computing device, ThinkReality VRX, Core + IP Controller for Microsoft Teams Rooms, View Plus, One + Controller for Teams, One + Controller for Zoom, One + IP Controller for Teams, One + IP Controller for Zoom, Core Full Room Kit for Zoom Rooms), Netgear Nighthawk Pro Gaming XR1000, Netgear Orbi CBR750, TP-Link Archer AX10, TP-Link AX5400 Ceiling Mount Dual-Band Wi-Fi 6 Access Point, TP-Link EAP615-Wall Omada SDN AX1800 WiFi 6 in-Wall Access Point, TP-Link AX3000 Ceiling Mount Dual-Band Wi-Fi 6 Access Point, TP-Link AX1800 Indoor/Outdoor Dual-Band Wi-Fi 6 Access Point, TP-Link AX1800 High Gain Dual Band Wi-Fi 6 USB Adapter, etc.

## Lenovo Tab P12 Tablet

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**Lenovo Tab P12 Tablet** ★★★★★ (429) Starting at **\$314.99**

**Features**   Tech Specs   Compatible Accessories   Reviews

A screenshot of the product page for the Lenovo Tab P12 Tablet. The main image shows the tablet displaying a vibrant, detailed game scene with various insects (beetles, flies) in a grassy field. A black Xbox-style game controller is positioned in the foreground, partially overlapping the bottom right corner of the tablet. The page has a clean, white background with a navigation bar at the top containing the product name, rating, and price. Below the navigation bar are four tabs: 'Features', 'Tech Specs', 'Compatible Accessories', and 'Reviews'. The 'Features' tab is currently selected and highlighted with a blue underline.

**Get your game on**

Game with Xbox Cloud Gaming on an 8-core processor for fast, responsive gameplay. Feed your need for speed and greater connectivity with WiFi 6 for faster connections, lower latency, and higher capacity.

\*Disclaimer: Controller sold separately. Requires Xbox Game Pass Ultimate subscription. Credit card required. Terms, exclusions, and streaming limits apply. Catalog varies over time, region, and by device.

Source: [https://www.lenovo.com/us/en/p/tablets/android-tablets/lenovo-tab-series/lenovo-tab-p12/len10310018#tech\\_specs](https://www.lenovo.com/us/en/p/tablets/android-tablets/lenovo-tab-series/lenovo-tab-p12/len10310018#tech_specs)

## ThinkCentre Neo 50s Gen 4 (Intel) Small Form Factor

★★★★★ 4.7 (41)  
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## WiFi Wireless LAN Adapters

Intel® Wi-Fi 6 AX201 2x2 AX & Bluetooth® 5.1 or above

**Source:** [https://www.lenovo.com/us/en/p/desktops/thinkcentre/thinkcentre-neo-series/thinkcentre-neo-50s-gen-4-\(intel\)-sff/12jf000qus?cid=us:sem%7Cse%7Cgoogle%7Cpmax\\_smb\\_pcs%7C%7C%7C12JF000QUS%7C18337003604%7C%7C%7Cshopping%7Cmix%7Ccommercialconsumer&gad\\_source=1&gclid=CjwKCAjwmYCzBhA6EiwAxFwfgA75ihSj4oaMjP-sUk5rqjGXsL6rZYTye6X-k1Ft0xlmduTXGJ7OyBoC19kQAvD\\_BwE](https://www.lenovo.com/us/en/p/desktops/thinkcentre/thinkcentre-neo-series/thinkcentre-neo-50s-gen-4-(intel)-sff/12jf000qus?cid=us:sem%7Cse%7Cgoogle%7Cpmax_smb_pcs%7C%7C%7C12JF000QUS%7C18337003604%7C%7C%7Cshopping%7Cmix%7Ccommercialconsumer&gad_source=1&gclid=CjwKCAjwmYCzBhA6EiwAxFwfgA75ihSj4oaMjP-sUk5rqjGXsL6rZYTye6X-k1Ft0xlmduTXGJ7OyBoC19kQAvD_BwE)

