

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

SEVEN NETWORKS, LLC,

Plaintiff,

v.

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

Defendants.

Civil Action No. 2:17-cv-441

PATENT CASE

JURY TRIAL DEMANDED

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff SEVEN Networks, LLC (“SEVEN”) files this Complaint for Patent Infringement of several United States patents as identified below (collectively, the “Patents-in-Suit”) and alleges as follows:

PARTIES

1. SEVEN is a company formed under the laws of Delaware with its principal place of business at 2660 East End Boulevard South, Marshall, Texas 75672.

2. Defendant Samsung Electronics America, Inc. is a corporation formed under the laws of New York with its principal place of business at 105 Challenger Road, Ridgefield Park, New Jersey 07660, and may be served through its agent C T Corporation System, 1999 Bryan Street, Suite 900, Dallas, Texas 75201-3136.

3. Defendant Samsung Electronics Co., Ltd. is a corporation formed under the laws of Korea with its principal place of business at 416 Maetan-3dong, Yeongtong-gu, Suwon-City, Gyeonggi-do, Korea 443-742.

JURISDICTION AND VENUE

4. SEVEN brings this civil action for patent infringement under the Patent Laws of

COMPLAINT FOR PATENT INFRINGEMENT

the United States, 35 U.S.C. § 1 *et. seq.*, including 35 U.S.C. §§ 271, 281-285. This Court has subject matter jurisdiction over this action under 28 U.S.C. §§ 1331 and 1338.

5. Samsung Electronics America, Inc. (“SEA”) and Samsung Electronics Co., Ltd. (“SEC”) (also referred to collectively “Samsung”) transact and conduct business in this District and the State of Texas, and are subject to the personal jurisdiction of this Court. For example, SEA designs, markets, and sells mobile products, such as smartphones and tablets, throughout the United States including the State of Texas and this District. SEA maintains a major corporate office in Richardson, Texas that was formerly the principal place of business for Samsung Telecommunications America LLC (“STA”). STA was previously responsible for the design, marketing and sale of Samsung’s mobile products, but is now merged into SEA. SEC manufactures Samsung’s mobile devices and imports those products into the United States. For example, SEC has imported such mobile products into the United States through Dallas, Texas, and then products are distributed by SEA or SEC to other parts of the country, including to this District.

6. Samsung has admitted that this Court has personal jurisdiction over it in a number of other patent infringement matters, including but not limited to *Image Processing Technologies, LLC v. Samsung Electronics Co., Ltd. et al.*, C.A. No. 2:16-cv-505.

7. SEVEN’s causes of action arise, at least in part, from Samsung’s business contacts and activities in this District and elsewhere within the State of Texas. Samsung has committed acts of infringement in this District and within Texas by making, using, selling, offering for sale, or importing into the United States products that infringe one or more claims of the Patents-in-Suit as set forth herein. Further, Samsung encourages others within this District to use its mobile products and thereby infringe one or more claims of the Patents-in-Suit. For

example, Samsung advertises its mobile devices, such as its smart phones, through its website: <http://www.samsung.com/us/mobile/phones/>. Further, Samsung provides its customers with information regarding the use of the devices features, such as its various battery saving modes: <http://www.samsung.com/us/support/answer/ANS00038729/>.

8. Samsung actively solicits customers within this District and the State of Texas, and has sold many of its infringing mobile products to residents of Texas and this District.

9. Venue is proper in this District under 28 U.S.C. §§ 1391 and 1400.

10. In other patent infringement matters involving Samsung's mobile products, such as *Image Processing Technologies*, Samsung has admitted that for patent infringement actions involving its mobile products venue is proper in this District.

THE PATENTS-IN-SUIT

11. On August 19, 2014, the United States Patent and Trademark Office ("USPTO") duly and legally issued U.S. Patent No. 8,811,952, titled "Mobile Device Power Management in Data Synchronization Over a Mobile Network With or Without a Trigger Notification," to inventors Trevor Fiatal *et al.* ("the '952 Patent"). A true and correct copy of the '952 Patent is attached as Exhibit A to this Complaint.

