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

Headwater Research LLC, *Plaintiff*, vs. Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., *Defendants*.	CASE NO. 2:22-cv-00422-JRG-RSP **Complaint for Patent Infringement** **JURY DEMANDED**

FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Headwater Research LLC ("Headwater") files this first amended complaint against Defendants Samsung Electronics Co., Ltd., and Samsung Electronics America, Inc. (collectively, "Defendants" or "Samsung"), alleging infringement of U.S. Patent Nos. 9,137,701, 9,271,184, 9,521,578, 9,277,445, and 11,405,224. 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. 9,137,701 ("the '701 patent"), 9,271,184 ("the '184 patent"), 9,521,578 ("the '578 patent"), 9,277,445 ("the '445 patent"), and 11,405,224 ("the '224 patent") (collectively, the "Asserted Patents").

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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 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).

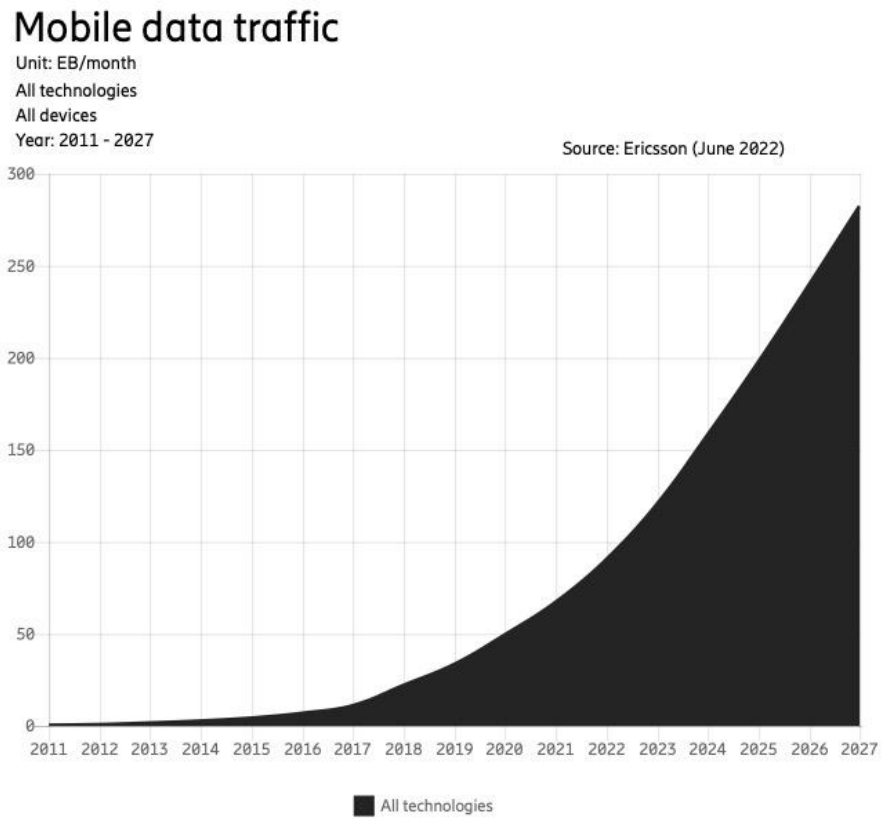
9. After successfully founding and selling Clarity Wireless and Airgo Networks to Cisco and Qualcomm, respectively, Dr. Raleigh shifted his focus from solving radio-centric problems to solving problems in how wireless services are provided to consumers. Dr. Raleigh foresaw significant data demand problems 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.

