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

PANTECH CORPORATION and PANTECH WIRELESS, LLC Plaintiffs, v. ONEPLUS TECHNOLOGY (SHENZHEN) CO., LTD., Defendant.	Case No. 5:22-cv-00069-RWS **JURY TRIAL DEMANDED**

FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT

Plaintiffs Pantech Corporation ("Pantech Corp.") and Pantech Wireless, LLC ("Pantech Wireless") (collectively, "Plaintiffs"), for their First Amended Complaint against Defendant OnePlus Technology (Shenzhen) Co., Ltd., ("OnePlus" or "Defendant"), allege 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 10F, 251, Gangnam-daero, Seocho-gu, Seoul 06735, Republic of Korea.

3. Pantech Wireless is the wholly owned subsidiary of Pantech Corp. Pantech Wireless is an entity organized under the laws of Texas, with a place of business at 3000 Polar Lane, #302, Cedar Park, TX 78613.

4. 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.

5. 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

6. 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*.

7. 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 First Amended 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/oneplus-n200-5g) that certain of its products are available for purchase from T-Mobile (https://www.t-mobile.com/cell-phone/oneplus-nord-n200-5g), Amazon (https://www.amazon.com/OnePlus-Unlocked-Android-Smartphone-Charging/dp/B07XWGWPH5), and Best Buy (https://www.bestbuy.com/site/oneplus-nord-n200-5g-64gb-unlocked-blue-quantum/6468089.p).

8. On information and belief, OnePlus products accused in this First Amended 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.

9. OnePlus has previously admitted 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…").

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

11. 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

12. 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- and 5G-capable devices (the "Accused Instrumentalities").

13. For example, Defendant advertises that the OnePlus X, OnePlus 3T, OnePlus 3, OnePlus 5T, OnePlus 5, OnePlus 6, OnePlus 6T, OnePlus 7 Pro, OnePlus 7T, OnePlus 7T Pro, OnePlus 8, OnePlus 8T, OnePlus 8 Pro, OnePlus 9 5G, OnePlus 9 Pro 5G, OnePlus Nord N10 5G, OnePlus Nord N100, OnePlus Nord N200 5G, OnePlus Nord N20 5G, and OnePlus 10 Pro 5G devices are compliant with LTE and/or 5G cellular network standards.

PATENTS-IN-SUIT

14. The Asserted Patents are U.S. Patent Nos. 9,548,839; 11,172,493; 8,587,710; 11,012,954; 8,893,052; 10,869,247; 9,063,654; and 10,162,490.

15. 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]

16. U.S. Patent No. 11,172,493 (the "'493 Patent") is entitled "Resource allocation, scheduling, and signaling for grouping real time services." On April 27, 2021, Pantech Wireless obtained full and complete ownership, title and interest in the '493 Patent.[2]

[1] The named inventors of the '839 Patent are Jung Hoon Lee and Joon Kui Ahn. The application was filed May 29, 2015, published Sep. 17, 2015, and the '839 Patent issued on Jan. 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 June 18, 2009. LG Electronics Inc. assigned a parent application, U.S. Patent App. No. 13/012,702 and any continuations thereto, including the application underlying the '839 Patent, to Pantech Co., Ltd. on February 15, 2012. On July 6, 2016, Pantech Co., Ltd. transferred the interest to Pantech Inc. On October 31, 2016, Pantech Inc. transferred the interest to Goldpeak Innovations Inc. ("Goldpeak"), and on May 7, 2020, Goldpeak transferred the interest to Pantech Corp.

[2] The named inventors of the '493 Patent are Jin Wang, Arty Chandra, John S. Chen, Mohammed Sammour, and Stephen E. Terry. The U.S. patent application was filed on Mar. 20, 2012, published September Jul. 12, 2012, and the '493 Patent issued on Nov. 9, 2021. On December 7, 2007, the inventors assigned the parent application, U.S. Patent App. No. 11/840,534 and any continuations thereto, including the application underlying the '493 Patent, to InterDigital Technology Corporation. On January 21, 2016, InterDigital Technology Corporation transferred the interest to InterDigital Holdings, Inc., who transferred the interest to InterDigital, Inc., who transferred the interest to DST Holdings. Inc. On February 9, 2016, DST Holdings, Inc. transferred the interest to Signal Trust for Wireless Innovation ("Signal Trust"). On December 30, 2020, Signal Trust transferred the interest to RnB Wireless LLC ("RnB Wireless"). On April 27, 2021, RnB Wireless transferred the interest to Pantech Wireless.

17. U.S. Patent No. 8,587,710 (the "'710 Patent") is entitled "Apparatus and method for controlling picture using image recognition." On May 6, 2020, Pantech Corp. obtained full and complete ownership, title and interest in the '710 Patent.[3]

18. U.S. Patent No. 11,012,954 (the "'954 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 '954 Patent.[4]

19. U.S. Patent No. 8,893,052 (the "'052 Patent") is entitled "System and method for controlling mobile terminal application using gesture." On May 6, 2020, Pantech Corp. obtained full and complete ownership, title and interest in the '052 Patent.[5]

20. U.S. Patent No. 10,869,247 (the "'247 Patent") is entitled "Supporting uplink transmissions." On April 27, 2021, Pantech Wireless obtained full and complete ownership, title and interest in the '247 Patent.[6]

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[3] The named inventor of the '710 Patent is Hyeong-baek Jeon. The U.S. patent application was filed on Aug. 10, 2010, published Mar. 24, 2011, and the '710 Patent issued on Nov. 19, 2013. The inventor assigned the application underlying the '710 Patent to Pantech Co., Ltd. on July 1, 2010. On October 22, 2015, Pantech Co., Ltd. transferred the interest to Pantech Inc. On May 6, 2020, Pantech Inc. transferred the interest to Pantech Corp.

[4] The named inventors of the '954 Patent are Kibum Kwon and Myungcheul Jung. The patent application was filed on January 2, 2020, published on May 7, 2020, and the '954 Patent issued on May 18, 2021. The inventors assigned the parent application, U.S. Patent App. No. 13/578,531 and any continuations thereto, including the application underlying the '954 Patent, to Pantech Co. Ltd. on August 10, 2012. On July 6, 2016, Pantech Co., Ltd. transferred the interest to Pantech Inc. On October 31, 2016, Pantech Inc. transferred the interest to Goldpeak, and on May 7, 2020, Goldpeak transferred the interest to Pantech Corp.

[5] The named inventor of the '052 Patent is Yun Gwan Ryu. The patent application was filed on Jun. 3, 2009, published on May 13, 2010, and the '052 Patent issued on Nov. 18, 2014. The inventor assigned the application underlying the '052 Patent to Pantech Co., Ltd. on May 29, 2009. On October 22, 2015, Pantech Co., Ltd. transferred the interest to Pantech Inc. On May 6, 2020, Pantech Inc. transferred the interest to Pantech Corp.

[6] The named inventors of the '247 Patent are Guodong Zhang, Sung-Hyuk Shin, Stephen E. Terry, James M. Miller, and Stephen G. Dick. The U.S. patent application was filed on August 31, 2020 and the '247 Patent issued on December 15, 2020. On October 5, 2006, the inventors assigned the parent application, U.S. Patent App. No. 10/962,720 and any continuations thereto, including the application underlying the '247 Patent, to InterDigital Technology Corporation. On October 11, 2013, InterDigital Technology Corporation transferred the interest to InterDigital Holdings, Inc., who transferred the interest to InterDigital, Inc., who transferred the interest to DST Holdings. Inc. On October 15, 2013, DST Holdings, Inc. transferred the interest to Signal Trust. On December 30, 2020, Signal Trust transferred the interest to RnB Wireless. On April 27, 2021, RnB Wireless transferred the interest to Pantech Wireless.

21. U.S. Patent No. 9,063,654 (the "'654 Patent") is entitled "Terminal apparatus and method for supporting smart touch operation." On May 6, 2020, Pantech Corp. obtained full and complete ownership, title and interest in the '654 Patent.[7]

22. U.S. Patent No. 10,162,490 (the "'490 Patent") is entitled "Method for displaying transmission status of MMS (multimedia messaging service) message and telecommunication terminal using the method." On May 7, 2020, Pantech Corp. obtained full and complete ownership, title and interest in the '490 Patent.[8]

23. Pantech Corp. is the rightful owner of the '839, '710, '954, '052, '654 and '490 Patents and holds the entire right, title and interest in the '839, '710, '954, '052, '654 and '490 Patents, including the right to collect for past damages.

24. Pantech Wireless is the rightful owner of the '493 and '247 Patents and holds the entire right, title and interest in the '493 and '247 Patents, including the right to collect for past damages.