12. On January 26, 2016, the USPTO duly and legally issued U.S. Patent No. 9,247,019, titled "Mobile Application Traffic Optimization," to inventors Michael Luna *et al.* ("the '019 Patent"). A true and correct copy of the '019 Patent is attached as Exhibit B to this Complaint.

13. On April 26, 2016, the USPTO duly and legally issued U.S. Patent No. 9,325,600, titled "Offloading Application Traffic To A Shared Communication Channel For Signal Optimization In A Wireless Network For Traffic Utilizing Proprietary and Non-Proprietary

Protocols,” to inventors Rami Alisawi *et al.* (“the ’600 Patent”). A true and correct copy of the ’600 Patent is attached as Exhibit C to this Complaint.

14. On May 24, 2016, the USPTO duly and legally issued U.S. Patent No. 9,351,254, titled “Method For Power Saving in Mobile Devices By Optimizing Wakelocks,” to inventors Ari Backholm *et al.* (“the ’254 Patent”). A true and correct copy of the ’254 Patent is attached as Exhibit D to this Complaint.

15. On December 6, 2016, the USPTO duly and legally issued U.S. Patent No. 9,516,127, titled “Intelligent Alarm Manipulator and Resource Tracker,” to inventors Abhay Nirantar *et al.* (“the ’127 Patent”). A true and correct copy of the ’127 Patent is attached as Exhibit E to this Complaint.

16. On December 6, 2016, the USPTO duly and legally issued U.S. Patent No. 9,516,129, titled “Mobile Application Traffic Optimization,” to inventors Michael Luna *et al.* (“the ’129 Patent”). A true and correct copy of the ’129 Patent is attached as Exhibit F to this Complaint.

17. On January 24, 2017, the USPTO duly and legally issued U.S. Patent No. 9,553,816, titled “Optimizing Mobile Network Traffic Coordination Across Multiple Applications Running on a Mobile Device,” to inventors Michael Luna *et al.* (“the ’816 Patent”). A true and correct copy of the ’816 Patent is attached as Exhibit G to this Complaint.

18. SEVEN owns the entire right and title to each of the Patents-in-Suit.

BACKGROUND

19. For nearly two decades, SEVEN has researched and developed innovative software solutions for mobile devices directed to enhancing the user experience. For example, SEVEN has developed software technologies to manage mobile traffic in order to conserve

network and battery resources. Software applications on mobile devices are frequently signaling the network for a variety of reasons. Much of the signaling from these software applications is unnecessary and simply consumes precious bandwidth and remaining battery power. This needless mobile traffic negatively impacts the user's overall experience by creating service overloads and outages or draining the limited battery of the mobile device. SEVEN's technologies are able to optimize mobile traffic to conserve both network and battery resources.

20. SEVEN has been recognized in the industry for its innovative technologies and products. For example, at the Mobile World Congress in 2011, the GSMA awarded SEVEN with its Global Mobile Award for Best Technology Breakthrough. Further, in 2013 SEVEN won the Mobile Merit Award for its outstanding innovations in the mobile industry and was identified as one of fifty mobile companies to watch by AlwaysOn. SEVEN was also awarded the Best Free Android App in 2013 by TechRadar. Additionally, and among other industry recognition, Telecoms.com identified SEVEN in its Best LTE Traffic Management Product Short List.

21. Samsung is aware of SEVEN's innovative products and technologies for traffic management. As a trusted supplier, SEVEN provided products and services to Samsung for several years. The technologies provided to Samsung included SEVEN's push-enabled mobile email and messaging solutions. Among other things, SEVEN's technologies helped to power Samsung's Premium Social Hub.

22. Samsung recognizes that the design of a smartphone's user experience must reflect what users want most from their devices. In a 2015 poll conducted by Samsung, a majority of those polled identified the battery as the most important feature in a mobile device. Accordingly, advances in technologies to improve battery life are of utmost importance to users. While both hardware and software advancements are being pursued in the industry, there can be

significant consequences for failures in battery hardware. For example, Samsung's Galaxy Note 7 handsets experienced catastrophic failures from defects in the device's battery. These defects in battery hardware led to devices spontaneously catching fire, and ultimately to one of the largest recalls for consumer products. Several sources estimate that the recall of the Note 7 handsets cost Samsung at least \$5.3 billion.

