IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

TRAXCELL TECHNOLOGIES, LLC,
Plaintiff,

v.
APPLE, INC.,
Defendant.

CASE NO. 6:21-cv-00074-ADA

JURY DEMAND

PLAINTIFF'S AMENDED COMPLAINT FOR PATENT INFRINGEMENT

Traxcell Technologies, LLC. ("Traxcell") files this Original Complaint, and demand for jury trial seeking relief from patent infringement by Apple, Inc. ("Defendant" or "Apple"), alleging infringement of the claims of U.S. Pat. No. 9,918,196, U.S. Pat. No. 9,549,388, and U.S. Pat. No. 10,820,147 (collectively referred to as "Patents-in-Suit"), as follows:

I. THE PARTIES

1. Plaintiff Traxcell is a Texas Limited Liability Company, with its principal place of business located at Traxcell Technologies LLC, 617 North 4th Street, Suite "S," Waco, TX 76701.

2. Apple is a California corporation having regular and established places of business at 12535 Riata Vista Circle and 5501 West Parmer Lane, Austin, Texas. Apple designs, manufactures, uses, imports into the United States, sells, and/or offers for sale in the United States smartphones, tablets, iPods, desktop computers, and notebook computers that use Apple Maps. Apple markets, sells, and offers to sell its products and/or services, including those accused herein of infringement, to actual and potential customers and end-users located in Texas and in the judicial Western District of Texas such as at the Barton Creek Mall (2901 S. Capital of Texas Hwy) and in the Domain (3121 Palm Way, Austin, TX 78758) in Austin, Texas. Apple may be served with

process through its registered agent for service in Texas: CT Corporation System, 1999 Bryan Street, Suite 900, Dallas, Texas 75201.

II. JURISDICTION AND VENUE

3. This is an action for patent infringement arising under the patent laws of the U.S., 35 U.S.C. §§ 1 et. seq. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331, 1332(a) and 1338(a).

4. This Court has personal jurisdiction over Defendants because: Defendants are present within or has minimum contacts within the State of Texas and this judicial district; Defendants have purposefully availed itself of the privileges of conducting business in the State of Texas and in this judicial district; Defendants regularly conducts business within the State of Texas and within this judicial district; and Plaintiff's cause of action arises directly from Defendants' business contacts and other activities in the State of Texas and in this judicial district. The amount in controversy is more than $75,000.00.

5. Venue is proper in this judicial district per 28 U.S.C. §§ 1391 and 1400(b). Apple has committed acts of infringement in this judicial district and maintains regular and established places of business in this district, as set forth above. Apple has continuous and systematic business contacts with the State of Texas. Apple, directly or through subsidiaries or intermediaries (including distributors, retailers, contract manufacturers, and others), conducts its business extensively throughout Texas, by shipping, manufacturing, distributing, offering for sale, selling, and advertising (including the provision of interactive web pages) its products and services in the State of Texas and the Western District of Texas, including Apple Maps. Apple, directly or through subsidiaries or intermediaries (including distributors, retailers, contract manufacturers, and others), has

purposefully and voluntarily placed its infringing products and services into this District and into the stream of commerce with the intention and expectation that they will be purchased and used by consumers in this District, including Apple Maps. Apple has offered and sold and continues to offer and sell these infringing products and services in this District, including at physical Apple stores located within this District. Apple also has derived substantial revenues from infringing acts, including but not limited to advertising, business APIs, private usage, OEM usage, and an attribution of a portion of each device sale or lease to Apple Maps.

6. Apple has committed acts of infringement in this judicial district and has a regular and established place of business in this judicial district. Austin, where Apple employs over 5,000 employees and has several corporate campuses, is Apple's largest corporate hub outside of its headquarters in Cupertino, California.

III. INFRINGEMENT ('196 Patent (attached as Exhibit A))

7. On March 13, 2018, U.S. Patent No. 9,918,196 ("the '196 patent"), attached as Exhibit A, entitled "Internet queried directional navigation system with mobile and fixed originating location determination" was duly and legally issued by the U.S. Patent and Trademark Office. Traxcell owns the '196 patent by assignment.

8. The '196 Patent's Abstract states, "A mobile wireless network and a method of operation provide directional assistance in response to an Internet query. The directional assistance is provided from a location of the querying device to a destination that may be selectively prompted based on whether the destination is a nearby business, a type of business, a street address, or another mobile device or fixed telephone location. The location of the querying device is also selectively determined depending on whether the querying device is a

wireless device such as a mobile telephone, or whether the device has a presumed fixed location, such as an ordinary telephone connected to a public-switched telephone network (PSTN).

9. The following preliminary exemplary chart provides notice of Traxcell's allegations of infringement.

Exemplary Claim	Corresponding Structure in Accused Systems
A method of providing navigation assistance to a user of a communications device, the method comprising:	Apple Devices that supports the Apple Maps online navigation service together with the Apple Maps server-side or cloud infrastructure needed to provide the service, constitute the "Accused System". The term "Apple Maps" encompasses and includes all the versions and variants of the Apple Maps web (for PCs, laptops and other computers functioning with macOS or Mac OS X operating systems) and the Apple Maps app [Apple Maps app for iOS devices (iPhone, iPad, iPod Touch etc.,) and watchOS devices] and the applications supported by the Apple Maps Platform. The "method of providing navigation assistance to a user of a communications device" refers to the method by which Apple Maps provides online navigation assistance (directions) to a user of a communications device or UE (example: mobile phone, smartphone, laptop, tablet, iPhone, iPad, iPod Touch etc.) including the Apple Maps app or including a browser plugin enabling access to the Apple Maps website or having other means to access the Apple Maps website, for querying and receiving navigation instructions for travelling from a starting location (current location of the communications device or a location specified by its user as the 'origin') to a destination location (a location specified by the said user as the 'destination'). The "communications device" refers to a UE (example: iPhone, iPad, iPod Touch, mac book etc.) including the Apple Maps app or including a browser plugin enabling access to the Apple Maps website or having other means to access the Apple Maps website for querying and receiving navigation instructions for travelling from a starting

Exemplary Claim	**Corresponding Structure in Accused Systems**
	location (current location of the communications device or a location specified by its user as the 'origin') to a destination location (a location specified by the said user as the 'destination').
receiving, by a directional assistance service, an Internet query initiated at the communications device and directed via the Internet to initiate a request for navigational assistance to a destination;	Navigation using Apple Maps online navigation service is a well-known example of off-board navigation. To elaborate, an off-board navigation system is a client/server system wherein only the user interface (UI) resides on the client's (user's) communications device and all the databases (GIS and/or mapping) and infrastructure required for computation (of route, distance, travel time, traffic etc.) reside remotely on a server or a network of servers (the server-side) located on the world wide web (www). The server-side could also comprise virtual (instead of physical) or cloud server infrastructure. The client side (user interface or UI at a user's communications device) can only communicate with the server-side via the Internet. This claim element refers to the method and process involved in initiating a navigation query, using Apple Maps online navigation service, to obtain directions (navigation assistance) for travelling from a starting location to a destination location. The process involved in initiating the said navigation query includes inputting a destination location at the Apple Maps' user interface (UI) at the user's communications device, and sending the said query via Internet to the remote Apple Maps server (cloud server). The said remote Apple Maps server (cloud server) receives the said query via Internet. The term "directional assistance service" herein refers to Apple Maps online navigation service supported and facilitated by a wireless telecommunications network. The "communications device" refers to a UE (example: iPhone, iPad, iPod Touch, MacBook etc.) including the Apple Maps app or including a browser plugin enabling access to the Apple Maps website or having other means to access the Apple Maps website, for querying and receiving navigation instructions for travelling from a starting location (current location of the communications device or a location specified by its user as the 'origin') to a destination location (a location specified by the said user as the 'destination'). The said "communications device" (the user of the said "communications device") being a subscriber of wireless telecommunications network services. When subscribers utilizes Apple Maps online on their communications devices (UEs) using wireless telecommunication network , queries (directed to the Apple Maps server) and responses (informational, navigational or directional assistance from the Apple Maps server) are communicated between the client-side (Apple Maps application installed on a user's wireless mobile communications device) and the server-side (Apple Maps server).

Exemplary Claim	Corresponding Structure in Accused Systems
	The method of using the Apple Maps for navigation includes initiating a query at a user's communications device (UE) to initiate a request for navigational assistance for travelling from a starting point (which could be the current location of the user's communications device) to a destination, by specifying (inputting) the destination and the starting point (if different from the current location of the user's communications device). The said query is directed via the Internet to the remote Apple Maps server (cloud server). In other words, the Apple Maps server (cloud server) receives the said query through the Internet. Apple Maps online navigation is an example of off-board navigation. In other words, Apple Maps online navigation system is a client/server system wherein only the user interface (UI) resides on the client's (user's) communications device and all the databases (GIS and/or mapping) and infrastructure required for computation (of route, distance, travel time, traffic etc.) reside remotely on the Apple Maps server (which could be a network of servers) [the server-side] located on the world wide web (www). The server-side could also comprise virtual (instead of physical) or cloud server infrastructure. The client side (user interface or UI at a user's communications device) can only communicate with the server-side via the Internet. In other words, destination is input and a query is initiation at the Apple Maps user interface (UI) at the client device and the query (including the input destination) is communicated from the client-side (client or user's communications device) to the remote server-side (Apple Maps server) via the Internet. The Apple Maps server, upon receiving the query (including the input destination) communicated from the client-side (client or user's communications device) via the Internet, identifies the required vector maps, computes or calculates the route(s), and downloads the required vector maps and the computed or calculated route(s) to the client-side (client or user's communications device) via the Internet.
responsive to receiving the Internet query, determining whether or not the communications device is a mobile wireless communications device;	Apple Maps is programmed to identify the "phone number" and the "device identifiers" of the communications device (UEat which the said navigation query is initiated. In other words, Apple Maps determines whether or not the said communications device (UE) is a mobile wireless communications device (UE) "a mobile wireless communications device" refers to a mobile wireless communications device or UE (example: mobile phone, smartphone, laptop, tablet, iPhone, iPad, iPod Touch etc.), which includes the Apple Maps app or includes a browser plugin enabling access to the Apple Maps website or has other means to access the Apple Maps website for querying and receiving navigation instructions for travelling from a starting point (current location of the communication's device or a location specified by its user as the 'origin') to a destination location (a location specified by the said user as the 'destination'). Any wireless mobile communications

Exemplary Claim	Corresponding Structure in Accused Systems
	device, which uses Mobile Hotspot for connecting to the Internet and includes the Apple Maps app or a browser plugin enabling access to the Apple Maps website or has other means to access the Apple Maps website, also corresponds to this claim element. In Apple's Privacy Policy document, it is clearly indicated that Apple (which includes Apple Maps) collects information such as phone number and device identifiers pertaining to the communications device (UE) at which a navigation query is initiated and communicated to the Apple Maps server. In other words, Apple Maps has means to determine whether a querying communications device (UE) is a mobile wireless communications device (UE) or not. The following is mentioned therein – "**What personal information we collect** When you create an Apple ID, apply for commercial credit, purchase a product, download a software update, register for a class at an Apple Retail Store, connect to our services, contact us including by social media or participate in an online survey, we may collect a variety of information, including your name, mailing address, phone number, email address, contact preferences, device identifiers, IP address, location information, credit card information and profile information where the contact is via social media." In the aforementioned, it is also mentioned that when a user connects to Apple's services (like Apple Maps online navigation), Apple also collects the IP address from which the said user connects to Apple's services (like Apple Maps online navigation). In other words, when a user connects to the Apple Maps server using the client-side UI on his/her communications device (UE) via Internet, the Apple Maps server collects the IP address from which the said user connects to the Apple Maps server. Based on the above information, it is confirmed that whenever a communications device uses Apple Maps, information such as mobile network information including the name of the carrier providing data services to the said communications device are collected by Apple (Apple Maps). In other words, Apple Maps can also ascertain whether the communications device (UE) at which the said navigation query is initiated, is connected to the Apple Maps server through a wireless telecommunications network service (i.e. through RF signal-based communication) or through a Wi-Fi network supported by a fixed (wired or wireless) broadband Internet service. In summary, Apple Maps has means to determine whether a querying communications device (UE) is a mobile wireless communications device (UE) or not,

Exemplary Claim	Corresponding Structure in Accused Systems
	and also whether the said communications device (UE) is connected to the Apple Maps server through a wireless telecommunications network service (i.e. through RF signal-based communication) or through a Wi-Fi network supported by a fixed (wired or wireless) broadband Internet service.
responsive to determining that the communications device is the mobile wireless communications device, the directional assistance service determining and using a present location of the mobile wireless communications device as a location of the communications device;	If the Apple Maps online navigation service determines that the said navigation query has been initiated at a mobile wireless communications device (UE), and that the said query was communicated through a wireless telecommunications network service (i.e. through RF signal-based communication), Apple Maps determines current location of the mobile wireless communications device (UE) and uses it as the starting point for providing navigation information (instructions or directions) to travel to the destination input by the user of the said communications device (UE). The “the mobile wireless communications device” or the “communications device” refers to the mobile wireless communications device or UE (example: mobile phone, smartphone, laptop, tablet, iPhone, iPad, iPod Touch, mac-book etc.) The UE at which the navigation query was initiated. It has been demonstrated ithat a user can simply input a “destination” entry and initiate a navigation query on the Apple Maps’ client-side user interface (UI) at the user’s mobile wireless communications device (Apple Maps app on an iPhone). The Apple Maps server, upon receiving the navigation query (including input “destination”) from the client-side via Internet, determines the “current location” of the user’s mobile wireless communications device, uses it as the default starting point, ascertains the location of the input “destination”, computes or calculates the route(s) and directions, and downloads the computed or calculated route(s) and directions to the user’s mobile wireless communications device. As has been mentioned with reference to the previous claim element, Apple Maps, upon receiving a navigation query from a user’s communications device, determines whether or not the said communications device is a mobile wireless communications device. It is clearly indicated that a user can simply input a “destination” entry and initiate a navigation query on the Apple Maps’ client-side user interface (UI) at the user’s mobile wireless communications device (Apple Maps app on iPhone, iPad or iPod Touch). The Apple Maps server, upon receiving the navigation query (including input “destination”) from the client-side via Internet, determines the “current location” of the user’s mobile wireless communications device, uses it as the default starting point, ascertains the location of the input “destination”, computes or calculates the route(s) and directions, and downloads the computed or calculated route(s) and directions to the user’s mobile wireless communications device. The following is mentioned therein –

Exemplary Claim	Corresponding Structure in Accused Systems
	“**Get directions** 1. Open Maps and enter your destination in the Search bar. 2. Tap Directions. 3. Choose Drive, Walk, Transit, or Ride. 4. Select the route that you prefer. Maps shows the fastest route first based on traffic conditions. 5. When you're ready, tap “GO”. To see an overview of your route, tap "Tap for Overview" in the banner. 6. To end navigation, tap “End”, in the bottom right corner. Then tap End Route. You can also ask Siri to "Stop Navigating" when you have Hands-Free turned on.” [**Note:** The “Starting point” is by default the current location of the user’s communications device, unless otherwise specified**]**
responsive to determining that the communications device is not the mobile wireless communications device, obtaining a fixed location associated with the communications device to determine the location of the	As mentioned previously, Apple Maps is programmed to identify the “phone number” and the “device identifiers” of the communications device (UE) at which the said navigation query is initiated, and also to ascertain the IP address from where the communications device (UE) at which the said navigation query is initiated connected to the Apple Maps server. In other words, Apple Maps has means to determine whether a querying communications device (UE) is a mobile wireless communications device (UE) or not, and also whether the said communications device (UE) is connected to the Apple Maps server through a wireless telecommunications network service (i.e. through RF signal-based communication) or through a Wi-Fi network supported by a fixed (wired or wireless) broadband Internet service. In Apple’s Privacy Policy document, it is clearly indicated that Apple (which includes Apple Maps) collects information such as phone number and device identifiers

