UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

Headwater Research LLC, *Plaintiff*, vs. Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc., *Defendants*.	CASE NO. 2:24-cv-00627 **JURY DEMANDED**

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Headwater Research LLC ("Headwater") files this complaint against Defendants Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. (collectively, "Defendants" or "Samsung"), alleging infringement of U.S. Patent Nos. 10,028,144 and 10,080,250. The Accused Instrumentalities are mobile electronic devices, including mobile phones and tablets used, made, offered for sale, sold, and/or imported by Defendants in the United States and supplied by Defendants to customers in the United States.

BACKGROUND

1. This complaint arises from Defendants' infringement of the following United States patents owned by Headwater, each of which relate to wireless communications technology: United States Patent Nos. 10,028,144 ("the '144 patent"), and 10,080,250 ("the '250 patent") (collectively, the "Asserted Patents").

2. Dr. Gregory Raleigh—the primary inventor of the Asserted Patents—is a world-renowned scientist, inventor, and entrepreneur, with over 25 years of executive experience in several

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technology sectors including networking, cloud software, consumer services, wireless and military systems. Dr. Raleigh holds Ph.D. and Masters degrees in Electrical Engineering from Stanford University, and a BS in Electrical Engineering from Cal Poly San Luis Obispo. He is the inventor of over 350 issued U.S. and international patents in several fields including radio systems and components, radar, mobile operating systems, cloud services, IoT, networking, consumer electronics, radiation beam cancer therapy and medical imaging.

3. Dr. Raleigh has a long and distinguished record of significant contributions and advancements in wireless communications technology. His inventions, companies, and products have profoundly and positively impacted virtually every aspect of the mobile device and communications market. In 2005, Dr. Raleigh was named one of the "50 most powerful people in networking" because of his discoveries in wireless communications technology, and his work in multiplying the capacity of a radio link using multiple transmission and receiving antennas to exploit multipath propagation was described as the "most important wireless technology in the works." *See* https://www.networkworld.com/article/2316916/the-50-most-powerful-people-in-networking.html?page=2.

4. In 1996, while at Stanford University, Dr. Raleigh presented the first mathematical proof demonstrating that multiple antennas may be used with special signal processing techniques to transmit multiple data streams at the same time and on the same frequency while in the presence of naturally occurring multipath propagation. Dr. Raleigh's work at Stanford has been widely adopted in modern multiple-input and multiple-output ("MIMO") radio communication and implemented in major wireless communication standards including 4G and 5G. *See, e.g.*, https://en.wikipedia.org/wiki/Gregory_Raleigh.

5. Dr. Raleigh's groundbreaking work solved problems that had existed in wireless communication since the late 1800s and overturned a century of research and practice in the fields of radio science and wireless communication theory. His work revealed that a new class of MIMO signal processing architectures would allow wireless devices to transmit multiple data streams at the same time on the same frequency thereby multiplying the information-carrying capacity of wireless networks.

6. Based on his discoveries, Dr. Raleigh co-founded Clarity Wireless to develop smart antenna products incorporating the advances of his MIMO signal processing architecture, and obtained patents now used in 4G and 5G cellular and Wi-Fi standards. Field trials of the smart antennas developed by Clarity Wireless demonstrated performance significantly above anything else contemplated at the time and continue to set standards for multipath broadband wireless access links. Shortly after those field trials, Cisco acquired Clarity in 1998 and hired Dr. Raleigh to continue to commercialize these technologies.

7. After leaving Cisco, Dr. Raleigh founded Airgo Networks to develop the world's first MIMO wireless chipsets, networking software, reference design systems and commercial OEM products. Airgo Networks's chipset products significantly improved the speed and reliability of Wi-Fi, leading to the adoption of its technology as the core of Wi-Fi radio standards since 2006, and adoption of the chipsets into products sold across the globe. In 2006, Qualcomm acquired Airgo Networks and hired Dr. Raleigh to continue to commercialize these technologies. The Airgo team at Qualcomm spearheaded the creation of Wi-Fi standards and developed the first Qualcomm Wi-Fi chips for cell phones.