23. Samsung currently utilizes software technologies for conserving battery and extending the battery life of its mobile devices. As described below, Samsung's mobile devices implement software to manage mobile traffic to save battery power. These mobile devices infringe SEVEN's innovative and patented technology.

COUNT 1

(Infringement of U.S. Pat. No. 8,811,952)

24. Samsung infringes at least claim 26 of the '952 Patent under 35 U.S.C. §271(a) and (b). Samsung makes, uses, sells, offers to sell, or imports into the United States products, such as the Samsung Galaxy S7, that meet every limitation of at least claim 26.

25. Claim 26 of the '952 Patent is directed to a mobile device with a processor configured to: (1) exchange transactions with a client operating in a network through a connection provided through a server coupled to the client; (2) automatically send synchronization requests from the mobile device to the network on a periodic basis, wherein the periodicity of the synchronization requests occur at a frequency determined according to the remaining battery power on the mobile device; and (3) exchange synchronization communications with the client over the connection after sending each synchronization request.

26. Samsung's products infringe at least claim 26 of the '952 Patent. For example, the Samsung Galaxy S7 includes a "2.15 GHz, 1.6 Ghz, Quad-Core" processor and can operate

in a variety of networks such as 2G GSM, 3G UMTS, 3G TD-SCDMA, 4G FDD LTE, 4G TDD LTE, and WiFi. The Galaxy S7 also includes a touch screen user interface. Further, the Galaxy S7 includes internal memory for storing the device's operating system and other software applications. For example, it uses the Android software operating system, such as Android 6.0 (also known as Marshmallow). The Galaxy S7 also includes a number of mobile applications that communicate with the applications' respective servers through various networks to exchange communications between the mobile application and the application server. One example is the Gmail application. The mobile device, through its communications interface including the device's network antenna, exchanges communications between the Gmail application and the email servers using mobile or WiFi networks. To keep its information up-to-date and fresh, the Gmail application synchronizes with its respective email servers periodically, such as every 5, 10, 15, 30, or 60 minutes. In synchronizing, the Gmail application will request that the Galaxy S7 communicate—through the communications interface and network—a synchronization message to the email server. The email server will respond to the synchronization message from the Gmail application and return information back to the Galaxy S7 to be routed to the Gmail application. But through one or more of the device's power saving modes, when the remaining battery power on the Galaxy S7 falls below some threshold amount, such as 50%, 20%, 15% or 5% remaining battery power, Gmail will stop synchronizing periodically.

27. Other Samsung products similarly infringe one or more claims of the '952 Patent. Such other products include Samsung's Galaxy Note and Galaxy Tab devices.

28. Samsung also induces infringement by end users of Samsung's mobile devices of at least claim 26 of the '952 Patent. Samsung promotes and advertises the use of its products, especially the products' capability to preserve remaining battery and avoid battery drain from

background applications. The infringing power saving functionality is included in Samsung's mobile devices by default. Examples of Samsung's promotional materials appear on the company's website, such as <http://www.samsung.com/us/explore/galaxy-s7-features-and-specs/>.

29. Samsung has had notice of the '952 Patent since at least October 2014. Accordingly, Samsung's continued promotion, advertisement, and encouragement of its customers to utilize the products' capability to preserve battery life and avoid battery drain from background applications is evidence of Samsung's specific intent to induce others to infringe the '952 Patent. Further, despite having knowledge of its infringement, Samsung continues to intentionally and willfully infringe at least claim 26 of the '952 patent.

COUNT 2

(Infringement of U.S. Pat. No. 9,247,019)

30. Samsung infringes at least claim 1 of the '019 Patent under at least 35 U.S.C. §271(a) and (b). Samsung makes, uses, sells, offers to sell, or imports into the United States products, such as the Galaxy S7, that meet every limitation of at least claim 1.

31. Claim 1 of the '019 Patent is directed to a mobile device configured to: (1) delay content requests made by multiple applications; (2) align content request using observed activity of a user of the mobile device that includes a time since a last key press and mobile device properties; (3) poll in accordance with the aligned content requests to satisfy content requests of at least some of the multiple mobile applications; (4) monitor the time since a last key press, and, when the time exceeds a predetermined time period, locally adjust the mobile device by suppressing the aligned content requests at the mobile device for a first suppression period, and after expiration of the first suppression period, transmit any aligned content requests; and (5)

suppress subsequent content request at the mobile device for a second suppression period, where the second suppression period is longer than the first suppression period.