## ThinkReality VRX

☆☆☆☆☆ (0)

### Engineered exclusively for enterprise

- Slim, comfortable all-in-one VRX headsets
- Powered by the Qualcomm® Snapdragon™ XR2+ Gen 1 chipset
- Ideal for soft skills training and simulation with 3DoF & 6DoF capabilities
- Full-color, high-resolution pass-through imaging for Mixed Reality applications
- Full suite of end-to-end services with global support and service

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**Source:** [https://www.lenovo.com/us/en/p/smart-devices/virtual-reality/thinkreality-vrx/len101r0001#tech\\_specs](https://www.lenovo.com/us/en/p/smart-devices/virtual-reality/thinkreality-vrx/len101r0001#tech_specs)

**WiFi Wireless LAN Adapters : Wi-Fi 6E 802.11ax 2x2 MIMO**

**Source:** [https://www.lenovo.com/us/en/p/smart-devices/virtual-reality/thinkreality-vrx/len101r0001#tech\\_specs](https://www.lenovo.com/us/en/p/smart-devices/virtual-reality/thinkreality-vrx/len101r0001#tech_specs)

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

34. The Lenovo IdeaPad 3i, Lenovo Tab 12 Tablet, Lenovo ThinkCentre Neo 50s Gen 4, and Lenovo ThinkReality VRX are exemplary accused products.

35. Lenovo directly infringes the '096 Patent when, for example, it and/or its agents use the accused products, including during testing of the accused products. Lenovo 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. Lenovo 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-users. Lenovo 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. Lenovo 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).

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

37. Freedom Patents has been damaged as a result of the infringing conduct by Lenovo alleged above. Thus, Lenovo 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.

38. 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**

39. 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.”

40. 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.

41. Lenovo used products and/or systems including, for example, its Lenovo IdeaPad 3i, Lenovo Tab 12 Tablet, Lenovo ThinkCentre Neo 50s Gen 4, Lenovo ThinkReality VRX, and

other products<sup>11</sup> that comply with the IEEE 802.11ax-2021 standard and implement MIMO Wi-Fi capabilities (“accused products”):

