

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF NORTH CAROLINA**

COMARCO WIRELESS SYSTEMS LLC,

Plaintiff,

v.

LENOVO GROUP LTD. and LENOVO  
(UNITED STATES), INC.,

Defendants,

Civil Action No.: 5:22cv273

**Jury Trial Demanded**

**COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiff Comarco Wireless Systems LLC (“Comarco”), by its undersigned attorneys, alleges claims of utility patent infringement against Lenovo Group Ltd. and Lenovo (United States), Inc. (collectively, “Defendants” or “Lenovo”), with knowledge of its own acts and upon information and belief as to other matters, as follows:

**I. PARTIES**

1. Plaintiff Comarco Wireless Systems LLC is a Texas limited liability company having its principal place of business at 1903 Toro Canyon Road, Austin, Texas 78746.

2. Lenovo Group Ltd. is a corporation organized and existing under the laws of China, with its principal place of business located at No 6 Chuang Ye Road, Haidian District, Shangdi Information Industry Base, Beijing, 100085, China, and may be served pursuant to the provisions of the Hague Convention. Upon information and belief, Lenovo Group Ltd. also has a principal place of business located at Lincoln House, 23rd Floor, Taikoo Place, 979 King’s Road, Quarry Bay, Hong Kong, S.A.R. Upon information and belief, Lenovo Group Ltd. is the parent company of a multinational conglomerate that operates under the name “Lenovo” and refers to itself and its

subsidiaries as the “Group.” Lenovo Group Ltd. purports to be a US\$60 billion Fortune Global 500 company serving customers in 180 markets around the world.

3. Lenovo (United States), Inc. is a Delaware corporation with a principal place of business at 1009 Think Place, Morrisville, North Carolina 27560. Lenovo can be served through its registered agent, CT Corporation System, 160 Mine Lake Ct., Suite 200, Raleigh, North Carolina 27615. Lenovo (United States), Inc. is a leading manufacturer and seller of laptop computers, desktop computers, smartphones, and tablets in the United States. Lenovo (United States), Inc. does business in the Eastern District of North Carolina, directly or through intermediaries. Lenovo (United States), Inc. is, indirectly, a wholly-owned subsidiary of Lenovo Group Ltd. and is part of the Lenovo Group.

4. Lenovo Group Ltd. and Lenovo (United States), Inc. have acted in concert with respect to the facts alleged herein such that any act of Lenovo Group Ltd. is attributable to Lenovo (United States), Inc. and vice versa.

## **II. JURISDICTION AND VENUE**

5. This action arises under the patent laws of the United States of America, 35 U.S.C. §§ 1 *et seq.* This Court has exclusive subject matter jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1338(a).

6. This Court has general and specific personal jurisdiction over Lenovo, consistent with due process, because Lenovo maintains its principal place of business in North Carolina and this District.

7. Lenovo, directly and/or through subsidiaries and agents (including distributors, retailers, and others), makes, imports, ships, distributes, offers for sale, sells, uses, and advertises (including offering products and services through its website, <https://www.lenovo.com/us/en/>), as

well as other retailers) its products and/or services in the United States and the Eastern District of North Carolina.

8. Lenovo, directly and/or through its subsidiaries and agents (including distributors, retailers, and others), has purposefully and voluntarily placed one or more of its infringing products, as described below, into the stream of commerce with the expectation that they will be purchased and used by consumers in the Eastern District of North Carolina. These infringing products and/or services have been and continue to be purchased and used by consumers in the Eastern District of North Carolina. Lenovo has committed acts of patent infringement within the Eastern District of North Carolina.

9. Venue as to Lenovo (United States), Inc. is proper in this District under 28 U.S.C. § 1400(b), which provides that “any civil action for patent infringement may be brought in the judicial district where the defendant resides, or where the defendant has committed acts of infringement and has a regular and established place of business.”

10. Venue as to Lenovo Group Ltd. is proper in this District pursuant to 28 U.S.C. § 1391(c)(3) because venue is proper in any judicial district against a foreign corporation. *See In re HTC Corp.*, 889 F.3d 1349, 1354 (Fed. Cir. 2018).