32. In addition to the features described in previous paragraphs, Samsung's products, such as its Galaxy S7, are capable of delaying and aligning content requests from mobile applications based on observed user activity. For example, the Galaxy S7 has multiple applications that send content requests. The Galaxy S7 also has a touch screen and other keys that a user can press to interact with the phone and other applications. The Galaxy S7 also includes an Android software operating system, such as Marshmallow. The Samsung Galaxy S7 products include a Doze mode that reduces traffic from the mobile device when the device is not actively in use, thereby reducing battery drain by mobile applications that are frequently signaling to their respective application servers. The Galaxy S7 is able to monitor the time since a key was last pressed, for example through the auto-off timer and last user activity time to determine when to turn the screen of the device off. Further, when the Galaxy S7 device detects that the screen is off, the device is unplugged and stationary for a period of time, it enters Doze mode. Once in Doze mode, the Galaxy S7 is able to conserve battery resources by restricting the mobile applications' access to the network, and defers the mobile applications' requests until a maintenance window. As the requests from the mobile applications are deferred, the requests are also aligned such that when a maintenance window occurs the multiple mobile applications are allowed to communicate using the network. Following the maintenance window, the mobile applications' are once again restricted from accessing the network, this time for a period longer than the first. The figure below illustrates the reduction in traffic from the Galaxy S7 provided by Doze.

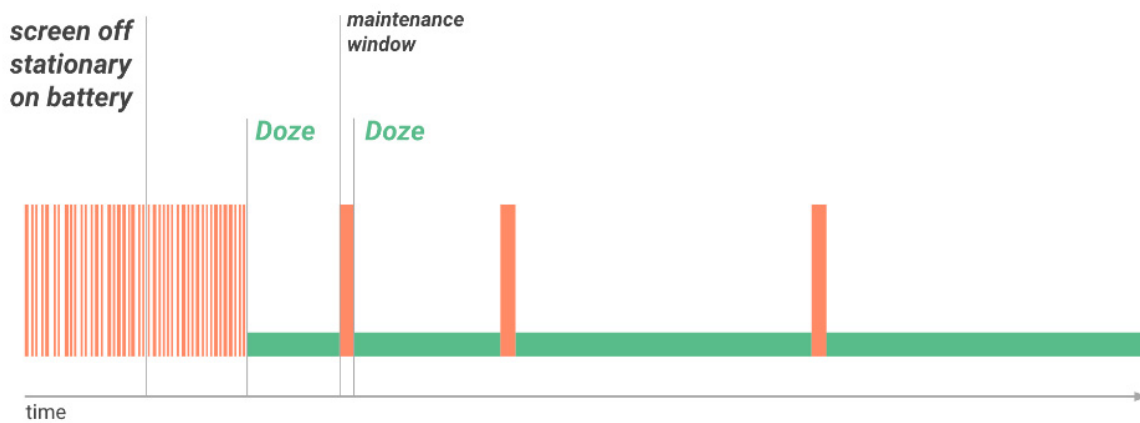


Figure 1. Doze provides a recurring maintenance window for apps to use the network and handle pending activities.

33. Other Samsung products similarly infringe one or more claims of the '019 Patent. Such other products include Samsung's Galaxy Note and Galaxy Tab devices.

34. Samsung also induces infringement by end users of its mobile devices of at least claim 1 of the '019 Patent. Samsung promotes and advertises the use of its products, especially the products' capability to preserve remaining battery and avoid battery drain from background applications. Further, the Doze functionality is enabled on Samsung's mobile devices by default. Examples of Samsung's promotional materials appear on the company's website, such as <http://www.samsung.com/us/explore/galaxy-s7-features-and-specs/>.

35. Samsung has had notice of the '019 Patent and its infringement since at least as early as the filing of this lawsuit. Accordingly, Samsung's continued promotion, advertisement, and encouragement of its customers to utilize the products' capability to preserve battery life and avoid battery drain from background applications is evidence of Samsung's specific intent to induce others to infringe the '019 Patent. Further, despite having knowledge of its infringement, Samsung continues to intentionally and willfully infringe at least claim 1 of the '019 patent.

