



(which act as part of a global network of overseas sales and manufacturing subsidiaries on behalf of ASUSTeK), have operated as agents of one another and vicariously as parts of the same business group to work in concert together and enter into agreements that are nearer than arm's length to provide a distribution channel of infringing products within this District and the U.S. nationally.

3. The Asserted Patents were invented by employees of Panasonic Corporation ("Panasonic"). Founded in 1918, Panasonic has been at the forefront of the electronics industry for over a century. Panasonic made numerous innovations in the home appliance, battery, mobile phone, and television industries. Indeed, Panasonic's invention of the "Paper Battery" in 1979 is widely credited as enabling the compact electronics of today. In 1991, Panasonic released the Mova P, the smallest and lightest mobile phone on the market, which revolutionized the industry by showing the demand for a compact, lightweight device. Panasonic also produced the first wide-format plasma display and developed the first digital television for the U.S. market. Panasonic's history of innovation is also borne out by its intellectual property. Indeed, a search of the USPTO database where the patent assignee is "Panasonic" yields over 27,000 matches.

4. Prior to the filing of the Complaint, SPV repeatedly attempted to engage ASUSTeK and/or its agents in licensing discussions related to the Asserted Patents, including but not limited to providing a non-discriminatory offer to license the portfolio on a worldwide basis, including both implementation and any standards-essential patents in the portfolio, that was reasonable for a license to be taken in the absence of litigation. ASUSTeK ignored these overtures. ASUSTeK's past and continuing sales of its devices i) willfully infringe the Asserted Patents and ii) impermissibly take the significant benefits of SPV's patented technologies without fair compensation to SPV.

5. On information and belief, ASUSTeK operates in agency with others, including its foreign and U.S.-based subsidiaries. *See, e.g.*, <https://successstory.com/companies/asus> (“As of 2009, the company had manufacturing facilities in the cities of Taipei, Luzhu, Nangan and Guishan, in Taiwan; Suzhou and Chongqing in Mainland China; Cluded Juarez in Mexico; and Ostrava in Czech Republic. The company operates through its 50 service sites across 32 countries and over 400 service partners worldwide.”); <https://www.engadget.com/2015-08-16-asus-chairman-jonney-shih-interview.html> (As of August 16, 2015, “ASUS is over 13,800 people strong, around 6,000 of whom are based in Taiwan. ... the company now offers a broad range of products including laptops, tablets, all-in-ones, smartphones, graphics cards, routers and more.”) ASUSTeK is engaged in making, using, selling, offering for sale, and/or importing, and/or induces its subsidiaries, affiliates, retail partners, and customers in the making, using, selling, offering for sale, and/or importing throughout the United States, including within this District, products, such as mobile phones, laptops, and computers, accused of infringement. ASUSTeK operates in agency with others, including its foreign and U.S.-based subsidiaries, to provide a distribution channel of infringing products within this District and the U.S. nationally. ASUSTeK, itself and between and amongst its agents and foreign and U.S.-based subsidiaries, purposefully direct the Accused Products into established distribution channels within this District and the U.S. nationally.

6. On information and belief, ASUSTeK maintains a corporate presence in the United States via at least its, U.S.-based sales subsidiaries including, ASUS Computer International (“ACI”). ACI is a corporation organized under the laws of the State of California, with a principal place of business at 48720 Kato Road, Fremont, California 94538. ACI is a wholly-owned subsidiary of ASUSTeK. ACI provides sales, distribution, research, and development support in North America for its parent ASUSTeK, which wholly owns ACI. ACI is an agent of ASUSTeK.

At the direction and control of ASUSTeK, U.S.-based sales subsidiaries including, ACI, import infringing products, such as mobile phones, laptops, and computers, into the United States and this District.

7. On information and belief, ASUSTeK and its U.S.-based sales subsidiaries (which act as part of a global network of overseas sales and manufacturing subsidiaries on behalf of ASUSTeK) have operated as agents of one another and vicariously as parts of the same business group to work in concert together and enter into agreements that are nearer than arm's length. For example, ASUSTeK, alone and via at least the activities of its U.S.-based sales subsidiaries (e.g., ACI), conducts business in the United States, including importing, distributing, and selling mobile phones, laptops, and computers that incorporate devices, systems, and processes that infringe the Asserted Patents in Texas and this judicial district. *See Trois v. Apple Tree Auction Center, Inc.*, 882 F.3d 485, 490 (5th Cir. 2018) (“A defendant may be subject to personal jurisdiction because of the activities of its agent within the forum state....”); *see also Cephalon, Inc. v. Watson Pharmaceuticals, Inc.*, 629 F. Supp. 2d 338, 348 (D. Del. 2009) (“The agency theory may be applied not only to parents and subsidiaries, but also to companies that are ‘two arms of the same business group,’ operate in concert with each other, and enter into agreements with each other that are nearer than arm's length.”).

8. Through offers to sell, sales, imports, distributions, and other related agreements to transfer ownership of ASUSTeK's electronics, such as mobile phones, laptops, and computers, with distributors and customers operating in and maintaining a significant business presence in the U.S. and/or its U.S. subsidiaries (e.g., ACI), ASUSTeK does business in the U.S., the state of Texas, and in the Eastern District of Texas.

**JURISDICTION AND VENUE**

9. This action arises under the patent laws of the United States, namely 35 U.S.C. §§ 271, 281, and 284-285, among others.

10. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).

11. Venue is proper in this judicial district pursuant to 28 U.S.C. §§ 1391(c). The Defendant is a foreign entity and may be sued in any judicial district under 28 U.S.C. § 1391(c)(3).

12. This Court has general and specific personal jurisdiction over Defendant pursuant to due process and/or the Texas Long Arm Statute because, inter alia, (i) Defendant has done and continues to do business in Texas and (ii) Defendant has, directly and through intermediaries, committed and continue to commit acts of patent infringement in the State of Texas, including making, using, offering to sell, and/or selling accused products in Texas, and/or importing accused products into Texas, including by Internet sales and sales via retail and wholesale stores, inducing others to commit acts of patent infringement in Texas, and/or committing a least a portion of any other infringements alleged herein. Defendant has placed, and is continuing to place, infringing products into the stream of commerce, via an established distribution channel, with the knowledge and/or understanding that such products are sold in Texas, including in this District. Defendant has derived substantial revenues from its infringing acts occurring within Texas and within this District. Defendant has substantial business in this State and judicial district, including: (A) at least part of its infringing activities alleged herein; and (B) regularly doing or soliciting business, engaging in other persistent conduct, and/or deriving substantial revenue from infringing goods offered for sale, sold, and imported, and services provided to Texas residents vicariously through

and/or in concert with its alter egos, intermediaries, agents, distributors, importers, customers, subsidiaries, and/or consumers.

13. This Court has personal jurisdiction over Defendant, directly or through intermediaries, distributors, importers, customers, subsidiaries, and/or consumers including its U.S.-based sales subsidiaries, e.g., ACI. Through direction and control of such subsidiaries, Defendant has committed acts of direct and/or indirect patent infringement within Texas, and elsewhere within the United States, giving rise to this action and/or has established minimum contacts with Texas such that personal jurisdiction over Defendant would not offend traditional notions of fair play and substantial justice. ACI is a wholly-owned subsidiaries of ASUSTeK. The primary business of ACI is the marketing and sale of electronic products in the United States. ASUSTeK has a 100% controlling ownership interest in ACI and maintains more than half of the voting rights for such subsidiaries as its basis for control. Upon information and belief, ASUSTeK compensates ACI for its sales support services in the United States. As such, ASUSTeK has a direct financial interest in its U.S.-based subsidiaries, and vice versa.

14. Personal jurisdiction is proper because Defendant has committed acts of infringement in this District. This Court has personal jurisdiction over Defendant because, *inter alia*, this action arises from activities Defendant purposefully directed towards the State of Texas and this District.

15. Exercising personal jurisdiction over Defendant in this District would not be unreasonable given Defendant's contacts in this District, the interest in this District of resolving disputes related to products sold herein, and the harm that would occur to SPV.

16. In addition, Defendant has knowingly induced and continues to knowingly induce infringement within this District by advertising, marketing, offering for sale and/or selling devices

pre-loaded with infringing functionality within this District, to consumers, customers, manufacturers, distributors, resellers, partners, and/or end users, and providing instructions, user manuals, advertising, and/or marketing materials which facilitate, direct or encourage the use of infringing functionality with knowledge thereof.

17. Personal jurisdiction also exists specifically over Defendant because Defendant, directly or through affiliates, subsidiaries, agents, or intermediaries, transacts business in this State or purposefully directed at this State (including, without limitation, retail stores including Best Buy and Walmart) by making, importing, offering to sell, selling, and/or having sold infringing products within this State and District or purposefully directed at this State or District.

18. Personal jurisdiction also exists specifically because Defendant has overlapping executives, interlocking corporate structures, and close relationships as manufacturer, importer, and distributor of the products accused of infringement.

19. To the extent the foreign Defendant is not subject to jurisdiction in any state's court of general jurisdiction, exercising jurisdiction over Defendant in this State and this District would be consistent with due process and this State's long-arm statute and under national contacts in light of the facts alleged in this Complaint.

20. In addition, Defendant, directly or through affiliates, subsidiaries, agents, or intermediaries, places infringing products into the stream of commerce knowing they will be sold and used in Texas, and economically benefits from the retail sale of infringing products in this State. For example, Defendant's products have been sold and are available for sale in this District at Best Buy and Walmart retail stores and are also available for sale and offered for sale in this District through online retailers such as Best Buy, Walmart, and Amazon. ASUSTeK also

advertises its infringing products to consumers in Texas and this District through its agent's websites. *See, e.g.*, <https://www.asus.com/us/>.

