

**IN THE UNITED STATES DISTRICT COURT  
THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

CALYPSO IP, LLC,

*Plaintiff,*

V.

SAMSUNG ELECTRONICS CO., LTD.  
AND SAMSUNG ELECTRONICS  
AMERICA, INC.

*Defendant.*

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Case No. 2:24-cv-00568

## Jury Trial Demanded

## PLAINTIFF'S FIRST AMENDED COMPLAINT

Plaintiff Calypso IP, LLC files this suit against Defendants Samsung Electronics Co., Ltd. (“SEC”) and Samsung Electronics America, Inc. (“SEA”) (collectively “Samsung” or “Defendants”) for infringement of United States Patent No. 6,680,923; and alleges, with personal knowledge as to its own actions and on information and belief as to the actions of others, as follows:

## THE PARTIES

1. Plaintiff Calypso IP, LLC is a Texas company that holds all rights, titles, and interests in United States Patent No. 6,680,923 (the “’923 Patent” or “Asserted Patent”). Plaintiff may be served with process via its registered agent Will White Legal at 808 Travis St Ste 1432, Houston, 77002.

2. Defendant SEC is a Korea corporation with its principal place of business with at 129 Samsung-Ro Yeongtong-gu, Gyeonggi-do 16677 Suwon-Shi, Republic of Korea. SEC may be served pursuant to Fed. R. Civ. P. 4(f)(1).

3. Defendant SEA is a New York corporation. SEA has been registered to do business in the state of Texas since June 10, 1996, and may be served through its registered agent, CT Corporation System, at 1999 Bryan Street, Suite 900, Dallas, Texas 75201.

4. SEA is a wholly owned subsidiary of SEC (SEC and SEA collectively “Samsung” or “Defendants”). Samsung maintains a regular and established places of business in this district, including a “flagship campus” at 6625 Excellence Way, Plano, Texas.<sup>1</sup>

#### **JURISDICTION & VENUE**

5. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a) because this action arises under the patent laws of the United States, 35 U.S.C. §§ 101 *et. seq.*

6. Samsung is in the business of supplying mobile devices, such as smartphones and tablets, in the United States.

7. Samsung has solicited business in the State of Texas, transacted business within the State of Texas and attempted to derive financial benefit from residents of the State of Texas, including benefits directly related to the instant patent infringement cause of action set forth herein.

8. Samsung has made, used, sold, offered for sale, and/or imported mobile phones and/or has placed such phones in to the stream of commerce, which phones have been offered for sale, sold, and/or used in the State of Texas and this judicial district.

9. At the time of filing of this Complaint, Samsung’s mobile phones are available for purchase by consumers in Texas, including within this judicial district.

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<sup>1</sup> Samsung, *Samsung Electronics America to Open Flagship North Texas Campus*, available at <https://news.samsung.com/us/samsung-electronics-america-open-flagship-north-texas-campus/> (last visited Sept. 21, 2023).

10. Samsung has made, used, sold, offered for sale, and/or imported wireless mobile communication devices that are alleged herein to infringe the patent set forth herein, and/or has placed such devices into the stream of commerce, which devices have been made, offered for sale, sold, and/or used in the State of Texas and within this judicial district.

11. Samsung has sold products in this judicial district that are accused of infringement in this Complaint.

12. SEC is subject to personal jurisdiction in Texas and in this judicial district.

13. SEA is subject to personal jurisdiction in Texas and in this judicial district.

14. Samsung is subject to personal jurisdiction under the provisions of the Texas Long Arm Statute, Tex. Civ. Prac. & Rem. Code § 17.041 *et seq.*, by virtue of the fact that, upon information and belief, Samsung has availed itself of the privilege of conducting and soliciting business within the State, including engaging in at least some of the infringing activities in this State, as well as by others acting as Samsung's agents and/or representatives, such that it would be reasonable for this Court to exercise jurisdiction consistent with principles underlying the U.S. Constitution, and the exercise of jurisdiction by this Court would not offend traditional notions of fair play and substantial justice.