8. Dr. Raleigh's innovations at Clarity Wireless, Cisco, Airgo Networks, and Qualcomm, resulted in the widespread adoption of his technologies in a multitude of cellular and

Wi-Fi standards, such as LTE, WiMAX, 802.11n, 802.11ac (Wi-Fi 5), as well as 802.11ax (Wi-Fi 6).

9. After successfully founding and selling Clarity Wireless and Airgo Networks to Cisco and Qualcomm, respectively, Dr. Raleigh shifted his focus from solving radio-centric problems to solving problems in how wireless services are provided to consumers. Dr. Raleigh foresaw significant data demand problems presented by the advent and adoption of smartphones. He sought to solve these data demand problems by improving end-user wireless devices and the services that support them.

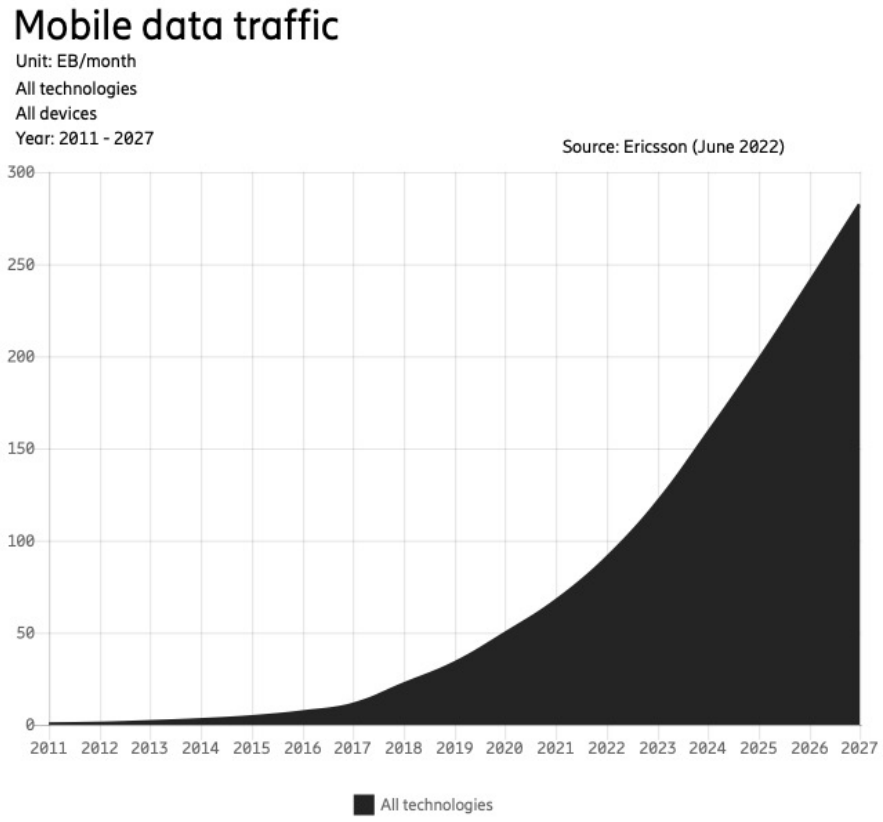
10. In 2008, Dr. Raleigh formed Headwater to develop mobile operating systems and cloud technology, which today, underpin the mobile phone and app industries. The patents in this action describe and claim some of the extraordinary inventions developed by Dr. Raleigh and the Headwater team.

