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

PANTECH CORPORATION Plaintiff, v. ONEPLUS TECHNOLOGY (SHENZHEN) CO., LTD., Defendant.	Case No. **JURY TRIAL DEMANDED**

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Pantech Corporation ("Pantech" or "Plaintiff"), for its Complaint against Defendant OnePlus Technology (Shenzhen) Co., Ltd., ("OnePlus" or "Defendant"), alleges the following:

NATURE OF THE ACTION

1. This is an action for patent infringement arising under the Patent Laws of the United States, 35 U.S.C. § 1, *et seq.*

THE PARTIES

2. Pantech Corp. is an entity organized under the laws of South Korea, with a place of business at 13 Saimdang-ro 8-gil, Suite 402-J420, Seocho-gu, Seoul 06735, Republic of Korea.

3. Defendant OnePlus Technology (Shenzhen) Co., Ltd. is a corporation duly organized and existing under the laws of China, with its principal place of business at 18F, Tairan Building, Block C, Tairan 8th Road, Chegongmiao, Futian District, Shenzhen, Guangdong, 518040, China.

4. Defendant is in the business of providing information and communication technology solutions. Specifically, Defendant provides and makes available for sale wireless telecommunications equipment, including smartphones and mobile devices.

JURISDICTION AND VENUE

5. This Court has subject matter jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331 and 1338(a) because the action arises under the patent laws of the United States, 35 U.S.C. § 271, *et seq*.

6. This Court has personal jurisdiction over Defendant. Defendant has continuous and systematic business contacts with the State of Texas and has committed and continues to commit acts of patent infringement in the United States, including in the State of Texas, by making, using, offering to sell, and/or selling accused products in the United States and Texas, and/or importing accused products into the United States and Texas. In addition, Defendant conducts its business extensively throughout Texas and derives substantial revenue in Texas, by shipping, distributing, offering for sale, selling, and advertising (including through an interactive web page) its products and/or services in the State of Texas and the Eastern District of Texas. Defendant has purposefully and voluntarily placed in the stream of commerce one or more products and/or services that practice the Asserted Patents (as set forth below) with the intention and expectation that they will be purchased and used by consumers in the Eastern District of Texas. For example, OnePlus advertises its products (including those accused in this Complaint) for purchase on its webpage, accessible from the United States, including Texas, such as at https://www.oneplus.com/store/phone. Further, https://www.oneplus.com includes a user agreement (https://www.oneplus.com/legal/use-of-cookies) that imposes terms between users and "OnePlus Technology (Shenzhen) Co., Ltd (referred to as we, us or OnePlus)." OnePlus also advertises on its website (for example at https://www.oneplus.com/us/oneplus-n30-5g) that certain

of its products are available for purchase from T-Mobile (https://www.t-mobile.com/offers/oneplus-phone-deals), Amazon (https://www.amazon.com/OnePlus-Unlocked-Dual-SIM-Charging-Chromatic/dp/B0C22BRGLG), and Best Buy (https://www.bestbuy.com/product/oneplus-nord-n30-5g-128gb-unlocked-chromatic-gray/CZYJW5VVQC/sku/6543735).

7. On information and belief, OnePlus products accused in this Complaint are and have been sold in physical T-Mobile retail stores located within the State of Texas and the Eastern District of Texas, for example at 5627 S Broadway Ave, Tyler, TX 75703; 900 E End Blvd N #100b, Marshall, TX 75670; and 3741 Mall Dr., Texarkana, TX 75501.

8. OnePlus previously admitted to transacting business in this District and consented to jurisdiction in this District, for example in *Altpass LLC v. OnePlus Technology (Shenzhen) Co., Ltd.*, No. 2-20-cv-00105, Dkt. 21 at 1 (E.D. Tex. Oct. 21, 2020) ("OnePlus admits it transacts business within the State of Texas…").

9. In addition, or in the alternative, this Court has personal jurisdiction over Defendant pursuant to Fed. R. Civ. P. 4(k)(2).

10. Venue is proper in this district as to Defendant, which is organized under the laws of China. 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."

ACCUSED INSTRUMENTALITIES

11. Defendant makes, uses, sells and offers for sale, provides, and causes to be used, now and within the past six years, mobile phones (e.g., OnePlus series, Nord series) and certain other LTE, LTE-A, and 5G-capable devices (the "Accused Instrumentalities").

12. For example, Defendant advertises that the OnePlus 13, OnePlus 13R, OnePlus 12, OnePlus 12R, OnePlus Nord N30 5G, and OnePlus Open devices are compliant with LTE, LTE-A, and/or 5G cellular network standards.

PATENTS-IN-SUIT

13. The Asserted Patents are U.S. Patent Nos. 9,548,839; 11,659,503; 11,051,344; and 12,267,876.

14. U.S. Patent No. 9,548,839 (the "'839 Patent") is entitled "Method for mapping physical hybrid automatic repeat request indicator channel." On May 7, 2020, Pantech Corp. obtained full and complete ownership, title, and interest in the '839 Patent.[1]

15. U.S. Patent No. 11,659,503 (the "'503 Patent") is entitled "Apparatus and method for establishing uplink synchronization in a wireless communication system." On May 7, 2020. Pantech Corp. obtained full and complete ownership, title, and interest in the '503 Patent.[2]

16. U.S. Patent No. 11,051,344 (the "'344 Patent") is entitled "Method for transmitting and receiving random access request and transmitting and receiving random access response." On May 7. 2020, Pantech Corp. obtained full and complete ownership, title, and interest in the '503 Patent.[3]

[1] The named inventors of the '839 Patent are Jung Hoon Lee and Joon Kui Ahn. The U.S. patent application was filed on May 29, 2015, published on September 17, 2015, and the '839 Patent issued on January 17, 2017. The inventors assigned a parent application, U.S. Patent App. No. 12/388,243 and any continuations thereto, including the application underlying the '839 Patent, to LG Electronics Inc. On February 15, 2012, LG Electronics Inc. transferred its interest to Pantech Co. Ltd. On July 6, 2016, Pantech Co., Ltd assigned its interest to Pantech Inc. On October 31, 2016, Pantech Inc. transferred the interest to Goldpeak Innovations Inc. On May 7, 2020, Goldpeak Innovations Inc. transferred the interest to Pantech Corp.