Exemplary Claim	**Corresponding Structure in Accused Systems**
communications device; and	pertaining to the communications device (UE) at which a navigation query is initiated and communicated to the Apple Maps server. In other words, Apple Maps has means to determine whether a querying communications device (UE) is a mobile wireless communications device (UE) or not. The following is mentioned therein – “**What personal information we collect** When you create an Apple ID, apply for commercial credit, purchase a product, download a software update, register for a class at an Apple Retail Store, connect to our services, contact us including by social media or participate in an online survey, we may collect a variety of information, including your name, mailing address, phone number, email address, contact preferences, device identifiers, IP address, location information, credit card information and profile information where the contact is via social media.” In the aforementioned, it is also mentioned that when a user connects to Apple’s services (like Apple Maps online navigation), Apple also collects the IP address from which the said user connects to Apple’s services (like Apple Maps online navigation). In other words, when a user connects to the Apple Maps server using the client-side UI on his/her communications device (UE) via Internet, the Apple Maps server collects the IP address from which the said user connects to the Apple Maps server. Based on the above information, it is confirmed that whenever a communications device uses Apple Maps, information such as mobile network information including the name of the carrier providing data services to the said communications device are collected by Apple (Apple Maps). In other words, Apple Maps can also ascertain whether the communications device (UE) at which the said navigation query is initiated, is connected to the Apple Maps server through a wireless telecommunications network service (i.e. through RF signal-based communication) or through a Wi-Fi network supported by a fixed (wired or wireless) broadband Internet service. In summary, Apple Maps has means to determine whether a querying communications device (UE) is a mobile wireless communications device (UE) or not, and also whether the said communications device (UE) is connected to the Apple Maps server through a wireless telecommunications network service (i.e. through RF signal-based communication) or through a Wi-Fi network supported by a fixed (wired or wireless) broadband Internet service. If Apple Maps determines that the communications device (UE) at which the said navigation query is initiated is not a mobile wireless communications device, or in other words, if the said communications device (UE) is determined to be a stationary

Exemplary Claim	Corresponding Structure in Accused Systems
	or fixed communications device, for example – a Mobile phone, smartphone, iPhone, iPad, iPod Touch, laptop or tablet connected or tethered to a Wi-Fi (internet) access point, modem, router or Wi-Fi hotspot supported by a fixed (wired or wireless) broadband Internet Service, Apple Maps determines the location of the said stationary or fixed communications device by identifying the Internet Service Provider or Wi-Fi hotspot serving the said communications device and obtaining the stationary location of the said Wi-Fi (internet) access point, modem, router or hotspot from a Wi-Fi database, Wi-Fi location database or Wi-Fi hotspot database.
the directional assistance service providing navigation information to the communications device in response to the Internet query, wherein the navigation provides directions for proceeding from the location of the communications device to a location of the destination.	In response to receiving the navigation query (which includes the "destination" entry input by the user at the Apple Maps client-side user interface or UI residing at the user's communications device) initiated at the communications device (UE) and directed via the Internet, Apple Maps server determines the current location of the querying (the user's) communications device, considers it the default starting point, ascertains the location of the input "destination", computes and provides the navigation information (directions) to the said communications device (UE) to travel from the current location of said communications device (UE) to the input destination. a user can simply input a "destination" entry and initiate a navigation query on the Apple Maps' client-side user interface (UI) at the user's mobile wireless communications device (Apple Maps app on iPhone, iPad or iPod Touch). The Apple Maps server, upon receiving the navigation query (including input "destination") from the client-side via Internet, determines the "current location" of the user's mobile wireless communications device, uses it as the default starting point, ascertains the location of the input "destination", computes or calculates the route(s) and directions, and downloads the computed or calculated route(s) and directions to the user's mobile wireless communications device. In this manner, Apple Maps provides the navigation information (directions) to the said communications device (UE) to travel from the current location of said communications device (UE) to the input destination. The following is mentioned therein – "**Get directions** 1. Open Maps and enter your destination in the Search bar. 2. Tap Directions. 3. Choose Drive, Walk, Transit, or Ride.

Exemplary Claim	Corresponding Structure in Accused Systems
	4. Select the route that you prefer. Maps shows the fastest route first based on traffic conditions. 5. When you're ready, tap “GO”. To see an overview of your route, tap "Tap for Overview" in the banner. 6. To end navigation, tap “End”, in the bottom right corner. Then tap End Route. You can also ask Siri to "Stop Navigating" when you have Hands-Free turned on.” **[Note:** The “Starting point” is by default the current location of the user’s communications device, unless otherwise specified**]**

10. Defendant makes, uses, offers to sell, and/or sells within or imports into the U.S. wireless networks, wireless-network components, and related services that use identified locations of wireless devices to provide directional assistance such that Defendant infringes claims 1–30 of the ’196 patent, literally or under the doctrine of equivalents.

11. Defendant put the inventions claimed by the ’196 Patent into service (i.e., used them); but for Defendant’s actions, the claimed-inventions embodiments involving Defendant’s products and services would never have been put into service. Defendant’s acts complained of herein caused those claimed-invention embodiments as a whole to perform, and Defendant obtaining monetary and commercial benefit from it.

12. Defendant has and continues to induce infringement. Defendant has actively encouraged or instructed others (e.g., its customers), and continues to do so, on how to use its products and services (e.g., U.S. wireless networks, wireless-network components that use identified locations of wireless devices to provide directional assistance) such to cause infringement

claims 1–30 of the ’196 patent, literally or under the doctrine of equivalents. Moreover, Defendant has known and should have known of the ’196 patent, by at least by the date of the patent’s issuance, or from the issuance of the ‘284 patent, which followed the date that the patent’s underlying application was cited to Defendants by the U.S. Patent and Trademark Office during prosecution of one of Defendant’s patent applications, such that Defendant knew and should have known that it was and would be inducing infringement.

13. Defendant has and continues to contributorily infringe. Defendant has actively encouraged or instructed others (e.g., its customers and/or the customers of its related companies), and continues to do so, on how to use its products and services e.g., U.S. wireless networks, wireless-network components that use identified locations of wireless devices to provide directional assistance) such as to cause infringement of one or more of claims 1–30 of the ’196 patent, literally or under the doctrine of equivalents. Moreover, Defendant has known of the ’196 patent and the technology underlying it from at least the date of issuance of the patent or from the issuance of the ‘284 patent, which followed the date that the patent’s underlying application was cited to Defendant by the U.S. Patent and Trademark Office during prosecution of one of Defendant’s patent applications, such that Defendant knew and should have known that it was and would be contributorily infringing.

14. Defendants have caused and will continue to cause Traxcell damage by infringing the ’196 patent.

IV. INFRINGEMENT (’388 Patent (Attached as exhibit B))

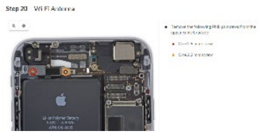
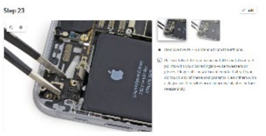
15. On January 17, 2017, U.S. Patent No. 9,549,388 (“the ’388 patent”) entitled “Mobile wireless device providing off-line and on-line geographic navigation information” (attached as

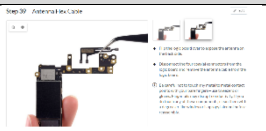
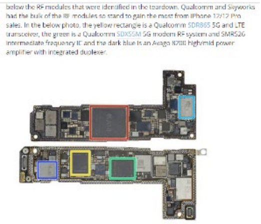
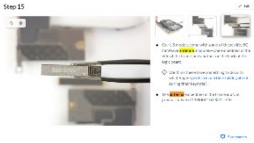
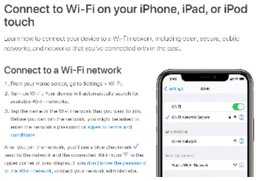
Exhibit B) was duly and legally issued by the U.S. Patent and Trademark Office. Traxcell owns the ’388 patent by assignment.

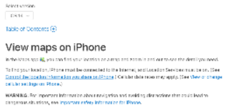
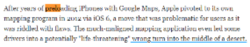
16. The ’388 Patent’s Abstract states, “A mobile device, wireless network and their method of operation provide both on-line (connected) navigation operation, as well as off-line navigation from a local database within the mobile device. Routing according to the navigation system can be controlled by traffic congestion measurements made by the wireless network that allow the navigation system to select the optimum route based on expected trip duration.”

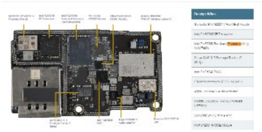
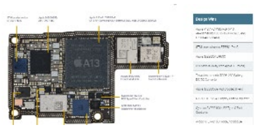
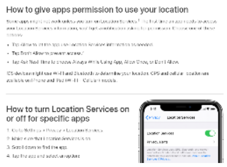
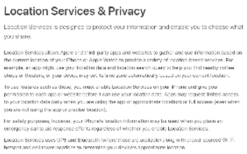
17. The following preliminary exemplary chat provides Traxcell’s allegations of infringement.

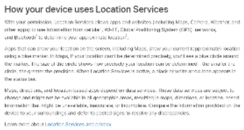
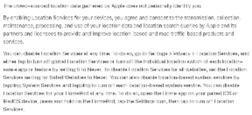
Representative Claim	**Corresponding Structure in Accused Systems**
A wireless communications system including:	Apple Devices that supports the Apple Maps online navigation service together with the Apple Maps server-side or cloud infrastructure needed to provide the service, constitute the “Accused System”. The term “Apple Maps” encompasses and includes all the versions and variants of the Apple Maps web (for PCs, laptops and other computers functioning with macOS or Mac OS X operating systems) and the Apple Maps app [Apple Maps app for iOS devices (iPhone, iPad, MacBook, iPod Touch, iwatch etc.,) and watchOS devices] and the applications supported by the Apple Maps Platform. The “communications device” refers to a UE (example: iPhone, iPad, MacBook, iPod Touch, iwatch etc.) including the Apple Maps app or including a browser plugin enabling access to the Apple Maps website or having other means to access the Apple Maps website for querying and receiving navigation instructions for travelling from a starting location (current location of the communications device or a location specified by its user as the ‘origin’) to a destination location (a location specified by the said user as the ‘destination’). The said “communications device” (the user of the said “communications device”) being an apple device using wireless telecommunications network services.

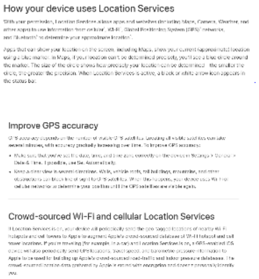
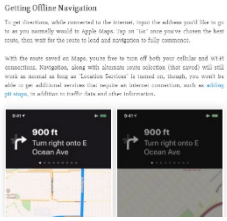
Representative Claim	**Corresponding Structure in Accused Systems**
	Because infringement liability is not dependent on ownership, e.g., use of a system can infringe (35 U.S.C. § 271), infringement is not dependent on ownership of all limitations of a claim.
a first radio-frequency transceiver within a wireless mobile communications device and an associated first antenna to which the first radio-frequency transceiver is coupled, wherein the first radio-frequency transceiver is configured for radio-frequency communication with a wireless communications network;	Plaintiff contends a wireless communications device corresponds to this claim element as each is a device that provides communicative access to a wireless network by transceivers designed and used for radio-frequency communication and at least one antenna. When a wireless communication device transceivers and antennas are in communication, they are coupled. Further, in addition to being so coupled, the transceiver of a wireless communications device is also configured for RF-communication wireless communication networks, such as AT&T, Verizon, T-Mobile, and other US networks (Cellular or WLAN) via Apple Maps. Each wireless communications device made, used, sold or imported by Apple includes a radio frequency transceiver. Wireless mobile communication device including to Apple's branded devices such as example: iPhone, iPad, MacBook, iPod Touch, iwatch etc. include radio-frequency transceivers and an associated antenna. When wireless communication device transceivers and antennas are in communication, they are coupled. Further, in addition to being so coupled, the transceiver of each such wireless communications device is also configured for RF-communication with the wireless communication network. The following exemplifies this limitation's existence in Accused Systems:  Step 20 Wi Fi Antenna  Step 23 **Link:** https://www.ifixit.com/Guide/iPhone+6+Wi-Fi+Antenna+Replacement/90315

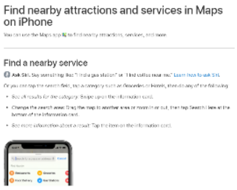
Representative Claim	Corresponding Structure in Accused Systems
	 Step 39 Antenna Flex Cable **Source:** Antenna of IPhone Teardown by Ifixit (Time-5:50/7:21) **Link:** https://www.ifixit.com/Guide/iPhone+6+Antenna+Flex+Cable+Replacement/90317  below the RF modules that were identified in the teardown. Qualcomm and Skyworks had the bulk of the RF modules so stand to gain the most from iPhone 12/12 Pro sales. In the below photo, the yellow rectangle is a Qualcomm SDR865 5G and LTE transceiver, the green is a Qualcomm SDX55M 5G modem RF system and SMR526 intermediate frequency IC and the dark blue is an Avago 8200 high/mid power amplifier with integrated duplexer. **Link:** https://www.microwavejournal.com/blogs/9-pat-hindle-mwj-editor/post/34907-iphone-1212-pro-teardown-for-rf  Step 15 **Source:** (Teardown of Apple 12 showing Antenna, 5G and LTE Transceiver component). **Link:** https://www.ifixit.com/Teardown/iPhone+12+and+12+Pro+Teardown/137669  Connect to Wi-Fi on your iPhone, iPad, or iPod touch Learn how to connect your device to a Wi-Fi network, including open, secure, public networks, and networks that you've connected with in the past. Connect to a Wi-Fi network 1. From your Home screen, go to Settings > Wi-Fi. 2. Turn on Wi-Fi. Your device will automatically search for available Wi-Fi networks. 3. Tap the name of the Wi-Fi network that you want to join. Before you can join the network, you might be asked to enter the network's password or agree to terms and conditions. After you join the network, you'll see a blue checkmark ✓ next to the network and the connected Wi-Fi icon in the upper corner of your display. If you don't know the password to the Wi-Fi network, contact your network administrator. Settings Wi-Fi Wi-Fi Wi-Fi Network Secure Wi-Fi Network Public Wi-Fi Network **Link:** https://support.apple.com/en-in/HT202639

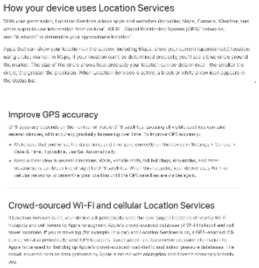
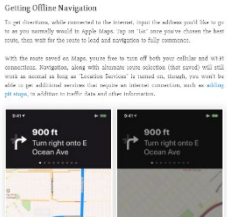
Representative Claim	Corresponding Structure in Accused Systems
	 Link: https://devicesupport.swisscom.ch/apple/iphone-7-plus/connectivity/select-a-network/  Select version: Table of Contents View maps on iPhone In the Maps app, you can find your location on a map and zoom in and out to see the detail you need. To find your location, iPhone must be connected to the Internet, and Location Services must be on. (See Control the location information you share on iPhone.) Cellular data rates may apply. (See View or change cellular settings on iPhone.) WARNING: For important information about navigation and avoiding distractions that could lead to dangerous situations, see Important safety information for iPhone. Apple Maps. Apple  After years of preloading iPhones with Google Maps, Apple pivoted to its own mapping program in 2012 via iOS 6, a move that was problematic for users as it was riddled with flaws. The much-maligned mapping application even led some drivers into a potentially "life-threatening" wrong turn into the middle of a desert. **Source: (Apple Maps application preloaded on Apple Devices)** **Link:**https://www.usatoday.com/story/tech/2019/06/04/ios-13-apple-maps-upgrade-fall/1337077001/
a first processor within the wireless mobile communications device coupled to the at least one first radio-	Plaintiff contends each such wireless communications device corresponds to this claim limitation because each such wireless communications device includes a processor. Wireless mobile communication device- including to Apple's branded devices such as has a processor, for example, Quad-Core/ Octa-core processor. Each such wireless communications device's motherboard processor is programmed to process location-service information; i.e., to receive a location of the device from the wireless communications network (which is communicated to the device from the first RF transceiver) and generate an indication of the device's location with respect to geographic features according to