### **III. FACTUAL ALLEGATIONS UNDERLYING ALL CLAIMS**

11. The patents at issue in this matter arose from the pioneering work of Thomas W. Lanni, an accomplished electrical engineer. Mr. Lanni began working in the field of power supply and conversion in the early 1980s. In 1994, Mr. Lanni joined Comarco, Inc. as Vice President and Chief Technology Officer.

12. Through his work at Comarco, Inc., Mr. Lanni recognized that the increasing use of a variety of portable devices and myriad power sources (*e.g.*, automobile outlets and wall

sockets) created the problem of a given device receiving the wrong level of power from a given power source. This mismatch could result in a failure to charge, or could cause damage to the device being charged by causing the battery to overheat or even catch fire.

13. To address this shortcoming in the prior art, Mr. Lanni invented a charging system whereby the charger and the portable device engage in a “handshake” process in order to determine the appropriate level of power to be delivered to the portable device. Mr. Lanni’s power supply system includes a charger comprising power circuitry to provide power along with data circuitry to receive a signal from the device to be charged and to provide a signal in response. Conductors within the power supply transfer DC power and a ground reference voltage to the portable electronic device. A third conductor receives the signal from the portable electronic device and a fourth conductor transmits the response signal to the portable electronic device. The portable electronic device is able to use this responsive signal to determine the power level of the power supply system. This system enables the portable electronic device to receive the appropriate power level from the charger.

14. Mr. Lanni’s work led to a large family of patent applications claiming priority to U.S. Patent Application No. 10/758,933 (“the ’933 Application”) filed on January 15, 2004. Mr. Lanni is the sole named inventor on these patents.

15. On July 16, 2013, U.S. Patent Application No. 13/943,453 was filed, claiming priority to the ’933 Application. After examination, the United States Patent and Trademark Office (“USPTO”) issued U.S. Patent No. 9,413,187 (“the ’187 Patent”), entitled “Power Supply System Providing Power and Analog Data Signal for Use by Portable Electronic Device to Control Battery Charging” on August 9, 2016. A true and correct copy of the ’187 Patent is attached as Exhibit 1.

16. On August 12, 2020, U.S. Patent Application No. 16/991,295 was filed, claiming priority to the '933 Application. After examination, the USPTO issued U.S. Patent No. 10,855,087 (“the '087 Patent”), entitled “Power Supply Systems” on December 1, 2020. A true and correct copy of the '087 Patent is attached as Exhibit 2.

17. On October 22, 2020, U.S. Patent Application No. 17/077,699 was filed, claiming priority to the '933 Application. After examination, the USPTO issued U.S. Patent No. 10,951,042 (“the '042 Patent”), entitled “Power Supply Systems” on March 16, 2021. A true and correct copy of the '042 Patent is attached as Exhibit 3.

18. The '187 Patent, the '087 Patent, and the '042 Patent are collectively referred to as “the Patents-in-Suit.”

19. Comarco is the owner by assignment of all right, title, and interest in and to the Patents-in-Suit, including the right to recover past damages for infringement.

**A. Lenovo’s Infringing Conduct**

20. Lenovo makes (or has made), uses, sells, offers for sale, and/or imports in the United States, and has made, used, sold, offered for sale, and/or imported into the United States, products that infringe the Patents-in-Suit. Lenovo’s infringing products include portable electronic devices (“PEDs”) comprising rechargeable batteries and USB-C ports which are compliant with the USB Battery Charging Specification (including errata and ECNs through March 15, 2012), Revision 1.2, March 15, 2012 (“the USB BC 1.2 specification”), including power adapters that are compliant with the USB4 standard, which requires backward-compatibility with the USB BC 1.2 specification (“the Accused PEDs”). The Accused PEDs include, but are not limited to, the Lenovo 10w (10”) Tablet, Lenovo Slim 9i (14” Intel) Laptop, ThinkBook 13s Gen 2 (13”, AMD) Laptop, ThinkBook 13s Gen 4 (13” AMD) Laptop, ThinkBook 13s Gen 4 (13” Intel) Laptop,