[2] The named inventors of the '503 Patent are Kibum Kwon and Myungcheul Jung. The U.S. patent application was filed on May 17, 2021, published on September 2, 2021, and the '503 Patent issued on May 23, 2023. The inventors assigned a parent application, U.S. Patent App. 13/578,531 and any continuations thereto, including the application underlying the '839 Patent, to Pantech Co., Ltd. On July 6, 2016, Pantech Co., Ltd assigned its interest to Pantech Inc. On October 31, 2016, Pantech Inc. transferred the interest to Goldpeak Innovations Inc. On May 7, 2020, Goldpeak Innovations Inc. transferred the interest to Pantech Corp.

[3] The named inventors of the '344 Patent are Min Seok Noh, Yeong Hyeon Kwon, Jin Sam Kwak, Dong Cheol Kim, Sung Ho Moon, Seung Hee Han, Hyun Woo Lee, and Dragan Vujcic. The U.S. patent application was filed on

17. U.S. Patent No. 12,267,876 (the "'876 Patent") is entitled "Method for transmitting and receiving random access request and transmitting and receiving random access response." On May 7, 2020. Pantech Corp. obtained full and complete ownership, title, and interest in the '876 Patent.[4]

18. Pantech Corp. is the rightful owner of the '839, '503, '344, and '876, and holds the entire right, title and interest in the '839, '503, '344, and '876, including the right to collect for past damages.

BACKGROUND

Pantech Corp.

19. Pantech Co., Ltd., the predecessor to what is now Pantech Corp.,[5] was originally founded in 1991 in Seoul, South Korea as a competitor in the wireless phone marketplace.

20. Throughout the 1990s and 2000s, Pantech rose to become a leading manufacturer of mobile phones. By 2012, Pantech had become the second best-selling Korean handset maker.

December 11, 2019, published on April 16, 2020, and the '344 Patent issued on June 29, 2021. The inventors assigned a parent application, U.S. Patent App. No. 12/347,352 and any continuations thereto, including the application underlying the '344 Patent, to LG Electronics Inc. On February 15, 2012, LG Electronics Inc. assigned its interest to Pantech Co., Ltd. On July 6, 2016, Pantech Co., Ltd. Assigned its interest to Pantech Inc. On October 31, 2016, Pantech Inc. assigned its interest to Goldpeak Innovations Inc. On May 7, 2020, Goldpeak Innovations Inc. transferred the interest to Pantech Corp.

[4] The named inventors of the '876 Patent are Min Seok Noh, Yeong Hyeon Kwon, Jin Sam Kwak, Dong Cheol Kim, Sung Ho Moon, Seung Hee Han, Hyun Woo Lee, and Dragan Vujcic. The U.S. patent application was filed on September 22, 2023, published on January 11, 2024, and the '876 patent issued on April 1, 2025. The inventors assigned a parent application, U.S. Patent App. No. 12/347,352 and any continuations thereto, including the application underlying the '876 Patent, to LG Electronics Inc. On February 15, 2012, LG Electronics Inc. assigned its interest to Pantech Co., Ltd. On July 6, 2016, Pantech Co., Ltd. Assigned its interest to Pantech Inc. On October 31, 2016, Pantech Inc. assigned its interest to Goldpeak Innovations Inc. On May 7, 2020, Goldpeak Innovations Inc. transferred the interest to Pantech Corp.

[5] Pantech Co., Ltd. was formed in 1991, and as the result of a restructuring and acquisition in 2015 became Pantech, Inc. Thereafter, Pantech Corporation was formed. Pantech, Inc. transferred its assets to Pantech Corp. as part of an asset sale in 2020 (in this section, these three entities are hereinafter referred to collectively as "Pantech" unless otherwise identified).

21. Pantech's products were sold in South Korea, the United States, Japan, China, Europe, Vietnam, and other countries around the world. Pantech launched operations in the United States in 2003.

22. Pantech's portfolio of intellectual property is broad and extensive, comprising thousands of worldwide patents and patent applications in the areas of telecommunications, "smart" devices, and Internet of Things products. Pantech's portfolio, in one aspect, covers wireless communication systems and devices and methods for using those communication systems. In the wireless technology space alone, Pantech holds more than 200 U.S. patents and applications, many of which have been declared standard essential patents.

23. Pantech has invested heavily in research and development, investing, on average, over 10% of its annual revenue in research and development. Pantech's research and development efforts in network technology include, but are not limited to, technologies focused on LTE, LTE-A, and 5G networks, WCDMA/CDMA, WiMAX, WiFi, Near Field Communication (NFC), Visible Light Communication, Human Body Communication, Ultra-Wideband Communication LTE and IP Mesh Network.

24. Over the last decade, Pantech has enthusiastically contributed to the 3rd Generation Partnership Project (3GPP) LTE/LTE-A standardization by submitting proposals to TSG RAN, RAN1, and RAN2. Indeed, Pantech secured numerous LTE/LTE-A Standard Essential Patents and patent applications (SEPs) in connection with its contributions. In 2014, National Applied Research Labs in Taiwan reported that Pantech held 1% of LTE-related SEPs, and that number has only increased since 2014.

25. Recognizing the value of its own portfolio and its potential role in the Fourth Industrial Revolution, Pantech has committed to making its intellectual property available in the

marketplace, including to competitors. On its website, under the heading "IP Umbrella Services," Pantech offers to exchange intellectual property and technology, and collaborate with competitors and patent holders, through licenses, to enable the market to identify new technological ventures.