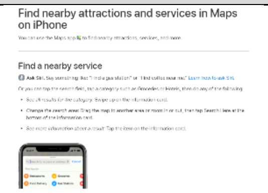
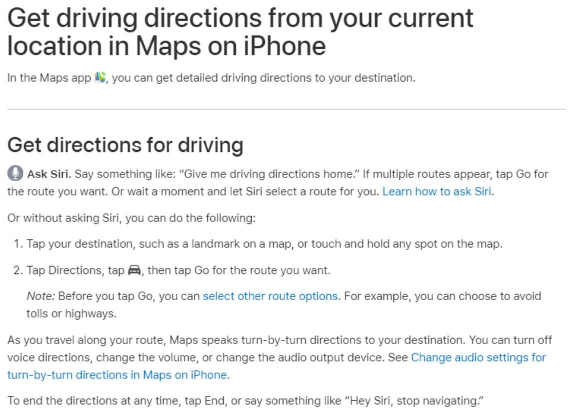
Representative Claim	**Corresponding Structure in Accused Systems**
frequency transceiver	mapping information stored within the device. For example, the motherboard processor may use Apple Maps to view and find places around the globe. The processor and base station transceivers communicate by RF communication and, thus, when doing so are communicatively coupled. The following exemplifies the existence of this limitation in Accused Systems:  **Source**: Apple iPhone 11 Pro Max Teardown **Link**: https://www.techinsights.com/blog/apple-iphone-11-pro-max-teardown  **Source:** Apple iPhone 11 Pro Max Teardown **Link:** https://www.techinsights.com/blog/apple-iphone-11-pro-max-teardown  How to give apps permission to use your location How to turn Location Services on or off for specific apps Link: https://support.apple.com/en-in/HT207092  Location Services & Privacy

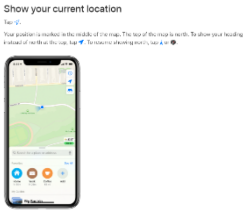
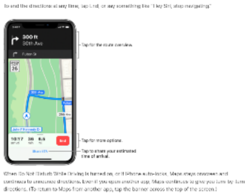
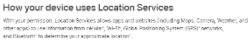
Representative Claim	Corresponding Structure in Accused Systems
	Link: https://support.apple.com/en-us/HT207056 How your device uses Location Services With your permission, Location Services allows apps and websites (including Maps, Camera, Weather, and other apps) to use information from cellular[1], Wi-Fi[1], Global Positioning System (GPS) networks, and Bluetooth[1] to determine your approximate location[2]. Learn more about Location Services and privacy. Link: https://support.apple.com/en-in/HT203033 The crowd-sourced location data gathered by Apple does not personally identify you. By enabling Location Services for your devices, you agree and consent to the transmission, collection, maintenance, processing, and use of your location data and location search queries by Apple and its partners and licensees to provide and improve location-based and road traffic-based products and services. Link: https://support.apple.com/en-us/HT207056
programmed to receive a location of the wireless mobile communications device from the wireless communications network and generate an indication of a location of the wireless mobile communications device with respect to geographic features	Plaintiff contends such wireless communications device's motherboard processor is programmed to process location-service information; i.e., to receive a location of the device from the wireless communications network and generate an indication of the device's location. For example, the application processor may use Apple Maps to obtain the device's location and provide direction from that location to a destination. Wireless mobile communication devices including to Apple's branded devices such as Iphones, MacBook, IPad and IPod has a processor for example, Quad-Core processor. When wireless communication device transceivers and processor are in communication, they are coupled. Further, the Location-based Service (LBS) provider, such as Apple Map, on such wireless communications device utilizes the processor coupled to the transceiver to estimates/receive the location on mobile wireless communications devices by utilizing wireless communication network or first computer. For example, the Application processor may use Apple Maps to view and find places around the globe. Apple map can also show your current location and provide direction (including with respect to geographic features such as nearby restaurants) from your location/source to any destination. In using Apple Maps App, the mobile wireless communication device's application processor generates signals for displaying on the device's screen a blue marker that shows the current location of the wireless mobile communication device. The Apple map

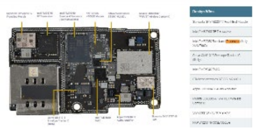
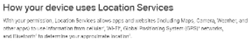
Representative Claim	**Corresponding Structure in Accused Systems**
	estimates the location of the device from various sources: GPS (GPS uses satellites and knows your location within a few meters), Bluetooth, Wi-Fi (the location of nearby Wi-Fi networks helps Maps know where you are), and cell towers (cell tower can be accurate up to a few thousand meters). When Apple Maps isn't sure about your location, a light blue circle around the blue dot is shown. You might be anywhere within the light blue circle. The size of the circle shows how precisely your location can be determined—the smaller the circle, the greater the precision. When Location Services is active, a black or white arrow icon appears in the status bar. Furthermore, Apple Maps App provides flexibility to download maps on internal memory of communication device such as iPhone, iPad, MacBook, iPod Touch, iwatch etc. and navigate offline. When internet is slow or mobile data is expensive, or communication device cannot connect to internet, an area can be saved to IPhone or IPad from Apple maps app and use it when offline. Communication device can use Offline maps for Navigation through the downloaded area without internet. The following exemplifies the existence of this limitation in Accused Systems:  How your device uses Location Services With your permission, Location Services allows apps and websites (including Maps, Camera, Weather, and other apps) to use information from cellular, Wi-Fi, Global Positioning System (GPS) networks, and Bluetooth to determine your approximate location. Apps that can show your location on the screen, including Maps, show your current (approximate) location using a blue marker. In Maps, if your location can't be determined precisely, you'll see a blue circle around the marker. The size of the circle shows how precisely your location can be determined — the smaller the circle, the greater the precision. When Location Services is active, a black or white arrow icon appears in the status bar. Improve GPS accuracy GPS accuracy depends on the number of visible GPS satellites. Locating all visible satellites can take several minutes, with accuracy gradually increasing over time. To improve GPS accuracy: • Make sure that you've set the date, time, and time zone correctly on the device in Settings > General > Date & Time. If possible, use Set Automatically. • Keep a clear view in several directions. Walls, vehicle roofs, tall buildings, mountains, and other obstructions can block line of sight to GPS satellites. When this happens, your device uses Wi-Fi or cellular networks to determine your position until the GPS satellites are visible again. Crowd-sourced Wi-Fi and cellular Location Services If Location Services is on, your device will periodically send the geo-tagged locations of nearby Wi-Fi hotspots and cell towers to Apple to augment Apple's crowd-sourced database of Wi-Fi hotspot and cell tower locations. If you're traveling (for example, in a car) and Location Services is on, a GPS-enabled iOS device will also periodically send GPS locations, travel speed, and barometric pressure information to Apple to be used for building up Apple's crowd-sourced road-traffic and indoor pressure databases. The crowd-sourced location data gathered by Apple is stored with encryption and doesn't personally identify you. Link: https://support.apple.com/en-in/HT203033  Getting Offline Navigation To get directions, while connected to the internet, input the address you'd like to go to as you normally would in Apple Maps. Tap on "Go" once you've chosen the best route, then wait for the route to load and navigation to fully commence. With the route saved on Maps, you're free to turn off both your cellular and Wi-Fi connections. Navigation, along with alternate route selection (that saved) will still work as normal as long as "Location Services" is turned on, though, you won't be able to get additional services that require an internet connection, such as adding pit stops, in addition to traffic data and other information. 9:41 900 ft Turn right onto E Ocean Ave 9:41 900 ft Turn right onto E Ocean Ave Link: https://ios.gadgethacks.com/how-to/download-maps-navigation-routes-for-offline-use-apple-maps-0184439/

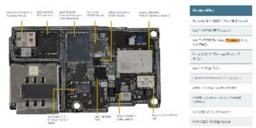
Representative Claim	Corresponding Structure in Accused Systems
	 Find nearby attractions and services in Maps on iPhone You can use the Maps app to find nearby attractions, services, and more. Find a nearby service Ask Siri. Say something like "Find a gas station" or "Find coffee near me." Learn how to ask Siri. Or you can tap the search field, tap a category such as Groceries or Hotels, then do any of the following: - See all results for the category: Swipe up on the information card. - Change the search area: Drag the map to another area or zoom in or out, then tap Search Here at the bottom of the information card. - See more information about a result: Tap the item on the information card. **Source:** Find nearby attractions and services in Maps on iPhone **Link:** https://support.pple.com/en-in/guide/iphone/iphbaf51b2c0/ios
according to mapping information stored within the wireless mobile communications device, and	Plaintiff contends the mobile-wireless-communications device's application processor is programmed to process location based service information; i.e., to receive a location of the device from the wireless communications network and generate an indication of the device's location. For example, the application processor may use Apple Maps to obtain the device's location and provide direction from that location to a destination. Wireless mobile communication device- including to Apple's branded devices such as IPhone, MacBook, IPad and IPod has a processor for example, Quad-Core processor. When wireless communication device transceivers and processor are in communication, they are coupled. Further, the Location-based Service (LBS) provider, such as Apple Map, on such wireless communications device utilizes the processor coupled to the transceiver to estimates/receive the location on mobile wireless communications devices (specifically one or more of the mobile wireless communications devices) by utilizing wireless communication network or first computer. For example, the Application processor may use Apple Maps to view and find places around the globe. Apple map can also show your current location and provide direction (including with respect to geographic features such as nearby restaurants) from your location/source to any destination. In using Apple Maps App, the mobile wireless communication device's application processor generates signals for displaying on the device's screen a blue marker that shows the current location of the wireless mobile communication device. The Apple map estimates the location of the device from various sources: GPS (GPS uses satellites and knows your location within a few meters), Bluetooth, Wi-Fi (the location of nearby Wi-Fi

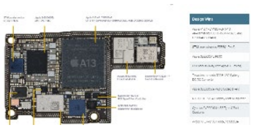
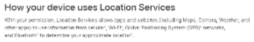
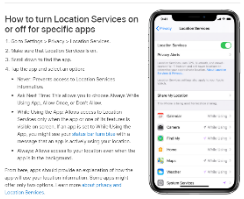
Representative Claim	Corresponding Structure in Accused Systems
	networks helps Maps know where you are), and cell towers (cell tower can be accurate up to a few thousand meters). When Apple Maps isn't sure about your location, a light blue circle around the blue dot is shown. You might be anywhere within the light blue circle. The size of the circle shows how precisely your location can be determined—the smaller the circle, the greater the precision. When Location Services is active, a black or white arrow icon appears in the status bar. Furthermore, Apple Maps App provides flexibility to download maps on internal memory of communication device such as iPhone, iPad, MacBook, iPod Touch, iwatch etc. and navigate offline. When internet is slow or mobile data is expensive, or communication device cannot connect to internet, an area can be saved to communication devices such as iPhone, iPad, MacBook, iPod Touch, iwatch etc. from Apple maps app and use it when offline. Communication device can use Offline maps for Navigation through the downloaded area without internet. The following exemplifies the existence of this limitation in Accused Systems:  How your device uses Location Services Improve GPS accuracy Crowd-sourced Wi-Fi and cellular Location Services Link: https://support.apple.com/en-in/HT203033  Getting Offline Navigation To get directions, while connected to the internet, input the address you'd like to go to as you normally would in Apple Maps. Tap on "Go" once you've chosen the best route, then wait for the route to load and navigation to fully commence. With the route saved on Maps, you're free to turn off both your cellular and Wi-Fi connections. Navigation, along with alternate route selection (that saved) will still work as normal as long as "Location Services" is turned on, though, you won't be able to get additional services that require an internet connection, such as adding pit stops, in addition to traffic data and other information. 9:41 900 ft Turn right onto E Ocean Ave 9:41 900 ft Turn right onto E Ocean Ave Link: https://ios.gadgethacks.com/how-to/download-maps-navigation-routes-for-offline-use-apple-maps-0184439/

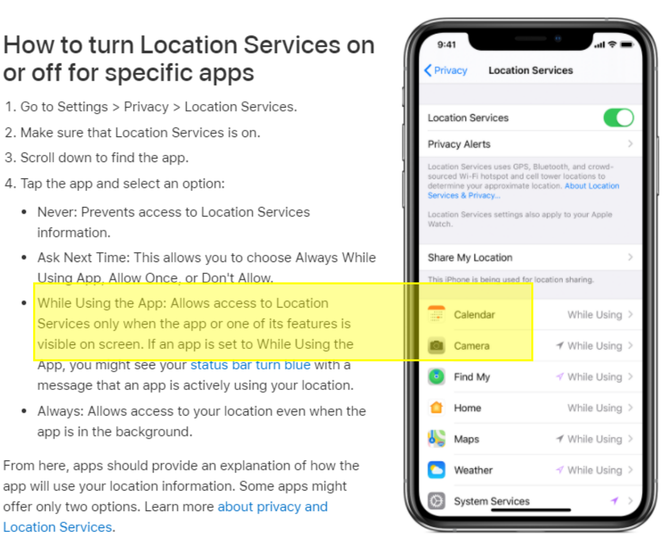
Representative Claim	Corresponding Structure in Accused Systems
	 Find nearby attractions and services in Maps on iPhone You can use the Maps app to find nearby attractions, services, and more. Find a nearby service **Source:** Find nearby attractions and services in Maps on iPhone **Link:** https://support.apple.com/en-in/guide/iphone/iphbaf51b2c0/ios
wherein the processor displays to the user navigation information according to the location of the wireless mobile communications device with respect to the geographic features and a destination specified by the user at the wireless mobile communications device;	Plaintiff contends the application processor of each such wireless communications device (i.e., mobile wireless communications device) meets this limitation. The processor processes location-service information, including displaying user navigation information according to the device's location with regards to geographic features and a user-specified destination. For example, using Apple map app for more examples of location services processed by each such wireless communications device's application processor) the device user locates the device's current location on the Apple map app and then provide details for a destination on the options, provided in the Apple map app. The user can then navigate (i.e., the processor processes display information) in real time from current location to destination. The processor displays navigation in the Apple Maps app to display turn-by-turn directions. Using the Apple map app, the processor will show the directions and use real-time traffic information to find the best route to the specified destination. The following exemplifies this limitation's existence in Accused Systems:  Get driving directions from your current location in Maps on iPhone In the Maps app, you can get detailed driving directions to your destination. Get directions for driving **Ask Siri.** Say something like: "Give me driving directions home." If multiple routes appear, tap Go for the route you want. Or wait a moment and let Siri select a route for you. Learn how to ask Siri. Or without asking Siri, you can do the following: 1. Tap your destination, such as a landmark on a map, or touch and hold any spot on the map. 2. Tap Directions, tap, then tap Go for the route you want. *Note:* Before you tap Go, you can select other route options. For example, you can choose to avoid tolls or highways. As you travel along your route, Maps speaks turn-by-turn directions to your destination. You can turn off voice directions, change the volume, or change the audio output device. See Change audio settings for turn-by-turn directions in Maps on iPhone. To end the directions at any time, tap End, or say something like "Hey Siri, stop navigating."