21. With respect to the '152 patent and '569 patent, the Accused Products comprise LTE-enabled phones that are configured to utilize infringing licensed assisted access (LAA) modems on wireless networks, where such ASUS phones include, but are not limited to, ROG Phone 2ZS660KL, ROG Phone 3, 3 Strix, ROG Phone 5, ROG Phone 5 Pro, ROG Phone 5 Ultimate, ROG Phone ZS600KL Zenfone 4 Pro ZS551KL, Zenfone 5z ASUS\_ZS620KL (ASUS\_Z01HD, ASUS\_Z01RS, ASUS\_Z01RD), Zenfone 6 ZS630KL, Zenfone 7, 7 Pro, Zenfone 8, 8 Flip, as well as, their components, and processes related to the same. With respect to the '723 patent and '453 patent, the Accused Products comprise LTE-enabled phones that are configured to perform inter-RAT handovers and/or establish a secure tunnel to trusted packet gateways, where such ASUS phones include, but are not limited to, ROG Phone 2 ZS660KL, ROG Phone 3, 3 Strix, ROG Phone 5, ROG Phone 5 Pro, ROG Phone 5 Ultimate, ROG Phone ZS600KL, Zenfone 2 ZE551ML, Zenfone 3 Deluxe 5.5 ZS550KL, Zenfone 3 Deluxe ZS570KL, Zenfone 3 Max ZC553KL, Zenfone 3 ZE552KL, ZE520KL, ZA520KL, Zenfone 3 Zoom ASUS\_ZE553KL (ASUS\_Z01HDA, ASUS\_Z01HD), Zenfone 4 Max Plus (M1) ZB570TL, Zenfone 4 Max, Max Pro ZC554KL, Zenfone 4 Pro ZS551KL, Zenfone 4 Selfie Pro ASUS\_ZD552KL (ASUS\_Z01MD), Zenfone 4 ZE554KL, Zenfone 5 Lite ZC600KL, Zenfone 5 ZE620KL, ZF620KL, Zenfone 5Q ZC600KL (USA), Zenfone 5z ASUS\_ZS620KL (ASUS\_Z01HD, ASUS\_Z01RS, ASUS\_Z01RD), Zenfone 6 ZS630KL, Zenfone 7, 7 Pro, Zenfone 8, 8 Flip, Zenfone AR V570KL (Verizon), Zenfone Go ZB500KL, Zenfone Live (L2), Zenfone Max (M1) ZB555KL, ZB556KL, Zenfone Max (M2) ZB633KL, Zenfone Max Plus (M2) ZB634KL, Zenfone Max Pro (M1) ZB601KL, ZB602K, Zenfone Max Pro (M2) ZB631KL, Zenfone Max Shot



ZB634KL, Zenfone Max ZC550KL (ASUS\_Z010D), Zenfone V V520KL (ASUS\_A006), as well as, their components, and processes related to the same. With respect to the '578 patent, the Accused Products comprise image recognition devices configured to perform generic object recognition, including, but not limited to, ASUS phones, such as ROG Phone 2 ZS660KL, ROG Phone 3, 3 Strix, ROG Phone 5, ROG Phone 5 Pro, ROG Phone 5 Ultimate, ROG Phone ZS600KL, Zenfone 3 Deluxe 5.5 ZS550KL, Zenfone 4 Max, Max Pro ZC554KL, Zenfone 4 Pro ZS551KL, Zenfone 4 ZE554KL, Zenfone 5 Lite ZC600KL, Zenfone 5 ZE620KL, ZF620KL, Zenfone 5Q ZC600KL (USA), Zenfone 5z ASUS\_ZS620KL (ASUS\_Z01HD, ASUS\_Z01RS, ASUS\_Z01RD), Zenfone 6 ZS630KL, Zenfone 7, 7 Pro, Zenfone 8, 8 Flip, Zenfone AR V570KL (Verizon), Zenfone Max (M2) ZB633KL, Zenfone Max Plus (M2) ZB634KL, Zenfone Max Pro (M1) ZB601KL, ZB602K, Zenfone Max Pro (M2) ZB631KL, Zenfone Max Shot ZB634KL, Zenfone Max ZC550KL (ASUS\_Z010D), Zenfone V V520KL (ASUS\_A006), as well as, their components, and processes related to the same. On information and belief, ASUSTeK controls or otherwise directs and authorizes all activities of its U.S.-based sales subsidiaries, including ACI. Such directed and authorized activities include, the U.S.-based subsidiaries' using, offering for sale, selling, and/or importing the Accused Products, their components, and/or products containing the same that incorporate the fundamental technologies covered by the Asserted Patents. The Defendant's U.S.-based sales subsidiaries (e.g., ACI) are authorized to import, distribute, sell, or offer for sale the Accused Products on behalf of Defendant. For example, ASUSTeK researches, designs, develops, and manufactures mobile phones, laptops, and computers, and then directs its U.S.-based sales subsidiaries to import, distribute, offer for sale, and sell the Accused Products in the United States. *See, e.g., United States v. Hui Hsiung*, 778 F.3d 738, 743 (9th Cir. 2015) (finding that the sale of infringing products to third parties rather than for

direct import into the U.S. did not “place [defendants’] conduct beyond the reach of United States law [or] escape culpability under the rubric of extraterritoriality”). Furthermore, Defendant’s U.S.-based sales subsidiaries also administer, on behalf of Defendant, requests for service under and any disputes arising from Defendant’s limited warranty of the Accused Products sold in the U.S., including in Texas and this judicial district. *See, e.g.*, [https://www.asus.com/support/images/upload/warranty/us\\_ZenFone.pdf](https://www.asus.com/support/images/upload/warranty/us_ZenFone.pdf); [https://bacchus.asus.com/support/images/upload/warranty/us\\_Notebook.pdf](https://bacchus.asus.com/support/images/upload/warranty/us_Notebook.pdf); [https://bacchus.asus.com//support/images/upload/warranty/us\\_Desktop%20PC.pdf](https://bacchus.asus.com//support/images/upload/warranty/us_Desktop%20PC.pdf). Thus, Defendant’s U.S.-based sales subsidiaries, including ACI, conduct infringing activities on behalf of Defendant.

22. On information and belief, Defendant’s U.S.-based sales subsidiaries’ corporate presence in the United States gives ASUSTeK substantially the same business advantages that it would have enjoyed if it conducted its business through its own offices or paid agents in the state. Defendant’s U.S.-based sales subsidiaries are authorized to import, distribute, sell, and offer for sale Defendant’s products, including mobile phones, laptops, and computers incorporating infringing devices and processes, on behalf of Defendant. For example, Defendant’s U.S.-based sales subsidiaries operate within Defendant’s global network of sales subsidiaries. In the U.S., including within the Eastern District of Texas, Defendant’s mobile phones, laptops, and computers, which incorporate infringing devices and processes, are imported, distributed, offered for sale, and sold.

23. Via Defendant’s alter egos, agents, intermediaries, distributors, importers, customers, subsidiaries, and/or consumers maintaining a business presence, operating in, and/or residing in the U.S., Defendant’s products, including products and processes accused of infringing the

Asserted Patents, are or have been widely distributed and sold in retail stores, both brick and mortar and online, in Texas including within this judicial district. *See Litecubes, LLC v. Northern Light Products, Inc.*, 523 F.3d 1353, 1369-70 (Fed. Cir. 2008) (“[T]he sale [for purposes of § 271] occurred at the location of the buyer.”); *see also Semcon IP Inc. v. Kyocera Corp.*, No. 2:18-cv-00197-JRG, 2019 WL 1979930, at \*3 (E.D. Tex. May 3, 2019) (denying accused infringer’s motion to dismiss because plaintiff sufficiently plead that purchases of infringing products outside of the United States for importation into and sales to end users in the U.S. may constitute an offer to sell under § 271(a)). For example, Defendant’s phones, laptops, and computers are sold to end users by the U.S.-based subsidiaries, distributors, and customers, including, but not limited to, ACI, online and at retail stores located throughout the Eastern District of Texas.

24. On information and belief, ASUSTeK has placed and continues to place infringing products and/or products that practice infringing processes into the stream of commerce via established distribution channels comprising at least subsidiaries and distributors, such as ACI, and customers such as AT&T, Verizon, Best Buy, Walmart, and Amazon, with the knowledge and/or intent that those products are and/or will be imported, used, offered for sale, sold, and continue to be sold in the United States and Texas, including in this judicial district. As a result, ASUSTeK has, vicariously through and/or in concert with its alter egos, agents, intermediaries, distributors, importers, customers, subsidiaries, and/or consumers, placed the Accused Products into the stream of commerce via established distribution channels with the knowledge and/or intent that those products were sold and continue to be sold in the United States and Texas, including in this judicial district.

25. In the alternative, the Court has personal jurisdiction over Defendant under Federal Rule of Civil Procedure 4(k)(2), because the claims for patent infringement in this action arise

under federal law, Defendant is not subject to the jurisdiction of the courts of general jurisdiction of any state, and exercising jurisdiction over Defendant is consistent with the U.S. Constitution.

26. Venue is proper in this judicial district pursuant to 28 U.S.C. § 1391 because, among other things, Defendant is not a resident in the United States, and thus may be sued in any judicial district, including this one, pursuant to 28 U.S.C. § 1391(c)(3). *See In re HTC Corp.*, 889 F.3d 1349, 1357 (Fed. Cir. 2018) (“The Court’s recent decision in *TC Heartland* does not alter” the alien-venue rule.).