26. Pantech Corp. is the owner by assignment of a portfolio of patents, including the Asserted Patents described in paragraphs 13 - 18 and in detail in the counts below, that relate to mobile device user interface features and technology for cellular communications networks, including variations or generations of cellular communication network technology such as, but not limited to LTE, LTE-A, and 5G, as discussed herein.

Negotiations Between the Parties

27. Cellular communication network technology is used to provide data transmission across mobile cellular networks.

28. It is critical for cellular communication network technology to be standardized around the globe. Independent standard-setting organizations, like the European Telecommunications Standards Institute (ETSI), establish global standards for the telecommunication industries. ETSI, along with other standard-setting organizations, have made it possible to have global interoperability between networks, devices and network operators.

29. ETSI sets forth a policy in order to balance intellectual property protections against the need for an open standard by designating certain intellectual property rights (IPR) as "essential." ETSI sets forth the following definition of "essential":

> "ESSENTIAL" as applied to IPR means that it is not possible on technical (but not commercial) grounds, taking into account normal technical practice and the state of the art generally available at the time of standardization, to make, sell, lease, otherwise dispose of, repair, use or operate EQUIPMENT or METHODS which comply with a STANDARD without infringing that IPR. For the avoidance of doubt in exceptional cases where a STANDARD can only be implemented by technical solutions, all of which are infringements of IPRs, all such IPRs shall be considered ESSENTIAL.

Clause 15.6 of the ETSI IPR Policy, https://www.etsi.org/images/files/IPR/etsi-ipr-policy.pdf.

30. OnePlus is required to have a license to one or more essential patents owned by Pantech Corp. including the Asserted Patents that are identified as essential.

31. Pantech has made multiple, sustained efforts to notify OnePlus and its related entities of the existence, essentiality, and infringement of the Asserted Patents:

32. **Initial Outreach:** Pantech, by letter dated June 12, 2020, sent correspondence to Mr. Zuohu Liu, CEO of OnePlus Technology (Shenzhen) Co., Ltd., offering to license patents owned and/or managed by Pantech, including those essential to cellular standards such as LTE and LTE-Advanced. This correspondence specifically identified OnePlus products (including, for example, the OnePlus 6T, OnePlus 7, OnePlus 7 Pro, OnePlus 7T, OnePlus 7T Pro, OnePlus 8, and OnePlus 8 Pro) as being covered by the claims of the offered patents, and included a list of Pantech's patents, explicitly identifying the '839 Patent as being infringed by the identified OnePlus products and related products.

33. Pantech provided additional details regarding its patent portfolio and licensing proposal to OnePlus on at least September 24, 2020, January 21, 2021, March 25, 2021, April 16, 2021, May 4, 2021, June 1, 2021, and July 9, 2021. These communications included technical details, lists of patents, and identification of the Asserted Patents (or family members with the same specification and claim scope), as well as references to the relevant portions of the cellular standards covered by the respective patents.

34. In these communications, Pantech specifically called attention to the standards-essential nature of the Asserted Patents, referencing the relevant 3GPP standards that are implemented in OnePlus's products.

35. **Additional Portfolio Notice:** On May 14, 2021, Pantech provided OnePlus with notice that its subsidiary, Pantech Wireless LLC, had acquired the Signal Trust portfolio of patents, which included additional standard essential patents, and provided a list of the acquired patents. On July 9, 2021, Pantech provided further information regarding OnePlus's practice of such patents and made a licensing offer that included both the Pantech and Pantech Wireless patents, at a rate reflecting a substantial discount.

36. **Lack of Good Faith Engagement:** Despite these repeated efforts, Pantech was met with constant delay, ignored communications, and prolonged periods for responses, including a nine-month delay by OnePlus in negotiating a simple nondisclosure agreement, which OnePlus insisted on before it would supposedly engage in licensing negotiations. OnePlus did not substantively respond to Pantech's communications or licensing offers outside of litigation, has not provided a good faith counteroffer even after Pantech instituted district court litigation and obtained a jury verdict of willful infringement against OnePlus, including as to the '839 Patent and a family member of the '503 Patent. OnePlus has instead engaged in holdout behavior, refusing to engage in good faith negotiations.

37. **Litigation and Continued Notice:** On June 3, 2022, Pantech and its subsidiary Pantech Wireless sued OnePlus for patent infringement in this District, resulting in jury findings of infringement, no invalidity, willfulness, and damages for certain of Pantech's patents, including the '839 Patent, a family member of the '503 Patent of which the '503 Patent is a continuation of, and another standard essential patent. *See Pantech Corp., et al. v. OnePlus Tech. (Shenzhen) Co. Ltd.*, C.A. No. 5:22-CV-00069-RWS (EDTX), Dkt. No. 499 ("Final Judgment") With respect to the '839 Patent and other standard essential patents at issue in that suit, the jury substantially adopted Pantech's damages claim, which is consistent with its FRAND licensing rate offered in

licensing negotiations. Demonstrating its holdout behavior and willful infringement, OnePlus dropped all of its patent invalidity defenses against Pantech's asserted standards essential patents, but not until the day before OnePlus's technical expert was scheduled to testify at trial. Despite these verdicts, OnePlus has refused to accept a license on FRAND terms or provide a reasonable counteroffer. On March 14, 2024, Pantech and Pantech Wireless again sued OnePlus for patent infringement, along with a claim for breach of FRAND and unjust enrichment, in the Eastern District of Texas. Yet, OnePlus continues to operate without a license to Pantech's standard essential and other patents, including the Asserted Patents.

38. **Constructive Knowledge:** As a participant in the global telecommunications market and a member of standard-setting organizations, OnePlus has constructive knowledge of the Asserted Patents by virtue of their declaration as SEPs and their inclusion in public standards documentation.

39. Defendant has been operating and continues to operate without a license to Plaintiff's' standards-essential and other patents.