Representative Claim	Corresponding Structure in Accused Systems
	Link: https://support.apple.com/en-in/guide/iphone/ipha84a94043/ios  Show your current location Tap . Your position is marked in the middle of the map. The top of the map is north. To show your heading instead of north at the top, tap . To resume showing north, tap or . Link: https://support.apple.com/en-in/guide/iphone/iph10d7bdf26/ios  To end the directions at any time, tap End, or say something like "Hey Siri, stop navigating." 300 ft 30th Ave Fulton St Tap for the route overview. Tap for more options. Tap to share your estimated time of arrival. End When Do Not Disturb While Driving is turned on, or if iPhone auto-locks, Maps stays onscreen and continues to announce directions. Even if you open another app, Maps continues to give you turn-by-turn directions. (To return to Maps from another app, tap the banner across the top of the screen.) Link: https://support.apple.com/en-in/guide/iphone/ipha84a94043/ios
at least one second radio-frequency transceiver and an associated at least one second antenna of the wireless communications network to which the second radio-frequency transceiver is coupled; and	Plaintiff contends each Accused System includes at least one item, each of which is a base station and each of which is coupled to at least one antenna. Base station includes radio-frequency transceivers designed and used for radio-frequency communication with at least one antenna. When base-station transceivers and antennas are in communication, they are coupled. Further, in addition to being so coupled, the transceivers and antenna are also, by placement within a base station, physically coupled. The cell of the wireless communications network include base stations for transmission and reception of wireless signals to and from the mobile wireless communication devices or UEs or user devices (mobile phones, laptops, tablets, PDAs etc.). These base stations are, therefore, RF transceivers. Also, these base stations are coupled with at least one antenna for the function of transmission and reception. The following exemplifies this limitation's existence in Accused Systems:  How your device uses Location Services With your permission, Location Services allows apps and websites (including Maps, Camera, Weather, and other apps) to use information from cellular[1], Wi-Fi[1], Global Positioning System (GPS)[1] networks, and Bluetooth[1] to determine your approximate location[1]. **Link:** https://support.apple.com/en-in/HT203033

Representative Claim	Corresponding Structure in Accused Systems
a second processor coupled to the at least one second radio-frequency transceiver programmed to determine the location of the wireless mobile communications device,	Plaintiff contends that Apple Maps running on Apple`s branded device has one or more processors that determine(s) the location of wireless mobile communications devices. These processors communicatively coupled to the second RF transceiver(s) and are programmed to determine a wireless mobile communication device's location. Wireless mobile communications devices can, through the second RF transceiver(s), communicatively connect to and use Apple Maps. Apple Maps' communication or wireless processors can determine the device's current location and direction from that location/source to any destination. The processors are programmed to estimate the location of the device from various sources: GPS (GPS uses satellites and knows your location within a few meters), Bluetooth, Wi-Fi (the location of nearby Wi-Fi networks helps Maps know where you are), and Cellular (cell towers can be accurate up to a few thousand meters). The following exemplifies this limitation's existence in Accused Systems:  **Source**: Apple iPhone 11 Pro Max Teardown **Link**: https://www.techinsights.com/blog/apple-iphone-11-pro-max-teardown  How your device uses Location Services With your permission, Location Services allows apps and websites (including Maps, Camera, Weather, and other apps) to use information from cellular, Wi-Fi, Global Positioning System (GPS) networks, and Bluetooth to determine your approximate location. **Link:** https://support.apple.com/en-in/HT203033
wherein the second processor selectively determines the location of the wireless mobile communications device dependent	Plaintiff contends each such wireless communications device can set preference flags that enable or disable accessibility to data relevant to the device's location by Location-Based Services (LBS) providers. Such programmability by a wireless device is at times known as a privacy setting. Further, such programmability is available by location-permission granting (wireless mobile communications device must grant permission). The LBS providers' processors select to determine a wireless mobile communications device's locations if the preference flags applicable to that device have been set for enablement. The processors select to not determine a wireless mobile communications

Representative Claim	Corresponding Structure in Accused Systems
on the setting of preference flags,	device's locations if the preference flags applicable to that device have not been set for enablement. The following exemplifies this limitation's existence in Accused Systems: **Link:** https://support.apple.com/en-in/HT207092
wherein the second processor determines the location of the wireless mobile communications device if the preference flags are set to a state that permits tracking of the user of the wireless mobile communications device and communicates the location of the wireless mobile communications device to the first processor via the second radio-frequency transmitter, and	Plaintiff contends each such wireless communications device can set preference flags that enable or disable accessibility to data relevant to the device's location by Location-Based Services (LBS) providers. The LBS providers' processors select to determine a wireless mobile communications device's locations if the preference flags applicable to that device have been set for enablement. The processors select to not determine a wireless mobile communications device's locations if the preference flags applicable to that device have not been set for enablement. The Navigation hardware/software will only be able to determine and track the location of the Wireless communication device such as Apple's branded devices such as iPhone, iPad, MacBook, iPod Touch, iwatch etc. , Plaintiff contends each such wireless communications device can set preference flags that enable or disable accessibility to data relevant to the device's location by Location-Based Services (LBS) providers. Such programmability by a wireless device is at times known as a privacy setting. Further, such programmability is available by location-permission granting (wireless mobile communications device must grant permission). Plaintiff contends that if the preference flags are enabled (i.e., the wireless-mobile-communication device's user has granted permission), LBS-providers' processor(s) proceed with determining the device's location and, when determined, communicates that location to the first processor through the second RF transceiver (which, as discussed above, is a transceiver to which the LBS-providers' processors communicatively couple). The LBS-providers' processors are programmed to estimate the location of the device from 3 sources: GPS (GPS uses satellites and knows your location within a few meters), Wi-Fi (the location of nearby Wi-Fi networks helps Maps know where you are), and cell towers (cell tower can be accurate up to a few thousand meters). The following exemplifies this limitation's existence in Accused Systems: 

Representative Claim	Corresponding Structure in Accused Systems
	Source: Apple iPhone 11 Pro Max Teardown **Link**: https://www.techinsights.com/blog/apple-iphone-11-pro-max-teardown  **Attachment 7 (Apple iPhone 11 Pro Max Teardown).**  How your device uses Location Services With your permission, Location Services allows apps and websites (including Maps, Camera, Weather, and other apps) to use information from cellular¹, Wi-Fi², Global Positioning System (GPS)³ networks, and Bluetooth⁴ to determine your approximate location⁵. **Link:** https://support.apple.com/en-in/HT203033  How to turn Location Services on or off for specific apps 1. Go to Settings > Privacy > Location Services. 2. Make sure that Location Services is on. 3. Scroll down to find the app. 4. Tap the app and select an option: - Never: Prevents access to Location Services information. - Ask Next Time: This allows you to choose Always While Using App, Allow Once, or Don't Allow. - While Using the App: Allows access to Location Services only when the app or one of its features is visible on screen. If an app is set to While Using the App, you might see your status bar turn blue with a message that an app is actively using your location. - Always: Allows access to your location even when the app is in the background. From here, apps should provide an explanation of how the app will use your location information. Some apps might offer only two options. Learn more about privacy and Location Services. Privacy Location Services Location Services Privacy Alerts Share My Location Calendar While Using Camera While Using Find My While Using Home While Using Maps While Using Weather While Using System Services **Link:** https://support.apple.com/en-in/HT207092

Representative Claim	**Corresponding Structure in Accused Systems**
wherein the second processor does not determine and communicate the location of the wireless mobile communications device if the preference flags are set to a state that prohibits tracking of the wireless mobile communications device.	Plaintiff contends that if the preference flags are not enabled (i.e., the wireless-mobile-communication device's user has not granted permission), LBS provider application hardware/software, will not be able to determine and track the location of the Wireless communication device such as iPhone, iPad, MacBook, iPod Touch, iwatch etc., if the location flag on the Wireless communication device is turned off (that is, locations privacy settings are set to "Never"). The following exemplifies this limitation's existence in Accused Systems:  How to turn Location Services on or off for specific apps 1. Go to Settings > Privacy > Location Services. 2. Make sure that Location Services is on. 3. Scroll down to find the app. 4. Tap the app and select an option: • Never: Prevents access to Location Services information. • Ask Next Time: This allows you to choose Always While Using App, Allow Once, or Don't Allow. • While Using the App: Allows access to Location Services only when the app or one of its features is visible on screen. If an app is set to While Using the App, you might see your status bar turn blue with a message that an app is actively using your location. • Always: Allows access to your location even when the app is in the background. From here, apps should provide an explanation of how the app will use your location information. Some apps might offer only two options. Learn more about privacy and Location Services. Location Services Privacy Alerts Location Services uses GPS, Bluetooth, and crowd-sourced Wi-Fi hotspot and cell tower locations to determine your approximate location. About Location Services & Privacy... Location Services settings also apply to your Apple Watch. Share My Location This iPhone is being used for location sharing. Calendar While Using Camera While Using Find My While Using Home While Using Maps While Using Weather While Using System Services **Link:** https://support.apple.com/en-in/HT207092

18. Defendant makes, uses, offers to sell, and/or sells within or imports into the U.S. wireless networks, wireless-network components, and related services that use identified locations of wireless devices to provide tracking such that Defendant infringes claims 1–30 of the ’388 patent, literally or under the doctrine of equivalents.

19. Defendant put the inventions claimed by the ’388 Patent into service (i.e., used them); but for Defendant’s actions, the claimed-inventions embodiments involving Defendant’s products and services would never have been put into service. Defendant’s acts complained of herein caused those claimed-invention embodiments as a whole to perform, and Defendant obtaining monetary and commercial benefit from it.

20. Defendant has and continues to induce infringement. Defendant has actively encouraged or instructed others (e.g., its customers), and continues to do so, on how to use its products and services (e.g., U.S. wireless networks, wireless-network components that use identified locations of wireless devices to provide tracking of mobile devices) such to cause infringement claims 1–30 of the ’388 patent, literally or under the doctrine of equivalents. Moreover, Defendant has known and should have known of the ’388 patent, by at least by the date of the patent’s issuance, or from the issuance of the ‘284 patent, which followed the date that the patent’s underlying application was cited to Defendant by the U.S. Patent and Trademark Office during prosecution of one of Defendant’s patent applications, such that Defendant knew and should have known that it was and would be inducing infringement.

21. Defendant has and continues to contributorily infringe. Defendant has actively encouraged or instructed others (e.g., its customers and/or the customers of its related companies), and continues to do so, on how to use its products and services e.g., U.S. wireless networks, wireless-network components that use identified locations of wireless devices to provide tracking of mobile devices) such as to cause infringement of one or more of claims 1–30 of the ’388 patent, literally or under the doctrine of equivalents. Moreover, Defendant has known of the ’388 patent and the technology underlying it from at least the date of issuance

of the patent or from the issuance of the ‘284 patent, which followed the date that the patent’s underlying application was cited to Defendant by the U.S. Patent and Trademark Office during prosecution of one of Defendant’s patent applications, such that Defendant knew and should have known that it was and would be contributorily infringing.

22. Defendant has caused and will continue to cause Traxcell damage by infringing the ’388 patent.

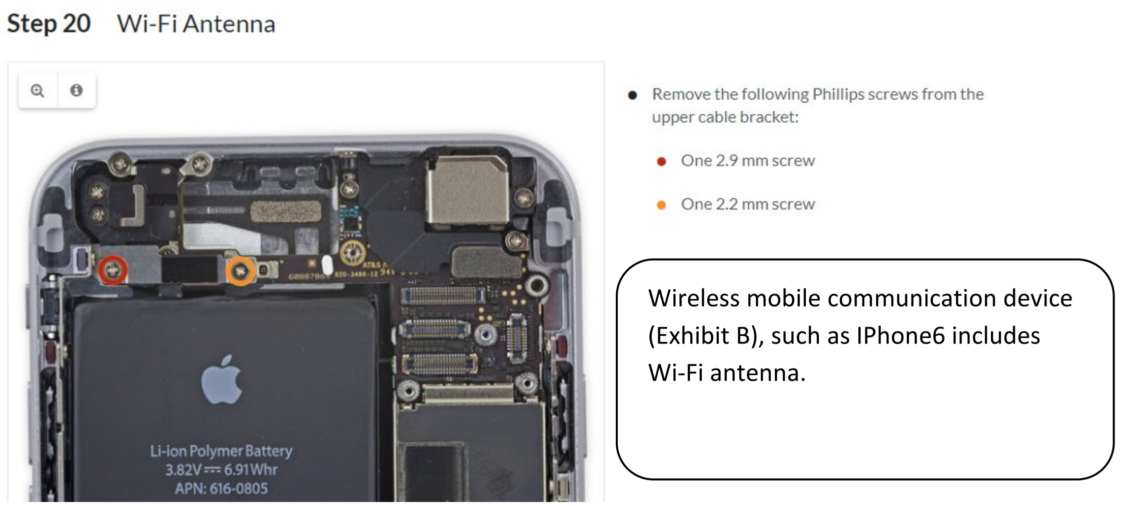
V. INFRINGEMENT (’147 Patent (Attached as exhibit C))

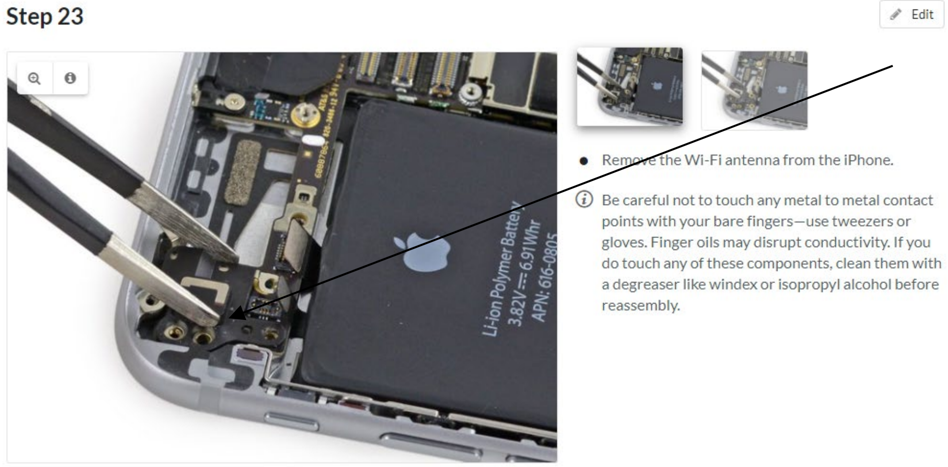
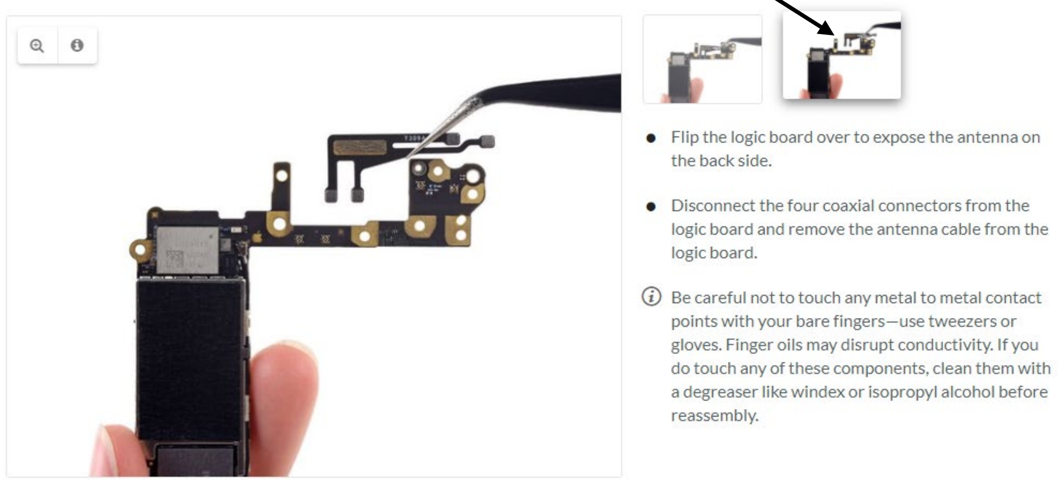
23. On October 27, 2020, U.S. Patent No. 10,820,147 (“the ’147 patent”) entitled “Mobile wireless device providing off-line and on-line geographic navigation information” (attached as Exhibit C) was duly and legally issued by the U.S. Patent and Trademark Office. Traxcell owns the ’147 patent by assignment.