### **COUNT I**

(INFRINGEMENT OF U.S. PATENT NO. 8,374,152)

27. Plaintiff incorporates paragraphs 1 through 26 herein by reference.

28. SPV is the assignee of the ’152 patent, entitled “Cell Selection System, Cell Selection Method, and Mobile Terminal,” with ownership of all substantial rights in the ’152 patent, including the right to exclude others and to enforce, sue, and recover damages for past and future infringements.

29. The ’152 patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code. The ’152 patent issued from U.S. Patent Application No. 12/739,883.

30. ASUSTeK has and continues to directly and/or indirectly infringe (by inducing infringement) one or more claims of the ’152 patent in this judicial district and elsewhere in Texas and the United States.

31. ASUSTeK designs, develops, manufactures, assembles and markets mobile phones and other devices configured to connect to wireless cellular networks.

32. ASUSTeK directly infringes the ’152 patent via 35 U.S.C. § 271(a) by making, offering for sale, selling, and/or importing those Accused Products, their components and

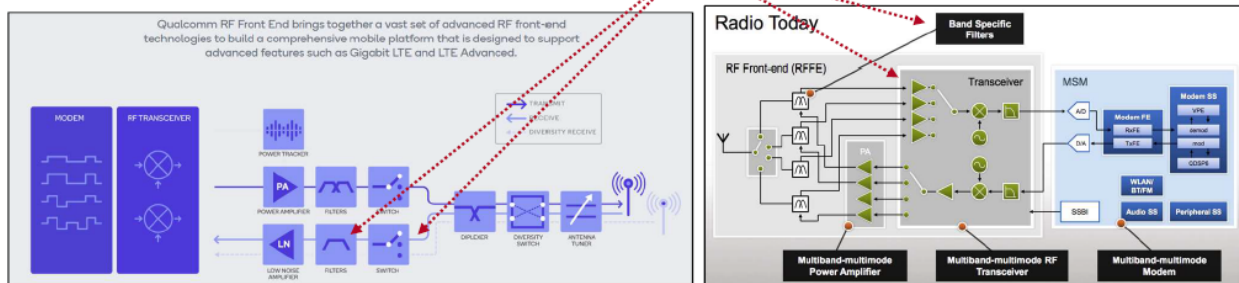
processes, and/or products containing the same that incorporate the fundamental technologies covered by the '152 patent to, for example, its alter egos, agents, intermediaries, distributors, importers, customers, subsidiaries, and/or consumers. Furthermore, on information and belief, ASUSTeK sells and makes the Accused Products outside of the United States, delivers those products to its customers, distributors, and/or subsidiaries in the United States, or in the case that it delivers the Accused Products outside of the United States it does so intending and/or knowing that those products are destined for the United States and/or designing those products for sale in the United States, thereby directly infringing the '152 patent. *See, e.g., Lake Cherokee Hard Drive Techs., L.L.C. v. Marvell Semiconductor, Inc.*, 964 F. Supp. 2d 653, 658 (E.D. Tex. 2013). Furthermore, ASUSTeK directly infringes the '152 patent through its direct involvement in the activities of its subsidiaries, including ACI, including by selling and offering for sale the Accused Products directly to such subsidiaries and importing the Accused Products into the United States for such subsidiaries. Such subsidiaries conduct activities that constitute direct infringement of the '152 patent under 35 U.S.C. § 271(a) by making, offering for sale, selling, and/or importing those Accused Products. On information and belief, ASUSTeK offers for sale, sells, and imports the Accused Products within the U.S. to, for example, its distributors, customers, subsidiaries, importers, and/or consumers. Further, ASUSTeK is vicariously liable for this infringing conduct of its U.S.-based sales subsidiaries, e.g., ACI, (under both the alter ego and agency theories) because, as an example and on information and belief, ASUSTeK and ACI are essentially the same company, and ASUSTeK has the right and ability to control its subsidiaries infringing acts and receives a direct financial benefit from the infringement of its U.S.-based sales subsidiaries, e.g., ACI.

33. For example, ASUSTeK infringes claim 9 of the '152 patent via the Accused Products, which are configured to connect to wireless cellular networks utilizing infringing LAA modems.

34. The Accused Products comprise a mobile terminal used in a network having a first cell using a first communication protocol and a plurality of second cells which are included in the first cell and use a second communication protocol which is different from that for the first cell, the mobile terminal supporting communications using the first and second communication protocols in both the first and second cells. Each of the Accused Products are mobile phones that are configured to operate in LTE cells including a plurality of LAA cells. LTE cells and LAA cells use different communication protocols.

35. The Accused Products comprise a first broadcast information receiver for receiving broadcast information of the first cell including cell selection information comprising a common parameter that is commonly used for a judgment on cell selection of all the second cells. For example, the Accused Products include first receiver circuitry that is configured to receive over licensed LTE spectrum cell selection information comprising a common parameter that is commonly used for a judgment on cell selection of all the second cells from the LTE cell.

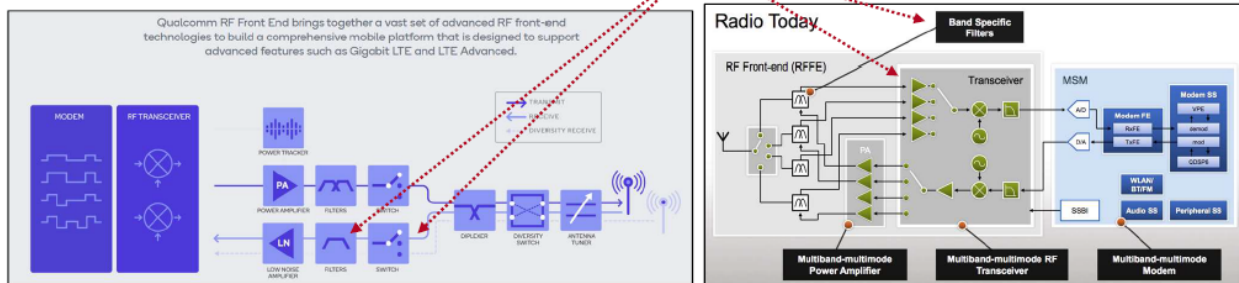
Use of RF switches, switch modules, and embedded discrete band filters is illustrative of identified LG LAA UE having a mobile platform that includes a first receiver comprising a distinct receive path for licensed LTE traffic



36. The Accused Products comprise a second broadcast information receiver for receiving broadcast information of one of the second cells including an individual parameter that

is individually used for a judgment on cell selection of a second cell. For example, the Accused Products include second receiver circuitry that is configured to receive over unlicensed LTE spectrum an individual parameter that is individually used for a judgment on cell selection of a second cell from an LAA cell.

Use of RF switches, switch modules, and embedded discrete band filters is illustrative of identified LG LAA UE having a mobile platform that includes a second receiver comprising a distinct receive path for unlicensed LTE traffic



37. The Accused Products comprise a first broadcast information processor for reading the common parameter from the broadcast information of the first cell. For example, the Accused Products include a multi-core baseband processor, in which a processor core reads the common parameter from the broadcast information of the LTE cell.

38. The Accused Products comprise a second broadcast information processor for reading the individual parameter from the broadcast information of the second cell. For example, the Accused Products include a multi-core baseband processor, in which a processor core reads the individual parameter from the broadcast information of the LAA cell.

39. The Accused Products comprise a cell change controller for judging by the common and individual parameters whether to change a communication connection of the mobile terminal from the first cell to the second cell. For example, the Accused Products include a baseband processor programmed to judge using the common and individual parameters whether to change a communication connection from the LTE cell to the LAA cell

40. The technology discussion above and the exemplary Accused Products provide context for Plaintiff's infringement allegations.

41. At a minimum, ASUSTeK has known of the '152 patent at least as early as the filing date of the complaint. In addition, ASUSTeK has known about the '152 patent since at least August 29, 2019 when ASUSTeK was given access to a data room providing notice of its infringement. Further, ASUSTeK has known about the '152 patent since prior to the filing of the complaint when it received correspondence, including at least on February 2, 2022, from SPV alerting ASUSTeK to its infringement.

42. On information and belief, since at least the above-mentioned date when ASUSTeK was on notice of its infringement, ASUSTeK has actively induced, under U.S.C. § 271(b), its distributors, customers, subsidiaries, importers, and/or consumers that import, purchase, or sell the Accused Products that include or are made using all of the limitations of one or more claims of the '152 patent to directly infringe one or more claims of the '152 patent by using, offering for sale, selling, and/or importing the Accused Products. Since at least the notice provided on the above-mentioned date, ASUSTeK does so with knowledge, or with willful blindness of the fact, that the induced acts constitute infringement of the '152 patent. ASUSTeK intends to cause, and has taken affirmative steps to induce infringement by its distributors, importers, customers, subsidiaries, and/or consumers by at least, inter alia, creating advertisements that promote the infringing use of the Accused Products, creating and/or maintaining established distribution channels for the Accused Products into and within the United States, manufacturing the Accused Products in conformity with U.S. laws and regulations, distributing or making available instructions or manuals for these products to purchasers and prospective buyers, testing and certifying wireless



networking features in the Accused Products, and/or providing technical support, replacement parts, or services for these products to these purchasers in the United States.