COUNT I – INFRINGEMENT OF U.S. PATENT NO. 9,548,839

40. The allegations set forth in the foregoing paragraphs 1 through 39 are incorporated into this claim for relief.

41. On January 17, 2017, the '839 Patent, entitled "Method for mapping physical hybrid automatic repeat request indicator channel," was duly and legally issued by the United States Patent and Trademark Office from U.S. Patent Application No. 14/726,014, filed on May, 29, 2015. The '839 Patent claims foreign priority to KR 10-2008-0124084, filed on December 8, 2008. A true and correct copy of the '839 Patent is attached as Exhibit 1.

42. Plaintiff is the assignee and owner of all right, title and interest in and to the ’839 Patent, including the right to assert all causes of action arising under said patent and the right to any remedies for its infringement.

43. The ’839 Patent provides critical improvements that allow user equipment (UE) devices to process signals from base stations indicating whether the base station successfully received transmissions from the phone (uplink transmissions). More specifically, the ’839 Patent discloses at least apparatuses and methods for mapping a physical hybrid automatic repeat request indicator channel (PHICH) to at least one orthogonal frequency division multiplexing (OFDM) symbol. Indices of resource element groups in which the PHICH is transmitted are determined according to a ratio involving the number of available resource element groups in the OFDM symbol.

44. For example, claims 9-12 of the ’839 Patent recite elements of PHICH mapping mandated by the LTE standard, including at least 3GPP TS 36.211, TS 36.213, and TS 36.331. 3GPP TS 36.211 v8.9.0 at 48-49, 61-65 (§§ 3.1, 6.2.4, 6.9.1, 6.9.3) (OFDM symbols comprise a plurality of resource element groups, mapping PHICH to OFDM symbols; determination of resource element group indexes); 3GPP TS 36.213 v8.8.0 at 65-66 (§ 9.1.2) (UE determination of PHICH resource); and 3GPP TS 36.331 v8.7.0 at 24, 25, 84, 85, 103, 119, 125 (§§ 5.2.2.6, 5.2.2.9, 6.2.2, 6.3.1, 6.3.2) (UE determination of indexes).

45. Upon information and belief, Defendant and/or its subsidiaries or business partners has and continues to directly infringe at least claims 9-12 of the ’839 Patent by making, using, selling, importing, offering to sell within the United States, importing into the United States, and providing to and within the United States, Accused Instrumentalities that practice at least claims 9-12 of the ’839 Patent (the “OnePlus Accused ’839 Instrumentalities”). Defendant also has and

continues to directly infringe at least claims 9-12 by practicing claims 9-12 through the OnePlus Accused ’839 Instrumentalities, and by causing the OnePlus Accused ’839 Instrumentalities to practice the patented inventions.

46. OnePlus Accused ’839 Instrumentalities include, for example, the OnePlus 13 and other LTE, LTE-A, and 5G compatible devices that constitute/support the apparatuses and methods for mapping a physical hybrid automatic repeat request indicator channel (PHICH) to at least one orthogonal frequency division multiplexing (OFDM) symbol. On information and belief, each of the OnePlus Accused ’839 Instrumentalities incorporates a chipset, application processor, SoC, or system-on-chip (e.g., Qualcomm Snapdragon 8 Elite Mobile Platform chipset) (referred to herein as the “chipset”) that incorporates a processor and/or modem. Each such chipset (and thus each infringing device) complies with one or more of LTE cellular communication protocols including at least 3GPP TS 36.211, 3GPP TS 36.331, and/or 3GPP TS 36.213.

47. Plaintiff made Defendant aware of the ’839 Patent and its infringement thereof at least as early as June 12, 2020, when Plaintiff explicitly identified the ’839 Patent in correspondence sent to OnePlus.

48. Since at least June 12, 2020, when Defendant made Plaintiff aware of the ’839 Patent, Defendant’s infringement has been, and continues to be willful. On January 23, 2025, the Final Judgment was entered on behalf of Pantech against Defendant ordering that “Defendant OnePlus is found to willfully infringe the asserted claims of the ’247, ’839, ’954, and ’654 patents,” yet Defendant has continued its willful infringement.

49. Upon information and belief, the OnePlus Accused ’839 Instrumentalities are used, marketed, provided to, and/or used by or for Defendant’s partners, clients, customers/subscribers and end users across the country and in this district.

50. Upon information and belief, Defendant has induced and continues to induce others to infringe at least claims 9-12 of the ’839 Patent under 35 U.S.C. § 271(b) by, among other things, and with specific intent or willful blindness, actively aiding and abetting others to infringe, including, but not limited to Defendant’s partners, clients, customers/subscribers, and end users, whose use of the OnePlus Accused ’839 Instrumentalities constitute direct infringement of at least one claim of the ’839 Patent. For example, OnePlus advertises and has advertised the use of its devices for LTE, LTE-A, and 5G communications. *See* https://www.oneplus.com/us/open/specs.

51. In particular, Defendant’s actions that aid and abet others such as its partners, customers/subscribers, clients, and end users to infringe include advertising and distributing the OnePlus Accused ’839 Instrumentalities, and providing instruction materials, training and services regarding the OnePlus Accused ’839 Instrumentalities.

52. Any party, including Defendant’s partners, clients, customers/subscribers, and end users, using the OnePlus Accused ’839 Instrumentalities necessarily infringes the ’839 Patent because the inventions of the ’839 Patent are required to comply with the relevant cellular standards. Defendant advertises its OnePlus Accused ’839 Instrumentalities as compliant with LTE, LTE-A, and 5G, which induces others to infringe the ’839 Patent. Defendant has knowingly induced infringement since at least as early as June 12, 2020, when Defendant was made aware of the ’839 Patent.