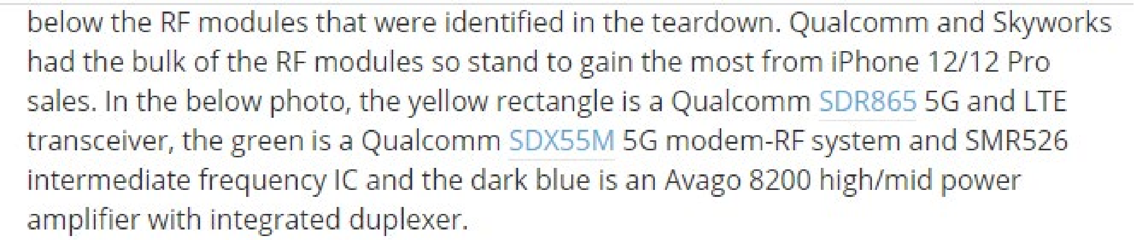
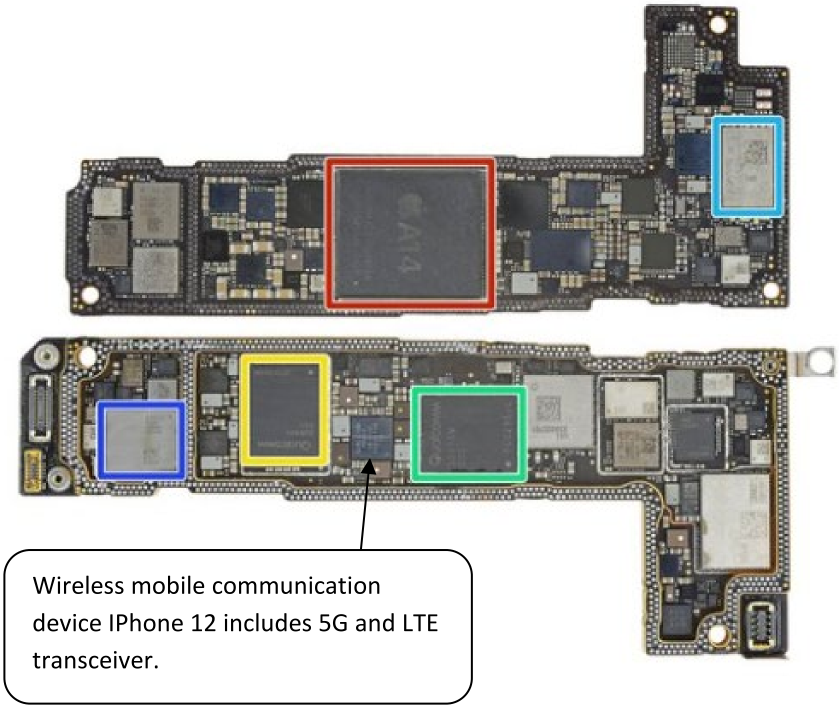
24. The ’147 Patent’s Abstract states, “A mobile device, wireless network and their method of operation provide both on-line (connected) navigation operation, as well as off-line navigation from a local database within the mobile device. Routing according to the navigation system can be controlled by traffic congestion measurements made by the wireless network that allow the navigation system to select the optimum route based on expected trip duration.”

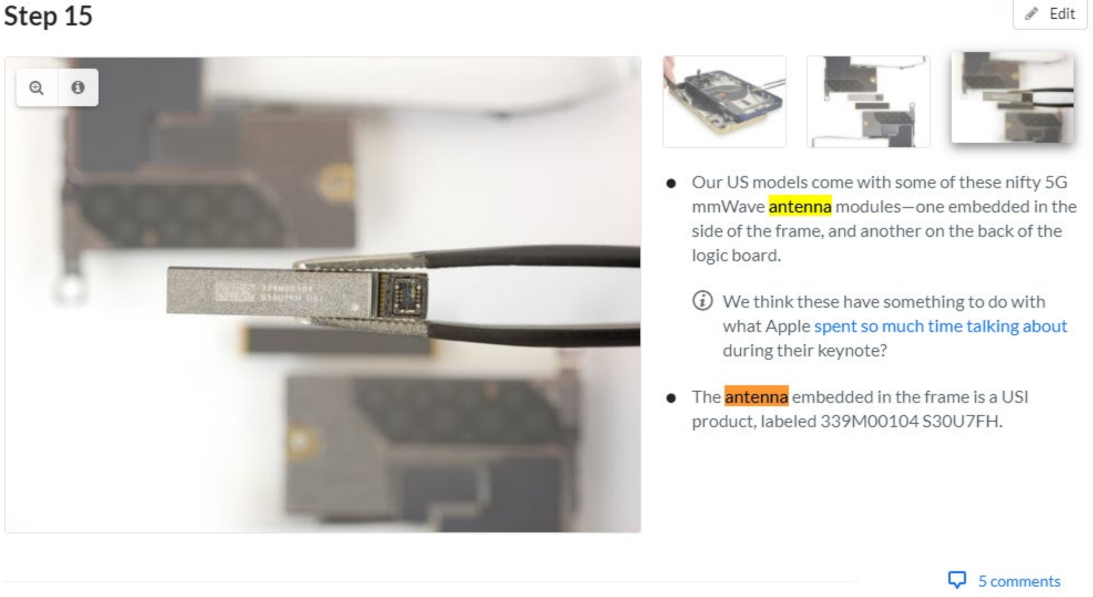
25. The following preliminary exemplary chat provides Traxcell’s allegations of infringement.

Exemplary Claim	Corresponding Structure in Accused Systems
A wireless communications system including:	
a first radio-frequency transceiver within a wireless mobile communications device and an	Plaintiff contends each item listed on Exhibit B corresponds to this claim limitation because each Exhibit-B item is a device that provides communicative access to a wireless network by transceivers designed and used for radio-frequency communication and at least one antenna. When a wireless communication device transceivers and antennas are

Exemplary Claim	Corresponding Structure in Accused Systems
associated first antenna to which the first radio-frequency transceiver is coupled,	in communication, they are coupled. Further, in addition to being so coupled, the transceiver of each Exhibit-B item is also configured for RF-communication wireless communication networks, such as AT&T, Verizon, T-Mobile, and other US networks (Cellular or WLAN) via Apple Maps which comes preloaded on Exhibit-B items. Plaintiff contends each item listed on Exhibit B corresponds to this claim limitation because each Exhibit-B item includes a radio frequency transceiver. Wireless mobile communication device including to Apple's branded devices such as example: iPhone, iPad, MacBook, iPod Touch, iwatch etc. include radio-frequency transceivers and an associated antenna. When wireless communication device transceivers and antennas are in communication, they are coupled. Further, in addition to being so coupled, the transceiver of each Exhibit-B item is also configured for RF-communication with the wireless communication network. The following exemplifies this limitation's existence in Accused Systems:  **Step 20** Wi-Fi Antenna ● Remove the following Phillips screws from the upper cable bracket: ● One 2.9 mm screw ● One 2.2 mm screw Wireless mobile communication device (Exhibit B), such as IPhone6 includes Wi-Fi antenna.

Exemplary Claim	Corresponding Structure in Accused Systems
	 Step 23 Edit Li-Ion Polymer Battery 3.82V ⎓ 6.91Whr APN: 616-0805 - Remove the Wi-Fi antenna from the iPhone. ⓘ Be careful not to touch any metal to metal contact points with your bare fingers—use tweezers or gloves. Finger oils may disrupt conductivity. If you do touch any of these components, clean them with a degreaser like windex or isopropyl alcohol before reassembly. **Link:** https://www.ifixit.com/Guide/iPhone+6+Wi-Fi+Antenna+Replacement/90315 Wireless mobile communication device (Exhibit B), such as IPhone includes antenna Board. Step 39 Antenna Flex Cable  - Flip the logic board over to expose the antenna on the back side. - Disconnect the four coaxial connectors from the logic board and remove the antenna cable from the logic board. ⓘ Be careful not to touch any metal to metal contact points with your bare fingers—use tweezers or gloves. Finger oils may disrupt conductivity. If you do touch any of these components, clean them with a degreaser like windex or isopropyl alcohol before reassembly. **Source:** Antenna of IPhone Teardown by Ifixit (Time-5:50/7:21) **Link:** https://www.ifixit.com/Guide/iPhone+6+Antenna+Flex+Cable+Replacement/90317

Exemplary Claim	Corresponding Structure in Accused Systems
	 below the RF modules that were identified in the teardown. Qualcomm and Skyworks had the bulk of the RF modules so stand to gain the most from iPhone 12/12 Pro sales. In the below photo, the yellow rectangle is a Qualcomm SDR865 5G and LTE transceiver, the green is a Qualcomm SDX55M 5G modem-RF system and SMR526 intermediate frequency IC and the dark blue is an Avago 8200 high/mid power amplifier with integrated duplexer.  Wireless mobile communication device IPhone 12 includes 5G and LTE transceiver. **Link:** https://www.microwavejournal.com/blogs/9-pat-hindle-mwj-editor/post/34907-iphone-1212-pro-teardown-for-rf

Exemplary Claim	Corresponding Structure in Accused Systems
	 Step 15 - Our US models come with some of these nifty 5G mmWave antenna modules—one embedded in the side of the frame, and another on the back of the logic board. We think these have something to do with what Apple spent so much time talking about during their keynote? - The antenna embedded in the frame is a USI product, labeled 339M00104 S30U7FH. **Source:** (Teardown of Apple 12 showing Antenna, 5G and LTE Transceiver component). **Link:** https://www.ifixit.com/Teardown/iPhone+12+and+12+Pro+Teardown/137669

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<tr><th>Exemplary Claim</th><th>Corresponding Structure in Accused Systems</th></tr>
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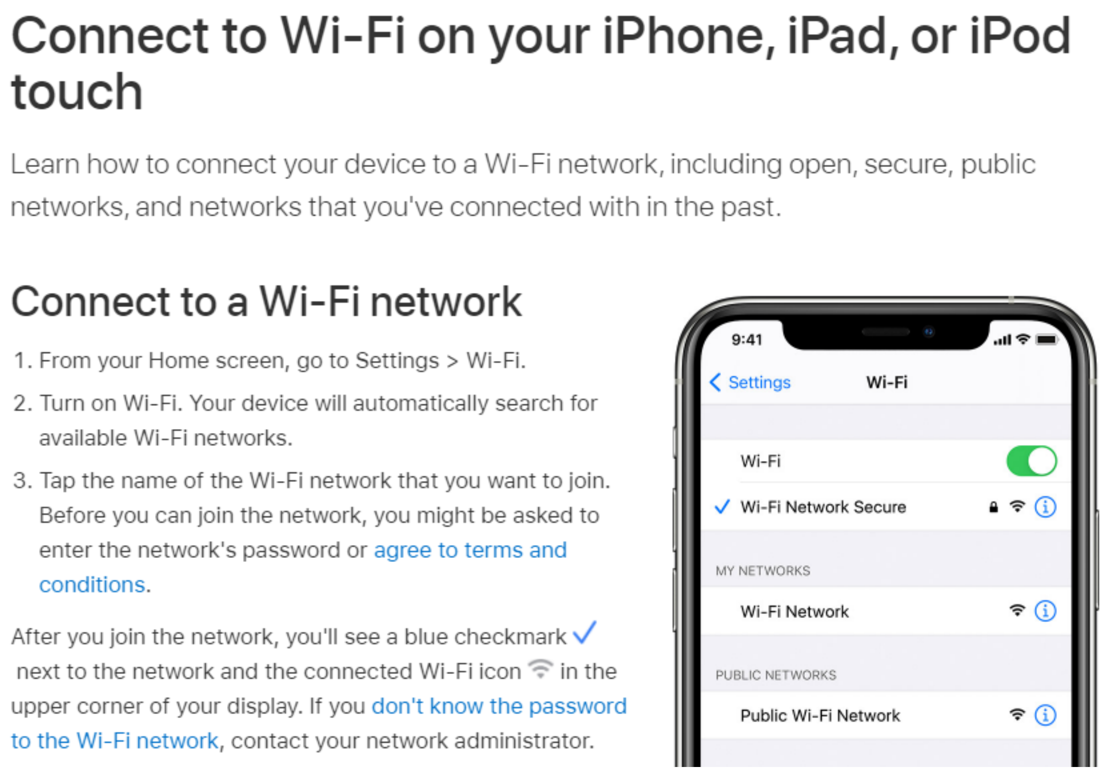


Connect to Wi-Fi on your iPhone, iPad, or iPod touch

Learn how to connect your device to a Wi-Fi network, including open, secure, public networks, and networks that you've connected with in the past.

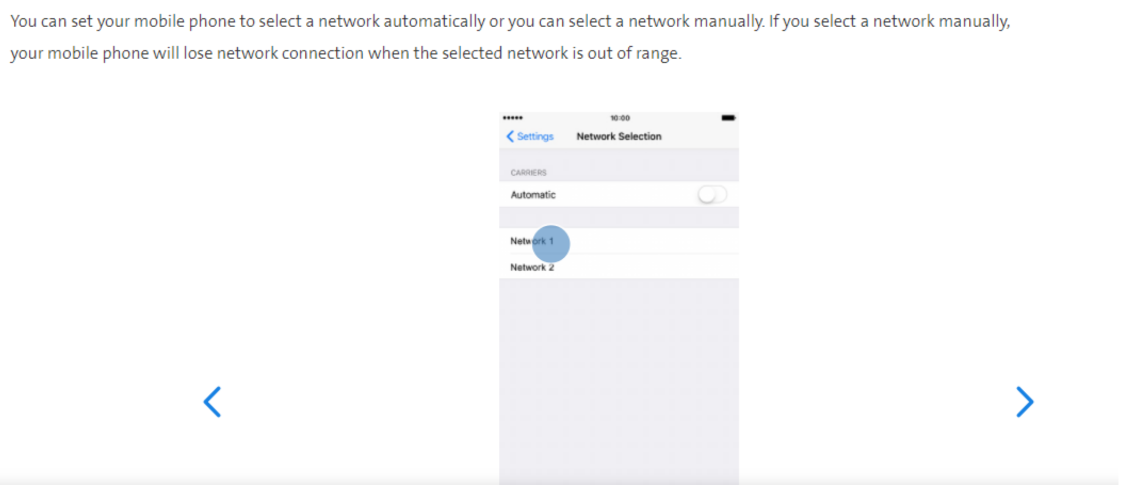
Connect to a Wi-Fi network

1. From your Home screen, go to Settings > Wi-Fi.
2. Turn on Wi-Fi. Your device will automatically search for available Wi-Fi networks.
3. Tap the name of the Wi-Fi network that you want to join. Before you can join the network, you might be asked to enter the network's password or agree to terms and conditions.

After you join the network, you'll see a blue checkmark ✓ next to the network and the connected Wi-Fi icon in the upper corner of your display. If you don't know the password to the Wi-Fi network, contact your network administrator.