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[7] The named inventor of the '654 Patent is Dong Chan Shin. The U.S. patent application was filed on Sep. 4, 2012, published on Mar. 14, 2013, and the '654 Patent issued on Jun. 23, 2015. The inventor assigned the application underlying the '654 Patent to Pantech Co., Ltd. on July 31, 2012. On October 22, 2015, Pantech Co., Ltd. transferred the interest to Pantech Inc. On May 6, 2020, Pantech Inc. transferred the interest to Pantech Corp.

[8] The named inventors of the '490 Patent are Jung Suk Kim, Sang Sung Lim, and Jeong Won Oh. The U.S. patent application was filed on May 27, 2016, published on Sep. 22, 2016, and the '490 Patent issued on Dec. 25, 2018. The inventors assigned a parent application, U.S. Patent App. No. 12/364,085 and any continuations thereto, including the application underlying the '493 Patent, to Pantech & Curitel Communications, Inc. on January 30, 2009. On December 30, 2009, Pantech & Curitel Communications, Inc. assigned the interest to Pantech Co., Ltd. On October 22, 2015, Pantech Co., Ltd. transferred the interest to Pantech Inc. On October 31, 2016, Pantech Inc. transferred the interest to Goldpeak, and on May 7, 2020, Goldpeak transferred the interest to Pantech Corp.

BACKGROUND

Pantech Corp.

25. Pantech Co., Ltd., the predecessor in interest to what is now Pantech Corp.,[9] was originally founded in 1991 in Seoul, South Korea as a competitor in the wireless phone marketplace.

26. 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.

27. 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.

28. 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.

29. 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 & 5G networks, WCDMA/CDMA, WiMAX, WiFi, Near Field Communication (NFC),

[9] 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 (these three entities are hereinafter referred to collectively as "Pantech").

Visible Light Communication, Human Body Communication, Ultra-Wideband Communication and IP Mesh Network.

30. 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 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.

31. 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.

32. Pantech Corp. is the owner by assignment of a portfolio of patents, including the Asserted Patents described in paragraphs 15, 17-19, and 21-22 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, as discussed herein.

Pantech Wireless

33. InterDigital, Inc. ("InterDigital") is a wireless research and development company that has, for decades, been a pioneer in the development of fundamental wireless technologies

that are at the core of mobile devices, networks, and services worldwide. InterDigital has been one of the major contributors to worldwide mobile standards over the past 20 years.

34. In 2013, InterDigital established Signal Trust for Wireless Innovation ("Signal Trust"). The patents and patent applications that comprise Signal Trust were developed by InterDigital, and distributions from Signal Trust were earmarked to support continued research related to cellular wireless technologies, as well as scholarly analysis of intellectual property rights and the technological, commercial, and creative innovations they facilitate.

35. A portion of the patent portfolio created by InterDigital and transferred to Signal Trust was thereafter transferred to RnB Wireless LLC and then to Pantech Wireless.

36. Pantech Wireless is the owner by assignment of a portfolio of patents, including the Asserted Patents described in paragraphs 16 and 20 and in detail in the counts below, that relate to technology for cellular communications networks, including variations or generations of cellular communication network technology such as, but not limited to UMTS, WCDMA, 3G, and LTE, as discussed herein.

Negotiations Between the Parties

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

38. 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.

39. 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.

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

41. Pantech Corp. first sent a letter to Mr. Zuohu Liu, CEO of Defendant, on June 12, 2020 offering to license patents currently owned and/or managed by Pantech Corp., including those that are essential to cellular standards including LTE and LTE-Advanced. The correspondence identified OnePlus products, such as OnePlus 6T, OnePlus 7, OnePlus 7 Pro, OnePlus 7T, OnePlus 7T Pro, OnePlus 8 and OnePlus 8 Pro, that were covered by claims of the offered patents and attached a list of Pantech's patents, including those covering OnePlus's products.

42. Since then, Pantech Corp. engaged in additional communication with OnePlus through emails, letters, and meetings regarding licensing patents owned by Pantech Corp., including those that are essential to cellular standards including LTE and 5G. For example, Pantech Corp. provided additional details regarding its portfolio and/or 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. Pantech Corp. has continuously attempted to license its

patents for more than a year—including the patents asserted herein—on fair and reasonable terms, yet OnePlus has still elected not to license Pantech Corp.'s patents. Indeed, despite the amount of time that has passed since Pantech first reached out, OnePlus has never provided a counter offer. The result is that OnePlus has continued, and continues today, to make, use, sell and offer for sale Pantech Corp.'s patented technology without license.

43. On May 14, 2021, Pantech Corp. and Pantech Wireless also provided OnePlus notice that Pantech Wireless had acquired the Signal Trust portfolio of patents and provided a list of the acquired patents. On July 9, 2021, Pantech Corp. and Pantech Wireless provided OnePlus with additional information regarding OnePlus's practice of such patents, and made a licensing offer that included the Pantech Wireless patents. Again, however, OnePlus has not substantively responded to such communications and offer. OnePlus has still elected not to license Pantech Wireless's patents on fair and reasonable terms.

44. In accordance with ETSI's policy, Pantech Corp. and Pantech Wireless (through Pantech Corp.) provided OnePlus with multiple license offers on terms that are fair, reasonable and non-discriminatory ("FRAND") for both the Pantech Corp. and Pantech Wireless patents. The United States Department of Justice, with the United States Patent and Trademark Office (USPTO) and the National Institute of Standards and Technology (NIST), have made clear that patent owners and potential licensees of essential patents should "engage in good-faith negotiations to reach F/RAND license terms" to "help reduce the costs and other burdens associated with litigation." 2019 Policy Statement on Remedies for SEPs Subject to Voluntary F/RAND Commitments, https://www.justice.gov/atr/page/file/1228016/download (December 19, 2019).

45. Pantech Corp. and Pantech Wireless have made continuous and good faith efforts to negotiate, including but not limited to providing technical details regarding the Asserted Patents and their "standards essential" nature and offering to license the Asserted Patents and other offered patents on FRAND terms. However, Defendant has not engaged in good faith discussions or negotiations with Pantech Corp. or Pantech Wireless.

46. Defendant has been operating and continues to operate without a license to Plaintiffs' standards-essential and other patents.

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

47. The allegations set forth in the foregoing paragraphs 1 through 46 are incorporated into this claim for relief.

48. On Jan. 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 priority to KR 10-2008-0124084, filed on Dec. 8, 2008; U.S. Patent Application No. 12/388,243, filed on Feb. 18, 2009 and U.S. Provisional Application No. 61/029,895, filed on Feb. 19, 2008.

49. Pantech Corp. 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.

50. 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. Indexes 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. For example, claims 1-4 and 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. *See* 3GPP TS 36.211 v 8.9.0 at 63-65 (§ 6.9.3) (mapping PHICH to OFDM symbols; determination of resource element group indexes); TS 36.213 v 8.8.0 at 65-66 (§ 9.1.2) (UE determination of PHICH resource); and TS 36.331 v 8.7.0 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).

51. Upon information and belief, Defendant 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.

52. OnePlus Accused '839 Instrumentalities include, for example, the OnePlus 5T and other LTE-compatible devices that support PHICH usage.

53. Defendant was made aware of the '839 Patent family and its infringement thereof at least as early as June 12, 2020, when family members were identified in correspondence sent to OnePlus by Pantech Corp. Pantech Corp. followed up with additional correspondence regarding the '839 Patent and OnePlus's infringement thereof again on January 21, 2021.

54. Since at least as early as January 21, 2021, Defendant's infringement will have been, and continues to be willful.

55. 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.

56. Upon information and belief, Defendant has induced and continues to induce others to infringe at least claims 1-4 and 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 constitutes direct infringement of at least claims 1-4 and 9-12 of the '839 Patent. For example, OnePlus advertises and has advertised the use of its devices for LTE communications. *See* https://www.oneplus.com/support/spec/oneplus-5t.

57. 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.

58. 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 LTE cellular standard (3GPP TS 36.211, TS 36.213, and TS 36.331). Defendant advertises its OnePlus Accused '839 Instrumentalities as compliant with LTE, which induces others to infringe the '839 Patent. Defendant has knowingly induced infringement since at least January 21, 2021, when Defendant was first made aware of the '839 Patent, as discussed above.

59. 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.

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

COUNT II – INFRINGEMENT OF U.S. PATENT NO. 11,172,493

61. The allegations set forth in the foregoing paragraphs 1 through 60 are incorporated into this claim for relief.

62. On Nov. 9, 2021 the ’493 Patent, entitled “Resource allocation, scheduling, and signaling for grouping real time services” was duly and legally issued by the United States Patent and Trademark Office from U.S. Patent Application No. 13/424,906, filed on Mar. 20, 2012. The ’493 Patent claims priority to U.S. Patent Application No. 11/840,534, filed on Aug. 17, 2007, and U.S. Provisional Patent Application No. 60/839,022, filed on Aug. 21, 2006.