ThinkBook 13x (13" Intel) Laptop, ThinkBook 14 Gen 2 (14") Intel, ThinkBook 14 Gen 4 (14" AMD) Laptop, ThinkBook 14 Gen 4 (14" Intel) Laptop, ThinkBook 14s Yoga Gen 2 (14" Intel) Laptop, ThinkBook 15 Gen 2 (15") Intel Laptop, ThinkBook 15 Gen 4 (15" AMD) Laptop, ThinkBook 15 Gen 4 (15" Intel) Laptop, ThinkBook Plus Gen 2, ThinkPad E14 Gen 2 (14") Intel Laptop, ThinkPad E14 Gen 3 (14" AMD) Laptop, ThinkPad E14 Gen 4 (14" AMD) Laptop, ThinkPad E15 Gen 2 (15", Intel) Laptop, ThinkPad E15 Gen 3 (15" AMD) Laptop, ThinkPad E15 Gen 4 (15" AMD) Laptop, ThinkPad L13 Gen 2 (13", Intel) Laptop, ThinkPad L13 Yoga (13", Intel) Laptop, ThinkPad L13 Yoga Gen 2 (13", Intel) 2 in 1 Laptop, ThinkPad L14 (14") AMD Laptop, ThinkPad L14 Gen 2 (14" AMD) Laptop, ThinkPad L14 Gen 2 (14" Intel) Laptop, ThinkPad L15 Gen 2 (15" AMD) Laptop, ThinkPad L15 Gen 2 (15" Intel) Laptop, ThinkPad L15 Gen 3 (15" AMD) Laptop, ThinkPad P14s Gen 2 14" AMD Mobile Workstation, ThinkPad P14s Gen 2 14" Intel Mobile Workstation, ThinkPad P14s Gen 3 (14" Intel) Mobile Workstation, ThinkPad P15s Gen 2 15" Intel Mobile Workstation, ThinkPad P16s (16" AMD) Mobile Workstation, ThinkPad P16s (16" Intel) Mobile Workstation, ThinkPad T14 (14", Intel) laptop, ThinkPad T14 Gen 2 (14" Intel) Laptop, ThinkPad T14 Gen 2 (14" AMD) Laptop, ThinkPad T14 Gen 3 (14" Intel) Laptop, ThinkPad T14s Gen 2 (14" AMD) Laptop, ThinkPad T14s Gen 2 (14" Intel) Laptop, ThinkPad T14s Gen 3 (14" Intel) Laptop, ThinkPad T15 Gen 2 (15" Intel) Laptop, ThinkPad T16 (16" Intel) Laptop, ThinkPad X1 Carbon Gen 10 (14" Intel) Laptop, ThinkPad X1 Carbon Gen 9 (14", Intel) Laptop, ThinkPad X1 Fold (13") PC, ThinkPad X1 Nano (13", Intel) Laptop, ThinkPad X1 Nano Gen 2 (13" Intel) Laptop, ThinkPad X1 Yoga Gen 6 | 2 in 1 Business Laptop, ThinkPad X1 Yoga Gen 7 (14" Intel) 2 in 1 Laptop, ThinkPad X12 Detachable (12", Intel) Tablet, ThinkPad X13 Gen 2 (13" AMD) Laptop, ThinkPad X13 Gen 2 (13" Intel) Laptop, ThinkPad X13 Gen 3 (13" Intel) Laptop, ThinkPad X13 Yoga Gen 2 (13" Intel) 2 in 1, ThinkPad

X13 Yoga Gen 3 (13" Intel) Laptop, ThinkPad X13s (13" Snapdragon) Laptop, ThinkPad Z13 (13" AMD) Laptop, ThinkPad Z16 (16" AMD), Yoga 6 (13") 2 in 1 Laptop, Yoga 7i (14" Intel) 2 in 1 Laptop, Yoga 7i (14") 2 in 1 Laptop, Yoga 7i (15") 2 in 1 Laptop, Yoga 7i (16" Intel) 2 in 1 Laptop, and Yoga 9i (14") 2 in 1 laptop products.