COUNT 3

(Infringement of U.S. Pat. No. 9,325,600)

36. Samsung infringes at least claim 7 of the '600 Patent under at least 35 U.S.C. §271(a) and (b). Samsung makes, uses, sells, offers to sell, or imports into the United States products, such as the Galaxy S7, that meet every limitation of at least claim 7.

37. Claim 7 of the '600 Patent is directed to memory and code to implement a processor controlled system for reducing network traffic, comprising: (1) blocking a first channel such that network signaling and battery consumption are reduced, wherein the first channel includes a non-common channel; (2) offloading application traffic of an application onto a second channel, wherein the second channel includes a common channel; (3) monitoring the application traffic of the application over the second channel; (4) unblocking the first channel based on the monitored application traffic over the second channel so that the application can perform an action; and (5) re-blocking the first channel after the action has been completed.

38. In addition to features described in previous paragraphs, Samsung's products, such as its Galaxy S7, have memory and code to utilize common and non-common channels for application traffic and are capable of reducing network traffic by blocking the non-common channel to prevent applications from frequently communicating in the background using the non-common channels and draining battery resources. For example, mobile applications communicate with their respective servers by establishing application-specific connections to transmit information between the application on the mobile device and the application server in the network. Software applications on the mobile device are not able to utilize the application-specific connections established by other applications. To conserve battery by reducing network traffic, the Galaxy S7 is able to block the application-specific connections. For example, the

Galaxy S7 includes the Doze functionality that restricts a mobile applications' access to the network. But to avoid users missing critical information, the Galaxy S7 allows applications to receive messages using a common channel when the application-specific channels are blocked. For example, when in Doze, the Galaxy S7 offloads application traffic onto the Google Cloud Messaging ("GCM") channel or Firebase Cloud Messaging channel ("FCM"), which is shared among all applications on the Galaxy S7. Through GCM/FCM high priority messages directed to the applications may be delivered even when the application-specific channels are blocked. The Galaxy S7 monitors traffic over the GCM/FCM channel such that when messages are received for particular applications, the system unblocks the application-specific channels so that the application may respond to the received message. After the application has performed the task associated with the received message, the application-specific channel is once again blocked to conserve battery and reduce network traffic.

39. Other Samsung products similarly infringe one or more claims of the '600 Patent. Such other products include Samsung's Galaxy Note and Galaxy Tab devices.

40. Samsung also induces infringement by end users of its mobile devices of at least claim 7 of the '600 Patent. Samsung promotes and advertises the use of its products, especially the products' capability to preserve remaining battery power and avoid battery drain from background applications. Further, the Doze functionality is enabled on Samsung's mobile devices by default. Examples of Samsung's promotional materials appear on the company's website, such as <http://www.samsung.com/us/explore/galaxy-s7-features-and-specs/>.

41. Samsung has had notice of the '600 Patent and its infringement since at least as early as the filing of this lawsuit. Accordingly, Samsung's continued promotion, advertisement, and encouragement of its customers to utilize the products' capability to preserve battery life and

avoid battery drain from background applications is evidence of Samsung's specific intent to induce others to infringe the '600 Patent. Further, despite having knowledge of its infringement, Samsung continues to intentionally and willfully infringe at least claim 7 of the '600 patent.

COUNT 4

(Infringement of U.S. Pat. No. 9,351,254)

42. Samsung infringes at least claim 1 of the '254 Patent under at least 35 U.S.C. §271(a) and (b). Samsung makes, uses, sells, offers to sell, or imports into the United States products, such as the Galaxy S7, that meet every limitation of at least claim 1.

43. Claim 1 of the '254 Patent is directed to a mobile device comprising a screen, memory, and processor configured to: (1) acquire a system wakelock in response to an application wakelock acquisition request; (2) detect an activity state of the mobile device based on a status of the display screen; (3) enter a power optimization state based on the detected activity state; (4) release the system wakelock based upon entering the power optimization state when the application that made the acquisition request is not critical to user experience, wherein the application is non-critical when the application is not identified on a whitelist; and (5) acquire the system wakelock in response to a subsequent wakelock request from another application on the mobile device when the another application making the subsequent wakelock acquisition request is identified on the whitelist.