63. Pantech Wireless is the assignee and owner of all right, title and interest in and to the ’493 Patent, including the right to assert all causes of action arising under said patent and the right to any remedies for its infringement.

64. The ’493 Patent discloses wireless transmit/receive unit (WTRU) apparatuses that, as part of a WTRU group, control their uplink transmission based on received control bits that allow for efficient decisions on status reporting, resource allocation, scheduling, and signaling for grouping real time services (RTS). For example, uplink transmission for grouping RTS may be controlled by utilizing uplink signaling to transition a WTRU between active and inactive states based on specific parameters. This allows for the physical resources of the network to be more efficiently utilized. In order to perform WTRU grouping, the ’493 Patent discloses an embodiment where signaling for grouping services is performed using either the L1 control

channel or through a radio resource control (RRC) configuration message by the use of a positional bitmap so that the WTRU reads the content from the signaled position to obtain the necessary information for triggering its resource assignment activity. As the ’493 Patent explains, a WTRU includes user equipment (UE) in a wireless system, such as those mandated by the LTE standard. For example, claims 1-4 of the ’493 Patent recite elements for a UE to detect the L1 control information in a RRC message indicating a bit position for a bitmap included in L1 control information associated with an UE group and indicating a number of control bits in the bitmap that are associated with the UE; and thus uplink transmission on the UE may then be controlled using the obtained control bit(s), such as those mandated by the LTE standard, including at least 3GPP TS 36.212, TS 36.213, and TS 36.331, Release 8 and higher. *See* 3GPP TS 36.212 v8.8.0 at 43, 55 (§ 5.3.3) (disclosing downlink control information formats for the transmission of TPC commands, including for power control); TS 36.213 v8.8.0 at 13-14 (§ 5.1.2) (disclosing uplink control channel behavior for a given UE, including for power control); and TS 36.331 v8.8.0 at 16-17, 34, 95-96, 46-48, 119-20, 126-27, 132-33 (§§ 4.2.1, 5.3.3.4, 5.3.10, 6.3.2) (disclosing UE RRC setup and configuration information, including for power control).

65. Upon information and belief, Defendant has and continues to directly infringe at least claims 1-4 of the ’493 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 1-4 of the ’493 Patent (the “OnePlus Accused ’493 Instrumentalities”). Defendant also has and continues to directly infringe at least claims 1-4 by practicing claims 1-4 through the OnePlus Accused ’493 Instrumentalities, and by causing the OnePlus Accused ’493 Instrumentalities to practice the patented inventions.

66. OnePlus Accused ’493 Instrumentalities include, for example, the OnePlus 5T and other LTE compatible products that support power control of an uplink transmission using control bit(s) in received a multiple terminal radio resource configuration. On information and belief, each of the OnePlus Accused ’493 Instrumentalities incorporate at least one processor and/or modem configured to comply with LTE and/or LTE-Advances and support multiple terminal radio resource uplink power control configuration for PUCCH and PUSCH based on control bit(s).

67. Defendant was made aware of the ’493 Patent family its infringement thereof at least as early as July 9, 2021, when a family member was identified in correspondence sent to OnePlus by Pantech Corp. on behalf of Pantech Wireless. Defendant was made aware of the ’493 Patent and its infringement thereof at least as early as the date of filing of the original Complaint in this action, which was June 3, 2022, or in the alternative when the original Complaint was emailed to an employee of OnePlus (ip@oneplus.com) on June 8, 2022 who had previously handled communications between OnePlus and Pantech Corp.

68. Since at least the date of filing of the original Complaint in this action, or else June 8, 2022, when it was made aware of the ’493 Patent by Pantech Corp., Defendant’s infringement has been, and continues to be, willful.

69. Upon information and belief, the OnePlus Accused ’493 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.

70. Upon information and belief, Defendant has induced and continues to induce others to infringe at least claims 1-4 of the ’493 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 '493 Instrumentalities constitute direct infringement of at least one claim of the '493 Patent. For example, OnePlus advertises and has advertised the use of its devices for LTE communications. *See* https://www.oneplus.com/support/spec/oneplus-5t.

71. 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 '493 Instrumentalities, and providing instruction materials, training and services regarding the OnePlus Accused '493 Instrumentalities.

72. Any party, including Defendant's partners, clients, customers/subscribers, and end users, using the OnePlus Accused '493 Instrumentalities necessarily infringes the '493 Patent because the inventions of the '493 Patent are required to comply with the relevant cellular standard. Defendant advertises its OnePlus Accused '493 Instrumentalities as compliant with LTE, which induces others to infringe the '493 Patent. Defendant has knowingly induced infringement since at least as early as the date of filing of the original Complaint in this action, or else June 8, 2022, when Defendant was made aware of the '493 Patent.

73. Upon information and belief, Defendant is liable as a contributory infringer of the '493 Patent under 35 U.S.C. § 271(c) by offering to sell, selling and importing into the United States the OnePlus Accused '493 Instrumentalities that infringe the patented inventions, to be especially made or adapted for use in an infringement of the '493 Patent. Each of the OnePlus Accused '493 Instrumentalities is a material component for use in practicing the '493 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 '493 Instrumentalities is advertised to be compliant with the relevant standards and primarily used in compliance with such standards.

74. Pantech Corp. has been harmed by Defendant's infringing activities.

COUNT III – INFRINGEMENT OF U.S. PATENT NO. 8,587,710

75. The allegations set forth in the foregoing paragraphs 1 through 74 are incorporated into this claim for relief.

76. On May 21, 2019, the '710 Patent, entitled "Apparatus and method for controlling picture using image recognition," was duly and legally issued by the United States Patent and Trademark Office from U.S. Patent Application No. 12/853,798, filed on Aug. 10, 2010. The '710 Patent claims foreign priority to KR 10-2009-0090650, filed on Sep. 24, 2009.

77. Pantech Corp. is the assignee and owner of all right, title and interest in and to the '710 Patent, including the right to assert all causes of action arising under said patent and the right to any remedies for its infringement.

78. The '710 Patent discloses a picture control apparatus and method for controlling a picture displayed on a display of a mobile terminal according to an action detected through image recognition.

79. Conventional techniques prior to the '710 Patent required a user to physically manipulate key buttons or interact with the screen in order to adjust the image based on actions of the subject being captured. '710 Patent at 1:22-26. This required the user to complex adjustments quickly in order to capture high-quality images, especially when the user or subject was in motion or based on changing environmental factors.

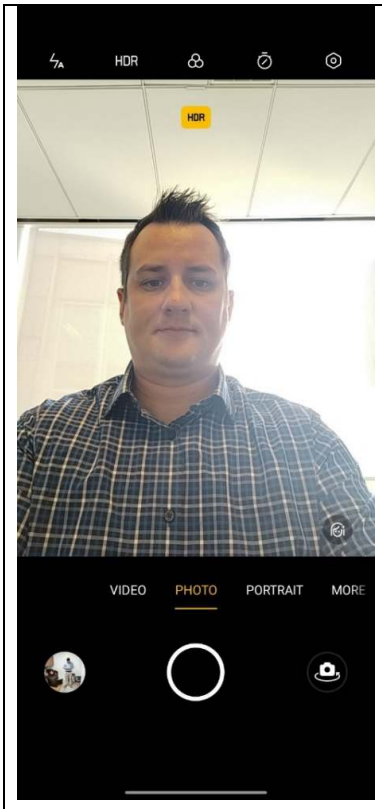
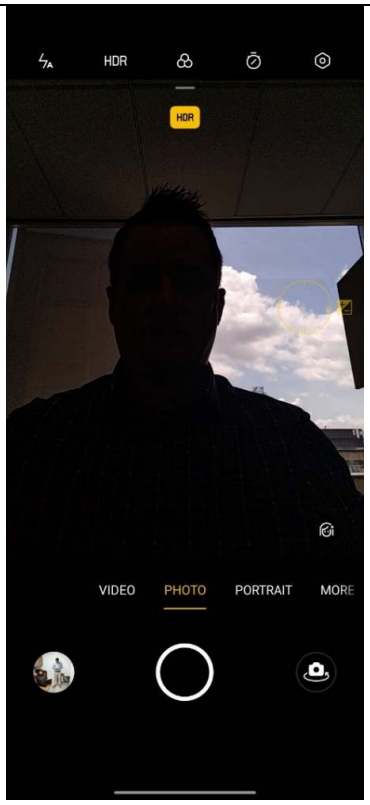
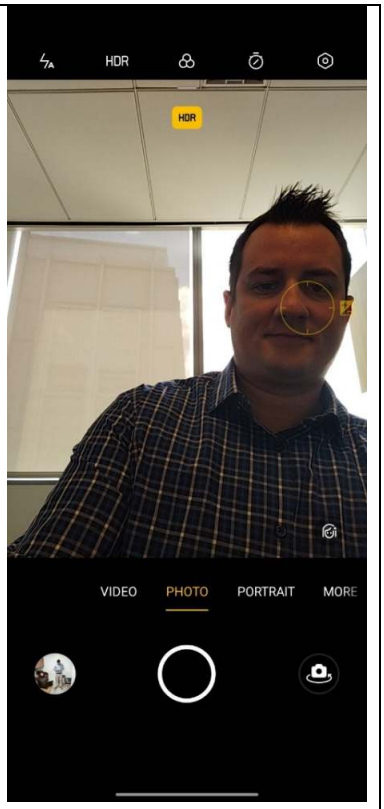
80. The '710 Patent solved this issue by providing a technique for controlling images without direct physical manipulations by the user. '710 Patent at 3:15-21. The '710 Patent's technique employs an action detector in order to recognize variations in motion or expression. *Id.*