43. On information and belief, despite having knowledge of the '152 patent and knowledge that it is directly and/or indirectly infringing one or more claims of the '152 patent, ASUSTeK has nevertheless continued its infringing conduct and disregarded an objectively high likelihood of infringement. ASUSTeK's infringing activities relative to the '152 patent have been, and continue to be, willful, wanton, malicious, in bad-faith, deliberate, consciously wrongful, flagrant, characteristic of a pirate, and an egregious case of misconduct beyond typical infringement such that Plaintiff is entitled under 35 U.S.C. § 284 to enhanced damages up to three times the amount found or assessed.

44. SPV has been damaged as a result of ASUSTeK's infringing conduct described in this Count. ASUSTeK is, thus, liable to SPV in an amount that adequately compensates SPV for ASUSTeK's infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

## COUNT II

(INFRINGEMENT OF U.S. PATENT NO. 8,442,569)

45. Plaintiff incorporates paragraphs 1 through 44 herein by reference.

46. SPV is the assignee of the '569 patent, entitled "Radio Reception Apparatus, Radio Transmission Apparatus, and Radio Communication Method," with ownership of all substantial rights in the '569 patent, including the right to exclude others and to enforce, sue, and recover damages for past and future infringements.

47. The '569 patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code. The '569 patent issued from U.S. Patent Application No. 13/202,600.

48. ASUSTeK has and continues to directly and/or indirectly infringe (by inducing infringement) one or more claims of the '569 patent in this judicial district and elsewhere in Texas and the United States.

49. ASUSTeK designs, develops, manufactures, assembles and markets mobile phones and other devices configured to connect to wireless cellular networks.

50. ASUSTeK directly infringes the '569 patent via 35 U.S.C. § 271(a) by making, offering for sale, selling, and/or importing those Accused Products, their components and processes, and/or products containing the same that incorporate the fundamental technologies covered by the '569 patent to, for example, its alter egos, agents, intermediaries, distributors, importers, customers, subsidiaries, and/or consumers. Furthermore, on information and belief, ASUSTeK sells and makes the Accused Products outside of the United States, delivers those products to its customers, distributors, and/or subsidiaries in the United States, or in the case that it delivers the Accused Products outside of the United States it does so intending and/or knowing that those products are destined for the United States and/or designing those products for sale in the United States, thereby directly infringing the '569 patent. *See, e.g., Lake Cherokee Hard Drive Techs., L.L.C. v. Marvell Semiconductor, Inc.*, 964 F. Supp. 2d 653, 658 (E.D. Tex. 2013). Furthermore, ASUSTeK directly infringes the '569 patent through its direct involvement in the activities of its subsidiaries, including ACI, including by selling and offering for sale the Accused Products directly to such subsidiaries and importing the Accused Products into the United States for such subsidiaries. Such subsidiaries conduct activities that constitute direct infringement of the '569 patent under 35 U.S.C. § 271(a) by making, offering for sale, selling, and/or importing those Accused Products. On information and belief, ASUSTeK offers for sale, sells, and imports the Accused Products within the U.S. to, for example, its distributors, customers, subsidiaries,

importers, and/or consumers. Further, ASUSTeK is vicariously liable for this infringing conduct of its U.S.-based sales subsidiaries, e.g., ACI, (under both the alter ego and agency theories) because, as an example and on information and belief, ASUSTeK and ACI are essentially the same company, and ASUSTeK has the right and ability to control its subsidiaries infringing acts and receives a direct financial benefit from the infringement of its U.S.-based sales subsidiaries, e.g., ACI.

51. For example, ASUSTeK infringes claim 11 of the '596 patent via the Accused Products, which are configured to connect to wireless networks utilizing infringing LAA modems.

52. The Accused Products implement the “[a] radio communication method in a radio reception apparatus which performs communication by using a plurality of resources defined in a frequency-time domain” of claim 11. Each of the Accused Products are mobile phones that receive radio communication from an LTE cell. When operated in certain cellular networks, the Accused Products use a plurality of resources defined in a frequency-time domain.

53. The Accused Products acquire distribution resource information for a second reference signal when the second reference signal for a second communication system is transmitted from a radio transmission apparatus in addition to transmitting a first reference signal for a first communication system, in a case where distributed type resources in which a resource unit defined in the frequency-time domain is divided in a time direction and distributedly allocated at predetermined frequency intervals are used as resources for the second reference signal. For example, the Accused Products include a modem that acquires distribution resource information (“DRS”) as a reference signal for a SCell (e.g., LTE over unlicensed spectrum) from a radio transmission apparatus (e.g., a base station) that transmits reference signals for the SCell and a PCell (e.g., LTE over licensed spectrum). Distributed type resources used for the DRS have

resource units defined in the frequency-time domain and are divided in a time direction and distributedly allocated at predetermined frequency intervals.

54. The Accused Products receive a signal containing the second reference signal transmitted from the transmission apparatus. For example, the Accused Products include an LTE modem that contains an RF transceiver which is configured to receive the second reference signal from the transmission apparatus.

55. The Accused Products measure a channel quality of a transmission channel by using the second reference signal that is allocated in the distributed type resources on the basis of the distribution resource information. For example, the Accused Products include an LTE modem and processor that measures a channel quality of a transmission channel by using the received DRS from the LAA SCell. The Snapdragon mobile platform utilized in the Accused Products contains components for measuring a channel quality.

56. The Accused Products transmit feedback information containing channel quality information indicative of the channel quality, to the transmission apparatus. For example, the Accused Products include an LTE modem that contains an RF transceiver which transmits feedback information containing channel quality information to the base station.

57. The technology discussion above and the exemplary Accused Products provide context for Plaintiff's infringement allegations.

58. At a minimum, ASUSTeK has known of the '569 patent at least as early as the filing date of the complaint. In addition, ASUSTeK has known about the '569 patent since at least August 29, 2019, when ASUSTeK was given access to a data room providing notice of its infringement. Further, ASUSTeK has known about the '569 patent since prior to the filing of the

complaint when it received correspondence, including at least on February 2, 2022, from SPV alerting ASUSTeK to its infringement.

59. On information and belief, since at least the above-mentioned date when ASUSTeK was on notice of its infringement, ASUSTeK has actively induced, under U.S.C. § 271(b), distributors, customers, subsidiaries, importers, and/or consumers that import, purchase, or sell the Accused Products that include or are made using all of the limitations of one or more claims of the '569 patent to directly infringe one or more claims of the '569 patent by using, offering for sale, selling, and/or importing the Accused Products. Since at least the notice provided on the above-mentioned date, ASUSTeK does so with knowledge, or with willful blindness of the fact, that the induced acts constitute infringement of the '569 patent. ASUSTeK intends to cause, and has taken affirmative steps to induce infringement by distributors, importers, customers, subsidiaries, and/or consumers by at least, *inter alia*, creating advertisements that promote the infringing use of the Accused Products, creating and/or maintaining established distribution channels for the Accused Products into and within the United States, manufacturing the Accused Products in conformity with U.S. laws and regulations, distributing or making available instructions or manuals for these products to purchasers and prospective buyers, testing wireless networking features in the Accused Products, and/or providing technical support, replacement parts, or services for these products to these purchasers in the United States.

60. On information and belief, despite having knowledge of the '569 patent and knowledge that it is directly and/or indirectly infringing one or more claims of the '569 patent, ASUSTeK has nevertheless continued its infringing conduct and disregarded an objectively high likelihood of infringement. ASUSTeK's infringing activities relative to the '569 patent have been, and continue to be, willful, wanton, malicious, in bad-faith, deliberate, consciously wrongful,

flagrant, characteristic of a pirate, and an egregious case of misconduct beyond typical infringement such that Plaintiff is entitled under 35 U.S.C. § 284 to enhanced damages up to three times the amount found or assessed.

61. SPV has been damaged as a result of ASUSTeK's infringing conduct described in this Count. ASUSTeK is, thus, liable to SPV in an amount that adequately compensates SPV for ASUSTeK's infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

### **COUNT III**

(INFRINGEMENT OF U.S. PATENT NO. 8,467,723)

62. Plaintiff incorporates paragraphs 1 through 61 herein by reference.

63. SPV is the assignee of the '723 patent, entitled "Base Station Apparatus, Mobile Apparatus, and Communication Method," with ownership of all substantial rights in the '723 patent, including the right to exclude others and to enforce, sue, and recover damages for past and future infringements.

64. The '723 patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code. The '723 patent issued from U.S. Patent Application No. 13/585,621.

65. ASUSTeK has and continues to directly and/or indirectly infringe (by inducing infringement) one or more claims of the '723 patent in this judicial district and elsewhere in Texas and the United States.

66. ASUSTeK designs, develops, manufactures, assembles and markets mobile phones and other devices configured to connect to wireless cellular networks.