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<sup>11</sup> See, e.g., Lenovo IdeaPad (1i (15” Intel), 3 (15” Intel), 3i (15” Intel), 5 (15” AMD), 5i (15” Intel), 5 Pro (16” AMD), Flex 3i Chromebook, Flex 5 (14” AMD), Flex 5i (14” Intel), Gaming 3 (15” AMD), Gaming 3i (15”), Slim 9i (14” Intel), Windows Duet 5i (12” Intel), 5 2-in-1 (16” AMD), 5i 2-in-1 (14” Intel), 5i 2-in-1 (16” Intel), Flex 5i Chromebook Plus Gen 7 (14” Intel), Flex 5i (16” Intel) 2-in-1, Flex 5i (14” Intel) 2 in 1, Flex 5 (16” AMD) 2 in 1, Flex 5 (14” AMD) 2 in 1, Pro 5i (16” Intel), Flex 5i Chromebook (14” Intel), Slim 3 Chromebook (14” MediaTek), Slim 3i Chromebook (14” Intel), Slim 5 (16” AMD), Slim 3 (15” AMD), Slim 3i (15” Intel), Slim 5i (16” Intel), 1 (15” AMD), 5 2-in-1 (14” AMD), Lenovo 3i Chromebook (15” Intel), Lenovo Slim 7 Pro X (14” AMD), Lenovo Slim 7i (14” Intel), Lenovo Slim 7i Pro X (14” Intel), Lenovo Slim 9i (14” Intel), Lenovo 500w Gen 3 (11” Intel), Lenovo K14 Intel (14”), K14 AMD (14”), Lenovo Slim Pro 7 (14” AMD), Lenovo Slim 7i (16” Intel), Lenovo Legion (5 Gen 7 (15” AMD), 5 Pro Gen 7 (16” AMD), 5i Gen 7 (15” Intel), 5i Pro Gen 6 (16” Intel), 5i Pro Gen 7 (16” Intel), 7 Gen 7 (16” AMD), 7i Gen 7 (16” Intel), Slim 7 Gen 7 (16” AMD), Slim 7i Gen 7 (16” Intel), Pro 7i Gen 8 Intel (16”) with RTX 4070, Pro 7i Gen 8 Intel (16”) with RTX 4090, Pro 5i Gen 8 Intel (16”) with RTX™ 4060, Pro 7i Gen 9 Intel (16”) with RTX™ 4090, Slim 7i Gen 8 Intel (16”) - RTX 4060, Pro 5 Gen 8 AMD (16”) with RTX™ 4060, Slim 5i Gen 8 Intel (16”) with RTX 4050, Pro 5i Gen 8 Intel (16”) with RTX™ 4060, Slim 5 Gen 8 AMD (16”) - RTX 4050, 9i Gen 9 Intel (16”) with up to RTX 4090, Pro 5i Gen 8 Intel (16”) with RTX™ 4050, Pro 5 Gen 8 AMD (16”) with RTX™ 4050, 5i Gen 9 Intel (16”) with up to RTX 4070, Pro 5i Gen 9 Intel (16”) with up to RTX 4070, Pro 5 Gen 8 AMD (16”) with up to RTX™ 4070, Slim 5 Gen 9 AMD (16”) with RTX 4070, 5i Gen 9 Intel (16”) with RTX 4060, Slim 5 Gen 8 AMD (14”) with RTX™ 4060, Pro 5i Gen 9 Intel (16”) with RTX™ 4060, 7i Gen 9 Intel (16”) with RTX™ 4070, Pro 7 Gen 8 AMD (16”) with RTX™ 4080, Pro 7i Gen 9 Intel (16”) with RTX™ 4080, Pro 7 Gen 8 AMD (16”) with RTX™ 4090, Slim 7i Gen 8 Intel (16”) - RTX 4070), Lenovo ThinkBook (13s Gen 4 (13” AMD), 13s Gen 4 (13” Intel), 13x Gen 2 (13” Intel), 13x (13” Intel), 14 Gen 4 (14” AMD), 14 Gen 4 (14” Intel), 14p Gen 3 (14” AMD), 14s Yoga Gen 2 (14” Intel), 15 Gen 2 (15” Intel), 15 Gen 4 (15” AMD), 15 Gen 4 (15” Intel), 16p Gen 3 (16” AMD), Plus Gen 2 (Intel), 16 Gen 6 Intel (16”), 14 Gen 6 Intel (14”), 16 Gen 6 AMD (16”), 14 Gen 6 AMD (14”), 13x Gen 4 Intel (13”), 16p Gen 4 Intel (16”), 14 Gen 7 Intel (14”), 14 2-in-1 Gen 4 Intel (14”), 16p Gen 5 (16” Intel), 16 Gen 7 (16” Intel), 16 Gen 6 Intel (16”), Plus Gen 3 (17” Intel)), Lenovo ThinkPad (C14 Chromebook Enterprise (14” Intel), E14 Gen 4 (14” AMD), E14 Gen 4 (14” Intel), E15 Gen 4 (15” AMD), E15 Gen 4 (15” Intel), L13 Gen 3 (13” AMD), L13 Gen 3 (13” Intel), L13 Yoga Gen 3 (13” AMD), L13 Yoga Gen 3 (13” Intel), L14 Gen 1 (14” AMD), L14 Gen 2 (14” Intel), L14 Gen 3 (14” AMD), L14 Gen 3 (14” Intel), L15 Gen 2 (15” Intel), L15 Gen 3 (15” AMD), L15 Gen 3 (15” Intel), P1 Gen 2 (15”) Mobile Workstation, P1 Gen 5 (16” Intel), P14s Gen 3 (14” AMD), P14s Gen 3 (14” Intel), P15s (15”) Mobile Workstation, P15v Gen 3 (15” AMD), P15v Gen 3 (15” Intel), P16 Gen 1 (16” Intel), P16s (16” AMD), P16s Gen 1 (16” Intel), P53 (15”) Mobile Workstation, P73, T14 Gen 3 (14” AMD), T14 Gen 3 (14” Intel), T14s Gen 2 (14” Intel), T14s Gen 3 (14” AMD), T14s Gen 3 (14” Intel), T15 Gen 2 (15” Intel), T15p Gen 2 (15” Intel), T15p Gen 3 (15” Intel), T16 Gen 1 (16” AMD), T16 Gen 1 (16” Intel), X1 Carbon Gen 10 (14” Intel), X1 Carbon Gen 9 (14” Intel), X1 Extreme Gen 4 (16” Intel), X1