15. Samsung has also established minimum contacts with this judicial district and regularly transacts and does business within this district, including advertising, promoting and selling products over the internet, through intermediaries, representatives and/or agents located within this judicial district, that infringed Plaintiff's patent, which products were then sold and/or shipped directly to citizens residing within this State and in this judicial district. Samsung has purposefully directed activities at citizens of this State including those located within this judicial district.

16. Samsung has purposefully and voluntarily placed its products into the stream of commerce with the expectation that they will be purchased and used by customers located in the State of Texas and this district. Samsung's customers in this district have purchased and used Samsung's products.

17. Venue as to SEC, a foreign corporation, is proper in this judicial district under 28 U.S.C. §§ 1391(b)-(d) and 1400(b).

18. Venue as to SEA is proper in this judicial district under 28 U.S.C. §§ 1391(b)-(c) and 1400(b) at least because it has committed acts of infringement in this judicial district and in view of its store located in this judicial district at 6625 Excellence Way, Plano, TX 75023 which is a regular and established place of business in which business on behalf of SEA is conducted.

19. Venue is proper in this federal judicial district pursuant to 28 U.S.C. §§ 1391(b)-(c) and 1400(b) in that Samsung has done business in this district and has committed acts of infringement in this district, entitling Plaintiff to relief.

#### **THE PATENT-IN-SUIT**

20. On January 20, 2004, U.S. Patent No. 6,680,923, entitled "Communication System and Method" ("the '923 Patent"), was duly and legally issued to inventor Robert Leon. A true and correct copy of the '923 Patent is attached hereto as Exhibit 1.

21. Plaintiff is the owner by assignment of the '923 Patent, with full and exclusive right to bring suit to enforce it.

22. The '923 Patent relates to seamless fixed mobile convergence, which allows a seamless "hand off" between over-the-air networks ("OTAN") and internet-connected computer networks.

23. More specifically, the '923 Patent discloses and claims a data communication system wherein a wireless communication device, like a smartphone, switches seamlessly between an OTAN, such as cellular service, and an internet-connected network, such as Wi-Fi or a hotspot.

24. As the wireless communication device moves within the vicinity range of an internet-connected network, communications are handed over from the OTAN to the internet-connected network, and vice versa as the wireless communication device moves outside that range.

25. These handovers between an OTAN and an internet-connected network occur automatically by a switching algorithm that uses the vicinity range (such as, for example, a zone of pre-determined distance or relative location) from the wireless communication device to the internet-connected network as a parameter in determining when to switch data communications between the OTAN and the internet-connected network.

26. The innovation of the '923 Patent allows a device like a cellphone to seamlessly switch between a cellular network and any given Wi-Fi network based on the vicinity range to the network as a parameter.

27. The '923 Patent offers numerous benefits to users. These include, but are not limited to, the following:

- a. Automatic, seamless transition between OTAN and internet-connected networks;
- b. Reduced power consumption and increased battery life;
- c. Improved customer experience due to improved performance of handover back and forth between Wi-Fi and cellular connectivity;
- d. Increased offload of customer data traffic from cellular to Wi-Fi connections;
- e. Increased savings by customers due to connectivity to Wi-Fi networks rather than accessing cellular networks.
- f. Increased user security due to ability to geofence within a physical vicinity.

#### **THE INFRINGING SAMSUNG PRODUCTS**

28. Samsung is a leading provider of mobile electronic devices, such as the popular Galaxy series of smartphones and tablets. Each year, it sells hundreds of millions of devices in the

United States that are configured to communicate wirelessly through OTAN and internet-connected networks, such as cellular networks or Wi-Fi networks.

29. Samsung's mobile electronic devices, including the Galaxy series, are manufactured and sold with customized versions of the Android operating system that include proprietary changes developed by Samsung. In addition, Samsung provides operating system updates that customers download and install on their devices even after purchase.