at 2:42-44. Based on the actions detected, the picture controller adjusts the image by: enlarging or reducing the size of the picture; varying coordinates, colors, and brightness; and adjusting color effects or white balance. *See id.* at 2:58-64. The '710 Patent still accepts some intervention by the user by, for example, receiving an input such as a touch on the display by the user to indicate the location for action detection. *See id.* at 3:23-42. Accordingly, when an action is detected in an area corresponding to the location on the display indicated by the user, the picture controller performs the adjustments and variations based on the action detected. *See id.* at 3:43-46. The combination of automatically detecting actions and, in response, automatically adjusting and varying image parameters, the '710 Patent's technique ensures that the mobile device generates high quality pictures without relying on explicit calibration by the user.

81. Upon information and belief, Defendant has and continues to directly infringe at least claims 1, 2, 6, 8, 12, 13, 15, 19, and 21 of the '710 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 1, 2, 6, 8, 12, 13, 15, 19, and 21 of the '710 Patent (the "OnePlus Accused '710 Instrumentalities"). Defendant also has and continues to directly infringe at least claims 1, 2, 6, 8, 12, 13, 15, 19, and 21 by practicing claims 1, 2, 6, 8, 12, 13, 15, 19, and 21 through the OnePlus Accused '710 Instrumentalities, and by causing the OnePlus Accused '710 Instrumentalities to practice the patented inventions.

82. OnePlus Accused '710 Instrumentalities include, for example, the OnePlus Nord N200 5G and other products that incorporate at least one processor, display, and at least one camera, and include software functionality such as described below.

83. For example, the OnePlus Nord N200 5G controls a picture displayed on a display of a mobile terminal according to an action detected through image recognition. In one example, the action detector detects movement of the subject to be photographed and a corresponding change in brightness. The OnePlus Nord N200 5G then controls the picture displayed, as demonstrated by the changing brightness levels in response to the subject's movement:

		
Screenshot showing original image	Screenshot showing received touch corresponding to a location on the display	Screenshot showing subject movement detected and brightness level adjusted

84. Defendant was made aware of the '710 Patent and its infringement thereof at least as early as the date of filing of the original Complaint in this action, which was June 3, 2022, or in the alternative when the original Complaint was emailed to an employee of OnePlus

(ip@oneplus.com) on June 8, 2022 who had previously handled communications between OnePlus and Pantech Corp.

85. Since at least the date of filing of the original Complaint in this action, or else June 8, 2022, when it was made aware of the ’710 Patent by Pantech Corp., Defendant’s infringement has been, and continues to be, willful.

86. Upon information and belief, the OnePlus Accused ’710 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.

87. Upon information and belief, Defendant has induced and continues to induce others to infringe at least claims 1, 2, 6, 8, 12, 13, 15, 19, and 21 of the ’710 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 ’710 Instrumentalities constitute direct infringement of at least one claim of the ’710 Patent. For example, OnePlus advertises to users of products such as the OnePlus Nord N200 5G that “Three rear cameras and a whole bunch of features such as AI scene detection and Nightscape capture sharp and brilliant images, even in low light,” which induces users to use the cameras of the OnePlus Accused ’710 Instrumentalities. *See* https://www.oneplus.com/n200-5g.

88. 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 ’710 Instrumentalities, and providing instruction materials, training and services regarding the OnePlus Accused ’710 Instrumentalities.

89. Any party, including Defendant's partners, clients, customers/subscribers, and end users, using the OnePlus Accused '710 Instrumentalities necessarily infringes the '710 Patent because the OnePlus Accused '710 Instrumentalities incorporate at least one processor and at least one camera in order to control a picture displayed on a display of a mobile terminal according to an action detected through image recognition. Defendant advertises its OnePlus Accused '710 Instrumentalities, including its camera functionality, which induces others to infringe the '710 Patent. Defendant has knowingly induced infringement since at least as early as the filing date of the original Complaint in this action, or else June 8, 2022, when Defendant was made aware of the '710 Patent.

90. Upon information and belief, Defendant is liable as a contributory infringer of the '710 Patent under 35 U.S.C. § 271(c) by offering to sell, selling and importing into the United States the OnePlus Accused '710 Instrumentalities that infringe the patented inventions, to be especially made or adapted for use in an infringement of the '710 Patent. Each of the OnePlus Accused '710 Instrumentalities is a material component for use in practicing the '710 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 '710 Instrumentalities includes a camera and related hardware and software that are not capable of substantial non-infringing use by a user.

91. Pantech Corp. has been harmed by Defendant's infringing activities.

COUNT IV – INFRINGEMENT OF U.S. PATENT NO. 11,012,954

92. The allegations set forth in the foregoing paragraphs 1 through 91 are incorporated into this claim for relief.

93. On May 18, 2021, the '954 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. 16/733,106, filed on January 2, 2020. The ’954 Patent claims priority to KR 10-2010-0012564, filed on February 10, 2010, KR 10-2010-0027230, filed on March 26, 2010, KR 10-2011-0008683, filed on January 28, 2011, and U.S. Patent Application No. 13/578,531, filed Feb. 10, 2011.

94. Pantech Corp. is the assignee and owner of all right, title and interest in and to the ’954 Patent, including the right to assert all causes of action arising under said patent and the right to any remedies for infringement of it.

95. The ’954 Patent discloses methods and apparatuses for establishing uplink synchronization in a wireless communication system supporting primary and secondary Component Carriers (“CC”), through the use of timing groups. For instance, a user equipment receives, 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, receives information indicating a random access preamble, transmits a Random Access Preamble (RAP) through one or more CCs for a respective second uplink timing group, and receives in response a timing advance value to apply to the secondary CC for the respective second uplink timing group. For example, claims 1, 4, 6, and 9 of the ’954 Patent recite elements of the carrier aggregation functionality mandated by at least the LTE Advanced standard, including at least the following 3GPP technical specifications: TS 36.300, TS 36.321, TS 36.213, TS 36.211, and TS 36.331, Release 11 and higher. *See, e.g.*, 3GPP 36.331 v11.2.0 at 51 (§ 5.3.5.3), 64 (§ 5.3.10.0), 66 (5.3.10.4) (the UE receives, through RRC signaling, configuration information relating to secondary timing advance group sTAG for a secondary component carrier); 3GPP TS 36.300 v11.6.0 at 48 (§ 5.5), 60 (§ 7.5), 72 (§ 10.1.2.7) (specifying multiple timing advance capability

and multiple timing advance groups; addition and configuration of secondary cells with uplink component carriers; and use of timing reference cells); *id.* at 72-75 (§ 10.1.5) (non-contention based random access procedure used to obtain timing advance alignment for secondary timing advance group ("sTAG")); *id.* at 74-75 (§ 10.1.5.2) (specifying random access procedure steps performed by the UE including reception of preamble assignment, transmission of random access preamble, and reception of random access response); 3GPP TS 36.321 v11.1.0 at 17-18 (§ 5.2), 43-44 (§ 6.1.5), 46 (§ 6.2.3) (MAC Random Access Responses include Timing Advance Command and UL Grant fields; UE applies Timing Advance Command upon receiving MAC); 3GPP TS 36.213 v11.1.0 at 9-10 (§ 4.2.3) (UE adjusts uplink transmission timing of sTAG upon reception of Timing Advance Command); 3GPP TS 36.211 v11.1.0 at 104 (§ 8.1) (specifying uplink-downlink frame timing). Compliance with these technical specifications, and thus with at least the LTE Advanced standard, requires the use of the invention recited in at least claims 1, 4, 6, and 9 of the ’954 Patent, including the functionality described in this paragraph.