21. Lenovo's infringing products further include power adapters that are compliant with the USB BC 1.2 specification, including power adapters that are compliant with the USB4 standard, which requires backward-compatibility with the USB BC 1.2 specification ("the Accused Chargers"). The Accused Chargers include, but are not limited to, power adapters provided for use with the Accused PEDs.

22. Lenovo's infringing products further include portable electronic devices such as notebook computers and tablets that include USB-C charging ports that are compliant with Universal Serial Bus Type-C Cable and Connector Specification, Release 1.0 August 2014 (along with other subsequent revisions of the Type-C specification), and Universal Serial Bus Power Delivery Specification, Revision 2.0 January 2017 to provide power to peripheral devices ("the Accused Charging Devices"). The Accused Charging Devices include, but are not limited to the IdeaPad 5i (15", Intel) laptop, IdeaPad Flex 5 14 (Intel) 2 in 1, IdeaPad Gaming 3i (15" Intel) Laptop, Legion 5 Gen 6 (15" AMD) Gaming Laptop, Legion 5 Gen 6 (17" AMD) Gaming Laptop, Legion 5 Pro Gen 6 (16" AMD) Gaming Laptop, Legion 7 Gen 6 (16" AMD) Gaming Laptop, Lenovo Slim 9i (14" Intel) Laptop, ThinkBook 14 Gen 4 (14" AMD) Laptop, ThinkBook 15 Gen 4 (15" AMD) Laptop, ThinkPad L13 Yoga (13", Intel) Laptop, ThinkPad P1 Gen 4 (16" Intel) Mobile Workstation, ThinkPad T14 (14", Intel) laptop, ThinkPad T14 Gen 2 (14" Intel) Laptop, ThinkPad T14s Gen 2 (14" AMD) Laptop, ThinkPad T14s Gen 2 (14" Intel) Laptop, ThinkPad T15 Gen 2 (15" Intel) Laptop, ThinkPad X1 Carbon Gen 9 (14", Intel) Laptop, ThinkPad X1

Extreme Gen 3 Laptop, ThinkPad X1 Extreme Gen 4 (16" Intel) Laptop, ThinkPad X1 Nano (13", Intel) Laptop, ThinkPad X1 Nano Gen 2 (13" Intel) Laptop, ThinkPad X1 Yoga Gen 6 | 2 in 1 Business Laptop, ThinkPad X12 Detachable (12", Intel) Tablet, ThinkPad X13 Gen 2 (13" Intel) Laptop, and Yoga 9i (14") 2 in 1 laptop products.

23. As shown in Appendix A, which is incorporated by reference as though fully set forth herein, the Accused Chargers and Accused PEDs (or any combination of an Accused Charger and an Accused PED) comprise a system that meets each and every element of at least Claim 1 of the '187 Patent.

24. As shown in Appendix B, which is incorporated by reference as though fully set forth herein, the Accused Chargers meet each and every element of at least Claim 1 of the '087 Patent.

25. As shown in Appendix C, which is incorporated by reference as though fully set forth herein, the Accused Charging Devices meet each and every element of at least Claim 1 of the '087 Patent.

26. As shown in Appendix D, which is incorporated by reference as though fully set forth herein, the Accused PEDs meet each and every element of at least Claim 1 of the '042 Patent.

#### **COUNT I - INFRINGEMENT OF THE '187 PATENT**

27. Comarco repeats and re-alleges the allegations of the above paragraphs as if fully set forth herein.

28. Lenovo directly infringes and has directly infringed one or more claims of the '187 Patent without authority by making (or having made), using, selling, offering for sale, and/or importing the Accused Chargers and the Accused PEDs packaged together. A detailed claim chart that maps each element of at least one claim (claim 1) of the '187 Patent against an exemplary



combination of an Accused Charger and Accused PED showing Lenovo's infringement (based on Lenovo's acts of making, using, selling, offering for sale and/or importing Accused Products (including any combination of an Accused Charger and Accused PED)) of the '187 Patent is attached as Appendix A.