30. In 2015, Samsung began to introduce functionality in its devices that enabled dynamic switching between cellular and Wi-Fi networks. For instance, a Smart Network Switch feature was implemented on Galaxy devices that year and hailed by Samsung as an "industry first" for the ability to switch automatically between cellular and Wi-Fi networks when a device's connection became unstable.<sup>2</sup> Samsung's Smart Network Switch feature was eventually rebranded as Adaptive Wi-Fi, and later rebranded again as Intelligent Wi-Fi.<sup>3</sup>

31. Samsung's promotional materials confirm that Adaptive Wi-Fi included "automatic network switching" that was available on devices in the Galaxy lineup as early as 2015.<sup>4</sup>

32. As with the claimed inventions of the '923 Patent, Samsung devices used vicinity range as a parameter to decide whether to switch between a cellular network and a given Wi-Fi network:

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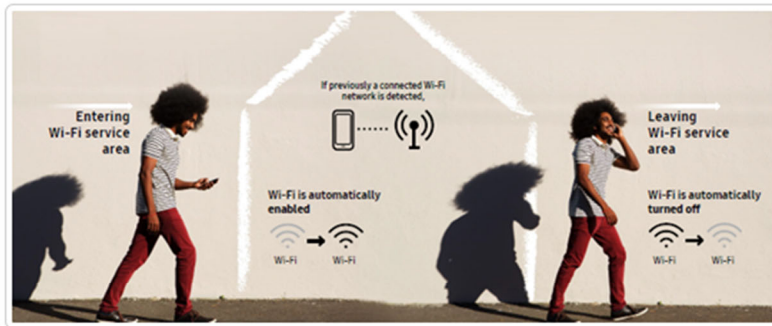
<sup>2</sup> See Samsung, *Intelligent Wi-Fi*, available at <https://docs.samsungknox.com/admin/knox-platform-for-enterprise/kbas/kba-360034073174> (last accessed Jun. 12, 2024).

<sup>3</sup> *Id.*

<sup>4</sup> *Id.*

People use Wi-Fi differently based on their location. In places where Wi-Fi is available, we turn on Wi-Fi to avoid being charged for mobile data. On the other hand, if Wi-Fi is always on, we are subjected to frequent, unwanted connections and higher power consumption. To solve this problem, we have introduced **Auto Wi-Fi, which turns Wi-Fi on and off depending on your location**. Auto Wi-Fi addresses these connectivity-related pain points.

Auto Wi-Fi pays close attention to your connection patterns and remembers your favorite networks. It turns your Wi-Fi on when a favorite network is available. When you leave the area and the network becomes unavailable, Auto Wi-Fi will automatically turn off your Wi-Fi.



Auto Wi-Fi uses geofencing (a virtual geological fence based on cellular stations) to detect a user's location. In registered geofenced areas, "ENTER" and "EXIT" events will be triggered based on location changes detected via the user's device. Since Auto Wi-Fi is only triggered when these events take place, the device does not have to constantly scan for location, thereby saving battery life. Samsung's original cell-based geofencing technique allows users to use Auto Wi-Fi without turning GPS on. Samsung's geofencing technique also incorporates learning algorithms which improves location accuracy over time as users continue to use it.

See Samsung, *Intelligent Wi-Fi*, available at <https://docs.samsungknox.com/admin/knox-platform-for-enterprise/kbas/kba-360034073174> (last accessed Jun. 12, 2024)

33. Exemplary infringement evidence obtained from a Samsung Galaxy A5 smartphone confirmed that it performed OTAN and Wi-Fi switchovers based on defined and adjusted area geographical boundaries (a.k.a. geofences). In other words, this is further indication that Samsung has practiced the claimed inventions of '923 Patent, including by creating vicinity-based geofences whereby the smartphone seamlessly switches back and forth between OTAN and internet-based networks.

## CAUSES OF ACTION

### Count I: Infringement of U.S. Patent No. 6,680,923 ("923 Patent")

34. All preceding factual allegations above are incorporated as if fully set forth herein.

35. The '923 Patent is valid, enforceable, and was duly issued in full compliance with Title 35 of the United States Code.

36. Samsung directly infringed the '923 Patent, in violation of 35 U.S.C. § 271(a) by making, using, selling, offering for sale, or importing into the United States infringing products, including mobile devices and their associated components ("Accused Products").