96. Furthermore, claims 1, 4, 6, and 9 of the ’954 Patent also recite elements of the carrier aggregation and/or multi-radio dual connectivity functionality mandated by at least the 5G standard, including at least the following 3GPP technical specifications: TS 36.300, TS 36.213, TS 36.321, TS 36.211, TS, 36.331, TS 37.340, TS 38.300, TS 38.321, and TS 38.331, Release 16 and higher. *See, e.g.*, 3GPP TS 38.300 v16.0.0 at 8 (§ 1), 11-12 (§ 4.1), 24 (Section 5.4.1) (specifying architecture including a gNB for providing NR connectivity interconnected with an eNB for providing EUTRA connectivity; specifying multiple timing advance capability and multiple timing advance groups); 3GPP TS 38.331 v16.0.0 at 55-56 (§ 5.3.5.1), 57 (§ 5.3.5.3), 62-66 (§ 5.3.5.5 , 239-41 (§ 6.2.2), 605 (UE receives RRC signaling, including RRCReconfiguration with mrdc-SecondaryCellGroupConfig; specifying configuration of Master

Cell Group and Secondary Cell Group, and configuration and addition of timing groups); 3GPP TS 38.321 v16.0.0 at 9 (§ 3.1) (timing advance group comprises a group of serving cells using the same timing reference cell and Timing Advance value); 3GPP TS 37.340 v16.2.0 at 7-12, 15 (§ 6.1), 27-28 (§ 10.2.2) (providing for Multi-Radio Dual Connectivity ("MR-DC") and NR-E-UTRA Dual Connectivity; specifying Secondary Node Addition procedure including reception by the UE of a SN RRC reconfiguration message originating from the SN and relayed by the MN to the UE; MR-DC supports random access procedure and MAC entities); 3GPP TS 36.300 v16.0.0 at 116 (§ 10.1.2.7) (specifying that eNB maintains timing advance; disclosing multiple groups and use of timing reference cells); *id.* at 136-40 (§ 10.1.5) (non-contention based random access procedure used to obtain timing advance alignment for secondary timing advance group ("sTAG")); 3GPP TS 36.321 v16.0.0 at 31-32 (§ 5.2), 94 (§ 6.1.3.5), 110-11 (§ 6.1.5), 117 (§ 6.2.3) (MAC Random Access Responses include Timing Advance Command and UL Grant fields; UE applies Timing Advance Command upon receiving MAC); 3GPP TS 36.213 v16.0.0 at 12-13 (§ 4.2.3) (UE adjusts uplink transmission timing of sTAG upon reception of Timing Advance Command); 3GPP TS 36.211 v16.0.0 at 193 (§8.1) (specifying uplink-downlink frame timing); 3GPP 36.331 at 121-23 (§ 5.3.5.3) (the UE performs secondary cell group configuration in response to RRC signaling). Compliance with these technical specifications, and thus with at least the 5G standard, requires the use of the invention recited in at least claims 1, 4, 6, and 9 of the ’954 Patent, including the functionality described in this paragraph.

97. Upon information and belief, Defendant has and continues to directly infringe at least claims 1, 4, 6, and 9 of the ’954 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 1, 4, 6, and 9 of the ’954

Patent (the "OnePlus Accused '954 Instrumentalities"). Defendant also has and continues to directly infringe at least claims 1, 4, 6, and 9 by practicing claims 1, 4, 6, and 9 through the OnePlus Accused '954 Instrumentalities, and by causing the OnePlus Accused '954 Instrumentalities to practice the patented inventions.

98. OnePlus Accused '954 Instrumentalities include, for example, the OnePlus Nord N200 5G and other LTE-compatible products that support LTE carrier aggregation and/or other 5G-compatible products that support carrier aggregation and/or multi-radio dual connectivity. On information and belief, each of the OnePlus Accused '954 Instrumentalities incorporates at least one processor configured to comply with (1) LTE Advanced, including supporting LTE carrier aggregation, and thus including at least the following 3GPP technical specifications: TS 36.300, TS 36.321, TS 36.213, TS 36.211, and TS 36.331, each Release 11 and higher; and/or (2) 5G, including supporting carrier aggregation and/or multi-radio dual connectivity mandated by the 5G standard, and thus including at least the following 3GPP technical specifications: TS 36.300, TS 36.213, TS 36.321, TS 36.211, TS, 36.331, TS 37.340, TS 38.300, TS 38.321, and TS 38.331, Release 16 and higher.

99. OnePlus Accused '954 Instrumentalities incorporate a chipset, application processor, SoC, or system-on-chip that, on information and belief, support (1) LTE carrier aggregation; and/or (2) 5G carrier aggregation and/or multi-radio dual connectivity. On information and belief, each incorporated chipset, application processor, SoC, or system-on-chip complies with one or more of LTE Advanced cellular communication protocols (including at least 3GPP TS 36.300, TS 36.321, TS 36.213, TS 36.331, and TS 36.211, Release 11 or later) and 5G cellular communication protocols (including at least TS 36.300, TS 36.213, TS 36.321, TS 36.211, TS, 36.331, TS 37.340, TS 38.300, TS 38.321, and TS 38.331, Release 16 or later).

100. Defendant was made aware of the ’954 Patent family and its infringement thereof at least as early as January 21, 2021, when family members were identified in correspondence sent to OnePlus by Pantech Corp. Defendant was made aware of the ’954 Patent and its infringement thereof at least as early as the date of filing of the original Complaint in this action, which was June 3, 2022, or in the alternative when the original Complaint was emailed to an employee of OnePlus (ip@oneplus.com) on June 8, 2022 who had previously handled communications between OnePlus and Pantech Corp.

101. Since at least the filing of the original Complaint in this action, or else June 8, 2022, Defendant’s infringement will have been, and continues to be willful.

102. Upon information and belief, the OnePlus Accused ’954 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.

103. Upon information and belief, Defendant has induced and continues to induce others to infringe at least claims 1, 4, 6, and 9 of the ’954 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 ’954 Instrumentalities constitutes direct infringement of at least one claim of the ’954 Patent. For example, OnePlus advertises and has advertised the use of its devices for LTE Advanced and 5G communications. *See* https://www.oneplus.com/n200-5g/specs.

104. 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 ’954 Instrumentalities, and providing instruction materials, training and services regarding the OnePlus Accused ’954 Instrumentalities.

105. Any party, including Defendant’s partners, clients, customers/subscribers, and end users, using the OnePlus Accused ’954 Instrumentalities necessarily infringes the ’954 Patent because the inventions of the ’954 Patent are required to comply with the relevant cellular standards. Defendant has knowingly induced infringement since at least as early as the filing of the original Complaint in this action, or else June 8, 2022.

106. Defendant advertises its OnePlus Accused ’954 Instrumentalities as compliant with the relevant cellular standard, which induces others to infringe the ’954 Patent. Defendant has knowingly induced infringement since at least the filing of the original Complaint in this action, or else June 8, 2022, when Defendant was made aware of the ’954 Patent.

107. Upon information and belief, Defendant is liable as a contributory infringer of the ’954 Patent under 35 U.S.C. § 271(c) by offering to sell, selling and importing into the United States the OnePlus Accused ’954 Instrumentalities that infringe the patented inventions, to be especially made or adapted for use in an infringement of the ’954 Patent. Each of the OnePlus Accused ’954 Instrumentalities is a material component for use in practicing the ’954 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 ’954 Instrumentalities is advertised to be compliant with the relevant standards and primarily used in compliance with such standards.

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

COUNT V – INFRINGEMENT OF U.S. PATENT NO. 8,893,052

109. The allegations set forth in the foregoing paragraphs 1 through 108 are incorporated into this claim for relief.

110. On Oct. 26, 2004, U.S. Patent No. 8,893,052, "System and method for controlling mobile terminal application using gesture" was duly and legally issued by the United States Patent and Trademark Office from U.S. Patent Application No. 12/477,579, filed on Jun. 3, 2009. The '052 Patent claims priority to KR 10-2008-0111587, filed on Nov. 11, 2008.

111. Pantech Corp. is the assignee and owner of all right, title and interest in and to the '052 Patent, including the right to assert all causes of action arising under said patent and the right to any remedies for infringement of it.

112. The '052 Patent discloses a method for using a gesture to more easily perform a command event corresponding to a gesture by a background application driven in a mobile terminal.

113. As the demand and use for mobile terminals increased at the time of the '052 Patent (which claims priority to Nov. 11, 2008), so did the use of applications, providing various and convenient functions.'052 Patent at 1:23-44. Consequently, consumer demand sought to concurrently run and use numerous applications. *Id.* at 45-51. However, conventional mobile terminals were unable to directly perform control with respect to background applications. *Id.* at 21-63.