29. Lenovo's acts of infringement have occurred within this District and elsewhere throughout the United States.

30. On information and belief, at least as of the filing of this Complaint, Lenovo is aware of the '187 Patent, has knowledge of the infringing nature of its activities, and nevertheless continues to perform its infringing activities.

31. Lenovo's infringement of the '187 Patent is deliberate and willful, and thus Comarco is entitled to treble damages under 35 U.S.C. § 284.

32. Comarco has been damaged and will suffer additional damages due to Lenovo's infringement.

### **COUNT II - INFRINGEMENT OF THE '087 PATENT**

33. Comarco repeats and re-alleges the allegations of the above paragraphs as if fully set forth herein.

34. Lenovo directly infringes and has directly infringed one or more claims of the '087 Patent without authority by making, using, selling, offering for sale, and/or importing the Accused Chargers and the Accused Charging Devices. A detailed claim chart that maps each element of at least one claim (claim 1) of the '087 Patent against an exemplary Accused Charger showing Lenovo's infringement (based on Lenovo's acts of making, using, selling, offering for sale and/or importing Accused Chargers) of the '087 Patent is attached as Appendix B. A detailed claim chart that maps each element of at least one claim (claim 1) of the '087 Patent against an exemplary

Accused Charging Device showing Lenovo's infringement (based on Lenovo's acts of making, using, selling, offering for sale and/or importing Accused Charging Devices) of the '087 Patent is attached as Appendix C.

35. Lenovo's acts of infringement have occurred within this District and elsewhere throughout the United States.

36. On information and belief, at least as of the filing of this Complaint, Lenovo is aware of the '087 Patent, has knowledge of the infringing nature of its activities, and nevertheless continues to perform its infringing activities.

37. Lenovo's infringement of the '087 Patent is deliberate and willful, and thus Comarco is entitled to treble damages under 35 U.S.C. § 284.

38. Comarco has been damaged and will suffer additional damages due to Lenovo's infringement.

### **COUNT III - INFRINGEMENT OF THE '042 PATENT**

39. Comarco repeats and re-alleges the allegations of the above paragraphs as if fully set forth herein.

40. Lenovo directly infringes and has directly infringed one or more claims of the '042 Patent without authority by making (or having made), using, selling, offering for sale, and/or importing the Accused PEDs. A detailed claim chart that maps each element of at least one claim (claim 1) of the '042 Patent against an exemplary Accused PED showing Lenovo's infringement (based on Lenovo's acts of making, using, selling, offering for sale and/or importing PEDs) of the '042 Patent is attached as Appendix D.

41. Lenovo's acts of infringement have occurred within this District and elsewhere throughout the United States.

42. On information and belief, at least as of the filing of this Complaint, Lenovo is aware of the '042 Patent, has knowledge of the infringing nature of its activities, and nevertheless continues to perform its infringing activities.

43. Lenovo's infringement of the '042 Patent is deliberate and willful, and thus Comarco is entitled to treble damages under 35 U.S.C. § 284.

44. Comarco has been damaged and will suffer additional damages due to Lenovo's infringement.

#### **IV. PRAYER FOR RELIEF**

WHEREFORE, Comarco respectfully requests that the Court enter judgment as follows:

- A. Declaring that Lenovo has infringed the Patents-in-Suit;
- B. Awarding damages in an amount to be proven at trial, but in no event less than a reasonable royalty, for Lenovo's infringement, including pre-judgment and post-judgment interest at the maximum rate permitted by law;
- C. Ordering an award of reasonable attorneys' fees against Lenovo to Comarco as provided by 35 U.S.C. § 285 or other relevant law or provision;
- D. Awarding enhanced damages under 35 U.S.C. § 284.
- E. Awarding expenses, costs, and disbursements in this action against Lenovo to Comarco, including prejudgment interest; and
- F. Awarding such other and further relief as the Court deems just and proper.

#### **V. DEMAND FOR JURY TRIAL**

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, Comarco hereby demands a trial by jury in this action of all claims so triable.

Dated: July 15, 2022

Respectfully submitted,

By: /s/ Matthew J. Ladenheim

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