53. Upon information and belief, Defendant is liable as a contributory infringer of the ’839 Patent under 35 U.S.C. § 271(c) by offering to sell, selling and importing into the United States the OnePlus Accused ’839 Instrumentalities that infringe the patented inventions, to be especially made or adapted for use in an infringement of the ’839 Patent. Each of the OnePlus Accused ’839 Instrumentalities is a material component for use in practicing the ’839 Patent and

is specifically made and not a staple article of commerce suitable for substantial non-infringing use. In particular, each of the OnePlus Accused '839 Instrumentalities is advertised to be compliant with the relevant standards and primarily used in compliance with such standards.

54. Plaintiff has been harmed by Defendant's infringing activities.

COUNT II – INFRINGEMENT OF U.S. PATENT NO. 11,659,503

55. The allegations set forth in the foregoing paragraphs 1 through 54 are incorporated into this claim for relief.

56. On May 23, 2023, the '503 Patent, entitled " Apparatus and method for establishing uplink synchronization in a wireless communication system" was duly and legally issued by the United States Patent and Trademark Office from U.S. Patent Application No. 17/322,832, filed on May 17, 2021. The '503 Patent claims priority to The '503 Patent claims priority to the following foreign patents: KR 10-2010-0012564, filed on February 10, 2010, KR 10-2010-0027230, filed on March 26, 2010, and KR 10-2011-0008683, filed on January 28, 2011. A true and correct copy of the '503 Patent is attached as Exhibit 2.

57. Plaintiff is the assignee and owner of all right, title and interest in and to the '503 Patent, including the right to assert all causes of action arising under said patent and the right to any remedies for infringement of it.

58. The '503 Patent provides improvements for uplink synchronization in telecommunications networks that use carrier aggregation. This is critical because uplink transmissions (transmissions from a phone to a base station) must be synchronized so that they arrive at the base station at the same time. More specifically, the '503 Patent discloses at least apparatuses and methods for establishing uplink synchronization in a wireless communication system supporting primary and secondary component carriers ("CCs"), through the use of timing groups. For instance, a user equipment, contains a processor configured to cause the apparatus to

receive, through a primary CC belonging to a first uplink timing group, a Radio Resource Control (RRC) message comprising information related to a second uplink timing group, receive information indicating a random access preamble (RAP), transmit a RAP through one or more uplink CCs, each being set as a delegate CC for a respective second uplink timing group, and receive a random access response (RAR) including a timing advance (TA) value based on the RAP associated with the delegate CC or the respective second uplink timing group, together with uplink grant information. The processor is also configured to cause the UE to apply each TA value to the secondary CC for the respective second uplink timing group. For example, claims 5, 7, and 8 of the '503 Patent recite elements of uplink resource control mandated by at least the LTE/LTE-A standard, including at least the following 3GPP technical specifications: TS 36.321, and 36.331. Compliance with these technical specifications, and thus with at least the LTE/LTE-A standard, requires the use of the invention recited in at least claims 5, 7, and 8 of the '503 Patent, including the functionality described in this paragraph.

59. Upon information and belief, Defendant and/or its subsidiaries or business partners has and continues to directly infringe at least claims 5, 7, and 8 of the '503 Patent by making, using, selling, importing, offering to sell within the United States, importing into the United States, and providing to and within the United States, Accused Instrumentalities that practice at least claims 5, 7, and 8 of the '503 Patent (the "OnePlus Accused '503 Instrumentalities"). Defendant also has and continues to directly infringe at least claims 5, 7, and 8 by practicing claims 5, 7, and 8 through the OnePlus Accused '503 Instrumentalities, and by causing the OnePlus Accused '503 Instrumentalities to practice the patented inventions.

60. OnePlus Accused '503 Instrumentalities include, for example, the OnePlus 13 and other LTE-A compatible products that support carrier aggregation functionally mandated by the

LTE-A standard. Further, each OnePlus Accused '503 Instrumentalities contains a chipset, application processor, SoC, or system-on-chip (e.g., Qualcomm Snapdragon 888 5G) (referred to herein as the "chipset") that incorporates a processor and modem. Each such chipset (and thus each accused device) complies with one or more of LTE Advanced, Release 11 or higher cellular communication standard, including at least 3GPP TS 36.300, 3GPP TS 36.321, 3GPP TS 36.213, 3GPP TS 36.211, and/or 3GPP TS 36.331, and supports Radio Resource Control (RRC), random access, and timing advance mechanisms in accordance with the LTE Release 11 or later cellular communication standard. Furthermore, each of the Accused OnePlus '503 LTE-A Products contains an antenna or antennas, memory, and transceiver or combination of transmitter and receiver that assist the processor with the RRC, random access, and timing advance mechanisms in accordance with the LTE Release 11 or later cellular communication standard

61. OnePlus Accused '503 Instrumentalities also include, for example, the OnePlus 13 and other 5G compatible products mandated by the 5G standard, Release 16 and higher (i.e., with 3GPP TS 37.340, 3GPP TS 38.300, 3GPP TS 38.321, 3GPP TS 38.213, 3GPP TS 38.211, and/or 3GPP TS 38.331, and, to the extent relied upon below, the LTE cellular communication standard described in 3GPP TS 36.300, 3GPP TS 36.321, 3GPP TS 36.213, 3GPP TS 36.211, and/or 3GPP TS 36.331). On information and belief, each of the OnePlus Accused '839 Instrumentalities contains a chipset, application processor, SoC, or system-on-chip (e.g., Qualcomm Snapdragon 888 5G) (referred to herein as the "chipset") that incorporates a processor and modem. Each such chipset (and thus each accused device) complies with the 5G Release 16 or higher cellular communication standard, including at least 3GPP TS 37.340, 3GPP TS 38.300, 3GPP TS 38.321, 3GPP TS 38.213, 3GPP TS 38.211, and/or 3GPP TS 38.331, and supports Radio Resource Control (RRC), random access, and timing advance mechanisms in accordance with the 5G Release 16 or

later cellular communication standards. Each such chipset also complies with the LTE Release 16 or higher cellular communication standard, including at least 3GPP TS 36.300, 3GPP TS 36.321, 3GPP TS 36.213, 3GPP TS 36.211, and/or 3GPP TS 36.331. Further, each of the Accused OnePlus '503 5G Products contains an antenna or antennas, memory, and transceiver or combination of transmitter and receiver that assist the processor with the RRC, random access, and timing advance mechanisms in accordance with the 5G and LTE Release 16 or later cellular communication standards.