Extreme Gen 5 (16" Intel), X1 Nano Gen 2 (13" Intel), X1 Yoga Gen 6, X1 Yoga Gen 7 (14" Intel), X13 Gen 2 (13" Intel), X13 Gen 3 (13" AMD), X13 Gen 3 (13" Intel), X13 Yoga Gen 3 (13" Intel), X13s (13" Snapdragon), Z13 Gen 1 (13" AMD), Z16 Gen 1 (16" AMD), X1 Carbon Gen 11 Intel (14"), E16 Gen 1 (16" Intel), P14s Gen 4 (14" AMD) mobile workstation, T16 Gen 2 (16" AMD), X1 Yoga Gen 8 Intel (14"), T14 Gen 4 (14" Intel), E16 Gen 1 (16" AMD), T16 Gen 2 (16" Intel), P16s Gen 2 Intel (16") Mobile Workstation, E14 Gen 5 Intel (14"), T14 Gen 4 AMD (14"), P1 Gen 6 Intel (16") Mobile Workstation, E14 Gen 5 AMD (14"), T14s Gen 4 Intel (14"), X1 Nano Gen 3 (13" Intel) Laptop, X13 Gen 4 Intel (13"), P14s Gen 4 (14" Intel) Mobile Workstation, T14s Gen 4 AMD (14"), P16 Gen 2 Intel (16") Mobile Workstation, P16v (16" Intel) mobile workstation, X13 Gen 4 AMD (13"), X1 Fold (16" Intel), L15 Gen 4 (15" AMD), X13 Yoga Gen 4 (13" Intel) 2-in-1, P16 Gen 2 Intel (16") Mobile Workstation, L15 (15") AMD, P16v Gen 1 (16" AMD) mobile workstation, Z16 Gen 2 AMD (16"), L16 Gen 1 Intel (16"), E14 Gen 6 Intel (14"), X13 Gen 5 (13" Intel), L13 Yoga Gen 2 Intel (13"), E16 Gen 2 (16" Intel), Z13 Gen 2 (13" AMD), X1 Carbon Gen 12 Intel (14"), X13 2-in-1 Gen 5 Intel (13"), X1 2-in-1 Gen 9 Intel (14"), T14 Gen 5 (14" Intel), T16 Gen 3 Intel (16"), T14s Gen 5 Intel (14"), P16s Gen 2 (16" AMD) Mobile Workstation, Lenovo Yoga (6 (13" AMD), 7i (14" Intel), 7i (15" Intel), 7i (16" Intel), 9i (14" Intel), 9i 2-in-1 Intel (14"), Book 9i Intel (13"), 7 (16" AMD), Pro 9i (16" Intel), 7 2-in-1 (16" AMD), 7 2-in-1 (14" AMD), 7 Gen 9 (14" AMD), 7i 2-in-1 (14" Intel), 7i Gen 9 (16" Intel), 7i 2-in-1 (16" Intel), Pro 7 (14" AMD)), Lenovo LOQ ((16" Intel) with RTX 4060, (15" Intel) with RTX 4050, (16" AMD) with RTX 4050, (15" AMD) with RTX 3050, (15" AMD) with RTX 4050, (16" AMD) with RTX 4060, (15" AMD) with RTX 4060, (15" Intel) with RTX 3050, (15" Intel) with RTX 4060), Lenovo Tab Series (Tab P11 Pro Gen 2, Tab P12, P11 Gen 2 (11" MTK)), Lenovo IdeaCentre (3i (Intel) Desktop Tower, 5 (AMD) Desktop, 5i 27" All in One, 5i Home Desktop Computer, AIO 3 (24" AMD) All In One, AIO 3i (22" Intel) Desktop, AIO 3i (24" Intel) All In One, AIO 3i (27" Intel) Desktop, AIO 5i (24" Intel) Desktop, AIO 5i (27" Intel) All in one, Mini 5i, Mini, AIO 3 AMD (27"), AIO AMD (24"), Tower (Intel), AIO I Intel (27"), AIO AMD (27")), Lenovo Legion (Tower 5 (AMD) Gaming Computer, Tower 5i Gen 6 (Intel) Gaming Desktop, Tower 7i Gen 7 (Intel) Gaming Desktop, Tower 5 Gen 8 (AMD) with RTX 3050, Tower 5 Gen 8 (AMD) with RTX 3060, Tower 5i Gen 8 (Intel) with RTX 3060, Tower 7i Gen 8 (Intel) with RTX 4080 Super, Tower 5 Gen 8 (AMD) with RX 7600, Tower 5i Gen 8 (Intel) with RTX 4070, Tower 5 Gen 8 (AMD) with RTX 4070 Super, Tower 5 Gen 8 (AMD) with RTX 4070 Ti Super, Tower 7i Gen 8 (Intel) with RTX 4070 Ti Super), Lenovo ThinkCentre (M60e Tiny Desktop, M70a All-in-One PC, M70a Gen 3 AIO (21" Intel) PC, M70s Gen 3 (Intel) Small Form Factor, M70q Tiny Desktop, M70t Gen 3 (Intel) Tower Desktop, M70t Tower Desktop, M75n IoT Nano Desktop, M75q Tiny Gen 2, M80q Tiny Desktop, M75s Gen 2 Small Form Factor Desktop, M90a All-in-One PC, M90a Pro Gen 3 (24" Intel) All-In-One PC, M90q Gen 3 Tiny (Intel) Desktop, M90s Gen 3 (Intel) Small Form Factor Desktop, M90s Small Form Factor Desktop, M90t Desktop Tower, M90t Gen 3 (Intel) Tower Desktop, Neo 30a (24" Intel) All-in-One, Neo 50s (Intel) SFF, M80q Gen 4 Tiny (Intel), Neo 50s Gen 4 (Intel) SFF, Neo 50q Gen 4 Thin Client (Intel), M70q Gen 3 Tiny (Intel), M70q Gen 4 Tiny (Intel), M80s Gen 3, M70a Gen 3 Intel (21") All-in-One, M60q Chromebox Enterprise, M80t Gen 3 (Intel) Tower, Neo 50q Gen 4 Tiny), Lenovo Yoga (AIO 7 (27" AMD) All in One Desktop Computer, AIO 9i (32" Intel)), Lenovo ThinkStation (P340 SFF Workstation, P340 Tower Workstation, P348 Tower Workstation, P350 SFF Workstation, P350 Tower Workstation, P358 Tower (AMD), P360 Tiny Workstation, P360 Tower Workstation,