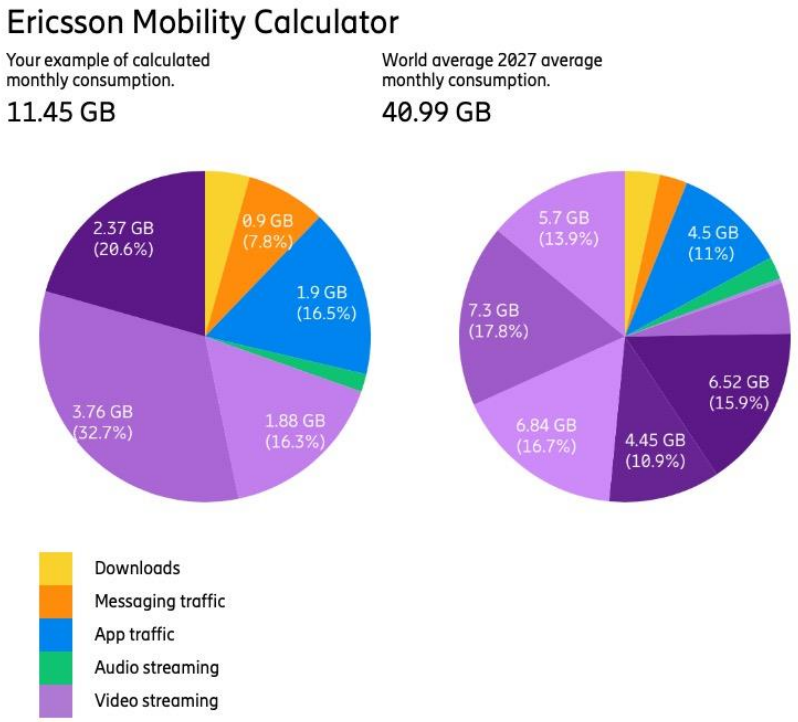
10. In 2008, Dr. Raleigh formed Headwater to develop mobile operating systems and cloud technology, which today, underpin the mobile phone and app industries. The patents in this action describe and claim some of the extraordinary inventions developed by Dr. Raleigh and the Headwater team.

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.


Mobile data traffic
Unit: EB/month
All technologies
All devices
Year: 2011 - 2027
Source: Ericsson (June 2022)
300
250
200
150
100
50
0
2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027
All technologies


Ericsson Mobility Calculator
Your example of calculated monthly consumption.
11.45 GB
World average 2027 average monthly consumption.
40.99 GB
2.37 GB (20.6%)
0.9 GB (7.8%)
1.9 GB (16.5%)
1.88 GB (16.3%)
3.76 GB (32.7%)
5.7 GB (13.9%)
4.5 GB (11%)
7.3 GB (17.8%)
6.52 GB (15.9%)
6.84 GB (16.7%)
4.45 GB (10.9%)
Downloads
Messaging traffic
App traffic
Audio streaming
Video streaming

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.

NOTICE OF THE ASSERTED PATENTS

16. The patented technologies which are the subject of this lawsuit are well known to Defendants.

17. In April of 2010, ItsOn entered into an NDA with Sprint (now T-Mobile).

18. Under that NDA, ItsOn and Sprint's product development and engineering teams discussed implementing Headwater's patented technological solutions to solve Sprint's data demand problems. Over the next several years, ItsOn and Sprint continued sharing confidential information under NDA discussing how the Headwater/ItsOn unique and unconventional technological solutions would provide Sprint and its customers with an improved user experience on the Sprint network, while lowering costs for both Sprint and its users.

19. In 2013, ItsOn and Sprint began implementing use cases of Headwater's technologies in connection with Sprint's network, including roaming controls, background

controls, data offloading, family device management, as well as on-demand data purchasing functionalities. Each of these features make use of technologies developed by Headwater and protected by patents issued to Headwater.

20. Between 2013-2016, ItsOn worked with Sprint and Samsung USA, also under NDA, to implement Headwater-patented technology directly into Samsung's devices.

21. As part of the ItsOn, Sprint, and Samsung relationship, ItsOn software implementing Headwater's patented inventions was installed on numerous end-user wireless devices sold by Sprint, including Samsung devices.