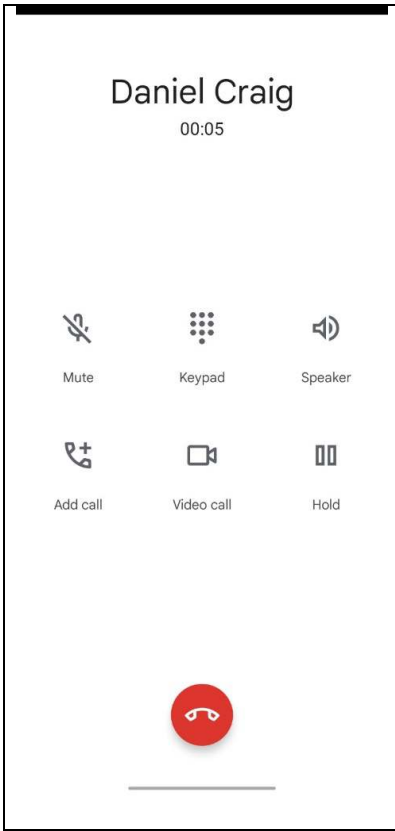
114. In order to solve this problem, the inventor of the '052 Patent developed the method for controlling applications running in the background without terminating the execution of an application running in the foreground. *See id.* at 1:47-51. The solution provided by the '052 Patent thereby allows for control of a background application by using a gesture to perform a command event. The claimed method includes steps which execute multiple applications, determine a target application based on gestures received, and controlling the intended application. Thereby, the '520 Patent provided a practical and desirable concrete way of

processing input to control background applications. The ’052 Patent improves the user experience of a mobile terminal by allowing increased control of background applications without switching between apps.

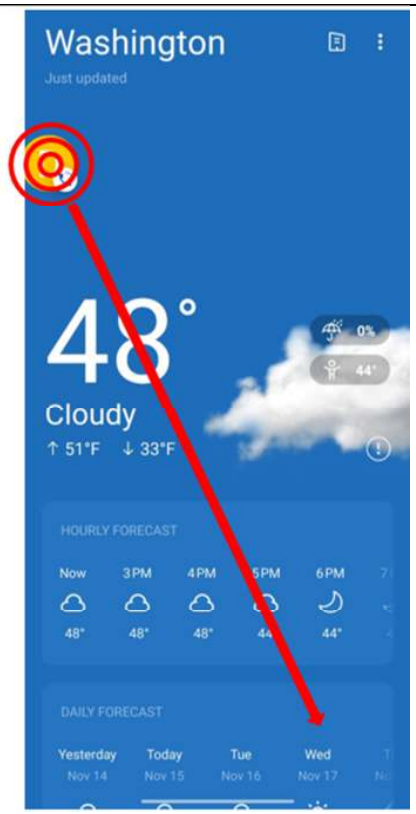
115. Upon information and belief, Defendant has and continues to directly infringe at least claims 1, 8, 10, 17, and 18-20 of the ’052 Patent by making, using, selling, importing, offering to sell within the United States, importing into the United States, and providing to and within the United States, Accused Instrumentalities that practice at least claims 1, 8, 10, 17, and 18-20 of the ’052 Patent (the “OnePlus Accused ’052 Instrumentalities”). Defendant also has and continues to directly infringe at least claims 1, 8, 10, 17, and 18-20 by practicing claims 1, 8, 10, 17, and 18-20 through the OnePlus Accused ’052 Instrumentalities, and by causing the OnePlus Accused ’052 Instrumentalities to practice the patented inventions.

116. OnePlus Accused ’052 Instrumentalities include, for example, the OnePlus Nord N200 5G and other products that incorporate at least one processor, display, and include software functionality such as described below.

117. For example, the OnePlus Nord N200 5G performs a method for using a gesture to more easily perform a command event corresponding to a gesture by a background application driven in a mobile terminal. In one example, when a phone call is received, the user can switch to another app (*e.g.*, “Weather”) without ending the phone call.

	
A phone call is received by the "Phone" application.	The phone call continues in the background while "Weather" is in the foreground.
Annotated OnePlus Nord N200 5G Screenshots	

Further, the user is able to control the "Phone" application without switching to the full "Phone" application interface by using a gesture. For example, by dragging the "D" icon to the bottom right of the screen, the user can end the phone call without displaying the full "Phone" application interface.

	
In the Weather application, the user drags the "D" icon down and to the right.	The phone call ends without displaying the "Phone" application.
Annotated OnePlus Nord N200 5G Screenshots	

118. Defendant was made aware of the '052 Patent and its infringement thereof at least as early as the date of filing of the original Complaint in this action, which was June 3, 2022, or in the alternative when the original Complaint was emailed to an employee of OnePlus (ip@oneplus.com) on June 8, 2022 who had previously handled communications between OnePlus and Pantech Corp.

119. Since at least as early as the filing of the original Complaint in this action, or else June 8, 2022, Defendant's infringement will have been, and continues to be willful.

120. Upon information and belief, the OnePlus Accused ’052 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.

121. Upon information and belief, Defendant has induced and continues to induce others to infringe at least claims 1, 8, 10, 17, and 18-20 of the ’052 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 ’052 Instrumentalities constitute direct infringement of at least claims 1, 8, 10, 17, and 18-20 of the ’052 Patent.

122. 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 ’052 Instrumentalities, and providing instruction materials, training and services regarding the OnePlus Accused ’052 Instrumentalities.

123. Any party, including Defendant’s partners, clients, customers/subscribers, and end users, using a gesture to more easily perform a command event corresponding to a gesture by a background application according to the functionality of the OnePlus Accused ’052 Instrumentalities infringes the ’052 Patent. Defendant has knowingly induced infringement since at least the filing of the original Complaint in this action, or else June 8, 2022, when Defendant was first made aware of the ’052 Patent.

124. Upon information and belief, Defendant is liable as a contributory infringer of the ’052 Patent under 35 U.S.C. § 271(c) by offering to sell, selling and importing into the United States the OnePlus Accused ’052 Instrumentalities that infringe the patented inventions, to be especially made or adapted for use in an infringement of the ’052 Patent. Each of the

OnePlus Accused ’052 Instrumentalities is a material component for use in practicing the ’052 Patent and is specifically made and not a staple article of commerce suitable for substantial non-infringing use. For example, the software associated with implementing the OnePlus Accused ’052 Instrumentalities is not suitable for substantial non-infringing use.

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

COUNT VI – INFRINGEMENT OF U.S. PATENT NO. 10,869,247

126. The allegations set forth in the foregoing paragraphs 1 through 125 are incorporated into this claim for relief.

127. On December 15, 2020, the ’247 Patent, entitled “Supporting Uplink Transmissions,” was duly and legally issued by the United States Patent and Trademark Office from U.S. Patent Application No. 17/008,439, filed on August 31, 2020. The ’247 Patent claims priority to at least provisional application No. 60/517,656, filed on November 5, 2003.

128. Pantech Wireless is the assignee and owner of all right, title and interest in and to the ’247 Patent, including the right to assert all causes of action arising under said patent and the right to any remedies for infringement of it.

129. The ’247 Patent discloses at least a method and an apparatus for supporting uplink transmissions. For example, the ’247 Patent discloses a method of transmitting a data block to a base station using a hybrid automatic repeat request (H-ARQ) process, receiving uplink scheduling information from the base station, and determining whether to retransmit the data block based on the received uplink scheduling information and not based on whether the UE has received a negative acknowledgment (NACK) from the base station. Compliance with 3GPP TS 38.212 and TS 38.321, as required by at least the 5G cellular standard, requires the use of the inventions recited in at least claims 11, 12, and 18 of the ’247 Patent, including the functionality described in this paragraph. *See* 3GPP TS 38.212 V15.8.0 at 74 (disclosing receiving uplink

scheduling information) and TS 38.321 V15.8.0 at 28 (disclosing transmission of data to a base station using a HARQ process).

130. Upon information and belief, Defendant has and continues to directly infringe at least claims 11, 12, and 18 of the ’247 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 11, 12, and 18 of the ’247 Patent (the “OnePlus Accused ’247 Instrumentalities”). Defendant also has and continues to directly infringe at least claims 11, 12, and 18 by practicing claims 11, 12, and 18 through the OnePlus Accused ’247 Instrumentalities, and by causing the OnePlus Accused ’247 Instrumentalities to practice the patented inventions.

131. OnePlus Accused ’247 Instrumentalities include, for example, the OnePlus Nord N200 5G and other 5G-compatible products that transmit data using a hybrid automatic repeat request (H-ARQ) in compliance with 3GPP TS 38.212 and TS 38.321. On information and belief, each of the OnePlus Accused ’247 Instrumentalities incorporates at least one processor configured to comply with one or more of 5G cellular communication protocols.

132. Defendant was made aware of the ’247 Patent and its infringement thereof at least as early as July 9, 2021, when the patent was identified in correspondence sent to OnePlus by Pantech Corp. on behalf of Pantech Wireless.