37. The Accused Products include at least following devices and their variants: Galaxy A Quantum, Galaxy A01, Galaxy A10, Galaxy A10e, Galaxy A10s, Galaxy A11, Galaxy A2 Core, Galaxy A20, Galaxy A20e, Galaxy A20s, Galaxy A21, Galaxy A21s, Galaxy A3, Galaxy A30, Galaxy A30s, Galaxy A31, Galaxy A40, Galaxy A41, Galaxy A5, Galaxy A50, Galaxy A50s, Galaxy A51, Galaxy A51 5G, Galaxy A6, Galaxy A6+, Galaxy A60, Galaxy A6s, Galaxy A7, Galaxy A7, Galaxy A70, Galaxy A70s, Galaxy A71, Galaxy A71 5G, Galaxy A8, Galaxy A8 Star, Galaxy A8+, Galaxy A80, Galaxy A8s, Galaxy A9, Galaxy A90 5G, Galaxy C5 Pro, Galaxy C7, Galaxy C7 Pro, Galaxy Fold, Galaxy Fold 5G, Galaxy Folder2, Galaxy J2, Galaxy J2 Core, Galaxy J2 Core, Galaxy J2 Pro, Galaxy J3, Galaxy J3, Galaxy J3 Emerge, Galaxy J4, Galaxy J4 Core, Galaxy J4+, Galaxy J5, Galaxy J6, Galaxy J6+, Galaxy J7, Galaxy J7, Galaxy J7 Duo, Galaxy J7 Max, Galaxy J7 Prime 2, Galaxy J7 Pro, Galaxy J7 V, Galaxy J8, Galaxy M10, Galaxy M10s, Galaxy M11, Galaxy M20, Galaxy M21, Galaxy M30, Galaxy M30s, Galaxy M31, Galaxy M40, Galaxy Note FE, Galaxy Note10, Galaxy Note10 5G, Galaxy Note10 Lite, Galaxy Note10+, Galaxy Note8, Galaxy Note9, Galaxy On6, Galaxy S Light Luxury, Galaxy S10, Galaxy S10 5G, Galaxy S10 Lite, Galaxy S10+, Galaxy S10e, Galaxy S20, Galaxy S20 5G, Galaxy S20 5G UW, Galaxy S20 Ultra, Galaxy S20 Ultra 5G, Galaxy S20+, Galaxy S20+ 5G, Galaxy S8, Galaxy S8 Active, Galaxy S8+, Galaxy S9, Galaxy S9+, Galaxy Tab A 10.1, Galaxy Tab A 10.5, Galaxy Tab A 8.0 & S Pen, Galaxy Tab A 8.0, Galaxy Tab A 8.0,



Galaxy Tab A 8.0, Galaxy Tab A 8.4, Galaxy Tab Active 2, Galaxy Tab Active Pro, Galaxy Tab S3 9.7, Galaxy Tab S4 10.5, Galaxy Tab S5e, Galaxy Tab S6, Galaxy Tab S6 5G, Galaxy Tab S6 Lite, Galaxy View2, Galaxy Xcover 4, Galaxy Xcover 4s, Galaxy Xcover FieldPro, Galaxy Xcover Pro, Galaxy Z Flip, and Z4. The Accused Products also include other smartphones and tablets incorporating Android Version 7 or later, including smartphones that Samsung caused to download or install one or more updates of Android Version 7 or later from servers owned or operated by or at the direction of Samsung.

38. For example, the Accused Products practiced the elements of Claim 11 of the '923 Patent by Samsung either having directly performed claimed step(s), or having programmed the Accused Products to automatically execute every step that Samsung did not perform directly, thereby making the performance of all steps attributable to Samsung.<sup>5</sup>

A method of hybrid communication utilizing a multi-frequency wireless communication device and an Internet access facility, said method comprising:

- a) establishing communication between the Internet access facility and the wireless communication device when both are located within a pre-establish[ed] vicinity range,
- b) communicating data to the wireless communication device over [t]he Internet through the Internet access facility,
- c) alterna[tively] establishing data communication with the wireless communication device by a compatible over-the-air network when the Internet access facility and the wireless communication device are disposed outside of the pre-established vicinity range, and
- d) automatically switching messaging communication with said wireless communication device between the Internet and the over-the-air network dependent at least on said wireless communication device being inside or outside said pre-established vicinity range relative to the Internet access facility.

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<sup>5</sup> Claim 11 is referenced herein for exemplary purposes. Plaintiff intends to identify additional asserted claims and reserves its right to provide greater detail and scope via its Infringement Contentions at the time required under this Court's scheduling order.