62. Plaintiff made Defendant aware of the '503 Patent family and its infringement thereof at least as early as September 24, 2020, when Pantech explicitly identified '503 Patent family members in correspondence sent to Defendant.

63. Since the issuance of the '503 Patent, TCL's infringement has been, and continues to be, willful based on at least the fact that Pantech made TCL aware of the '503 Patent's family members on September 24, 2020.

64. Upon information and belief, the OnePlus Accused '503 Instrumentalities are used, marketed, provided to, and/or used by or for Defendant's partners, clients, customers/subscribers and end users across the country and in this district.

65. Upon information and belief, Defendant has induced and continues to induce others to infringe at least claims 5, 7, and 8 of the '503 Patent under 35 U.S.C. § 271(b) by, among other things, and with specific intent or willful blindness, actively aiding and abetting others to infringe, including, but not limited to Defendant's partners, clients, customers/subscribers, and end users, whose use of the OnePlus Accused '503 Instrumentalities constitute direct infringement of at least one claim of the '503 Patent. For example, OnePlus advertises and has advertised the use of its devices for LTE-A and 5G communications. *See* https://www.oneplus.com/us/open/specs.

66. In particular, Defendant's actions that aid and abet others such as its partners, customers/subscribers, clients, and end users to infringe include advertising and distributing the OnePlus Accused '503 Instrumentalities, and providing instruction materials, training and services regarding the OnePlus Accused '503 Instrumentalities.

67. Any party, including Defendant's partners, clients, customers/subscribers, and end users, using the OnePlus Accused '503 Instrumentalities necessarily infringes the '503 Patent because the inventions of the '503 Patent are required to comply with the relevant cellular standards. Defendant advertises its OnePlus Accused '503 Instrumentalities as compliant with LTE-A and 5G, which induces others to infringe the '503 Patent. Defendant has knowingly induced infringement since at least as early as the filing date of this Complaint.

68. Upon information and belief, Defendant is liable as a contributory infringer of the '503 Patent under 35 U.S.C. § 271(c) by offering to sell, selling and importing into the United States the OnePlus Accused '503 Instrumentalities that infringe the patented inventions, to be especially made or adapted for use in an infringement of the '503 Patent. Each of the OnePlus Accused '503 Instrumentalities is a material component for use in practicing the '503 Patent and is specifically made and not a staple article of commerce suitable for substantial non-infringing use. In particular, each of the OnePlus Accused '503 Instrumentalities is advertised to be compliant with the relevant standards and primarily used in compliance with such standards.

69. Plaintiff has been harmed by Defendant's infringing activities.

COUNT III – INFRINGEMENT OF U.S. PATENT NO. 11,051,344

70. The allegations set forth in the foregoing paragraphs 1 through 69 are incorporated into this claim for relief.

71. On June 29, 2021, U.S. Patent No. 11,051,344, entitled "Method for transmitting and receiving random access request and transmitting and receiving random access response" was

duly and legally issued by the United States Patent and Trademark Office from U.S. Patent Application No. 16/711,269. Through a series of continuation applications, the '344 Patent claims priority to KR 10-2008-0047656, filed May 22, 2008, and U.S. Provisional App. No. 61/018,492, filed January 1, 2008. A true and correct copy of the '344 Patent is attached as Exhibit 3.

72. Plaintiff is the assignee and owner of all right, title and interest in and to the '344 Patent, including the right to assert all causes of action arising under said patent and the right to any remedies for infringement of it.

73. The '344 Patent discloses at least apparatuses and methods to receive a random access response from a base station within a time period starting at a time point after an end time of transmitting the random access preamble obtained by adding an offset to a subframe number corresponding to the end time of transmitting the random access preamble and the offset equals three and extract information associated with a subframe number of a subframe in which a random access preamble was transmitted by the user equipment and determine that the received random access response is a response to the transmitted random access preamble. For example, claims 2 and 6 of the '344 Patent recite elements of random access procedures mandated by the LTE standard, including at least 3GPP TS 36.300, TS 36.321, TS and TS 36.331 release 8 and higher. *See* 3GPP 36.321 v8.5.0 at 12-13 (§ 5.1.1, 5.1.2), 14 (§§ 5.1.3, 5.1.4) (the UE performs a random access procedure, including transmitting a RAP, monitoring for a RAR within a RA response window, and receives a RAR); 3GPP TS 36.300 v8.5.0 at 50 (§ 10.1.5.1) (the UE receives a RAR); 3GPP TS 36.321 v8.5.0 at 35-36 (§ 6.1.5); 3GPP TS 36.321 v8.5.0 at 37-38. (§ 6.2.2), 3GPP TS 36.213 v8.5.0 at 16-17 (§ 6.1), 3GPP TS 36.331 v8.5.0 at 123-124 (§ 5.1.1).

74. Upon information and belief, Defendant and/or its subsidiaries or business partners has and continues to directly infringe at least claims 2 and 6 of the '344 Patent by making, using,

selling, importing, offering to sell within the United States, importing into the United States, and providing to and within the United States, Accused Instrumentalities that practice at least claims 2 and 6 of the ’344 Patent (the “OnePlus Accused ’344 Instrumentalities”). Defendant also has and continues to directly infringe at least claims 2 and 6 by practicing claims 2 and 6 through the OnePlus Accused ’344 Instrumentalities, and by causing the OnePlus Accused ’344 Instrumentalities to practice the patented inventions.