22. Sprint mandated that Android handset manufactures, including Samsung, integrate ItsOn's software into device operating systems and kernels.

23. ItsOn and Samsung held frequent, in-depth meetings to discuss engineering details and implement ItsOn's solutions into Samsung's software builds.

24. Headwater's patents were disclosed to Samsung in various meetings and through various presentations.

25. As part of this work, ItsOn installed its confidential and proprietary software onto Samsung devices, granting Samsung executives and engineering teams root and debug access—under NDA—for testing and implementation.

26. More than a dozen different models of Samsung devices were enabled with ItsOn solutions implementing Headwater's patented technologies.

27. By the end of 2015, millions of Sprint devices (including Samsung devices) were running the ItsOn application, which included Headwater's intellectual property.

28. The ItsOn application included a link to http://www.itsoninc.com/patent-notices, which provided notice of Headwater's patents licensed by ItsOn.

29. But what began as a mutual undertaking abruptly became a losing proposition for ItsOn and Headwater.

30. In early October 2015, Sprint personnel indicated to ItsOn team members that Samsung planned to implement the Headwater/ItsOn proprietary technology in Samsung's own device software without further involvement from ItsOn.

31. On October 9, 2015, Samsung USA unexpectedly announced to ItsOn that Samsung Korea would be taking over negotiations with ItsOn going forward.

32. On October 20, 2015, Samsung personnel requested that ItsOn provide its proprietary and confidential "roaming control policy"—its source code—to Samsung.

33. This "roaming control policy" was the subject of the Roaming Reduction project and included functionality implicated in other projects undertaken by Sprint and ItsOn, including Project RuST.

34. The "roaming control policy" technology is protected by Headwater's issued patents.

35. Shortly after requesting ItsOn's "roaming control policy," Samsung Korea cut off the ItsOn implementation project, leaving ItsOn in the dark about Sprint's and Samsung's plans to implement Headwater's technology.

36. Approximately one week later on October 27, 2015, Sprint purported to terminate the Sprint/ItsOn MSA.

37. On October 29, 2015, ItsOn team members met with Sprint personnel to discuss the Sprint and ItsOn relationship going forward, and the ramifications of Sprint's and Samsung's apparent plans to implement Headwater's patent-protected technologies in Samsung's devices.

38. ItsOn and Sprint continued to work together into 2016 to implement Headwater's patented technologies into Sprint devices, including Samsung's phones and tablets.

39. Over the next several years, Samsung released new devices with features and functionalities that help device manufacturers, wireless carriers, and customers save data, reduce power consumption, and stay connected. These new features and functionalities were the subject of the Sprint, Samsung, and ItsOn relationship, use information learned from ItsOn, and infringe Headwater's Asserted Patents.

PLAINTIFF HEADWATER AND THE PATENTS-IN-SUIT

40. 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.

41. Headwater is the owner of U.S. Patent No. 9,137,701, entitled "Wireless end-user device with differentiated network access for background and foreground device applications," which issued on September 15, 2015. A copy of the '701 patent is attached to this complaint as Exhibit 1.

42. Headwater is the owner of U.S. Patent No. 9,271,184, entitled "Wireless end-user device with per-application data limit and traffic control policy list limiting background application traffic," which issued on February 23, 2016. A copy of the '184 patent is attached to this complaint as Exhibit 2.

43. Headwater is the owner of U.S. Patent No. 9,521,578, entitled "Wireless end-user device with application program interface to allow applications to access application-specific aspects of a wireless network access policy," which issued on December 13, 2016. A copy of the '578 patent is attached to this complaint as Exhibit 3.

44. Headwater is the owner of U.S. Patent No. 9,277,445, entitled "Wireless end-user device with differential traffic control policy list and applying foreground classification to wireless data service," which issued on March 1, 2016. A copy of the '445 patent is attached to this complaint as Exhibit 4.