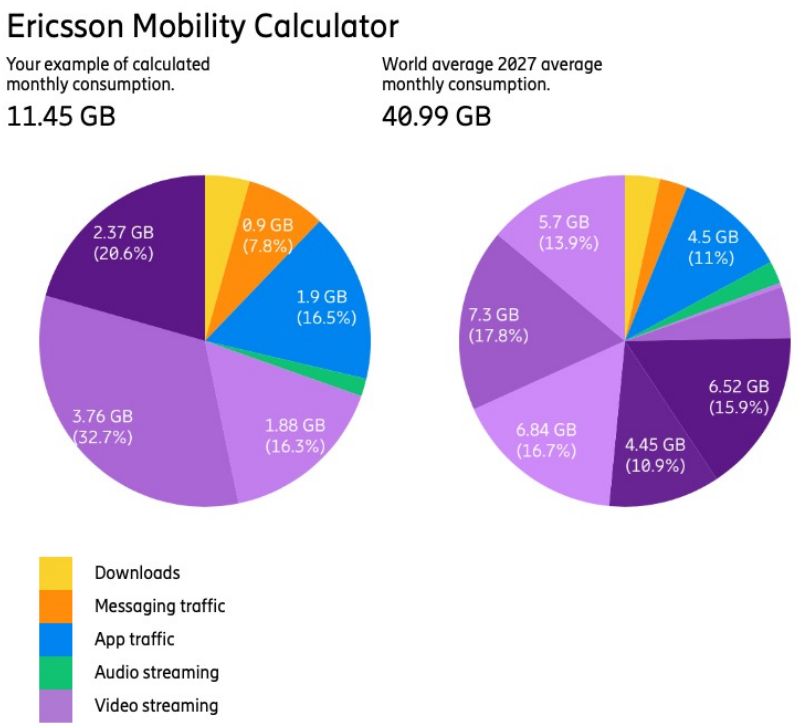
11. Smartphones and other mobile devices have become ubiquitous and inseparable components of our daily lives, allowing us to make and receive phone calls, get notifications, download music, upload photos, stream entertainment, transact business, exchange ideas, and keep us connected to our family and friends whether they are down the hall or around the globe. Users can get email, install apps, and browse the internet from these tiny devices by making use of data connectivity services. These devices accomplish these amazing feats by exchanging staggering amounts of data over the internet using wireless and cellular networks, relying on ubiquitous data connectivity to keep users up-to-date and connected.

12. Since 2011, mobile device data demand has exploded—increasing by almost 400%—with each user consuming approximately 11.5 gigabytes of data per month. In the aggregate, this equates to approximately 90 exabytes of data consumption per month. *See, e.g.*,

https://www.ericsson.com/en/reports-and-papers/mobility-report/mobility-visualizer?f=9&ft=2&r=1&t=11,12,13,14,15,16,17&s=4&u=3&y=2011,2027&c=3. For context: a single exabyte of data is equivalent to one billion gigabytes of data. Said another way, if one gigabyte is the size of the Earth, then an exabyte is the size of the sun. *See, e.g.*, https://www.backblaze.com/blog/what-is-an-exabyte/.

13. And mobile device data demand shows no sign of slowing down. Between now and 2027, mobile data demand is projected to increase more than three-fold, from 90 exabytes per month to a staggering 282 exabytes per month, with each user consuming an average of 41 gigabytes of data each and every month. *See, e.g.*, https://www.ericsson.com/en/reports-and-papers/mobility-report/mobility-calculator?up=2&bp=1&v=0&c=2; https://www.ericsson.com/en/reports-and-papers/mobility-report/mobility-visualizer?f=9&ft=2&r=1&t=11,12,13,14,15,16,17&s=4&u=3&y=2011,2027&c=3.





14. Also in 2008, Dr. Raleigh founded ItsOn Inc., which licensed Headwater's intellectual property and implemented Headwater's technology into software and services that expanded cellular service plan offerings and improved device and data management capabilities. The tools and technologies delivered by ItsOn allowed carriers to implement Headwater's technologies in end-user devices—such as mobile phones and tablets—opening up new business models while also providing greater flexibility to carriers and device manufacturers, allowing them to reduce costs while simultaneously improving their devices and services.

15. The Headwater technologies disclosed in the Asserted Patents laid the groundwork for many of the infringing features and functionalities that help device manufacturers, wireless carriers, and customers reduce data usage and network congestion, extend battery life by decreasing power consumption, and enable users to stay connected.

PLAINTIFF HEADWATER AND THE PATENTS-IN-SUIT

16. Plaintiff Headwater was formed in 2011 and has been in continued existence and operation since that time. Headwater is a Texas limited liability company organized under the laws of Texas, with its headquarters at 110 North College Avenue, Suite 1116, Tyler, Texas 75702.