44. In addition to features described in previous paragraphs, Samsung's products, such as its Galaxy S7, include a screen, memory, and processor. The devices also manage the use of the central processing unit ("CPU") by software applications on the mobile device. For example, even when the Galaxy S7 is sleeping or otherwise in a power saving state, certain software applications are able to use the CPU. Software applications are able to use the CPU by

utilizing a wakelock or other request to the system that allows the CPU to stay on for certain purposes. For example, the alarm application or the phone functionality needs to work even when the device is sleeping or in a power saving state and accordingly requires the CPU to process certain tasks. These applications would issue a request to the system to use the CPU even when the device is sleeping. The system then issues a wakelock that allows the CPU to continue working when it would otherwise be put to sleep, such as when the user is not actively using the mobile device. Some applications take advantage of these wakelock requests and use the CPU for actions that are not critical to the user experience, such as background communications when the device is not actively being used. Such misbehaving applications unnecessarily drain battery resources. The Galaxy S7 manages which applications have permission to use the CPU and battery resources when the device is sleeping or in a power saving state. As an example, the Galaxy S7 may acquire a system wakelock when an application, such as the alarm application, issues a wakelock request. The Galaxy S7 also detects whether the device is in use by, among other things, monitoring the screen, whether the device is unplugged, and whether the device has been stationary for a period of time. The Galaxy S7 enters Doze mode based on this monitored activity. In Doze mode, the Galaxy S7 will release the system wakelock when the application that made the wakelock request does not have permission to use CPU resources during this power saving state. The Galaxy S7 can issue another system wakelock in response to another wakelock request when the application making the request is identified as having the necessary permissions to utilize the CPU.

45. Other Samsung products similarly infringe one or more claims of the '254 Patent. Such other products include Samsung's Galaxy Note and Galaxy Tab devices.

46. Samsung also induces infringement by end users of its mobile devices of at least

claim 1 of the '254 Patent. Samsung promotes and advertises the use of its products, especially the products' capability to preserve remaining battery and avoid battery drain from background applications. The Doze functionality is enabled on Samsung's mobile devices by default. Examples of Samsung's promotional materials appear on the company's website, such as <http://www.samsung.com/us/explore/galaxy-s7-features-and-specs/>.

47. Samsung has had notice of the '254 Patent and its infringement since at least as early as the filing of this lawsuit. Accordingly, Samsung's continued promotion, advertisement, and encouragement of its customers to utilize the products' capability to preserve battery life and avoid battery drain from background applications is evidence of Samsung's specific intent to induce others to infringe the '254 Patent. Further, despite having knowledge of its infringement, Samsung continues to intentionally and willfully infringe at least claim 1 of the '254 patent.

COUNT 5

(Infringement of U.S. Pat. No. 9,516,127)

48. Samsung infringes at least claim 10 of the '127 Patent under at least 35 U.S.C. §271(a) and (b). Samsung makes, uses, sells, offers to sell, or imports into the United States products, such as its Galaxy S7, that meet each and every limitation of at least claim 10.

49. Claim 10 of the '127 Patent is directed to a mobile device with a memory and processor configured to: (1) enter a power save mode based on a backlight status and sensed motion of a mobile device; (2) delay a timing of one or more triggers for multiple applications on the mobile device, wherein the timing is delayed such that the triggers execute within a window of time and wherein at least a subset of the triggers are associated with wakelocks; and (3) exit the power save mode when the backlight of the mobile device turns on or motion of the mobile device is sensed.

50. In addition to features described in previous paragraphs, Samsung's products, such as the Galaxy S7, have a memory and a processor, and enter a power save mode such as Doze, when the device is unplugged and stationary for a period of time, with the screen off. Doze conserves remaining battery resources of the Galaxy S7 by, among other things, deferring jobs and alarms for the software applications on the device. The jobs and alarms from the software applications on the Galaxy S7 are delayed until a maintenance window. During the maintenance window, the Galaxy S7 will run all the delayed jobs and alarms for the software applications. At least a subset of the jobs and alarms are associated with wakelocks, such as those scheduled through AlarmManager. The Galaxy S7 will exit Doze mode when, among other things, the device detects movement of the device or the screen is turned on.