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**WLAN**

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P360 Ultra (Intel), P620 Tower Workstation, P3 Tiny Workstation, P3 Tower Workstation, P3 Ultra Small Form Factor Workstation, P7 Workstation, P5 Workstation, PX Workstation, P8 Workstation), Lenovo LOQ (Tower (Intel) with RTX 3050, Gaming Tower (Intel) with RTX 4060), Lenovo ThinkSmart (Core Full Room Kit, Core standalone computing device, ThinkReality VRX, Core + IP Controller for Microsoft Teams Rooms, View Plus, One + Controller for Teams, One + Controller for Zoom, One + IP Controller for Teams, One + IP Controller for Zoom, Core Full Room Kit for Zoom Rooms), Netgear Nighthawk Pro Gaming XR1000, Netgear Orbi CBR750, TP-Link Archer AX10, TP-Link AX5400 Ceiling Mount Dual-Band Wi-Fi 6 Access Point, TP-Link EAP615-Wall Omada SDN AX1800 WiFi 6 in-Wall Access Point, TP-Link AX3000 Ceiling Mount Dual-Band Wi-Fi 6 Access Point, TP-Link AX1800 Indoor/Outdoor Dual-Band Wi-Fi 6 Access Point, TP-Link AX1800 High Gain Dual Band Wi-Fi 6 USB Adapter, etc.