45. Headwater is the owner of U.S. Patent No. 11,405,224, entitled "Device-assisted services for protecting network capacity," which issued on August 8, 2022. A copy of the '224 patent is attached to this complaint as Exhibit 5.

DEFENDANTS AND THE ACCUSED INSTRUMENTALITIES

46. 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.

47. 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.

48. 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.

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

49. 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

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

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

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

53. 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.

54. 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.

55. 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.

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

57. 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 ’701 PATENT

58. Headwater incorporates by reference each of the allegations in paragraphs 1–57 above and further alleges as follows:

59. On September 15, 2015, the United States Patent and Trademark Office issued U.S. Patent No. 9,137,701, entitled “Wireless end-user device with differentiated network access for background and foreground device applications.” Ex. 1.

60. Headwater is the owner of the ’701 patent with full rights to pursue recovery of royalties for damages for infringement, including full rights to recover past and future damages.

61. The written description of the ’701 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.

62. Headwater and its predecessors in interest have satisfied the requirements of 35 U.S.C. § 287(a) with respect to the ’701 patent, and Headwater is entitled to damages for Defendants’ past infringement.

63. Defendants have directly infringed (literally and equivalently) and induced others to infringe the ’701 patent by making, using, selling, offering for sale, or importing products that infringe the claims of the ’701 patent and by inducing others to infringe the claims of the ’701 patent without a license or permission from Headwater, such as for example instructing users of the Accused Instrumentalities to perform the patented methods of the ’701 patent.

64. 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.

65. For example, attached as Exhibit 6 is a chart setting forth an exemplary description of Defendants’ infringement claim 1 of the ’701 patent.

66. Defendants also knowingly and intentionally induce and contribute to infringement of the ’701 patent in violation of 35 U.S.C. §§ 271(b) and 271(c). For example, Defendants have had knowledge or were willfully blind of the ’701 patent and the infringing nature of the Accused Instrumentalities at least because the ItsOn software installed on Defendants phones and tablets in 2013-2016 included a patent marking notice which listed the ’701 patent. Similarly, Defendants have had knowledge or were willfully blind of the ’701 patent and the infringing nature of the Accused Instrumentalities at least because of communications by and among ItsOn, Sprint, and Samsung discussing ItsOn’s and Headwater’s intellectual property, including pending patent

applications (such as the application which led to the issuance of the ’701 patent) and issued patents (including the ’701 patent), during the integration and installation of the ItsOn software and solutions into Defendants’ operating systems, source code, and kernels in 2013-2016. Additionally, on information and belief, Samsung has cited this specification in at least four Samsung Electronics Co., Ltd. patents, all of which issued after the ’701 patent was published and granted.

67. Despite their knowledge of the ’701 patent, Defendants continue to actively encourage and instruct its customers to use and integrate the Accused Instrumentalities in ways that directly infringe the ’701 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 ’701 patent, thereby specifically intending for and inducing its customers to infringe the ’701 patent through the customers’ normal and customary use of the Accused Instrumentalities.

68. Defendants have infringed multiple claims of the ’701 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 ’701 patent, as in the description set forth in Exhibit 6, which Headwater provides without the benefit of information about the Accused Instrumentalities obtained through discovery.

69. 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 ’701

patent. Those products imported into and sold within the United States include, without limitation, Samsung Galaxy tablets and phones.

70. Defendants have induced, and continue to induce, infringement of the ’701 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.

71. Headwater has been damaged by Defendant’s infringement of the ’701 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 ’184 PATENT

72. Headwater incorporates by reference each of the allegations in paragraphs 1–71 above and further alleges as follows:

73. On February 23, 2016, the United States Patent and Trademark Office issued U.S. Patent No. 9,271,184, entitled “Wireless end-user device with per-application data limit and traffic control policy list limiting background application traffic.” Ex. 2.

74. Headwater is the owner of the ’184 patent with full rights to pursue recovery of royalties for damages for infringement, including full rights to recover past and future damages.