133. Since at least July 9, 2021, when it was made aware of the ’247 Patent by Pantech Corp. on behalf of Pantech Wireless, Defendant’s infringement has been, and continues to be, willful.

134. Upon information and belief, the OnePlus Accused ’247 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.

135. Upon information and belief, Defendant has induced and continues to induce others to infringe at least claims 11, 12, and 18 of the ’247 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 ’247 Instrumentalities constitute direct infringement of at least one claim of the ’247 Patent. For example, OnePlus advertises and has advertised the use of its devices for 5G communications. *See* https://www.oneplus.com/n200-5g/specs.

136. 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 ’247 Instrumentalities, and providing instruction materials, training and services regarding the OnePlus Accused ’247 Instrumentalities.

137. Any party, including Defendant’s partners, clients, customers/subscribers, and end users, using the OnePlus Accused ’247 Instrumentalities necessarily infringes the ’247 Patent because the inventions of the ’247 Patent are required to comply with the 5G cellular standard (3GPP TS 38.212 and TS 38.321). Defendant advertises its OnePlus Accused ’247 Instrumentalities as compliant with 5G, which induces others to infringe the ’247 Patent. Defendant has knowingly induced infringement since at least as early as July 9, 2021.

138. Upon information and belief, Defendant is liable as a contributory infringer of the ’247 Patent under 35 U.S.C. § 271(c) by offering to sell, selling and importing into the

United States the OnePlus Accused '247 Instrumentalities that infringe the patented inventions, to be especially made or adapted for use in an infringement of the '247 Patent. Each of the OnePlus Accused '247 Instrumentalities is a material component for use in practicing the '247 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 '247 Instrumentalities is advertised to be compliant with the relevant standards and primarily used in compliance with such standards.

139. Pantech Wireless has been harmed by Defendant's infringing activities.

COUNT VII – INFRINGEMENT OF U.S. PATENT NO. 9,063,654

140. The allegations set forth in the foregoing paragraphs 1 through 139 are incorporated into this claim for relief.

141. On Jun. 23, 2015, U.S. Patent No. 9,063,654, "Terminal apparatus and method for supporting smart touch operation" was duly and legally issued by the United States Patent and Trademark Office from U.S. Patent Application No. 13/603,376, filed on Sep. 4, 2012. The '654 Patent claims priority to KR 10-2011-0091901, filed on Sep. 9, 2011.

142. Pantech Corp. is the assignee and owner of all right, title and interest in and to the '654 Patent, including the right to assert all causes of action arising under said patent and the right to any remedies for infringement of it.

143. The '654 Patent discloses a terminal apparatus and method for supporting smart touch operation.

144. At the time of the '654 Patent (which claims priority to Sep. 9, 2011), conventional methods for operating a mobile device lacked a defined technique for determining which object a user selected when multiple objects were close together. In some instances, where multiple objects on a display region were displayed close together, the mobile device would

determine an inaccurate selection of objects or selection of multiple objects, contrary to the intention of a user. *See* '654 Patent at 1:24-30.

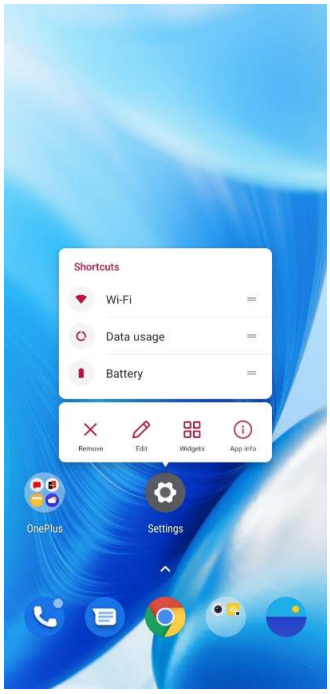
145. The '654 Patent solved this problem by providing a technique for supporting smart touch operation. In one example, smart touch operation includes determining overlap percentages for a first set of one or more objects, then generate and display a second set of one or more objects wherein the size of the one or more second objects corresponds to the overlap percentages in the first set of one or more objects. *See* '654 Patent at 3:25-37, 4:38-64, FIG. 4. By displaying the one or more second objects in an untouched region, the technique prevents the one or more second objects from being obscured by the touch (*e.g.*, a finger). *See id.* at 4:1-5. Further, as an additional benefit, in order to preserve battery, if a second object is not selected within a reference time period after the second object is displayed, then mobile device may remove the display of the second set of objects. *Id.* at 5:49-52.

146. Upon information and belief, Defendant has and continues to directly infringe at least claims 1, 6, 8, 12, and 18 of the '654 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 1, 6, 8, 12, and 18 of the '654 Patent (the "OnePlus Accused '654 Instrumentalities"). Defendant also has and continues to directly infringe at least claims 1, 6, 8, 12, and 18 by practicing claims 1, 6, 8, 12, and 18 through the OnePlus Accused '654 Instrumentalities, and by causing the OnePlus Accused '654 Instrumentalities to practice the patented inventions.

147. OnePlus Accused '654 Instrumentalities include, for example, the OnePlus Nord N200 5G and other products that incorporate at least one processor, touchscreen, and include software functionality such as described below.

148. For example, the OnePlus Nord N200 5G performs a method for supporting smart touch operation. As one example, the OnePlus Nord N200 5G includes an interface to detect a touch input corresponding to a long-press touch on the "Settings" icon. Based on the touch, the OnePlus Nord N200 5G generates another pop-up Settings menu in an untouched region. If the user does not make a further selection, then the pop-up menu is removed upon expiration of a timer.

Annotated OnePlus Nord N200 5G Screenshot showing long-press



OnePlus Nord N200 5G Screenshot showing pop-up menu

149. Defendant was made aware of the ’654 Patent and its infringement thereof at least as early as the date of filing of the original Complaint in this action, which was June 3, 2022, or in the alternative when the original Complaint was emailed to an employee of OnePlus (ip@oneplus.com) on June 8, 2022 who had previously handled communications between OnePlus and Pantech Corp.

150. Since at least as early as the filing of the original Complaint in this action, or else June 8, 2022, Defendant’s infringement will have been, and continues to be willful.

151. Upon information and belief, the OnePlus Accused ’654 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.

152. Upon information and belief, Defendant has induced and continues to induce others to infringe at least claims 1, 6, 8, 12, and 18 of the ’654 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 '654 Instrumentalities constitute direct infringement of at least claims 1, 6, 8, 12, and 18 of the '654 Patent. For example, Defendant's user manual for the OnePlus Nord N200 5G instructs users to "[p]ress and hold the screen to bring up the pop-up window for advanced settings or to enter edit status."

153. 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 '654 Instrumentalities, and providing instruction materials, training and services regarding the OnePlus Accused '654 Instrumentalities.

154. Any party, including Defendant's partners, clients, customers/subscribers, and end users, using the smart touch operation of the OnePlus Accused '654 Instrumentalities infringes the '654 Patent. Defendant has knowingly induced infringement since at least the filing of the original Complaint in this action, or else June 8, 2022, when Defendant was first made aware of the '654 Patent.

155. Upon information and belief, Defendant is liable as a contributory infringer of the '654 Patent under 35 U.S.C. § 271(c) by offering to sell, selling and importing into the United States the OnePlus Accused '654 Instrumentalities that infringe the patented inventions, to be especially made or adapted for use in an infringement of the '654 Patent. Each of the OnePlus Accused '654 Instrumentalities is a material component for use in practicing the '654 Patent and is specifically made and not a staple article of commerce suitable for substantial non-infringing use. For example, the software associated with implementing the OnePlus Accused '654 Instrumentalities is not suitable for substantial non-infringing use.

156. Pantech Corp. has been harmed by Defendant's infringing activities.

COUNT VIII – INFRINGEMENT OF U.S. PATENT NO. 10,162,490

157. The allegations set forth in the foregoing paragraphs 1 through 156 are incorporated into this claim for relief.

158. On Dec. 25, 2018, U.S. Patent No. 10,162,490, "Method for displaying transmission status of MMS (multimedia messaging service) message and telecommunication terminal using the method" was duly and legally issued by the United States Patent and Trademark Office from U.S. Patent Application No. 15/167,518, filed on May 27, 2016. The '490 Patent claims priority to KR 10-2008-0042843, filed on May 8, 2008, and U.S. Patent Application No. 12/364,085, filed on Feb. 2, 2009.

159. Pantech Corp. is the assignee and owner of all right, title and interest in and to the '490 Patent, including the right to assert all causes of action arising under said patent and the right to any remedies for infringement of it.

160. The '490 Patent discloses a method for displaying transmission status of multimedia messaging service ("MMS") messages.