51. Other Samsung products similarly infringe one or more claims of the '127 Patent. Such other products include Samsung's Galaxy Note and Galaxy Tab devices.

52. Samsung also induces infringement by end users of its mobile devices of at least claim 10 of the '127 Patent. Samsung promotes and advertises the use of its products, especially the products' capability to preserve remaining battery power and avoid battery drain from background applications. The Doze functionality is enabled on Samsung's mobile devices by default. Examples of Samsung's promotional materials appear on the company's website, such as <http://www.samsung.com/us/explore/galaxy-s7-features-and-specs/>.

53. Samsung has had notice of the '127 Patent and its infringement since at least as early as the filing of this lawsuit. Accordingly, Samsung's continued promotion, advertisement, and encouragement of its customers to utilize the products' capability to preserve battery life and avoid battery drain from background applications is evidence of Samsung's specific intent to induce others to infringe the '127 Patent. Further, despite having knowledge of its infringement,

Samsung continues to intentionally and willfully infringe at least claim 10 of the '127 patent.

COUNT 6

(Infringement of U.S. Pat. No. 9,516,129)

54. Samsung infringes at least claim 1 of the '129 Patent at least under 35 U.S.C. §271(a) and (b). Samsung makes, uses, sells, offers to sell, or imports into the United States products, such as the Galaxy S7, that meet every limitation of at least claim 1.

55. Claim 1 of the '129 Patent is directed to a mobile device comprising a radio, user interface, memory, and processor configured to: (1) enter a first power management mode, wherein to enter the first power management mode is based on input from a user; (2) while in the first power management mode, block transmission of outgoing application data requests for at least one application executing in a background of the mobile device and allow transmission of outgoing application data requests for at least one application executing in a foreground of the mobile device; (3) enter a second power management mode, wherein entry into the second power management mode is based on a detected activity status, wherein the detected activity status is based on a backlight status of the mobile device being off; and (4) while in the second power management mode, block transmission of outgoing application data requests for at least one application executing in background of the mobile device for a predetermined period of time.

56. In addition to the features described in previous paragraphs, Samsung's products, such as the Galaxy S7, have a radio, user interface, memory, and processor. Additionally, these products have several power management modes which help to extend battery life and conserve network resources. For example, the Galaxy S7 has a Power Saving mode and an Ultra Power Saving mode that block communications from applications running in the background of the device. The user may enter either mode by input through the touch screen interface of the

device. Both modes, however, will allow certain applications to continue accessing the network when the application is being actively used by the user. Additionally, Samsung's products include other power saving modes, such as Doze. When in Doze, the Samsung Galaxy S7 blocks outgoing messages from applications until a maintenance window when those applications may temporarily communicate with the network. The Galaxy S7 will enter Doze when the device is unplugged, stationary, and the screen of the device is off.

57. Other Samsung products similarly infringe one or more claims of the '129 Patent. Such other products include Samsung's Galaxy Note and Galaxy Tab devices.

58. Samsung also induces infringement by end users of Samsung's mobile devices of at least claim 1 of the '129 Patent. Samsung promotes and advertises the use of its products, especially the products' capability to preserve remaining battery power and avoid battery drain from background applications. Further, the infringing power saving functionalities are included on Samsung's mobile devices by default. Examples of Samsung's promotional materials appear on the company's website, such as <http://www.samsung.com/us/explore/galaxy-s7-features-and-specs/>.

59. Samsung has had notice of the '129 Patent and its infringement since at least as early as the filing of this lawsuit. Accordingly, Samsung's continued promotion, advertisement, and encouragement of its customers to utilize the products' capability to preserve battery life and avoid battery drain from background applications is evidence of Samsung's specific intent to induce others to infringe the '129 Patent. Further, despite having knowledge of its infringement, Samsung continues to intentionally and willfully infringe at least claim 1 of the '129 patent.

COUNT 7

(Infringement of U.S. Pat. No. 9,553,816)

60. Samsung infringes at least claim 9 of the '816 Patent under at least 35 U.S.C. §271(a) and (b). Samsung makes, uses, sells, offers to sell, or imports into the United States products, such as the Galaxy S7, that meet every limitation of at least claim 9.