75. OnePlus Accused ’344 Instrumentalities include, for example, the OnePlus 13 smartphone and other products that are compatible with the LTE cellular communication standard, Release 8 or higher, and specifically with 3GPP TS 36.300, 3GPP TS 36.321, 3GPP TS 36.331, and/or 3GPP TS 36.213. On information and belief, each of the OnePlus Accused ’344 Instrumentalities contains a chipset, application processor, SoC, or system-on-chip (e.g., Qualcomm Snapdragon 888 5G) (referred to herein as the “chipset”) that incorporates a processor and modem. Each such chipset (and thus each accused device) complies with one or more of the LTE Release 8 or higher cellular communication protocols, including at least 3GPP TS 36.300, 3GPP TS 36.321, 3GPP TS 36.331, 3GPP TS 36.213, and/or 3GPP TS 36.331, and supports Radio Resource Control (RRC), random access, and timing advance mechanisms in accordance with the LTE Release 8 or higher cellular communication standards. Further, each of the Accused ’344 Instrumentalities contains an antenna or antennas, memory, and transceiver or combination of transmitter and receiver that assist the processor with the RRC, random access, and timing advance mechanisms in accordance with the LTE Release 8 or later cellular communication standards.

76. Plaintiff made Defendant aware of the ’344 Patent family and its infringement thereof at least as early as September 24, 2020, when Plaintiff provided technical details, lists of patents, and identification of the Asserted Patents (or family members with the same specification

and claim scope), as well as references to the relevant portions of the cellular standards covered by the respective patents.

77. Since the issuance of the ’344 Patent, Defendant’s infringement has been, and continues to be, willful based on at least the fact that Pantech made Defendant aware of the ’344 Patent’s family members on September 24, 2020.

78. Upon information and belief, the OnePlus Accused ’344 Instrumentalities are used, marketed, provided to, and/or used by or for Defendant’s partners, clients, customers/subscribers and end users across the country and in this district.

79. Upon information and belief, Defendant has induced and continues to induce others to infringe at least claims 2 and 6 of the ’344 Patent under 35 U.S.C. § 271(b) by, among other things, and with specific intent or willful blindness, actively aiding and abetting others to infringe, including, but not limited to Defendant’s partners, clients, customers/subscribers, and end users, whose use of the OnePlus Accused ’344 Instrumentalities constitute direct infringement of at least claims 2 and 6 of the ’344 Patent.

80. In particular, Defendant’s actions that aid and abet others such as its partners, customers/subscribers, clients, and end users to infringe include advertising and distributing the OnePlus Accused ’344 Instrumentalities, and providing instruction materials, training and services regarding the OnePlus Accused ’344 Instrumentalities.

81. Any party, including Defendant’s partners, clients, customers/subscribers, and end users, using the OnePlus Accused ’344 Instrumentalities necessarily infringes the ’344 Patent because the inventions of the ’344 Patent are required to comply with the relevant cellular standard. Defendant advertises its OnePlus Accused ’344 Instrumentalities as compliant with 5G, which

induces others to infringe the ’344 Patent. Defendant has knowingly induced infringement since at least as early as the filing of this Complaint.

82. Upon information and belief, Defendant is liable as a contributory infringer of the ’344 Patent under 35 U.S.C. § 271(c) by offering to sell, selling and importing into the United States the OnePlus Accused ’344 Instrumentalities that infringe the patented inventions, to be especially made or adapted for use in an infringement of the ’344 Patent. Each of the OnePlus Accused ’344 Instrumentalities is a material component for use in practicing the ’344 Patent and is specifically made and not a staple article of commerce suitable for substantial non-infringing use. In particular, each of the OnePlus Accused ’344 Instrumentalities is advertised to be compliant with the relevant standards and primarily used in compliance with such standards.

83. Pantech Corp. has been harmed by Defendant’s infringing activities.

COUNT IV – INFRINGEMENT OF U.S. PATENT NO. 12,267,876

84. The allegations set forth in the foregoing paragraphs 1 through 83 are incorporated into this claim for relief.

85. On April 1, 2025, the ’876 Patent, entitled “ Method for Transmitting and Receiving Random Access Request and Transmitting and Receiving Random Access Response,” was duly and legally issued by the United States Patent and Trademark Office from U.S. Patent Application No. 18/371,735, filed on September 22, 2023. Through a series of continuation applications, the ’876 Patent claims priority to KR 10-2008-0047656, filed May 22, 2008, U.S. Provisional App. No. 61/018,492, filed January 1, 2008. A true and correct copy of the ’876 Patent is attached as Exhibit 4.

86. Plaintiff is the assignee and owner of all right, title and interest in and to the ’876 Patent, including the right to assert all causes of action arising under said patent and the right to any remedies for infringement of it.

87. The ’876 Patent’s written description contains the same teachings of the ’344 Patent’s written description, and Plaintiff hereby incorporates the corresponding discussion at Count III. S*upra* ¶ 72.

88. For example, claims 4-6 of the ’876 Patent recite elements of random access procedures mandated by the LTE standard, including at least 3GPP TS 36.300, TS 36.321, TS and TS 36.331 release 8 and higher. 3GPP 36.321 v8.5.0 at 12-13 (§ 5.1.1), 13, 14, 15 (§§ 5.1.3, 5.1.4) (the UE performs a random access procedure, including transmitting a RAP, monitoring for a RAR within a RA response window, and receives a RAR); 3GPP TS 36.300 v8.5.0 at 50 (§ 10.1.5.1) (the UE receives a RAR).

89. Upon information and belief, Defendant and/or its subsidiaries or business partners has and continues to directly infringe at least claims 4-6 of the ’876 Patent by making, using, selling, importing, offering to sell within the United States, importing into the United States, and providing to and within the United States, Accused Instrumentalities that practice at least claims 4-6 of the ’876 Patent (the “OnePlus Accused ’876 Instrumentalities”). Defendant also has and continues to directly infringe at least claims 4-6 by practicing claims 4-6 through the OnePlus Accused ’876 Instrumentalities, and by causing the OnePlus Accused ’876 Instrumentalities to practice the patented inventions.