75. The written description of the ’184 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.

76. Headwater and its predecessors in interest have satisfied the requirements of 35 U.S.C. § 287(a) with respect to the ’184 patent, and Headwater is entitled to damages for Defendants’ past infringement.

77. Defendants have directly infringed (literally and equivalently) and induced others to infringe the ’184 patent by making, using, selling, offering for sale, or importing products that infringe the claims of the ’184 patent and by inducing others to infringe the claims of the ’184 patent without a license or permission from Headwater, such as for example instructing users of the Accused Instrumentalities to perform the patented methods of the ’184 patent.

78. 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.

79. For example, attached as Exhibit 7 is a chart setting forth a description of Defendants’ infringement claim 1 of the ’184 patent.

80. Defendants also knowingly and intentionally induce and contribute to infringement of the ’184 patent in violation of 35 U.S.C. §§ 271(b) and 271(c). For example, Defendants have had knowledge or were willfully blind of the ’184 patent and the infringing nature of the Accused Instrumentalities at least because the ItsOn software installed on Defendants phones and tablets in 2013-2016 included a patent marking notice which listed the ’184 patent. Similarly, Defendants have had knowledge or were willfully blind of the ’184 patent and the infringing nature of the Accused Instrumentalities at least because of communications by and among ItsOn, Sprint, and Samsung discussing ItsOn’s and Headwater’s intellectual property, including pending patent applications (such as the application which led to the issuance of the ’184 patent) and issued patents (including the ’184 patent), during the integration and installation of the ItsOn software and

solutions into Defendants' operating systems, source code, and kernels in 2013-2016. Additionally, on information and belief, Samsung has cited this specification in at least four Samsung Electronics Co., Ltd. patents, all of which issued after the '184 patent was published and granted.

81. Despite this knowledge of the '184 patent, Defendants continue to actively encourage and instruct its customers to use and integrate the Accused Instrumentalities in ways that directly infringe the '184 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 '184 patent, thereby specifically intending for and inducing its customers to infringe the '184 patent through the customers' normal and customary use of the Accused Instrumentalities.

82. Defendants have infringed multiple claims of the '184 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 '184 patent, as in the description set forth in Exhibit 7, which Headwater provides without the benefit of information about the Accused Instrumentalities obtained through discovery.

83. 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 '184 patent. Those products imported into and sold within the United States include, without limitation, Samsung Galaxy tablets and phones.

84. Defendants have induced, and continue to induce, infringement of the ’184 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.

85. Headwater has been damaged by Defendant’s infringement of the ’184 patent and is entitled to damages as provided for in 35 U.S.C. § 284, including reasonable royalty damages.

COUNT 3 – CLAIM FOR INFRINGEMENT OF THE ’578 PATENT

86. Headwater incorporates by reference each of the allegations in paragraphs 1–85 above and further alleges as follows:

87. On December 13, 2016, the United States Patent and Trademark Office issued U.S. Patent No. 9,521,578, entitled “Wireless end-user device with application program interface to allow applications to access application-specific aspects of a wireless network access policy.” Ex. 3.

88. Headwater is the owner of the ’578 patent with full rights to pursue recovery of royalties for damages for infringement, including full rights to recover past and future damages.

89. The written description of the ’578 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.

90. Headwater and its predecessors in interest have satisfied the requirements of 35 U.S.C. § 287(a) with respect to the ’578 patent, and Headwater is entitled to damages for Defendants’ past infringement.

91. Defendants have directly infringed (literally and equivalently) and induced others to infringe the ’578 patent by making, using, selling, offering for sale, or importing products that infringe the claims of the ’578 patent and by inducing others to infringe the claims of the ’578 patent without a license or permission from Headwater, such as for example instructing users of the Accused Instrumentalities to perform the patented methods of the ’578 patent.

92. 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.