67. ASUSTeK directly infringes the '723 patent via 35 U.S.C. § 271(a) by making, offering for sale, selling, and/or importing those Accused Products, their components and

processes, and/or products containing the same that incorporate the fundamental technologies covered by the '723 patent to, for example, its alter egos, agents, intermediaries, distributors, importers, customers, subsidiaries, and/or consumers. Furthermore, on information and belief, ASUSTeK sells and makes the Accused Products outside of the United States, delivers those products to its customers, distributors, and/or subsidiaries in the United States, or in the case that it delivers the Accused Products outside of the United States it does so intending and/or knowing that those products are destined for the United States and/or designing those products for sale in the United States, thereby directly infringing the '723 patent. *See, e.g., Lake Cherokee Hard Drive Techs., L.L.C. v. Marvell Semiconductor, Inc.*, 964 F. Supp. 2d 653, 658 (E.D. Tex. 2013). Furthermore, ASUSTeK directly infringes the '723 patent through its direct involvement in the activities of its subsidiaries, including ACI, including by selling and offering for sale the Accused Products directly to such subsidiaries and importing the Accused Products into the United States for such subsidiaries. Such subsidiaries conduct activities that constitute direct infringement of the '723 patent under 35 U.S.C. § 271(a) by making, offering for sale, selling, and/or importing those Accused Products. On information and belief, ASUSTeK offers for sale, sells, and imports the Accused Products within the U.S. to, for example, its distributors, customers, subsidiaries, importers, and/or consumers. Further, ASUSTeK is vicariously liable for this infringing conduct of its U.S.-based sales subsidiaries, e.g., ACI, (under both the alter ego and agency theories) because, as an example and on information and belief, ASUSTeK and ACI are essentially the same company, and ASUSTeK has the right and ability to control its subsidiaries infringing acts and receives a direct financial benefit from the infringement of its U.S.-based sales subsidiaries, e.g., ACI.

68. For example, ASUSTeK infringes claim 9 of the '723 patent via the Accused Products that perform inter-RAT handovers and are configured to connect wireless cellular networks.

69. The Accused Products implement the “communication method performed by a mobile station apparatus that belongs to a first area, which is covered by a base station apparatus employing a first Radio Access Technology (RAT), the first area including part or entirety of a second area which is covered by a host station employing a second RAT different from the first RAT” of claim 9. Each of the Accused Products is a mobile station that performs inter-RAT handovers, where the mobile station’s radio connection is switched from a first base station (e.g., LTE eNB) that employs a first RAT (e.g., LTE) to a second base station (e.g., RNC/NodeB) that employs a second (and different) RAT (e.g., GERAN/UTRAN). RAT handover scenarios include handovers between E-UTRAN (LTE) and UTRAN or GERAN (both 3G).

70. The Accused Products transmit, to the base station apparatus, notification information while the mobile station apparatus is using the first RAT when the mobile station apparatus detects that the mobile station apparatus is located in the second area while using the first RAT. For example, the Accused Products include a transmitter (e.g., an RF transceiver coupled to a RF front end and an antenna) to transmit notification information, e.g., measurement information, to the E-UTRAN eNB (i.e., the base station) which is using a first RAT (e.g., LTE). Such a transmission occurs when the mobile station detects that it is located in a second area (i.e., within a 3G radio cell while still connected to the LTE base station).

71. The Accused Products perform a handover based on traffic control by the base station apparatus using the notification information. For example, the Accused Products have a



controller that is responsive to a handover message received from the LTE eNB, based on the notification information, i.e., the measurement information.

72. The technology discussion above and the exemplary Accused Products provide context for Plaintiff's infringement allegations.

73. At a minimum, ASUSTeK has known of the '723 patent at least as early as the filing date of the complaint. In addition, ASUSTeK has known about the '723 patent since at least August 29, 2019, when ASUSTeK was given access to a data room providing notice of its infringement. Further, ASUSTeK has known about the '723 patent since prior to the filing of the complaint when it received correspondence, including at least on February 2, 2022, from SPV alerting ASUSTeK to its infringement. Moreover, ASUSTeK has been on notice of the '723 patent as a result of previous lawsuits filed by the Plaintiff against competitors of ASUSTeK and other relevant market participants, such as TCL, Acer, and LG.

74. On information and belief, since at least the above-mentioned date when ASUSTeK was on notice of its infringement, ASUSTeK has actively induced, under U.S.C. § 271(b), its distributors, customers, subsidiaries, importers, and/or consumers that import, purchase, or sell the Accused Products that include or are made using all of the limitations of one or more claims of the '723 patent to directly infringe one or more claims of the '723 patent by using, offering for sale, selling, and/or importing the Accused Products. Since at least the notice provided on the above-mentioned date, ASUSTeK does so with knowledge, or with willful blindness of the fact, that the induced acts constitute infringement of the '723 patent. ASUSTeK intends to cause, and has taken affirmative steps to induce infringement by its distributors, importers, customers, subsidiaries, and/or consumers by at least, inter alia, creating advertisements that promote the infringing use of the Accused Products, creating and/or maintaining established distribution channels for the

Accused Products into and within the United States, manufacturing the Accused Products in conformity with U.S. laws and regulations, distributing or making available instructions or manuals for these products to purchasers and prospective buyers, testing and certifying features related to the wireless networking features in the Accused Products, and/or providing technical support, replacement parts, or services for these products to these purchasers in the United States.

75. On information and belief, despite having knowledge of the '723 patent and knowledge that it is directly and/or indirectly infringing one or more claims of the '723 patent, ASUSTeK has nevertheless continued its infringing conduct and disregarded an objectively high likelihood of infringement. ASUSTeK's infringing activities relative to the '723 patent have been, and continue to be, willful, wanton, malicious, in bad-faith, deliberate, consciously wrongful, flagrant, characteristic of a pirate, and an egregious case of misconduct beyond typical infringement such that Plaintiff is entitled under 35 U.S.C. § 284 to enhanced damages up to three times the amount found or assessed.

76. SPV has been damaged as a result of ASUSTeK's infringing conduct described in this Count. ASUSTeK is, thus, liable to SPV in an amount that adequately compensates SPV for ASUSTeK's infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

#### **COUNT IV**

(INFRINGEMENT OF U.S. PATENT NO. 8,792,453)

77. Plaintiff incorporates paragraphs 1 through 76 herein by reference.

78. SPV is the assignee of the '453 patent, entitled "Secure Tunnel Establishment Upon Attachment or Handover to an Access Network," with ownership of all substantial rights in the '453 patent, including the right to exclude others and to enforce, sue, and recover damages for past and future infringements.

79. The '453 patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code. The '453 patent issued from U.S. Patent Application No. 13/126,924.

80. ASUSTeK has and continues to directly and/or indirectly infringe (by inducing infringement) one or more claims of the '453 patent in this judicial district and elsewhere in Texas and the United States.

81. ASUSTeK designs, develops, manufactures, assembles and markets mobile phones and other devices configured to connect to wireless cellular networks.

82. ASUSTeK directly infringes the '453 patent via 35 U.S.C. § 271(a) by making, offering for sale, selling, and/or importing those Accused Products, their components and processes, and/or products containing the same that incorporate the fundamental technologies covered by the '453 patent to, for example, its alter egos, agents, intermediaries, distributors, importers, customers, subsidiaries, and/or consumers. Furthermore, on information and belief, ASUSTeK sells and makes the Accused Products outside of the United States, delivers those products to its customers, distributors, and/or subsidiaries in the United States, or in the case that it delivers the Accused Products outside of the United States it does so intending and/or knowing that those products are destined for the United States and/or designing those products for sale in the United States, thereby directly infringing the '453 patent. *See, e.g., Lake Cherokee Hard Drive Techs., L.L.C. v. Marvell Semiconductor, Inc.*, 964 F. Supp. 2d 653, 658 (E.D. Tex. 2013). Furthermore, ASUSTeK directly infringes the '453 patent through its direct involvement in the activities of its subsidiaries, including ACI, including by selling and offering for sale the Accused Products directly to such subsidiaries and importing the Accused Products into the United States for such subsidiaries. Such subsidiaries conduct activities that constitute direct infringement of the

'453 patent under 35 U.S.C. § 271(a) by making, offering for sale, selling, and/or importing those Accused Products. On information and belief, ASUSTeK offers for sale, sells, and imports the Accused Products within the U.S. to, for example, its distributors, customers, subsidiaries, importers, and/or consumers. Further, ASUSTeK is vicariously liable for this infringing conduct of its U.S.-based sales subsidiaries, e.g., ACI, (under both the alter ego and agency theories) because, as an example and on information and belief, ASUSTeK and ACI are essentially the same company, and ASUSTeK has the right and ability to control its subsidiaries infringing acts and receives a direct financial benefit from the infringement of its U.S.-based sales subsidiaries, e.g., ACI.

83. For example, ASUSTeK infringes claim 1 of the '453 patent via the Accused Products, which are configured to connect to wireless cellular network.

84. The Accused Products implement the “method for establishing a secure tunnel to a trusted packet data gateway upon a mobile node initially attaching to or performing a handover to a target access network” of claim 1. Each of the Accused Products are mobile phones that establish a secure tunnel to a trusted packet data gateway upon the mobile phone initially attaching to or performing a handover to a target access network. This occurs when the mobile phone establishes an IPsec tunnel with an evolved packet data gateway (ePDG) in a target access network.

85. For example, the Accused Products determine from a reachability list maintained in the mobile node at least one trusted packet data gateway that is reachable through the target access network, wherein the reachability list lists data sets indicating data paths and the reachability status of respective known trusted packet data gateways for each respective data path. For example, the Accused Products are User Equipment (“UE”). Each Accused Product has a pre-configured list (i.e., reachability list) with non-3GPP access technologies, access networks, or

serving network operators that allow for trusted non-3GPP IP access. The mobile phone receives an indication of whether the non-3GPP IP access is trusted or not. The reachability list lists data path indication, including and access point name and/or an access point IP address.

86. The Accused Products establish a secure tunnel to the trusted packet data gateway determined from the reachability list maintained in the mobile node, the secure tunnel is established prior to the attachment to the target access network. For example, the 3GPP mobile phone establishes a secure IPsec tunnel to the trusted data packet gateway (ePDG) determined from the reachability list maintained in the mobile phone prior to attaching to the target access network

87. The technology discussion above and the exemplary Accused Products provide context for Plaintiff's infringement allegations.