9:41
Settings
Wi-Fi
Wi-Fi
✓ Wi-Fi Network Secure
MY NETWORKS
Wi-Fi Network
PUBLIC NETWORKS
Public Wi-Fi Network

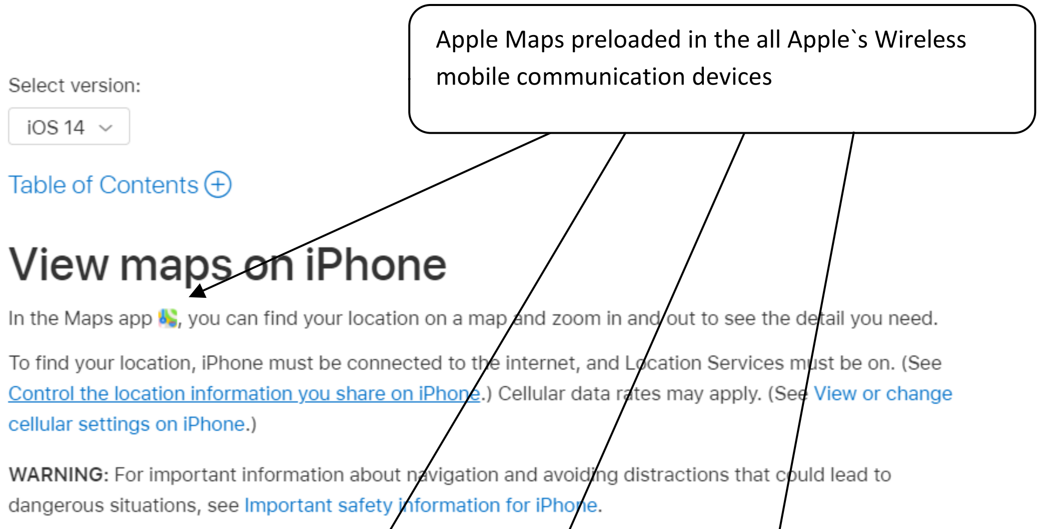
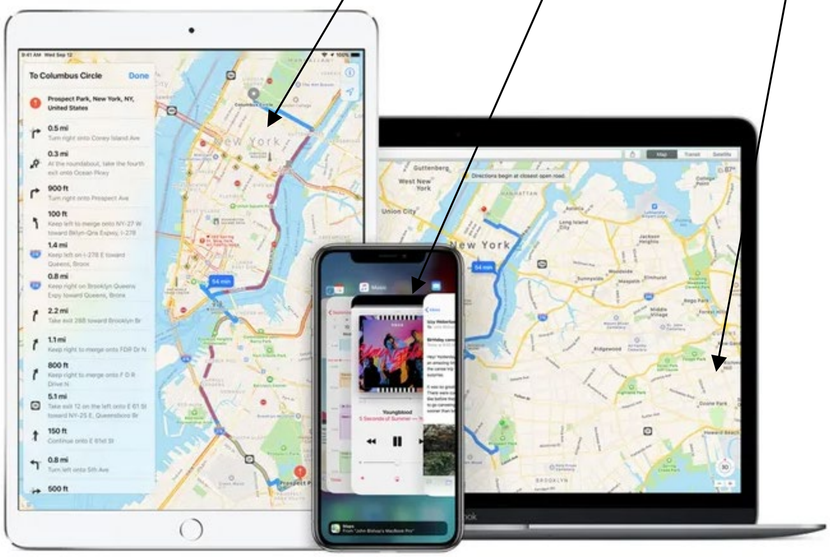
Link: https://support.apple.com/en-in/HT202639

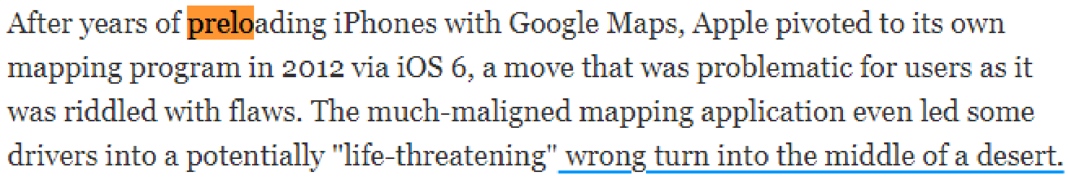


You can set your mobile phone to select a network automatically or you can select a network manually. If you select a network manually, your mobile phone will lose network connection when the selected network is out of range.

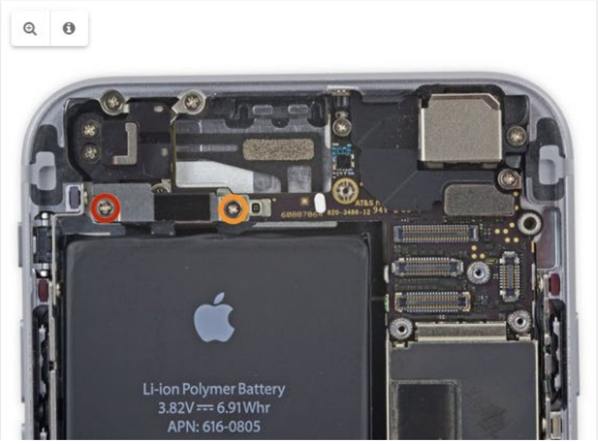
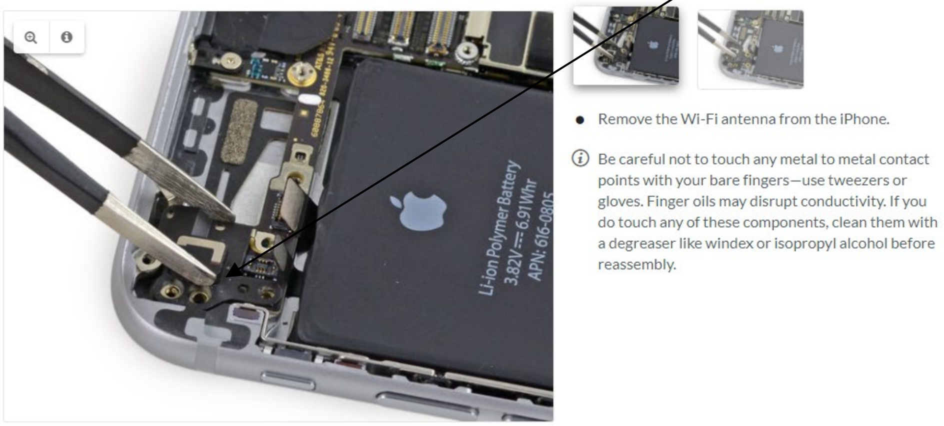
10:00
Settings
Network Selection
CARRIERS
Automatic
Network 1
Network 2

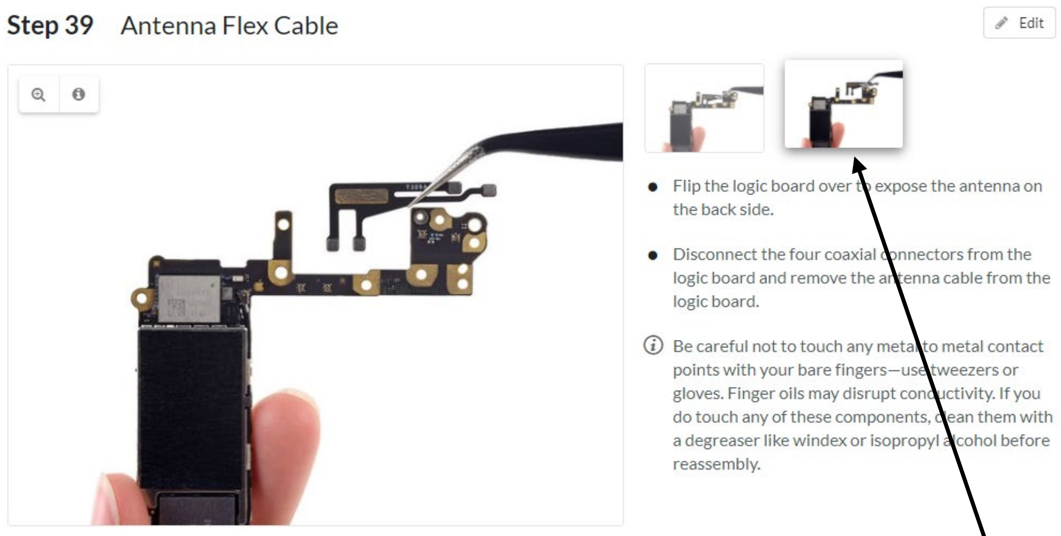
</td></tr>
</table>

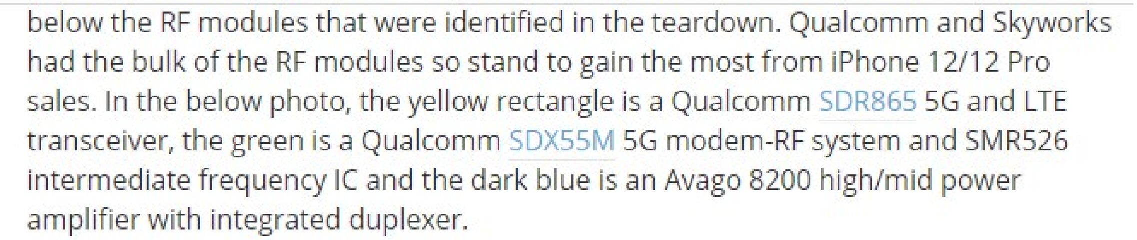
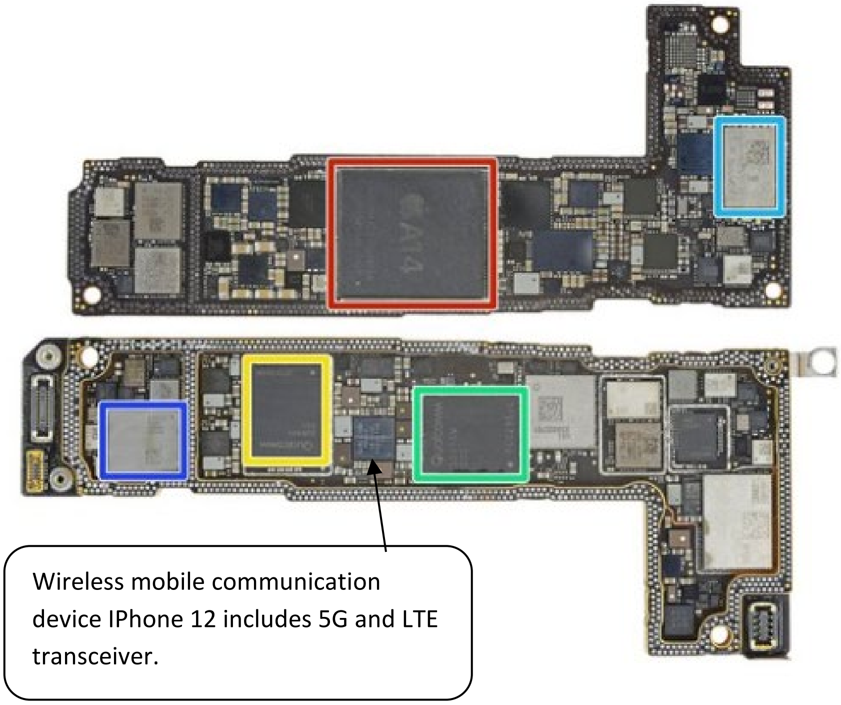
Exemplary Claim	Corresponding Structure in Accused Systems
	Link: https://devicesupport.swisscom.ch/apple/iphone-7-plus/connectivity/select-a-network/  Apple Maps preloaded in the all Apple`s Wireless mobile communication devices Select version: iOS 14 Table of Contents ⊕ View maps on iPhone In the Maps app, you can find your location on a map and zoom in and out to see the detail you need. To find your location, iPhone must be connected to the internet, and Location Services must be on. (See Control the location information you share on iPhone.) Cellular data rates may apply. (See View or change cellular settings on iPhone.) **WARNING:** For important information about navigation and avoiding distractions that could lead to dangerous situations, see Important safety information for iPhone. **Attachment 4 (Apple Maps application preloaded on Apple devices).**  Apple Maps *Apple*

Exemplary Claim	Corresponding Structure in Accused Systems
	 After years of preloading iPhones with Google Maps, Apple pivoted to its own mapping program in 2012 via iOS 6, a move that was problematic for users as it was riddled with flaws. The much-maligned mapping application even led some drivers into a potentially "life-threatening" wrong turn into the middle of a desert. **Source: (Apple Maps application preloaded on Apple Devices)** **Link:**https://www.usatoday.com/story/tech/2019/06/04/ios-13-apple-maps-upgrade-fall/1337077001/
wherein the first radio-frequency transceiver is configured for radio-frequency communication with a wireless communications network;	Plaintiff contends each item listed on Exhibit B corresponds to this claim limitation because each Exhibit-B item is a device that provides communicative access to a wireless network by transceivers designed and used for radio-frequency communication and at least one antenna. When a wireless communication device transceivers and antennas are in communication, they are coupled. Further, in addition to being so coupled, the transceiver of each Exhibit-B item is also configured for RF-communication wireless communication networks, such as AT&T, Verizon, T-Mobile, and other US networks (Cellular or WLAN) via Apple Maps which comes preloaded on Exhibit-B items. Plaintiff contends each item listed on Exhibit B corresponds to this claim limitation because each Exhibit-B item includes a radio frequency transceiver. Wireless mobile communication device including to Apple's branded devices such as example: iPhone, iPad, MacBook, iPod Touch, iwatch etc. include radio-frequency transceivers and an associated antenna. When wireless communication device transceivers and antennas are in communication, they are coupled. Further, in addition to being so coupled, the transceiver of each Exhibit-B item is also configured for RF-communication with the wireless communication network. The following exemplifies this limitation's existence in Accused Systems:

Exemplary Claim	Corresponding Structure in Accused Systems

	Step 20 Wi-Fi Antenna
	
	- Remove the following Phillips screws from the upper cable bracket:
	  - One 2.9 mm screw
	  - One 2.2 mm screw
	Wireless mobile communication device (Exhibit B), such as IPhone6 includes Wi-Fi antenna.
	Step 23 Edit
	
	- Remove the Wi-Fi antenna from the iPhone.
	ⓘ Be careful not to touch any metal to metal contact points with your bare fingers—use tweezers or gloves. Finger oils may disrupt conductivity. If you do touch any of these components, clean them with a degreaser like windex or isopropyl alcohol before reassembly.
	Link: https://www.ifixit.com/Guide/iPhone+6+Wi-Fi+Antenna+Replacement/90315

Exemplary Claim	Corresponding Structure in Accused Systems
	 Step 39 Antenna Flex Cable - Flip the logic board over to expose the antenna on the back side. - Disconnect the four coaxial connectors from the logic board and remove the antenna cable from the logic board. ⓘ Be careful not to touch any metal to metal contact points with your bare fingers—use tweezers or gloves. Finger oils may disrupt conductivity. If you do touch any of these components, clean them with a degreaser like windex or isopropyl alcohol before reassembly. **Source:** Antenna of IPhone Teardown by Ifixit (Time-5:50/7:21) **Link:** https://www.ifixit.com/Guide/iPhone+6+Antenna+Flex+Cable+Replacement/90317 Wireless mobile communication device (Exhibit B), such as IPhone includes antenna Board.