93. For example, attached as Exhibit 8 is a chart setting forth a description of Defendants’ infringement claim 1 of the ’578 patent.

94. Defendants also knowingly and intentionally induce and contribute to infringement of the ’578 patent in violation of 35 U.S.C. §§ 271(b) and 271(c). For example, Defendants have had knowledge or were willfully blind of the ’578 patent and the infringing nature of the Accused Instrumentalities at least because the ItsOn software installed on Defendants phones and tablets in 2013-2016 included a patent marking notice which listed patents in the same family with the same specification. Similarly, Defendants have had knowledge or were willfully blind of the ’578 patent and the infringing nature of the Accused Instrumentalities at least because of communications by and among ItsOn, Sprint, and Samsung discussing ItsOn’s and Headwater’s intellectual property, including pending patent applications (such as the application which led to the issuance of the ’578 patent) and issued patents (including the ’578 patent), during the integration and installation of the

ItsOn software and solutions into Defendants' operating systems, source code, and kernels in 2013-2016. Additionally, on information and belief, Samsung has cited this specification in at least four Samsung Electronics Co., Ltd. patents, all of which issued after the '578 patent was published and granted.

95. Despite this knowledge of the '578 patent, Defendants continue to actively encourage and instruct its customers to use and integrate the Accused Instrumentalities in ways that directly infringe the '578 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 '578 patent, thereby specifically intending for and inducing its customers to infringe the '578 patent through the customers' normal and customary use of the Accused Instrumentalities.

96. Defendants have infringed multiple claims of the '578 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 '578 patent, as in the description set forth in Exhibit 8, which Headwater provides without the benefit of information about the Accused Instrumentalities obtained through discovery.

97. 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 '578 patent. Those products imported into and sold within the United States include, without limitation, Samsung Galaxy tablets and phones.

98. Defendants have induced, and continue to induce, infringement of the ’578 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.

99. Headwater has been damaged by Defendant’s infringement of the ’578 patent and is entitled to damages as provided for in 35 U.S.C. § 284, including reasonable royalty damages.

COUNT 4 – CLAIM FOR INFRINGEMENT OF THE ’445 PATENT

100. Headwater incorporates by reference each of the allegations in paragraphs 1–99 above and further alleges as follows:

101. On March 1, 2016, the United States Patent and Trademark Office issued U.S. Patent No. 9,277,445, entitled “Wireless end-user device with differential traffic control policy list and applying foreground classification to wireless data service.” Ex. 4.

102. Headwater is the owner of the ’445 patent with full rights to pursue recovery of royalties for damages for infringement, including full rights to recover past and future damages.

103. The written description of the ’445 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.

104. Headwater and its predecessors in interest have satisfied the requirements of 35 U.S.C. § 287(a) with respect to the ’445 patent, and Headwater is entitled to damages for Defendants’ past infringement.

105. Defendants have directly infringed (literally and equivalently) and induced others to infringe the ’445 patent by making, using, selling, offering for sale, or importing products that infringe the claims of the ’445 patent and by inducing others to infringe the claims of the ’445 patent without a license or permission from Headwater, such as for example instructing users of the Accused Instrumentalities to perform the patented methods of the ’445 patent.

106. 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.

107. For example, attached as Exhibit 9 is a chart setting forth a description of Defendants’ infringement claim 1 of the ’445 patent.

108. Defendants also knowingly and intentionally induce and contribute to infringement of the ’445 patent in violation of 35 U.S.C. §§ 271(b) and 271(c). For example, Defendants have had knowledge or were willfully blind to the ’445 patent and the infringing nature of the Accused Instrumentalities at least because the ItsOn software installed on Defendants phones and tablets in 2013-2016 included a patent marking notice which listed patents in the same family with the same specification. Similarly, Defendants have had knowledge or were willfully blind of the ’445 patent and the infringing nature of the Accused Instrumentalities at least because of communications by and among ItsOn, Sprint, and Samsung discussing ItsOn’s and Headwater’s intellectual property, including pending patent applications (such as the application which led to the issuance of the ’445 patent), during the integration and installation of the ItsOn software and solutions into Defendants’

operating systems, source code, and kernels in 2013-2016. Additionally, on information and belief, Samsung has cited this specification in at least one Samsung Electronics Co., Ltd. patent, which issued after the ’445 patent was published and granted.