90. OnePlus Accused ’876 Instrumentalities include, for example, the OnePlus 13 smartphone and other products that are compatible with the LTE cellular communication standard, Release 8 or higher, and specifically with 3GPP TS 36.300, 3GPP TS 36.321, 3GPP TS 36.331, and/or 3GPP TS 36.213. On information and belief, each of the OnePlus Accused ’344 Instrumentalities contains a chipset, application processor, SoC, or system-on-chip (e.g., Qualcomm Snapdragon 888 5G) (referred to herein as the “chipset”) that incorporates a processor

and modem. Each such chipset (and thus each accused device) complies with one or more of the LTE Release 8 or higher cellular communication protocols, including at least 3GPP TS 36.300, 3GPP TS 36.321, 3GPP TS 36.331, 3GPP TS 36.213, and/or 3GPP TS 36.331, and supports Radio Resource Control (RRC), random access, and timing advance mechanisms in accordance with the LTE Release 8 or higher cellular communication standards. Further, each of the Accused '344 Instrumentalities contains an antenna or antennas, memory, and transceiver or combination of transmitter and receiver that assist the processor with the RRC, random access, and timing advance mechanisms in accordance with the LTE Release 8 or later cellular communication standards.

91. Plaintiff made Defendant aware of the '876 Patent family and its infringement thereof at least as early as September 24, 2020, when Plaintiff provided technical details, lists of patents, and identification of the Asserted Patents (or family members with the same specification and claim scope), as well as references to the relevant portions of the cellular standards covered by the respective patents.

92. Since at least as early as September, 24, 2020, Defendant's infringement has been, and continues to be willful.

93. Upon information and belief, the OnePlus Accused '876 Instrumentalities are used, marketed, provided to, and/or used by or for Defendant's partners, clients, customers/subscribers and end users across the country and in this district.

94. Upon information and belief, Defendant has induced and continues to induce others to infringe at least claims 4-6 of the '876 Patent under 35 U.S.C. § 271(b) by, among other things, and with specific intent or willful blindness, actively aiding and abetting others to infringe, including, but not limited to Defendant's subsidiaries, partners, clients, customers/subscribers, and end users, whose use of the OnePlus Accused '876 Instrumentalities constitutes direct

infringement of at least one claim of the ’876 Patent. For example, OnePlus advertises and has advertised the use of its devices for LTE communications. *See* https://www.oneplus.com/us/open/specs.

95. In particular, Defendant’s actions that aid and abet others such as its partners, customers/subscribers, clients, and end users to infringe include advertising and distributing the OnePlus Accused ’876 Instrumentalities, and providing instruction materials, training and services regarding the OnePlus Accused ’876 Instrumentalities.

96. Any party, including Defendant’s partners, clients, customers/subscribers, and end users, using the OnePlus Accused ’876 Instrumentalities necessarily infringes the ’876 Patent because the inventions of the ’876 Patent are required to comply with the relevant cellular standard. Defendant advertises its OnePlus Accused ’876 Instrumentalities as compliant with LTE, which induces others to infringe the ’876 Patent. Defendant has knowingly induced infringement since at least as early as the filing of this Complaint.

97. Upon information and belief, Defendant is liable as a contributory infringer of the ’876 Patent under 35 U.S.C. § 271(c) by offering to sell, selling and importing into the United States the OnePlus Accused ’876 Instrumentalities that infringe the patented inventions, to be especially made or adapted for use in an infringement of the ’876 Patent. Each of the OnePlus Accused ’876 Instrumentalities is a material component for use in practicing the ’876 Patent and is specifically made and not a staple article of commerce suitable for substantial non-infringing use. In particular, each of the OnePlus Accused ’876 Instrumentalities is advertised to be compliant with the relevant standards and primarily used in compliance with such standards.

98. Pantech Corp. has been harmed by Defendant’s infringing activities.

DAMAGES

As a result of Defendant's acts of infringement, Pantech has suffered actual damages. To the fullest extent permitted by law, Pantech seeks recovery of damages at least in the form of reasonable royalties.

NOTICE

Pantech Corp. complied with the notice requirement of 35 U.S.C. § 287 as they do not currently distribute, sell, offer for sale, or make products embodying the Asserted Patents which would require marking. In addition, OnePlus has had actual knowledge of the Asserted Patents and its infringement thereof at least as of receipt of the Pantech notice letters identified in this Complaint.

JURY DEMAND

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, Plaintiff demands a trial by jury on all issues triable as such.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff demands judgment for itself and against Defendant as follows:

A. An adjudication that Defendant has infringed one or more claims of the Asserted Patents, literally and/or under the doctrine of equivalents;

B. An adjudication that Defendant has indirectly infringed one or more claims of the Asserted Patents, literally and/or under the doctrine of equivalents;

C. An award of damages to be paid by Defendant adequate to compensate Plaintiff for Defendant's past infringement of the Asserted Patents, and any continuing or future infringement through the date such judgment is entered, including interest, costs, expenses

and an accounting of all infringing acts including, but not limited to, those acts not presented at trial;

D. A declaration that this case is exceptional under 35 U.S.C. § 285;

E. An award of Plaintiff's reasonable attorneys' fees;

F. A declaration that Defendant's acts of infringement were willful;

G. An award of enhanced damages against Defendant pursuant to 35 U.S.C. § 284;

H. A permanent injunction enjoining Defendant, its officers, agents, servants, employees, and all persons in active concert or participation with them, from infringing, contributing to the infringement of, or inducing the infringement of the Asserted Patents; and

I. An award to Plaintiff of such further relief at law or in equity as the Court deems just and proper, including equitable relief which may be requested and to which Plaintiff is entitled.

Dated: July 3, 2025

Respectfully submitted,

/s/ Geoff Culbertson

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