17. Headwater is the owner of U.S. Patent No. 10,080,250, entitled "Enterprise access control and accounting allocation for access networks," which issued on September 18, 2018. A copy of the '250 patent is attached to this complaint as Exhibit 1.

18. Headwater is the owner of U.S. Patent No. 10,028,144, entitled "Security techniques for device assisted services," which issued on July 17, 2018. A copy of the '144 patent is attached to this complaint as Exhibit 2.

DEFENDANTS AND THE ACCUSED INSTRUMENTALITIES

19. On information and belief, Defendant Samsung Electronics Co., Ltd. ("SEC") is a corporation organized under the laws of South Korea, with its principal place of business at 129, Samsung-Ro, YeongTong-Gu, Suwon-Si, Gyonggi-Do, 443-742, South Korea.

20. On information and belief, Defendant Samsung Electronics America, Inc. ("SEA") is a United States corporation organized under the laws of the State of New York, with its principal place of business at 85 Challenger Road, Ridgefield Park, New Jersey 07660. SEA is a wholly-owned subsidiary of SEC. SEA distributes certain Samsung consumer electronics products, including the Accused Instrumentalities, in the United States.

21. On information and belief, SEA has corporate offices in the Eastern District of Texas at 1303 East Lookout Drive, Richardson, Texas 75082, 2800 Technology Drive, Suite 200,

Plano, Texas 75074, and at 6625 Excellence Way, Plano, Texas 75023.[1] On information and belief, SEA may be served with process through its registered agent CT Corporation System, 1999 Bryan Street, Suite 900, Dallas, Texas 75201-3136.

22. The Accused Instrumentalities are mobile electronic devices, including mobile phones and tablets used, offered for sale, sold, and/or imported by Defendants in the United States.

JURISDICTION AND VENUE

23. This action arises under the patent laws of the United States, Title 35 of the United States Code.

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

25. This Court has personal jurisdiction over Samsung in this action because Samsung has committed acts of infringement within this District giving rise to this action, has a regular and established place of business in this District, and has established minimum contacts with this forum such that the exercise of jurisdiction over Samsung would not offend traditional notions of fair play and substantial justice. Samsung, directly and/or through subsidiaries or intermediaries, conducts its business extensively throughout Texas, by shipping, distributing, offering for sale, selling, and advertising its products and/or services in Texas and the Eastern District of Texas, regularly do business or solicit business, engage in other persistent courses of conduct, and/or derive substantial revenue from products and/or services provided to individuals in Texas, and commit acts of infringement of Headwater's patents in this District by, among other things, making, using, importing, offering to sell, and selling products that infringe the asserted patents,

[1] https://news.samsung.com/us/samsung-electronics-america-open-flagship-north-texas-campus/; https://www.themuse.com/profiles/samsungelectronicsamerica/location/plano.

including without limitation the Samsung tablets and phones accused of infringement in this case.

26. Samsung, directly and/or through subsidiaries or intermediaries, have purposefully and voluntarily placed one or more products and/or services in the stream of commerce that practice the Asserted Patents with the intention and expectation that they will be purchased and used by consumers in the Eastern District of Texas. These products and/or services have been and continue to be purchased and used in the Eastern District of Texas.

27. Venue as to Samsung is proper in this District under 28 U.S.C. §§ 1391 and 1400(b). On information and belief, Samsung has transacted business in this District and has committed acts of direct and indirect infringement in this District by, among other things, making, using, importing, offering to sell, and selling products that infringe the Asserted Patents.

28. Defendant SEA maintains a regular and established place of business at 1303 East Lookout Drive, Richardson, Texas 75082, 2800 Technology Drive, Suite 200, Plano, Texas 75074, and 6625 Excellence Way, Plano, Texas 75023.

29. Defendant SEC is a foreign corporation. Venue is proper as to a foreign defendant in any district. 28 U.S.C. § 1391(c)(3).

30. Further, upon information and belief, Samsung has admitted or not contested proper venue in this Judicial District in other patent infringement actions.