88. At a minimum, ASUSTeK has known of the '453 patent at least as early as the filing date of the complaint. In addition, ASUSTeK has known about the '453 patent since at least August 29, 2019, when ASUSTeK was given access to a data room providing notice of its infringement. Further, ASUSTeK has known about the '453 patent since prior to the filing of the complaint when it received correspondence, including at least on February 2, 2022, from SPV alerting ASUSTeK to its infringement. Moreover, ASUSTeK has been on notice of the '453 patent as a result of previous lawsuits filed by the Plaintiff against competitors of ASUSTeK and other relevant market participants, such as TCL, Acer, and LG.

89. On information and belief, since at least the above-mentioned date when ASUSTeK was on notice of its infringement, ASUSTeK has actively induced, under U.S.C. § 271(b), its distributors, customers, subsidiaries, importers, and/or consumers that import, purchase, or sell the Accused Products that include or are made using all of the limitations of one or more claims of the

'453 patent to directly infringe one or more claims of the '453 patent by using, offering for sale, selling, and/or importing the Accused Products. Since at least the notice provided on the above-mentioned date, ASUSTeK does so with knowledge, or with willful blindness of the fact, that the induced acts constitute infringement of the '453 patent. ASUSTeK intends to cause, and has taken affirmative steps to induce infringement by its distributors, importers, customers, subsidiaries, and/or consumers by at least, inter alia, creating advertisements that promote the infringing use of the Accused Products, creating and/or maintaining established distribution channels for the Accused Products into and within the United States, manufacturing the Accused Products in conformity with U.S. laws and regulations, distributing or making available instructions or manuals for these products to purchasers and prospective buyers, testing and certifying features related to wireless networking features in the Accused Products, and/or providing technical support, replacement parts, or services for these products to these purchasers in the United States.

90. On information and belief, despite having knowledge of the '453 patent and knowledge that it is directly and/or indirectly infringing one or more claims of the '453 patent, ASUSTeK has nevertheless continued its infringing conduct and disregarded an objectively high likelihood of infringement. ASUSTeK's infringing activities relative to the '453 patent have been, and continue to be, willful, wanton, malicious, in bad-faith, deliberate, consciously wrongful, flagrant, characteristic of a pirate, and an egregious case of misconduct beyond typical infringement such that Plaintiff is entitled under 35 U.S.C. § 284 to enhanced damages up to three times the amount found or assessed.

91. SPV has been damaged as a result of ASUSTeK's infringing conduct described in this Count. ASUSTeK is, thus, liable to SPV in an amount that adequately compensates SPV for

ASUSTeK's infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

**COUNT V**

(INFRINGEMENT OF U.S. PATENT NO. 8,897,578)

92. Plaintiff incorporates paragraphs 1 through 91 herein by reference.

93. SPV is the assignee of the '578 patent, entitled "Image Recognition Device, Image Recognition, Method, and Integrated Circuit" with ownership of all substantial rights in the '578 patent, including the right to exclude others and to enforce, sue, and recover damages for past and future infringements.

94. The '578 patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code. The '578 patent issued from U.S. Patent Application No. 13/817,631.

95. ASUSTeK has and continues to directly and/or indirectly infringe (by inducing infringement) one or more claims of the '578 patent in this judicial district and elsewhere in Texas and the United States.

96. ASUSTeK designs, develops, manufactures, assembles and markets mobile phones and other devices configured to perform generic object recognition.

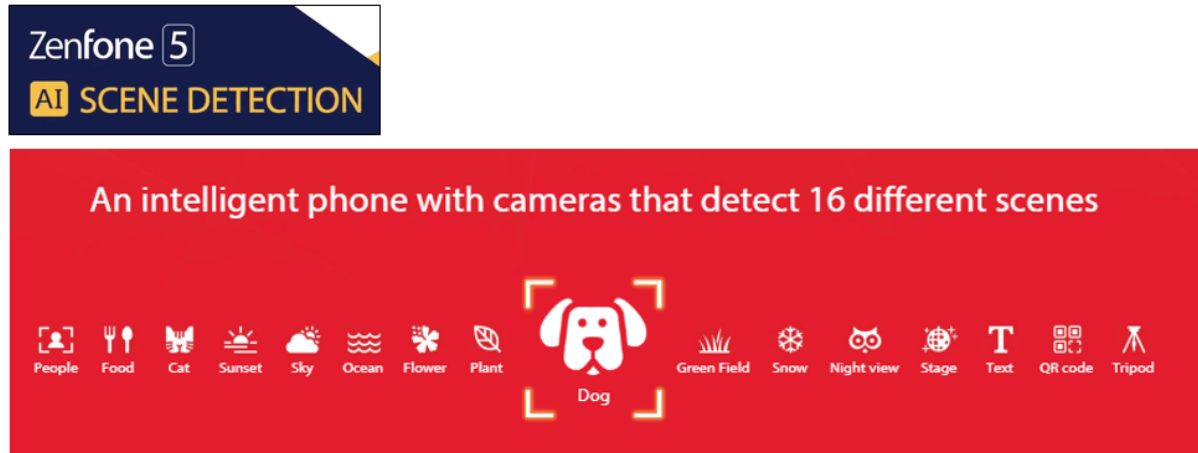
97. ASUSTeK directly infringes the '578 patent via 35 U.S.C. § 271(a) by making, offering for sale, selling, and/or importing those Accused Products, their components and processes, and/or products containing the same that incorporate the fundamental technologies covered by the '578 patent to, for example, its alter egos, agents, intermediaries, distributors, importers, customers, subsidiaries, and/or consumers. Furthermore, on information and belief, ASUSTeK sells and makes the Accused Products outside of the United States, delivers those products to its customers, distributors, and/or subsidiaries in the United States, or in the case that

it delivers the Accused Products outside of the United States it does so intending and/or knowing that those products are destined for the United States and/or designing those products for sale in the United States, thereby directly infringing the '578 patent. *See, e.g., Lake Cherokee Hard Drive Techs., L.L.C. v. Marvell Semiconductor, Inc.*, 964 F. Supp. 2d 653, 658 (E.D. Tex. 2013). Furthermore, ASUSTeK directly infringes the '578 patent through its direct involvement in the activities of its subsidiaries, including ACI, including by selling and offering for sale the Accused Products directly to such subsidiaries and importing the Accused Products into the United States for such subsidiaries. Such subsidiaries conduct activities that constitute direct infringement of the '578 patent under 35 U.S.C. § 271(a) by making, offering for sale, selling, and/or importing those Accused Products. On information and belief, ASUSTeK offers for sale, sells, and imports the Accused Products within the U.S. to, for example, its distributors, customers, subsidiaries, importers, and/or consumers. Further, ASUSTeK is vicariously liable for this infringing conduct of its U.S.-based sales subsidiaries, e.g., ACI, (under both the alter ego and agency theories) because, as an example and on information and belief, ASUSTeK and ACI are essentially the same company, and ASUSTeK has the right and ability to control its subsidiaries infringing acts and receives a direct financial benefit from the infringement of its U.S.-based sales subsidiaries, e.g., ACI.

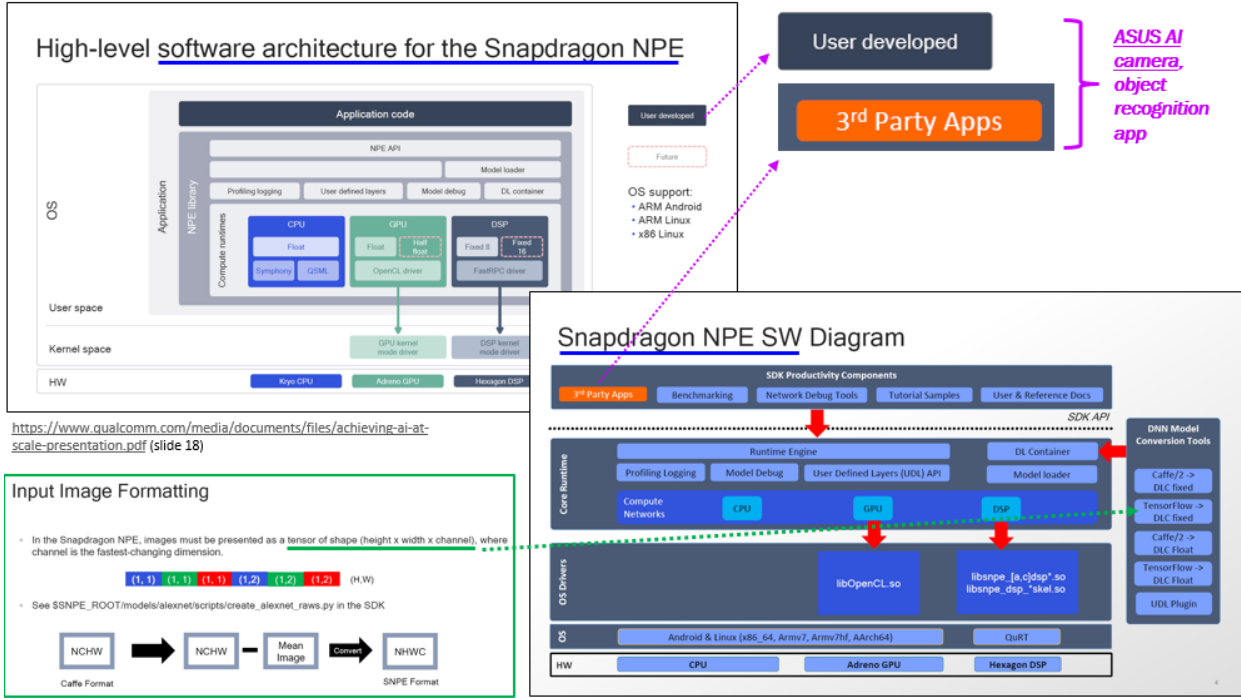
98. For example, each of the Accused Products is an image recognition device comprising an integrated circuit configured for performing a generic object recognition that infringe claim 7. In the representative examples used herein, the Qualcomm Snapdragon AI engine, Hexagon Accelerator, TensorFlow, TensorFlowLite, and TensorFlowObject Detection API are referenced as representative methodologies, software, applications, etc. that may be utilized by the integrated circuit for performing a generic object recognition. Each of the Accused



Products comprise a Snapdragon mobile platform with a Qualcomm Neural Processing Engine (“NPE”) for performing a generic object recognition.