39. Samsung included hardware and software systems in the Accused Products that performed a method of hybrid communication utilizing a multi-frequency wireless communication device and an Internet access facility. The Accused Products are multi-frequency wireless communication devices configured to communicate with internet access facilities in the form of Wi-Fi Access Points, such as routers.

40. As recited by Claim 11, the Accused Products established communication between the Internet access facility and the wireless communication device when both were located within a pre-established vicinity range.<sup>6</sup>



41. For example, an exemplary infringement analysis of a Samsung Galaxy A5 running Android Version 7 revealed that the steps necessary to establish communication with Wi-Fi Access Points are attributable to Samsung. Specifically, the Samsung Galaxy A5 initiated a Fine Timing Measurement (“FTM”) capability check in accordance with the IEEE 802.11 standard. When a Wi-Fi Access Point responded to confirm that it is compliant with the FTM protocol, the Samsung Galaxy A5 thereafter established a connection with the Wi-Fi Access Point.

<sup>6</sup> See Samsung, *Intelligent Wi-Fi*, available at <https://docs.samsungknox.com/admin/knox-platform-for-enterprise/kbas/kba-360034073174> (last accessed Jun. 12, 2024).

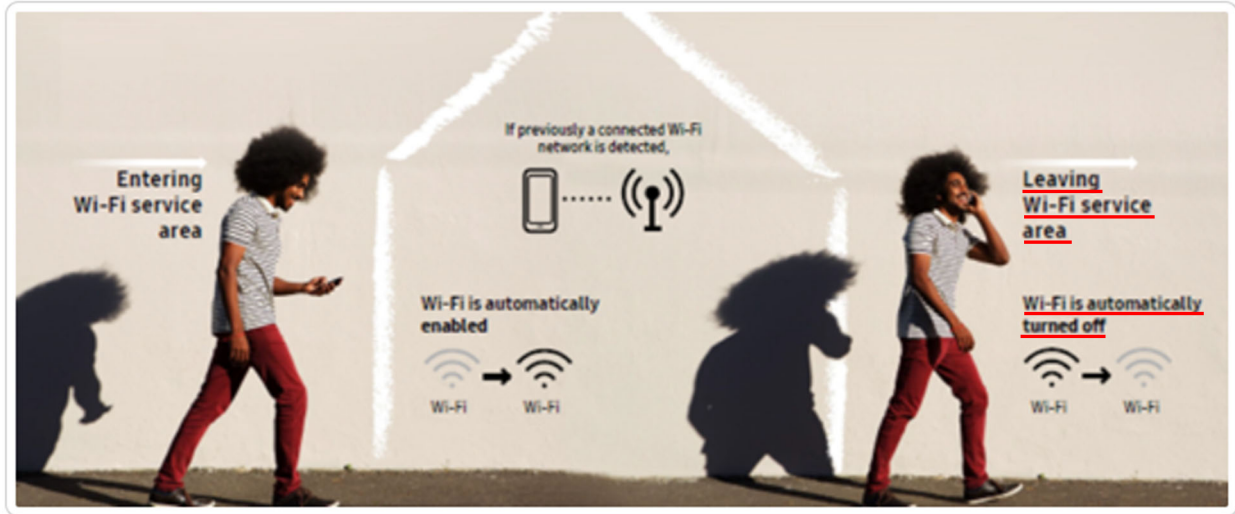
42. Moreover, the Samsung Galaxy A5 automatically used the messages exchanged under the FTM protocol to determine distance measurements between itself and the Wi-Fi Access Point. The Adaptive Wi-Fi feature considered these distance measurements as a parameter to calculate a maximum distance within which the Samsung Galaxy A5 can engage in normal Wi-Fi data communications with the Wi-Fi Access Point.

43. By design, the distance measurements were performed by Samsung's Accused Products, such as the Galaxy A5 smartphone itself, as opposed to being performed by Wi-Fi access points, to ensure privacy to users. In other words, Samsung's devices were responsible for making the determination whether a Wi-Fi Access Point is within a pre-established vicinity range. Incorporating either cell-based geofencing or FTM messaging makes this possible, even with GPS turned off as advertised by Samsung (*see, e.g.*, Paragraph 32, above).