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**Lenovo Tab P12 Tablet** ★★★★★ (429) Starting at **\$314.99**

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A screenshot of the product page for the Lenovo Tab P12 Tablet. The main image shows the tablet displaying a vibrant, detailed game scene of a field with green grass, white flowers, and several insects (a large orange and black wasp, a red and black dragonfly, and a smaller insect). A black Xbox controller is positioned in the foreground, partially overlapping the bottom right corner of the tablet. The page has a clean, white background with a light blue header bar.

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\*Disclaimer: Controller sold separately. Requires Xbox Game Pass Ultimate subscription. Credit card required. Terms, exclusions, and streaming limits apply. Catalog varies over time, region, and by device.

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## WiFi Wireless LAN Adapters

Intel® Wi-Fi 6 AX201 2x2 AX & Bluetooth® 5.1 or above

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**WiFi Wireless LAN Adapters : Wi-Fi 6E 802.11ax 2x2 MIMO**

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

43. The Lenovo IdeaPad 3i, Lenovo Tab 12 Tablet, Lenovo ThinkCentre Neo 50s Gen 4, and Lenovo ThinkReality VRX are exemplary accused products.

44. Lenovo directly infringes the '815 Patent when, for example, it and/or its agents use the accused products, including during testing of the accused products. Lenovo 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. Lenovo 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-users. Lenovo 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. Lenovo 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).

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

46. Freedom Patents has been damaged as a result of the infringing conduct by Lenovo alleged above. Thus, Lenovo 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.

47. 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**

48. Lenovo 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.

49. Lenovo has induced the end users and/or Lenovo'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.

50. Lenovo 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.

51. Such steps by Lenovo 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.

52. Lenovo 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.

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

54. Lenovo 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.

55. Lenovo 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.

56. Lenovo 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.

57. Lenovo 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, Amazon, Best Buy, Walmart, Office Depot and Costco. Lenovo's established United States distribution channels include one or more United States based affiliates (e.g., Lenovo (United States) Inc.) and third-parties working on behalf of Lenovo.

58. Lenovo's United States based affiliates (e.g., Lenovo (United States) Inc.) operate entirely in support of Lenovo and are not free to sell products of Lenovo's competitors.

59. Lenovo's United States based affiliates (e.g., Lenovo (United States) Inc.) were formed or acquired by Lenovo to further its domestic sales of the accused infringing products and are controlled by Lenovo to ensure that result.

60. Lenovo 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.

61. Lenovo 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, Lenovo also facilitates the sale of the accused products in Texas.

62. Lenovo 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.

63. Such steps by Lenovo 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.

64. Lenovo 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.

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

66. Lenovo's inducement is ongoing.

67. Lenovo has also indirectly infringed by contributing to the infringement of the '686 Patent, the '096 Patent, and the '815 Patent. Lenovo 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.

68. 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.

69. 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.

70. 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.

71. Lenovo's contributory infringement is ongoing.

72. Lenovo 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, Lenovo 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.

73. By the time of trial, Lenovo 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.

74. Furthermore, Lenovo 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).

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

76. Lenovo'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.

77. Freedom Patents has been damaged as a result of Lenovo's infringing conduct alleged above. Thus, Lenovo 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 Lenovo, 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 Lenovo and/or all others acting in concert therewith;
- b. A permanent injunction enjoining Lenovo 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 Lenovo account for and pay to Freedom Patents all damages to and costs incurred by Freedom Patents because of Lenovo'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 Lenovo'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: July 17, 2024

Respectfully submitted,

/s/ Zachariah S. Harrington

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