Exemplary Claim	Corresponding Structure in Accused Systems
	 below the RF modules that were identified in the teardown. Qualcomm and Skyworks had the bulk of the RF modules so stand to gain the most from iPhone 12/12 Pro sales. In the below photo, the yellow rectangle is a Qualcomm SDR865 5G and LTE transceiver, the green is a Qualcomm SDX55M 5G modem-RF system and SMR526 intermediate frequency IC and the dark blue is an Avago 8200 high/mid power amplifier with integrated duplexer.  Wireless mobile communication device IPhone 12 includes 5G and LTE transceiver. **Link:** https://www.microwavejournal.com/blogs/9-pat-hindle-mwj-editor/post/34907-iphone-1212-pro-teardown-for-rf

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	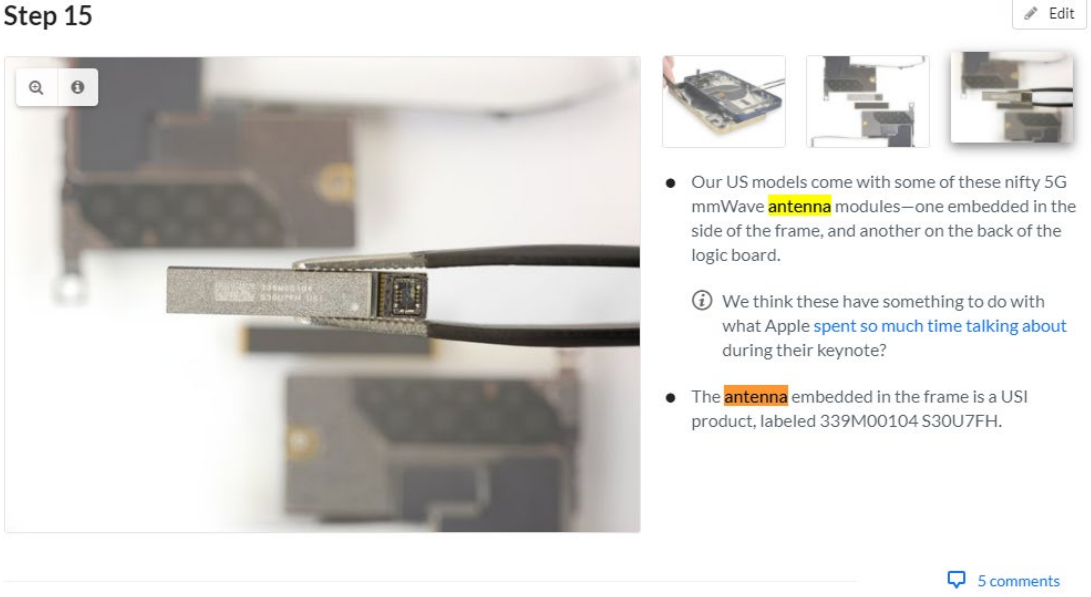 Step 15 - Our US models come with some of these nifty 5G mmWave antenna modules—one embedded in the side of the frame, and another on the back of the logic board. We think these have something to do with what Apple spent so much time talking about during their keynote? - The antenna embedded in the frame is a USI product, labeled 339M00104 S30U7FH. **Source:** (Teardown of Apple 12 showing Antenna, 5G and LTE Transceiver component). **Link:** https://www.ifixit.com/Teardown/iPhone+12+and+12+Pro+Teardown/137669

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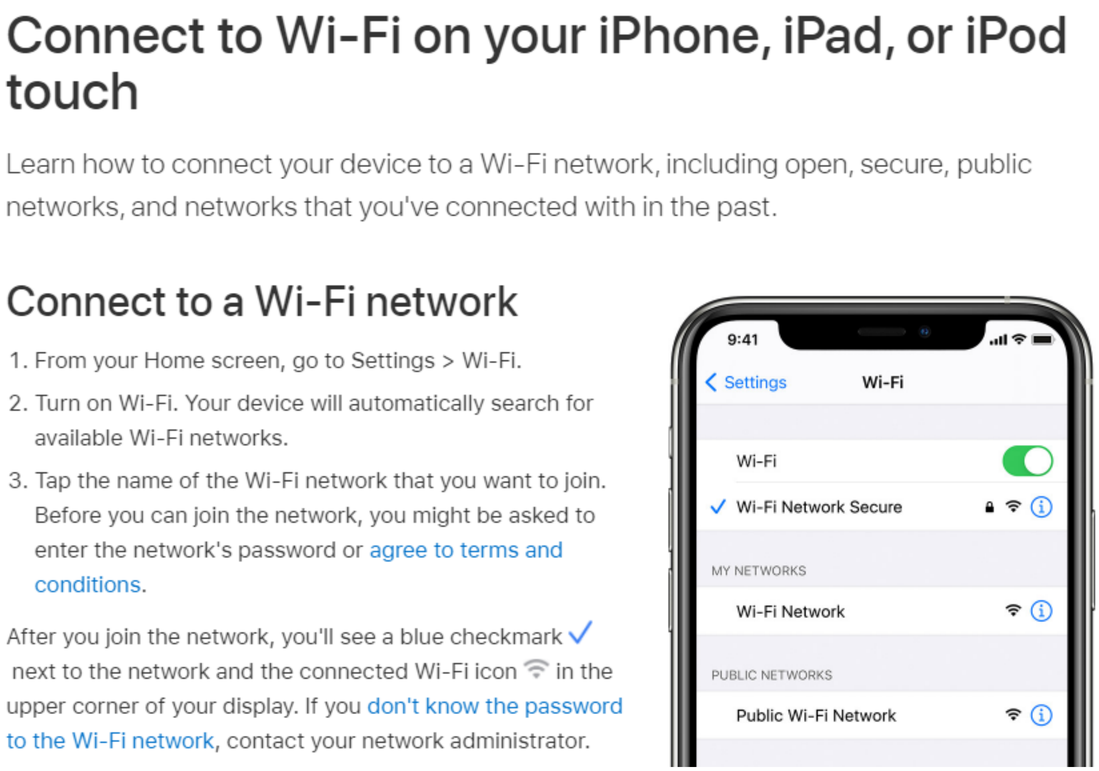

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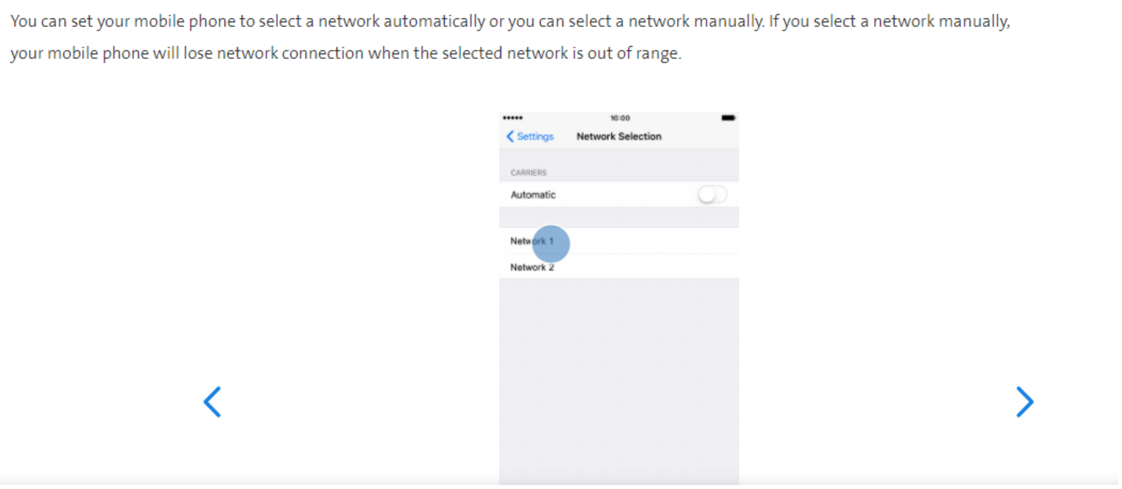
9:41
Settings
Wi-Fi
Wi-Fi
✓ Wi-Fi Network Secure
MY NETWORKS
Wi-Fi Network
PUBLIC NETWORKS
Public Wi-Fi Network

Link: https://support.apple.com/en-in/HT202639



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Settings
Network Selection
CARRIERS
Automatic
Network 1
Network 2

</td></tr>
</table>

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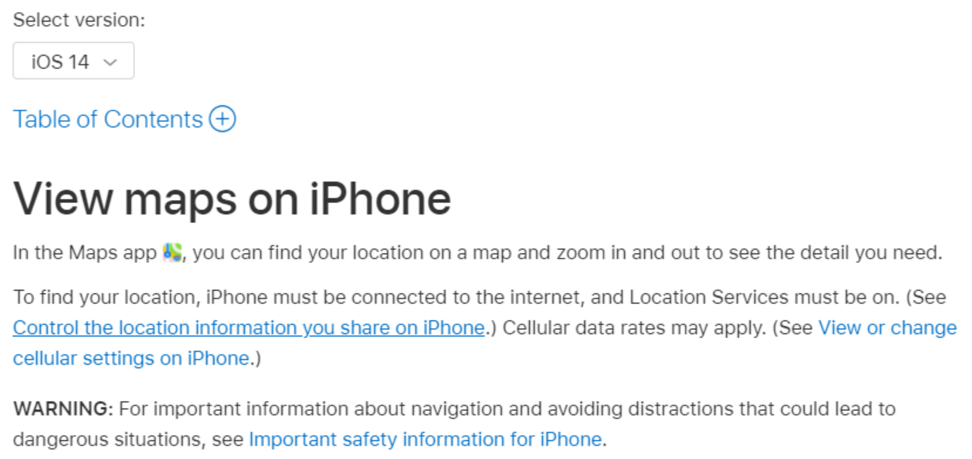
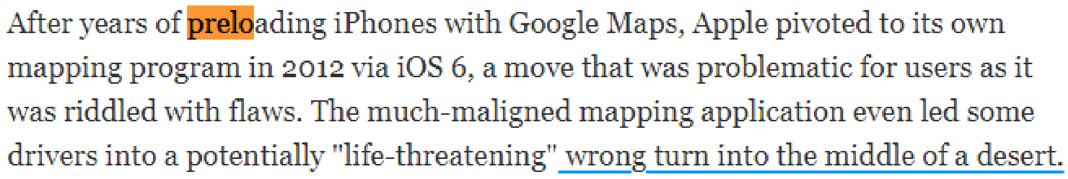
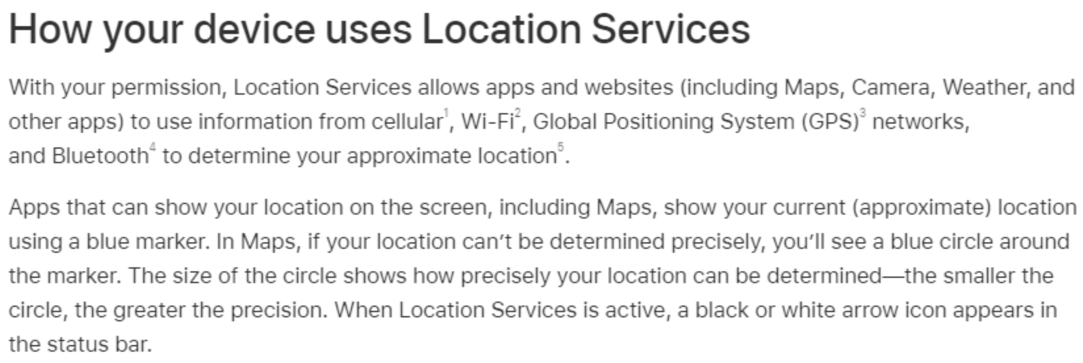
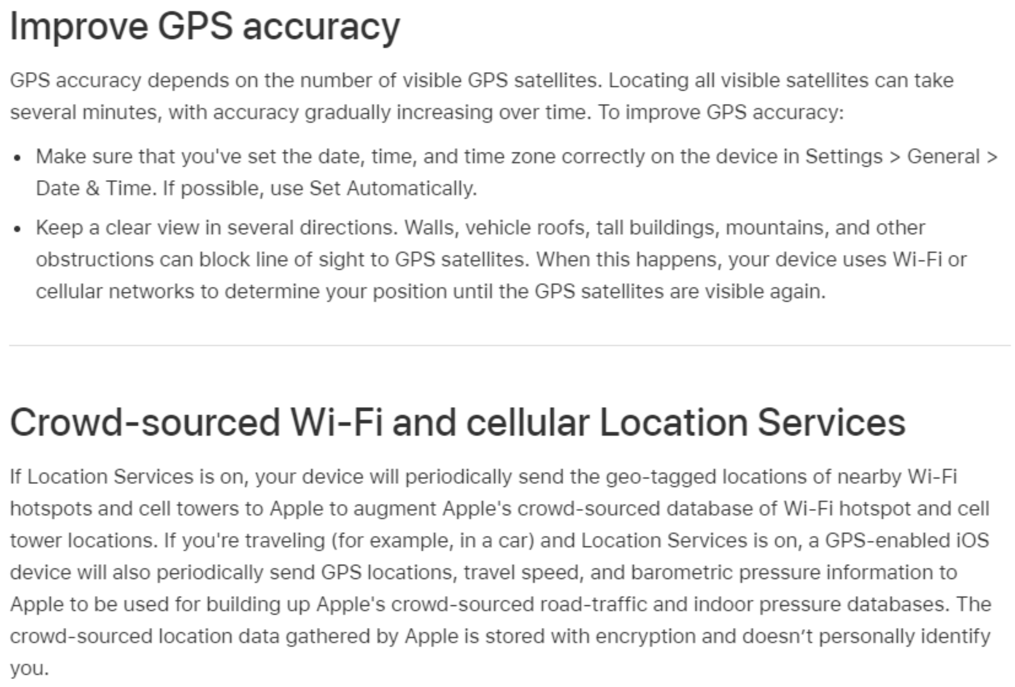
	Link: https://devicesupport.swisscom.ch/apple/iphone-7-plus/connectivity/select-a-network/  Select version: iOS 14 Table of Contents ⊕ **View maps on iPhone** In the Maps app, you can find your location on a map and zoom in and out to see the detail you need. To find your location, iPhone must be connected to the internet, and Location Services must be on. (See Control the location information you share on iPhone.) Cellular data rates may apply. (See View or change cellular settings on iPhone.) **WARNING:** For important information about navigation and avoiding distractions that could lead to dangerous situations, see Important safety information for iPhone. **Attachment 4 (Apple Maps application preloaded on Apple devices).** Apple Maps *Apple*

Exemplary Claim	Corresponding Structure in Accused Systems
	 After years of preloading iPhones with Google Maps, Apple pivoted to its own mapping program in 2012 via iOS 6, a move that was problematic for users as it was riddled with flaws. The much-maligned mapping application even led some drivers into a potentially "life-threatening" wrong turn into the middle of a desert. **Source: (Apple Maps application preloaded on Apple Devices)** **Link:**https://www.usatoday.com/story/tech/2019/06/04/ios-13-apple-maps-upgrade-fall/1337077001/
a first processor within the wireless mobile communications device coupled to the at least one first radio-frequency transceiver programmed to receive information indicative of a location of the wireless mobile communications device and generate an indication of a location of the wireless mobile communications device with respect to geographic features according to mapping information stored within the wireless mobile communications device,	Plaintiff contends the Exhibit-B-listed mobile-wireless-communications device's motherboard processor is programmed to process location-service information; i.e., to receive a location of the device from the wireless communications network and generate an indication of the device's location. For example, the application processor may use Apple Maps to obtain the device's location and provide direction from that location to a destination. Wireless mobile communication devices including to Apple's branded devices such as Iphones, MacBook, IPad and IPod (refer Exhibit B for complete list) has a processor for example, Quad-Core processor. When wireless communication device transceivers and processor are in communication, they are coupled. Further, the Location-based Service (LBS) provider, such as Apple Map, on the Exhibit-B utilizes the processor coupled to the transceiver to estimates/receive the location on mobile wireless communications devices (specifically one or more of the mobile wireless communications devices identified on Exhibit B) by utilizing wireless communication network or first computer. For example, the Application processor may use Apple Maps to view and find places around the globe. Apple map can also show your current location and provide direction (including with respect to geographic features such as nearby restaurants) from your location/source to any destination. In using Apple Maps App, the mobile wireless communication device's application processor generates signals for displaying on the device's screen a blue marker that shows the current location of the wireless mobile communication device. The Apple map estimates the location of the device from various sources: GPS (GPS uses satellites and knows your location within a few meters), Bluetooth, Wi-Fi (the location of nearby Wi-Fi networks helps Maps know where you are), and cell towers (cell tower can be accurate up to a few thousand meters). When Apple Maps isn't sure about your location, a light blue circle around the blue dot is shown. You might be anywhere within the light blue circle. The size of the

Exemplary Claim	Corresponding Structure in Accused Systems
	circle shows how precisely your location can be determined—the smaller the circle, the greater the precision. When Location Services is active, a black or white arrow icon appears in the status bar. Furthermore, Apple Maps App provides flexibility to download maps on internal memory of communication device such as iPhone, iPad, MacBook, iPod Touch, iwatch etc. (Exhibit B) and navigate offline. When internet is slow or mobile data is expensive, or communication device cannot connect to internet, an area can be saved to IPhone or IPad (Exhibit B) from Apple maps app and use it when offline. Communication device can use Offline maps for Navigation through the downloaded area without internet. The following exemplifies the existence of this limitation in Accused Systems:  How your device uses Location Services With your permission, Location Services allows apps and websites (including Maps, Camera, Weather, and other apps) to use information from cellular[1], Wi-Fi[2], Global Positioning System (GPS)[3] networks, and Bluetooth[4] to determine your approximate location[5]. Apps that can show your location on the screen, including Maps, show your current (approximate) location using a blue marker. In Maps, if your location can't be determined precisely, you'll see a blue circle around the marker. The size of the circle shows how precisely your location can be determined—the smaller the circle, the greater the precision. When Location Services is active, a black or white arrow icon appears in the status bar.  Improve GPS accuracy GPS accuracy depends on the number of visible GPS satellites. Locating all visible satellites can take several minutes, with accuracy gradually increasing over time. To improve GPS accuracy: • Make sure that you've set the date, time, and time zone correctly on the device in Settings > General > Date & Time. If possible, use Set Automatically. • Keep a clear view in several directions. Walls, vehicle roofs, tall buildings, mountains, and other obstructions can block line of sight to GPS satellites. When this happens, your device uses Wi-Fi or cellular networks to determine your position until the GPS satellites are visible again. Crowd-sourced Wi-Fi and cellular Location Services If Location Services is on, your device will periodically send the geo-tagged locations of nearby Wi-Fi hotspots and cell towers to Apple to augment Apple's crowd-sourced database of Wi-Fi hotspot and cell tower locations. If you're traveling (for example, in a car) and Location Services is on, a GPS-enabled iOS device will also periodically send GPS locations, travel speed, and barometric pressure information to Apple to be used for building up Apple's crowd-sourced road-traffic and indoor pressure databases. The crowd-sourced location data gathered by Apple is stored with encryption and doesn't personally identify you.