99. The Accused Products comprise an integrated circuit configured for utilizing a segmenting unit, a generating unit, and a checking unit comprising software/firmware (e.g., software code blocks) within the neural processing engine (“NPE”). The NPE API is configured to utilize objection recognition application(s) (e.g., TensorFlow). Further, the integrated circuit is also configured for utilizing a segmenting unit, a generating unit, and a checking unit comprising software/firmware associated with objection recognition application(s)(e.g., TensorFlow). The software/firmware (e.g., code blocks) utilize input data processed by an NPE according to the configuration of the NPE and/or the object recognition application(s) (e.g., TensorFlow).

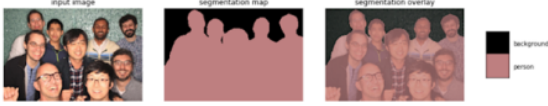


100. The Accused Products comprise “a segmenting unit configured to segment an input image into a plurality of regions in accordance with information extracted from content of the input image” of claim 7. For example, the Accused Products are configured to utilize object recognition applications used by the NPE to segment an input image according to information extracted from the content of the input image. Segmenting the image can be based on pixel values, which are representative of the informational content of the input image.

“pinpointing the outline of objects” = “filter”  
= claim 7 “segment an input image”

**Semantic Image Segmentation with DeepLab in TensorFlow**  
Monday, March 12, 2018  
Posted by Liang-Chieh Chen and Yukun Zhu, Software Engineers, Google Research

Semantic image segmentation, the task of assigning a semantic label, such as “road”, “sky”, “person”, “dog”, to every pixel in an image enables numerous new applications, such as the synthetic shallow depth-of-field effect shipped in the portrait mode of the Pixel 2 and Pixel 2 XL smartphones and mobile real-time video segmentation. Assigning these semantic labels requires pinpointing the outline of objects, and thus imposes much stricter localization accuracy requirements than other visual entity recognition tasks such as image-level classification or bounding box-level detection.



Today, we are excited to announce the open source release of our latest and best performing semantic image segmentation model, DeepLab-v3+ [1], implemented in TensorFlow. This release includes DeepLab-v3+ models built on top of a powerful convolutional neural network (CNN) backbone architecture [2, 3] for the most accurate results, intended for server-side deployment. As part of this release, we are additionally sharing our TensorFlow model training and evaluation code, as well as models already pre-trained on the Pascal VOC 2012 and Cityscapes benchmark semantic segmentation tasks.

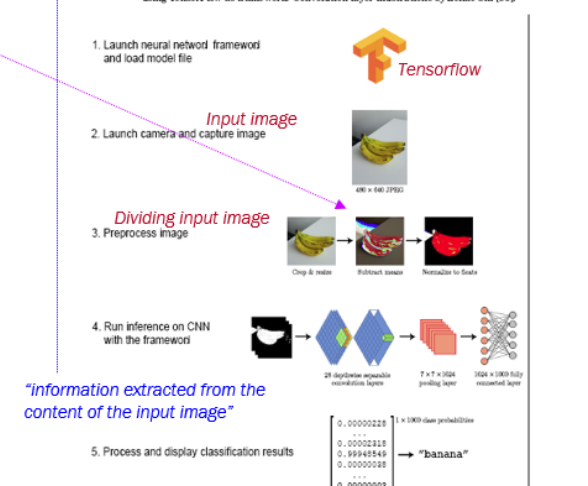
<https://ai.googleblog.com/2018/03/semantic-image-segmentation-with.html>

<https://pdfs.semanticscholar.org/946d/3f843ea93f22cc9c7e30af42a682139ad1e6.pdf>

Convolution is a mathematical operation that is good at detecting spatial similarity of nearby input values, for example **image pixels**. Convolution operates between two functions: the first function corresponds to the input and the second is a **filter**, also called a **convolution kernel**. The kernel is convolved across the input to extract a **feature map**, usually with lower resolution than the original input.

Figure 5.2. Overview of running an inference in our tested application. In this example, a picture of bananas is classified with 99.9% confidence by MobileNet neural network model using TensorFlow as framework. Convolution layer illustrations by Zehao Shi [9].

1. Launch neural network framework and load model file
2. Launch camera and capture image
3. Preprocess image
4. Run inference on CNN with the framework
5. Process and display classification results



“information extracted from the content of the input image”

101. The Accused Products comprise “a generating unit configured to compute feature data for each of the plurality of regions and generate feature data of the input image reflecting the computed feature data” of claim 7. For example, the Accused Products are configured to use the Snapdragon mobile platform utilizing the Snapdragon NPE to calculate feature data for each segmented region of the input image, which generates feature data of the overall input image.

Another insight from nature is the hierarchical structure of visual image recognition: multiple consecutive layers of convolution extract features in different levels of abstraction. For example, edges form shapes and shapes form objects. Traditionally in computer vision, feature extractor filters needed to be engineered manually by humans. However in neural networks, the filters are automatically learned during the training phase. [2]

Pooling is another important operation in CNNs. A pooling layer is located after a convolutional layer, and its objective is to down-sample the feature map. This reduces the number of parameters and thus the computational complexity of the network. Additionally, this dimensionality reduction makes the network more robust to noise and overfitting. Indeed, pooling also merges similar features into one because their exact spatial locations are not as important as relative locations to other features. Unlike the sliding convolution, pooling is applied to non-overlapping sub-regions of the feature map. The pooling filter is commonly

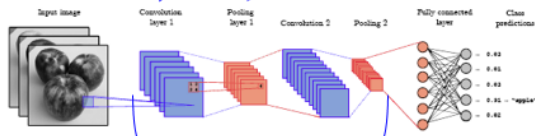
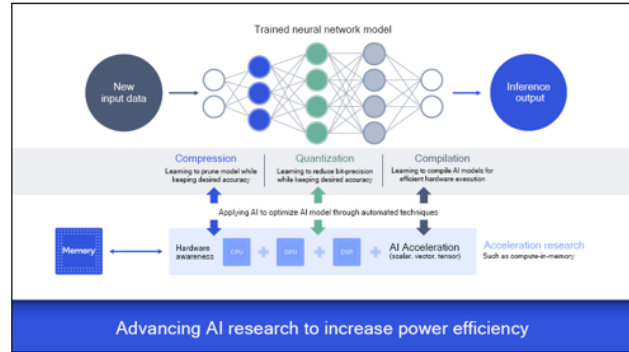


Figure 2.1. A simple example CNN with two convolutional and two pooling layers, classifying an image of apples with 91% confidence.