61. Claim 9 of the '816 Patent is directed to a mobile device with memory and processor configured for: (1) determining a time a first application on the mobile device was last accessed; (2) determining whether the first application is inactive based on the time the application was last accessed, wherein when the application is determined to be inactive the processor can (3) adjust behavior of the mobile device for traffic from the first application by blocking outgoing network traffic from the first application for a first period of time and allowing outgoing network traffic from the first application after the first period of time for a second period of time while allowing outgoing network traffic for a second application; (4) receive a message directed towards the first application during the first period of time, wherein the message is received from an intermediary server that provides connectivity between an application server for the first application and the mobile device; (5) allow outgoing network traffic from the application when the mobile device is plugged into an external power source; and (6) wherein a frequency of communications directed toward the first application is altered by the adjusting behavior of the mobile device for traffic from the first application.

62. In addition to the features described in previous paragraphs, Samsung's products, such as the Galaxy S7, have a memory and a processor, and manage traffic from individual mobile applications. For example, when individual applications have not been accessed by the user after some time, those applications will be placed in a standby mode. The mobile applications

frequently communicate with the network even when such applications are not actively in use by the user. Such background communications drain battery and network resources. To conserve these resources, the Galaxy S7 determines when an application was last accessed by a user, and determines that an application is inactive based on that last access. When an application is determined to be inactive, or idle, the Galaxy S7 will block any jobs or syncs that the application may attempt to perform. For example, by blocking synchronization messages, the frequency of communications directed to the first application is altered. But to ensure that the information for the mobile application does not become stale, the Galaxy S7 will allow the inactive mobile application to temporarily access the network. During this temporary access time, the Galaxy S7 will allow multiple applications to communicate with the network. Doing so allows the Galaxy S7 to use battery and network resources efficiently. Further, to avoid missing important messages directed to the inactive application, the Galaxy S7 is still able to receive messages for the inactive application even when the application is in standby mode. For example, the Galaxy S7 will receive a message directed toward the inactive application through GCM or FCM, which are intermediary servers that can connect application servers to the mobile device. The Galaxy S7 will allow the inactive mobile application to exit standby mode when the mobile device is plugged into an external power source, such as the wall outlet.

63. Other Samsung products similarly infringe one or more claims of the '816 Patent. Such other products include Samsung's Galaxy Note and Galaxy Tab devices.

64. Samsung also induces infringement by end users of its mobile devices of at least claim 9 of the '816 Patent. Samsung promotes and advertises the use of its products, especially the products' capability to preserve remaining battery power and avoid battery drain from background applications. The infringing application standby feature is enabled on Samsung's

mobile devices by default. Examples of Samsung's promotional materials appear on the company's website, such as <http://www.samsung.com/us/explore/galaxy-s7-features-and-specs/>.

65. Samsung has had notice of the '816 Patent and its infringement since at least as early as the filing of this lawsuit. Accordingly, Samsung's continued promotion, advertisement, and encouragement of its customers to utilize the products' capability to preserve battery life and avoid battery drain from background applications is evidence of Samsung's specific intent to induce others to infringe the '816 Patent. Further, despite having knowledge of its infringement, Samsung continues to intentionally and willfully infringe at least claim 9 of the '816 patent.

PRAYER FOR RELIEF

SEVEN requests that judgment be entered in its favor and against Samsung as follows:

- a. Entering judgment declaring that Samsung has infringed one or more claims of the Patents-in-Suit in violation of 35 U.S.C. §271;
- b. Ordering that SEVEN be awarded damages in an amount no less than a reasonable royalty for each asserted patent arising out of Samsung's infringement of the Patents-in-Suit, together with any other monetary amounts recoverable by SEVEN, such as treble damages;
- c. Declaring that Samsung's infringement has been willful;
- d. Declaring this an exceptional case under 35 U.S.C. §285 and awarding SEVEN its attorneys' fees; and
- e. Awarding SEVEN such other costs and further relief as the Court deems just and proper.

DEMAND FOR JURY TRIAL

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, SEVEN demands a trial by jury on all issues so triable.

Dated: May 17, 2017

Respectfully submitted by:

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