44. As further recited by Claim 11, Samsung communicated data to Accused Products, which are wireless communication devices, over the Internet through the Internet access facility. Samsung's smartphones and tablets accessed the Internet using transceivers that exchange data with Wi-Fi networks.

45. For instance, once connected to a Wi-Fi network, the Samsung Galaxy A5 exchanged data with the Wi-Fi Access Point through the link established between the device and Wi-Fi network.

46. As further recited by Claim 11, the Accused Products alternatively established data communication with the wireless communication device by a compatible over-the-air network ("OTAN") when the Internet access facility and the wireless communication device were disposed outside of the pre-established vicinity range.



47. For instance, the exemplary infringement analysis revealed that the Samsung Galaxy A5 established data communication over a cellular network as it moved a sufficient distance away from the Wi-Fi Access Point to which it was connected. After disconnecting from the Wi-Fi Access Point, it connected to an OTAN to continue data communications over the cellular network.

48. As further recited by Claim 11, the Accused Products automatically switched messaging communication between the Internet and the over-the-air network dependent at least on the Accused Products being inside or outside said pre-established vicinity range relative to the Internet access facility.

Auto Wi-Fi uses geofencing (a virtual geological fence based on cellular stations) to detect a user's location. In registered geofenced areas, "ENTER" and "EXIT" events will be triggered based on location changes detected via the user's device. Since Auto Wi-Fi is only triggered when these events take place, the device does not have to constantly scan for location, thereby saving battery life. Samsung's original cell-based geofencing technique allows users to use Auto Wi-Fi without turning GPS on. Samsung's geofencing technique also incorporates learning algorithms which improves location accuracy over time as users continue to use it.

49. For instance, the exemplary infringement analysis revealed that an algorithmic operation in the Samsung Galaxy A5 employed a measured distance parameter to carry out

switching automatically, without any input from the user, depending on whether the device was inside or outside the geofence that the device had defined.

50. Samsung is further liable for indirect infringement of the '923 Patent by actively inducing third-party users, including its customers in the United States and in this District, to perform infringing use of the Accused Products despite the fact that Samsung knew, or at least should have known, about the '923 Patent, and that inducing use of the Accused Products in the manner set forth above constituted infringement of the '923 Patent.

51. In addition, or in the alternative, Samsung is further liable for indirect infringement of the '923 Patent by contributorily infringing via the import, sale, and/or offer to sale of the Accused Products, in the United States and in this District, which constituted a material part of the claimed invention and were not staples of articles of commerce suitable for substantial non-infringing use.

52. Samsung committed the infringing activities without license. Samsung's acts of infringement have damaged Plaintiff, as owner of the '923 Patent. Plaintiff is entitled to recover from Samsung the damages it has sustained as a result of Samsung's wrongful acts in an amount subject to proof at trial.

#### **JURY DEMAND**

53. Plaintiff hereby demands a trial by jury on all issues.

#### **PRAYER**

Wherefore, Plaintiff prays for entry of judgment as follows:

- a. A judgment in favor of Plaintiff that Samsung has infringed the '923 Patent either literally and/or under the doctrine of equivalents, directly and/or indirectly by inducing infringement and/or by contributory infringement;

- b. An award of damages in favor of Plaintiff adequate to compensate Plaintiff for Samsung's infringement of the '923 Patent which shall in no event be less than a reasonable royalty, together with interest and cost as fixed by the court pursuant to 35 U.S.C. § 284;
- c. An award of attorneys' fees pursuant to 35 U.S.C. § 285 or as otherwise permitted by law in an amount deemed just and appropriate by the Court;
- d. An award of costs and expenses as deemed appropriate by the Court; and
- e. Any other legal or equitable relief to which Plaintiff is justly entitled.

Dated: October 18, 2024

Respectfully submitted,

/s/ Jason S. McManis

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### **CERTIFICATE OF SERVICE**

The undersigned hereby certifies that all counsel of record is being served with a copy of this document via the Court's CM / ECF system per Local Rule CV-5(a)(3).

/s/ Jason S. McManis

Jason S. McManis