*“feature data of the input image”*

<https://pdfs.semanticscholar.org/946d/3f843ea93f22cc9c7e30af42a682139ad1e6.pdf>

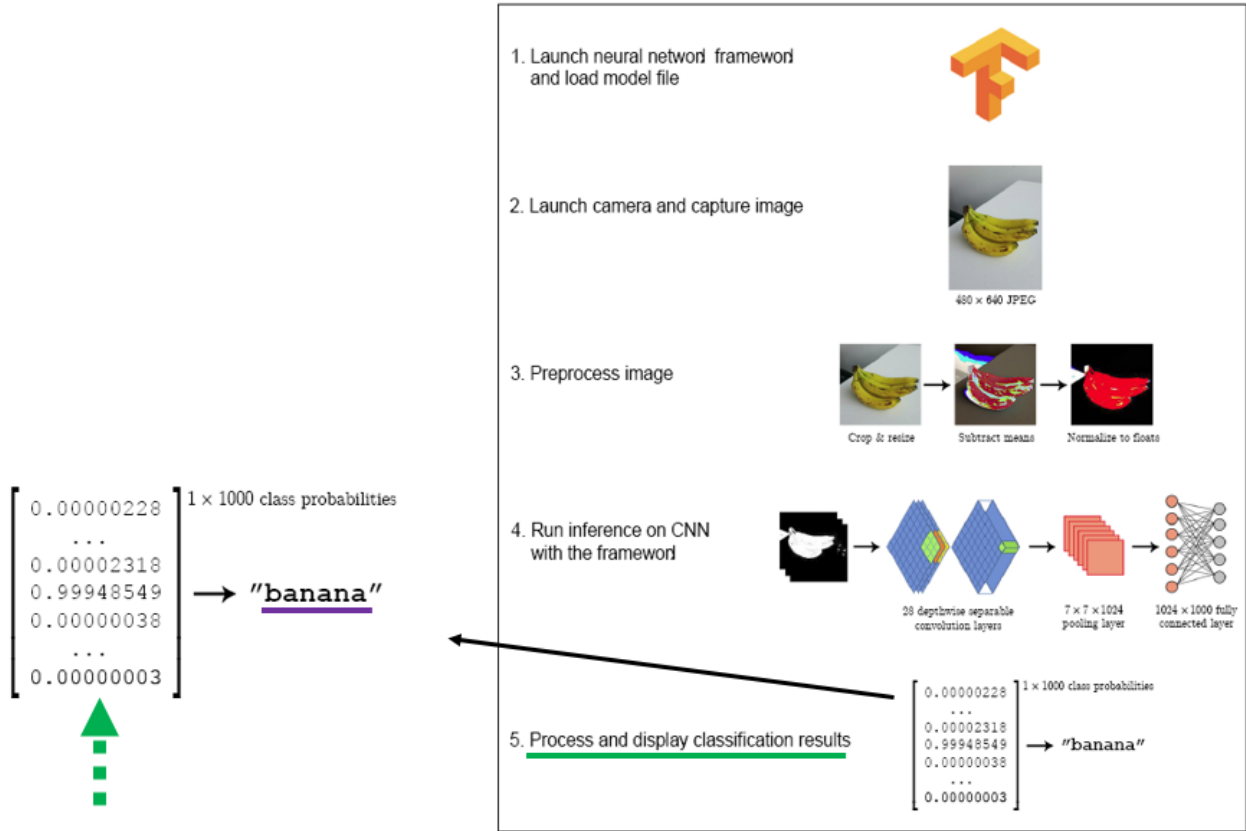


Advancing AI research to increase power efficiency

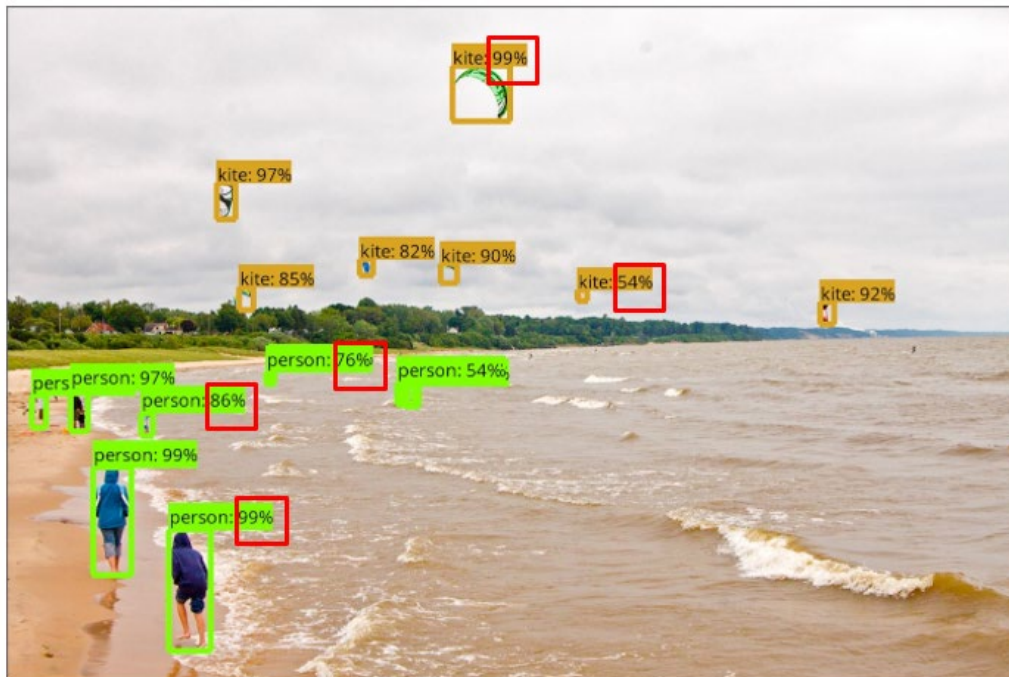
<https://www.qualcomm.com/media/documents/files/making-ai-ubiquitous.pdf> (slide 25)

102. The Accused Products comprise “a checking unit configured to check whether or not a recognition-target object is present in the input image in accordance with the feature data of the input image” of claim 7. For example, the Accused Products are configured to use the Snapdragon mobile platform to use the Snapdragon NPE to check object presence in the input image according to the feature data.

Figure 5.2. Overview of running an inference in our testbed application. In this example, a picture of bananas is classified with 99.9% confidence by MobileNet neural network model using TensorFlow as framework. Convolution layer illustrations by Zehao Shi [93].



<https://pdfs.semanticscholar.org/946d/3f843ea93f22cc9c7e30af42a682139ad1e6.pdf>



[https://github.com/tensorflow/models/tree/master/research/object\\_detection](https://github.com/tensorflow/models/tree/master/research/object_detection)

103. The technology discussion above and the exemplary Accused Products provide context for Plaintiff's infringement allegations.

104. At a minimum, ASUSTeK has known of the '578 patent at least as early as the filing date of the complaint. In addition, ASUSTeK has known about the '578 patent since at least August 29, 2019, when ASUSTeK was given access to a data room providing notice of its infringement. Further, ASUSTeK has known about the '578 patent since at least January 16, 2020, when ASUSTeK was provided further notice of its infringement. Further, ASUSTeK has known about the '578 patent since prior to the filing of the complaint when it received correspondence, including at least on February 2, 2022, from SPV alerting ASUSTeK to its infringement.

105. On information and belief, since at least the above-mentioned date when ASUSTeK was on notice of its infringement, ASUSTeK has actively induced, under U.S.C. § 271(b), its distributors, customers, subsidiaries, importers, and/or consumers that import, purchase, or sell the Accused Products that include or are made using all of the limitations of one or more claims of the '578 patent to directly infringe one or more claims of the '578 patent by using, offering for sale, selling, and/or importing the Accused Products. Since at least the notice provided on the above-mentioned date, ASUSTeK does so with knowledge, or with willful blindness of the fact, that the induced acts constitute infringement of the '578 patent. ASUSTeK intends to cause, and has taken affirmative steps to induce infringement by its distributors, importers, customers, subsidiaries, and/or consumers by at least, inter alia, creating advertisements that promote the infringing use of the Accused Products, creating and/or maintaining established distribution channels for the Accused Products into and within the United States, manufacturing the Accused Products in conformity with U.S. laws and regulations, distributing or making available instructions or manuals for these products to purchasers and prospective buyers, testing and certifying features

related to image recognition in the Accused Products, and/or providing technical support, replacement parts, or services for these products to these purchasers in the United States.

106. On information and belief, despite having knowledge of the '578 patent and knowledge that it is directly and/or indirectly infringing one or more claims of the '578 patent, ASUSTeK has nevertheless continued its infringing conduct and disregarded an objectively high likelihood of infringement. ASUSTeK's infringing activities relative to the '578 patent have been, and continue to be, willful, wanton, malicious, in bad-faith, deliberate, consciously wrongful, flagrant, characteristic of a pirate, and an egregious case of misconduct beyond typical infringement such that Plaintiff is entitled under 35 U.S.C. § 284 to enhanced damages up to three times the amount found or assessed.

107. SPV has been damaged as a result of ASUSTeK's infringing conduct described in this Court. ASUSTeK is, thus, liable to SPV in an amount that adequately compensates SPV for ASUSTeK's infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

### **CONCLUSION**

108. Plaintiff SPV is entitled to recover from ASUSTeK the damages sustained by Plaintiff as a result of ASUSTeK's wrongful acts, and willful infringement, in an amount subject to proof at trial, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court.

109. Plaintiff has incurred and will incur attorneys' fees, costs, and expenses in the prosecution of this action. The circumstances of this dispute may give rise to an exceptional case within the meaning of 35 U.S.C. § 285, and Plaintiff is entitled to recover its reasonable and necessary attorneys' fees, costs, and expenses.

**JURY DEMAND**

110. Plaintiff hereby requests a trial by jury pursuant to Rule 38 of the Federal Rules of Civil Procedure.

**PRAYER FOR RELIEF**

111. Plaintiff respectfully requests that the Court find in its favor and against ASUSTeK, and that the Court grant Plaintiff the following relief:

1. A judgment that ASUSTeK has infringed the Asserted Patents as alleged herein, directly and/or indirectly by way of inducing infringement of such patents;
2. A judgment for an accounting of all damages sustained by Plaintiff as a result of the acts of infringement by ASUSTeK;
3. A judgment and order requiring ASUSTeK to pay Plaintiff damages under 35 U.S.C. § 284, including up to treble damages as provided by 35 U.S.C. § 284, and any royalties determined to be appropriate;
4. A judgment and order requiring ASUSTeK to pay Plaintiff pre-judgment and post-judgment interest on the damages awarded;
5. A judgment and order finding this to be an exceptional case and requiring ASUSTeK to pay the costs of this action (including all disbursements) and attorneys' fees as provided by 35 U.S.C. § 285; and
6. Such other and further relief as the Court deems just and equitable.



Dated: February 3, 2022

Respectfully submitted,

/s/ Patrick J. Conroy

Patrick J. Conroy

Texas Bar No. 24012448

Jon Rastegar

Texas Bar No. 24064043

**Nelson Bumgardner Conroy PC**

2727 N. Harwood St.

Suite 250

Dallas, TX 75201

Tel: (817) 377-9111

pat@nelbum.com

jon@nelbum.com

John P. Murphy

Texas Bar No. 24056024

**Nelson Bumgardner Conroy PC**

3131 W 7th St

Suite 300

Fort Worth, TX 76107

Tel: (817) 806-3808

murphy@nelbum.com

**Attorneys for Plaintiff**

**Sovereign Peak Ventures, LLC**