109. Despite this knowledge of the ’445 patent, Defendants continue to actively encourage and instruct its customers to use and integrate the Accused Instrumentalities in ways that directly infringe the ’445 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 ’445 patent, thereby specifically intending for and inducing its customers to infringe the ’445 patent through the customers’ normal and customary use of the Accused Instrumentalities.

110. Defendants have infringed multiple claims of the ’445 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 ’445 patent, as in the description set forth in Exhibit 9, which Headwater provides without the benefit of information about the Accused Instrumentalities obtained through discovery.

111. 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 ’445 patent. Those products imported into and sold within the United States include, without limitation, Samsung Galaxy tablets and phones.

112. Defendants have induced, and continue to induce, infringement of the ’445 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.

113. Headwater has been damaged by Defendant's infringement of the '445 patent and is entitled to damages as provided for in 35 U.S.C. § 284, including reasonable royalty damages.

COUNT 5 – CLAIM FOR INFRINGEMENT OF THE '224 PATENT

114. Headwater incorporates by reference each of the allegations in paragraphs 1–113 above and further alleges as follows:

115. On August 2, 2022, the United States Patent and Trademark Office issued U.S. Patent No. 11,405,224, entitled "Device-assisted services for protecting network capacity." Ex. 5.

116. Headwater is the owner of the '224 patent with full rights to pursue recovery of royalties for damages for infringement, including full rights to recover past and future damages.

117. The written description of the '224 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.

118. Headwater and its predecessors in interest have satisfied the requirements of 35 U.S.C. § 287(a) with respect to the '224 patent, and Headwater is entitled to damages for Defendants' past infringement.

119. Defendants have directly infringed (literally and equivalently) and induced others to infringe the '224 patent by making, using, selling, offering for sale, or importing products that

infringe the claims of the ’224 patent and by inducing others to infringe the claims of the ’224 patent without a license or permission from Headwater, such as for example instructing users of the Accused Instrumentalities to perform the patented methods of the ’224 patent.

120. 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.

121. For example, attached as Exhibit 10 is a chart setting forth a description of Defendants’ infringement claim 1 of the ’224 patent.

122. Defendants also knowingly and intentionally induce and contribute to infringement of the ’224 patent in violation of 35 U.S.C. §§ 271(b) and 271(c). Defendants have had knowledge or were willfully blind of the ’224 patent and the infringing nature of the Accused Instrumentalities at least as of the date of the filing of this complaint.

123. Despite this knowledge of the ’224 patent, Defendants continue to actively encourage and instruct its customers to use and integrate the Accused Instrumentalities in ways that directly infringe the ’224 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 ’224 patent, thereby specifically intending for and inducing its customers to infringe the ’224 patent through the customers’ normal and customary use of the Accused Instrumentalities.

124. Defendants have infringed multiple claims of the ’224 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 ’224 patent, as in the description set forth in Exhibit 10, which Headwater

provides without the benefit of information about the Accused Instrumentalities obtained through discovery.

125. 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 ’224 patent. Those products imported into and sold within the United States include, without limitation, Samsung Galaxy tablets and phones.

126. Defendants have induced, and continue to induce, infringement of the ’224 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.

127. Headwater has been damaged by Defendant’s infringement of the ’224 patent and is entitled to damages as provided for in 35 U.S.C. § 284, including reasonable royalty damages.

JURY DEMAND

128. 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: November 30, 2022

Respectfully submitted,

/s/ Marc Fenster

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