161. When a MMS message is transmitted using conventional methods, a media file such as an image or video is attached. '490 Patent at 1:32-36. However, at the time of the '490 Patent (which claims priority to May 8, 2008), a user could not check the content of the transmitted MMS message, running the risk that the user had included a media file by mistake. *Id.* at 1:37-43. Nor could the user determine the progress of individual media file when multiple were sent at once. *See id.* at 44-49.

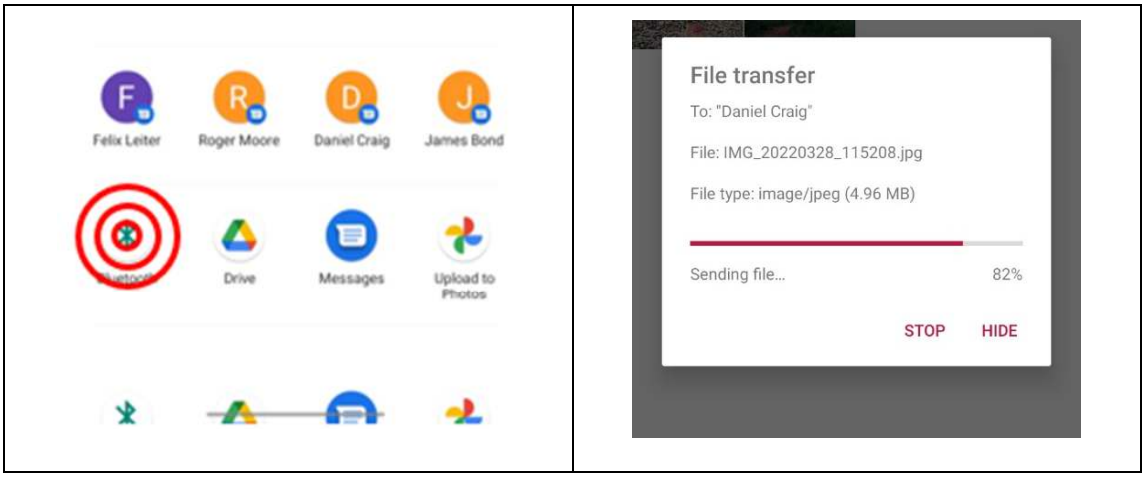
162. The '490 Patent solves this problem by providing a method for displaying the transmission status of a MMS message in which the content of the currently transmitted MMS message is displayed. *Id.* at 56-62. Further, the '490 Patent provides a solution that allows a user

to check the transmission status of the MMS message and which individual media file is being transmitted. *See id.*

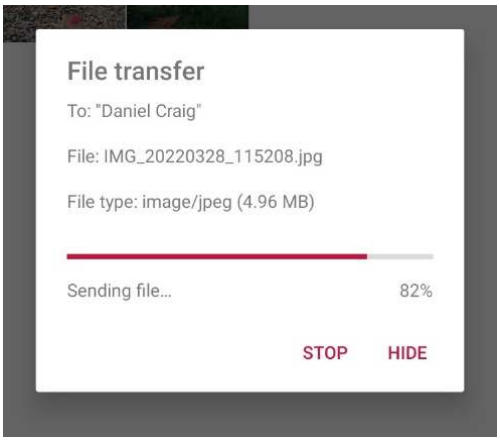
163. Upon information and belief, Defendant has and continues to directly infringe at least claims 1, 3, 4, 5, 7, and 8 of the ’490 Patent by making, using, selling, importing, offering to sell within the United States, importing into the United States, and providing to and within the United States, Accused Instrumentalities that practice at least claims 1, 3, 4, 5, 7, and 8 of the ’490 Patent (the “OnePlus Accused ’490 Instrumentalities”). Defendant also has and continues to directly infringe at least claims 1, 3, 4, 5, 7, and 8 by practicing claims 1, 3, 4, 5, 7, and 8 through the OnePlus Accused ’490 Instrumentalities, and by causing the OnePlus Accused ’490 Instrumentalities to practice the patented inventions.

164. OnePlus Accused ’490 Instrumentalities include, for example, the OnePlus Nord N200 5G and other products that incorporate at least one processor, touchscreen, and include software functionality such as described below.

165. For example, the OnePlus Nord N200 5G (an exemplary OnePlus Accused ’490 Instrumentality) performs a method for displaying transmission status of messages when sending message packets based on the Bluetooth messaging protocols. As an example, when a user selects Bluetooth file share, the OnePlus Nord N200 5G prepares and transmits messages over Bluetooth channel and the display displays a transmission status bar:



Further, once the file transfer begins, then the OnePlus Nord N200 5G displays the transmission progress of the selected contents.



OnePlus Nord N200 Screenshot

166. Defendant was made aware of the ’490 Patent and its infringement thereof at least as early as the date of filing of the original Complaint in this action, which was June 3, 2022, or in the alternative when the original Complaint was emailed to an employee of OnePlus (ip@oneplus.com) on June 8, 2022 who had previously handled communications between OnePlus and Pantech Corp.

167. Since at least as early as the filing of the original Complaint in this action, or else June 8, 2022, Defendant's infringement will have been, and continues to be willful.

168. Upon information and belief, the OnePlus Accused '490 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.

169. Upon information and belief, Defendant has induced and continues to induce others to infringe at least claims 1, 3, 4, 5, 7, and 8 of the '490 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 '490 Instrumentalities constitute direct infringement of at least claims 1, 3, 4, 5, 7, and 8 of the '490 Patent.

170. 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 '490 Instrumentalities, and providing instruction materials, training and services regarding the OnePlus Accused '490 Instrumentalities.

171. Any party, including Defendant's partners, clients, customers/subscribers, and end users, sending message packets based on the Bluetooth messaging protocols using the OnePlus Accused '490 Instrumentalities infringes the '490 Patent. Defendant has knowingly induced infringement since at least the filing of the original Complaint in this action, or else June 8, 2022, when Defendant was first made aware of the '490 Patent.

172. Upon information and belief, Defendant is liable as a contributory infringer of the '490 Patent under 35 U.S.C. § 271(c) by offering to sell, selling and importing into the United States the OnePlus Accused '490 Instrumentalities that infringe the patented inventions,

to be especially made or adapted for use in an infringement of the '490 Patent. Each of the OnePlus Accused '490 Instrumentalities is a material component for use in practicing the '490 Patent and is specifically made and not a staple article of commerce suitable for substantial non-infringing use. For example, the hardware and software associated with implementing the OnePlus Accused '490 Instrumentalities is not suitable for substantial non-infringing use.

173. Pantech Corp. has been harmed by Defendant's infringing activities.

DAMAGES

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

JURY DEMAND

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

PRAYER FOR RELIEF

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

A. An adjudication that Defendant has infringed U.S. Patent Nos. 9,548,839; 11,172,493; 8,587,710; 11,012,954; 8,893,052; 10,869,247; 9,063,654; and 10,162,490;

B. An award of damages to be paid by Defendant adequate to compensate Plaintiffs 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;

C. A declaration that this case is exceptional under 35 U.S.C. § 285, and an award of Plaintiffs' reasonable attorneys' fees; and

D. An award to Plaintiffs of such further relief at law or in equity as the Court deems just and proper.

Dated: July 7, 2022 *Of counsel:* James A. Fussell, III Jamie B. Beaber Saqib J. Siddiqui Tiffany A. Miller Baldine Paul* Clark S. Bakewell* Seth W. Bruneel* MAYER BROWN LLP 1999 K Street, N.W. Washington D.C. 20006 (202) 263-3000 jbeaber@mayerbrown.com jfussell@mayerbrown.com ssiddqui@mayerbrown.com tmiller@mayerbrown.com bpaul@mayerbrown.com cbakewell@mayerbrown.com sbruneel@mayerbrown.com Graham M. Buccigross* MAYER BROWN LLP Two Palo Alto Square, Suite 300 3000 El Camino Real Palo Alto, CA 94306 (650) 331-2000 gbuccigross@mayerbrown.com Gregory J. Apgar* MAYER BROWN LLP 1221 Avenue of the Americas New York, NY 10020 (212) 506-2500 gapgar@mayerbrown.com Luiz Miranda* MAYER BROWN LLP 71 S. Wacker Drive Chicago, IL 60606 (312) 782-0600	Respectfully submitted, */s/ Geoffrey Culbertson* Geoffrey Culbertson Kelly Tidwell PATTON TIDWELL & CULBERTSON, LLP 2800 Texas Blvd. (75503) Post Office Box 5398 Texarkana, TX 75505-5398 (P) (903) 792-7080 (F) (903) 792-8233 gpc@texarkanalaw.com kbt@texarkanalaw.com *Counsel for Plaintiffs Pantech Corporation and Pantech Wireless, LLC*

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