COUNT 1 – CLAIM FOR INFRINGEMENT OF THE ’250 PATENT

31. Headwater incorporates by reference each of the allegations in the above paragraphs and further alleges as follows:

32. On September 18, 2018, the United States Patent and Trademark Office issued U.S. Patent No. 10,080,250, entitled “Enterprise access control and accounting allocation for access networks.” Ex. 1.

33. Headwater is the owner of the ’250 patent with full rights to pursue recovery of royalties for damages for infringement, including full rights to recover past and future damages.

34. The written description of the ’250 patent describes in technical detail each limitation of the claims, allowing a skilled artisan to understand the scope of the claims and how the nonconventional and non-generic combination of claim limitations is patently distinct from and improved upon what may have been considered conventional or generic in the art at the time of the invention.

35. Headwater and its predecessors in interest have satisfied the requirements of 35 U.S.C. § 287(a) with respect to the ’250 patent because there are no unmarked articles subject to a duty to mark, and Headwater is entitled to damages for Defendants’ past infringement.

36. Defendants have directly infringed (literally and equivalently) and induced others to infringe the ’250 patent by making, using, selling, offering for sale, or importing products that infringe the claims of the ’250 patent and by inducing others to infringe the claims of the ’250 patent without a license or permission from Headwater.

37. On information and belief, Defendants use, import, offer for sale, and sell certain infringing products in the United States. The Accused Instrumentalities are, for example, mobile electronic devices, including mobile phones and tablets.

38. For example, attached as Exhibit 3 is a chart setting forth a description of Defendants’ infringement of claim 1 of the ’250 patent.

39. Defendants also knowingly and intentionally induce and contribute to infringement of the ’250 patent in violation of 35 U.S.C. §§ 271(b) and 271(c).

40. Despite this knowledge of the ’250 patent, Defendants continue to actively encourage and instruct its customers to use and integrate the Accused Instrumentalities in ways

that directly infringe the ’250 patent. Defendants do so knowing and intending that their customers will commit these infringing acts. Defendants also continue to make, use, offer for sale, sell, and/or import the Accused Instrumentalities, despite their knowledge of the ’250 patent, thereby specifically intending for and inducing its customers to infringe the ’250 patent through the customers’ normal and customary use of the Accused Instrumentalities.

41. Defendants have infringed multiple claims of the ’250 patent, including independent claim 1. By way of example only, the normal and customary use of the mobiles phones and tablets made, used, sold, offered for sale and/or imported by Defendants infringes an exemplary claim of the ’250 patent, as in the description set forth in Exhibit 3, which Headwater provides without the benefit of information about the Accused Instrumentalities obtained through discovery.

42. Defendants have known how the Accused Instrumentalities are made and have known, or have been willfully blind to the fact, that making, using, offering to sell, and selling the Accused Instrumentalities to their customers, would constitute willful infringement of the ’250 patent. Those products imported into and sold within the United States include, without limitation, Samsung Knox-enabled devices.

43. Defendants have induced, and continue to induce, infringement of the ’250 patent by actively encouraging others (including its customers) to use, offer to sell, sell, and import the Accused Instrumentalities. On information and belief, these acts include providing information and instructions on the use of the Accused Instrumentalities; providing information, education and instructions to its customers; providing the Accused Instrumentalities to customers; and indemnifying patent infringement within the United States.

44. Headwater has been damaged by Defendant's infringement of the '250 patent and is entitled to damages as provided for in 35 U.S.C. § 284, including reasonable royalty damages.

COUNT 2 – CLAIM FOR INFRINGEMENT OF THE '144 PATENT

45. Headwater incorporates by reference each of the allegations in the above paragraphs and further alleges as follows:

46. On July 17, 2018, the United States Patent and Trademark Office issued U.S. Patent No. 10,028,144, entitled "Security techniques for device assisted services." Ex. 2.

47. Headwater is the owner of the '144 patent with full rights to pursue recovery of royalties for damages for infringement, including full rights to recover past and future damages.

48. The written description of the '144 patent describes in technical detail each limitation of the claims, allowing a skilled artisan to understand the scope of the claims and how the nonconventional and non-generic combination of claim limitations is patently distinct from and improved upon what may have been considered conventional or generic in the art at the time of the invention.

49. Headwater and its predecessors in interest have satisfied the requirements of 35 U.S.C. § 287(a) with respect to the '144 patent because there are no unmarked articles subject to a duty to mark and Headwater is entitled to damages for Defendants' past infringement.

50. Defendants have directly infringed (literally and equivalently) and induced others to infringe the '144 patent by making, using, selling, offering for sale, or importing products that infringe the claims of the '144 patent and by inducing others to infringe the claims of the '144 patent without a license or permission from Headwater.

51. On information and belief, Defendants use, import, offer for sale, and sell certain infringing products in the United States. The Accused Instrumentalities are, for example, mobile electronic devices, including mobile phones and tablets.

52. For example, attached as Exhibit 4 is a chart setting forth a description of Defendants' infringement of claim 1 of the '144 patent.

53. Defendants also knowingly and intentionally induce and contribute to infringement of the '144 patent in violation of 35 U.S.C. §§ 271(b) and 271(c).

54. Despite this knowledge of the '144 patent, Defendants continue to actively encourage and instruct its customers to use and integrate the Accused Instrumentalities in ways that directly infringe the '144 patent. Defendants do so knowing and intending that their customers will commit these infringing acts. Defendants also continue to make, use, offer for sale, sell, and/or import the Accused Instrumentalities, despite their knowledge of the '144 patent, thereby specifically intending for and inducing its customers to infringe the '144 patent through the customers' normal and customary use of the Accused Instrumentalities.

55. Defendants have infringed multiple claims of the '144 patent, including independent claim 1. By way of example only, the normal and customary use of the mobiles phones and tablets made, used, sold, offered for sale and/or imported by Defendants infringes an exemplary claim of the '144 patent, as in the description set forth in Exhibit 4, which Headwater provides without the benefit of information about the Accused Instrumentalities obtained through discovery.

56. Defendants have known how the Accused Instrumentalities are made and have known, or have been willfully blind to the fact, that making, using, offering to sell, and selling the Accused Instrumentalities to their customers, would constitute willful infringement of the '144

patent. Those products imported into and sold within the United States include, without limitation, Samsung Knox-enabled devices.

57. Defendants have induced, and continue to induce, infringement of the ’144 patent by actively encouraging others (including its customers) to use, offer to sell, sell, and import the Accused Instrumentalities. On information and belief, these acts include providing information and instructions on the use of the Accused Instrumentalities; providing information, education and instructions to its customers; providing the Accused Instrumentalities to customers; and indemnifying patent infringement within the United States.

58. Headwater has been damaged by Defendant’s infringement of the ’144 patent and is entitled to damages as provided for in 35 U.S.C. § 284, including reasonable royalty damages.

JURY DEMAND

59. Headwater demands a jury trial pursuant to Federal Rule of Civil Procedure 38.

RELIEF REQUESTED

Headwater prays for the following relief:

A. A judgment in favor of Headwater that Defendants have infringed the Asserted Patents, and that the Asserted Patents are valid and enforceable;

B. A judgment and order requiring Defendants to pay Headwater past and future damages arising out of Defendants’ infringement of the Asserted Patents in an amount no less than a reasonable royalty, costs, expenses, and pre- and post-judgment interest for its infringement of the asserted patents, as provided under 35 U.S.C. § 284;

C. A permanent injunction prohibiting Defendants from further acts of infringement of the Asserted Patents;

D. A judgment and order requiring Defendants to provide an accounting and to pay supplemental damages to Headwater, including, without limitation, pre-judgment and post-judgment interest;

E. A judgement that Defendants' infringement is willful and enhanced damages and fees as a result of that willfulness under 35 U.S.C. § 284;

F. A finding that this case is exceptional under 35 U.S.C. § 285, and an award of Headwater' reasonable attorney's fees and costs; and

G. Any and all other relief to which Headwater may be entitled.

Dated: August 2, 2024

Respectfully submitted,

/s/ Marc Fenster

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