<table>
<tr><th>Exemplary Claim</th><th>Corresponding Structure in Accused Systems</th></tr>
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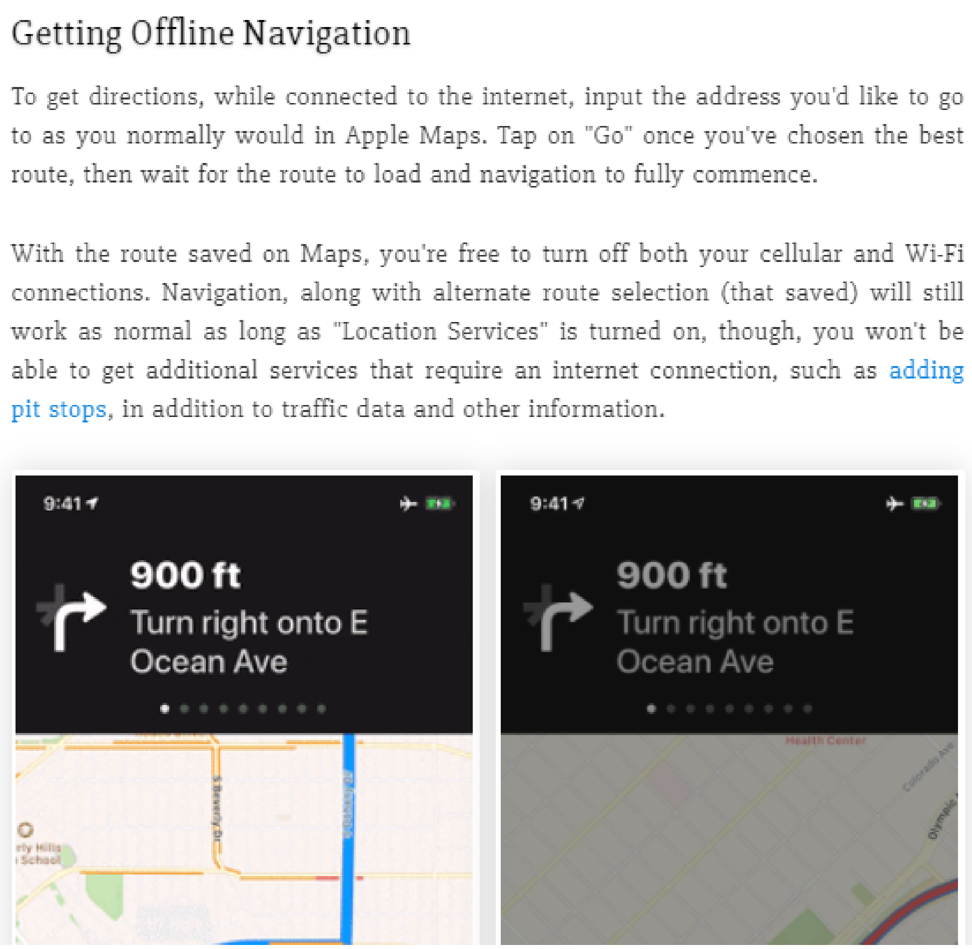
Link: https://support.apple.com/en-in/HT203033



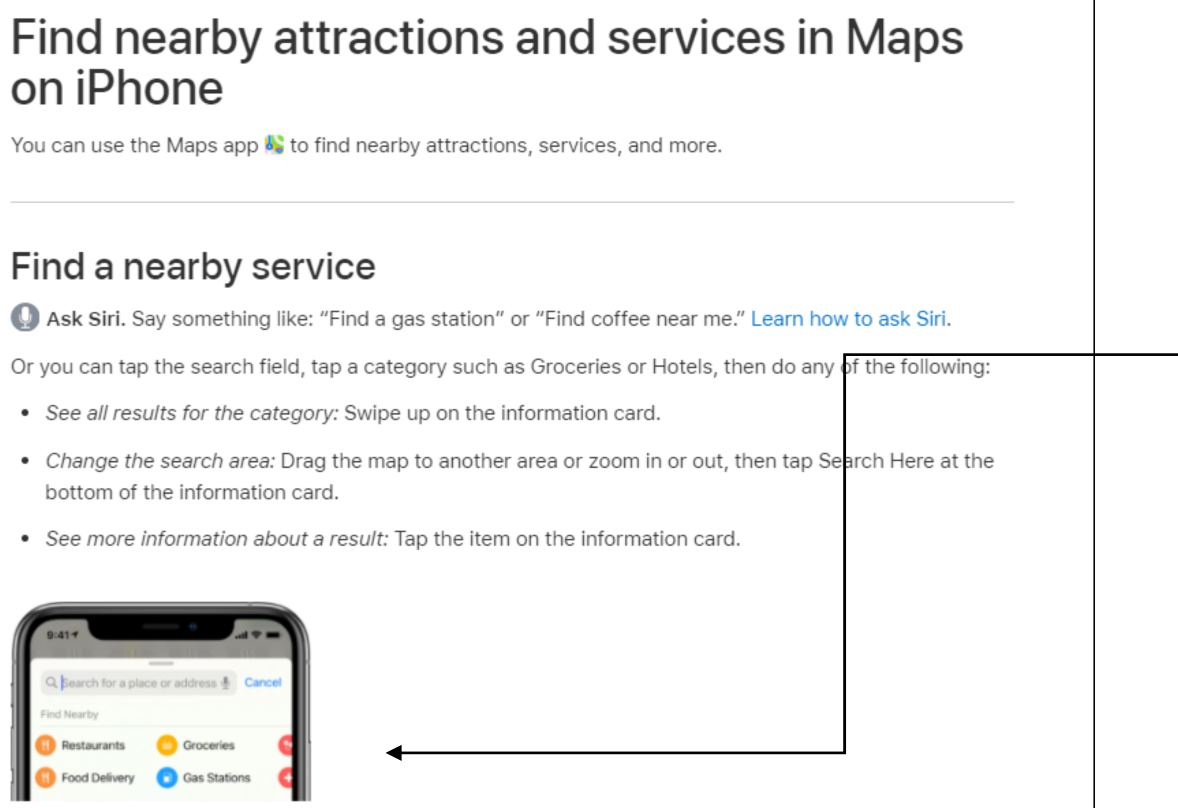
Getting Offline Navigation

To get directions, while connected to the internet, input the address you'd like to go to as you normally would in Apple Maps. Tap on "Go" once you've chosen the best route, then wait for the route to load and navigation to fully commence.

With the route saved on Maps, you're free to turn off both your cellular and Wi-Fi connections. Navigation, along with alternate route selection (that saved) will still work as normal as long as "Location Services" is turned on, though, you won't be able to get additional services that require an internet connection, such as adding pit stops, in addition to traffic data and other information.

Link: https://ios.gadgethacks.com/how-to/download-maps-navigation-routes-for-offline-use-apple-maps-0184439/

</td></tr>
</table>

Exemplary Claim	Corresponding Structure in Accused Systems
	 Find nearby attractions and services in Maps on iPhone You can use the Maps app to find nearby attractions, services, and more. Find a nearby service **Ask Siri.** Say something like: "Find a gas station" or "Find coffee near me." Learn how to ask Siri. Or you can tap the search field, tap a category such as Groceries or Hotels, then do any of the following: • *See all results for the category:* Swipe up on the information card. • *Change the search area:* Drag the map to another area or zoom in or out, then tap Search Here at the bottom of the information card. • *See more information about a result:* Tap the item on the information card. 9:41 Search for a place or address Cancel Find Nearby Restaurants Groceries Food Delivery Gas Stations **Source:** Find nearby attractions and services in Maps on iPhone **Link:** https://support.apple.com/en-in/guide/iphone/iphbaf51b2c0/ios Plaintiff contends the Exhibit-B-listed mobile-wireless-communications device's application processor is programmed to process location based service information; i.e., to receive a location of the device from the wireless communications network and generate an indication of the device's location. For example, the application processor may use Apple Maps to obtain the device's location and provide direction from that location to a destination. Wireless mobile communication device- including to Apple's branded devices such as IPhone, MacBook, IPad and IPod (refer Exhibit B for complete list) has a processor for example, Quad-Core processor. When wireless communication device transceivers and processor are in communication, they are coupled. Further, the Location-based Service (LBS) provider, such as Apple Map, on the Exhibit-B utilizes the processor coupled to the transceiver to estimates/receive the location on mobile wireless communications devices (specifically one or more of the mobile wireless communications devices identified on Exhibit B) by utilizing wireless communication network or first computer.

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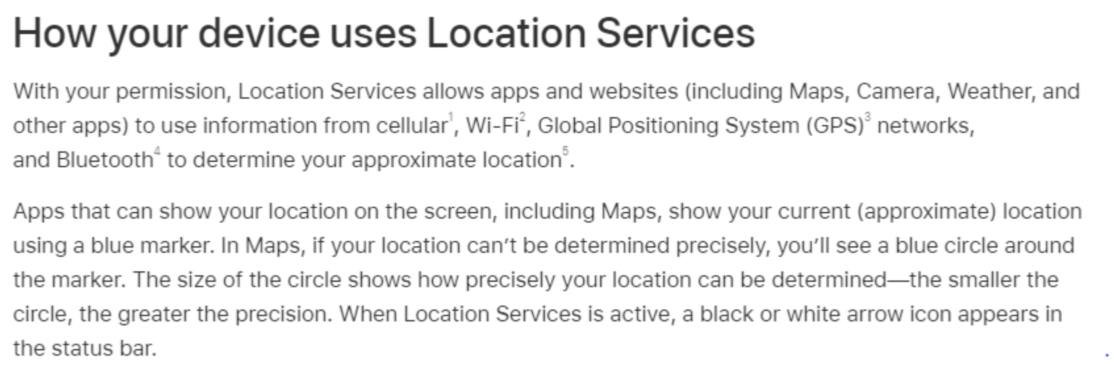
	For example, the Application processor may use Apple Maps to view and find places around the globe. Apple map can also show your current location and provide direction (including with respect to geographic features such as nearby restaurants) from your location/source to any destination. In using Apple Maps App, the mobile wireless communication device's application processor generates signals for displaying on the device's screen a blue marker that shows the current location of the wireless mobile communication device. The Apple map estimates the location of the device from various sources: GPS (GPS uses satellites and knows your location within a few meters), Bluetooth, Wi-Fi (the location of nearby Wi-Fi networks helps Maps know where you are), and cell towers (cell tower can be accurate up to a few thousand meters). When Apple Maps isn't sure about your location, a light blue circle around the blue dot is shown. You might be anywhere within the light blue circle. The size of the circle shows how precisely your location can be determined—the smaller the circle, the greater the precision. When Location Services is active, a black or white arrow icon appears in the status bar. Furthermore, Apple Maps App provides flexibility to download maps on internal memory of communication device such as iPhone, iPad, MacBook, iPod Touch, iwatch etc. (Exhibit B) and navigate offline. When internet is slow or mobile data is expensive, or communication device cannot connect to internet, an area can be saved to communication devices such as iPhone, iPad, MacBook, iPod Touch, iwatch etc. (Exhibit B) from Apple maps app and use it when offline. Communication device can use Offline maps for Navigation through the downloaded area without internet. The following exemplifies the existence of this limitation in Accused Systems:  How your device uses Location Services With your permission, Location Services allows apps and websites (including Maps, Camera, Weather, and other apps) to use information from cellular[1], Wi-Fi[2], Global Positioning System (GPS)[3] networks, and Bluetooth[4] to determine your approximate location[5]. Apps that can show your location on the screen, including Maps, show your current (approximate) location using a blue marker. In Maps, if your location can't be determined precisely, you'll see a blue circle around the marker. The size of the circle shows how precisely your location can be determined—the smaller the circle, the greater the precision. When Location Services is active, a black or white arrow icon appears in the status bar.

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	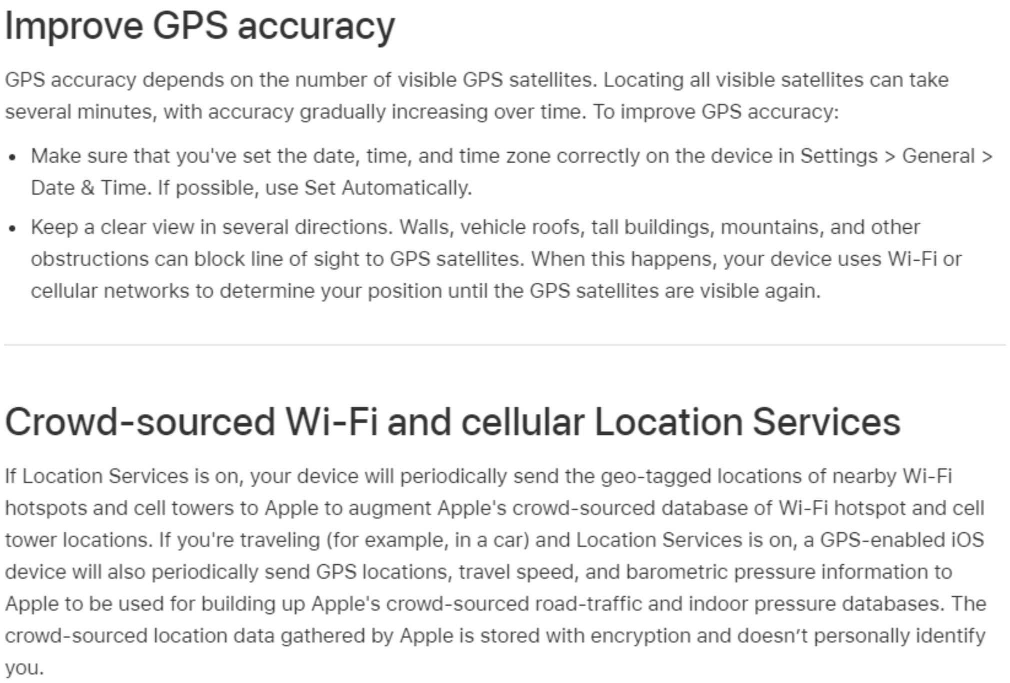 **Improve GPS accuracy** GPS accuracy depends on the number of visible GPS satellites. Locating all visible satellites can take several minutes, with accuracy gradually increasing over time. To improve GPS accuracy: • Make sure that you've set the date, time, and time zone correctly on the device in Settings > General > Date & Time. If possible, use Set Automatically. • Keep a clear view in several directions. Walls, vehicle roofs, tall buildings, mountains, and other obstructions can block line of sight to GPS satellites. When this happens, your device uses Wi-Fi or cellular networks to determine your position until the GPS satellites are visible again. **Crowd-sourced Wi-Fi and cellular Location Services** If Location Services is on, your device will periodically send the geo-tagged locations of nearby Wi-Fi hotspots and cell towers to Apple to augment Apple's crowd-sourced database of Wi-Fi hotspot and cell tower locations. If you're traveling (for example, in a car) and Location Services is on, a GPS-enabled iOS device will also periodically send GPS locations, travel speed, and barometric pressure information to Apple to be used for building up Apple's crowd-sourced road-traffic and indoor pressure databases. The crowd-sourced location data gathered by Apple is stored with encryption and doesn't personally identify you. Link: https://support.apple.com/en-in/HT203033

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	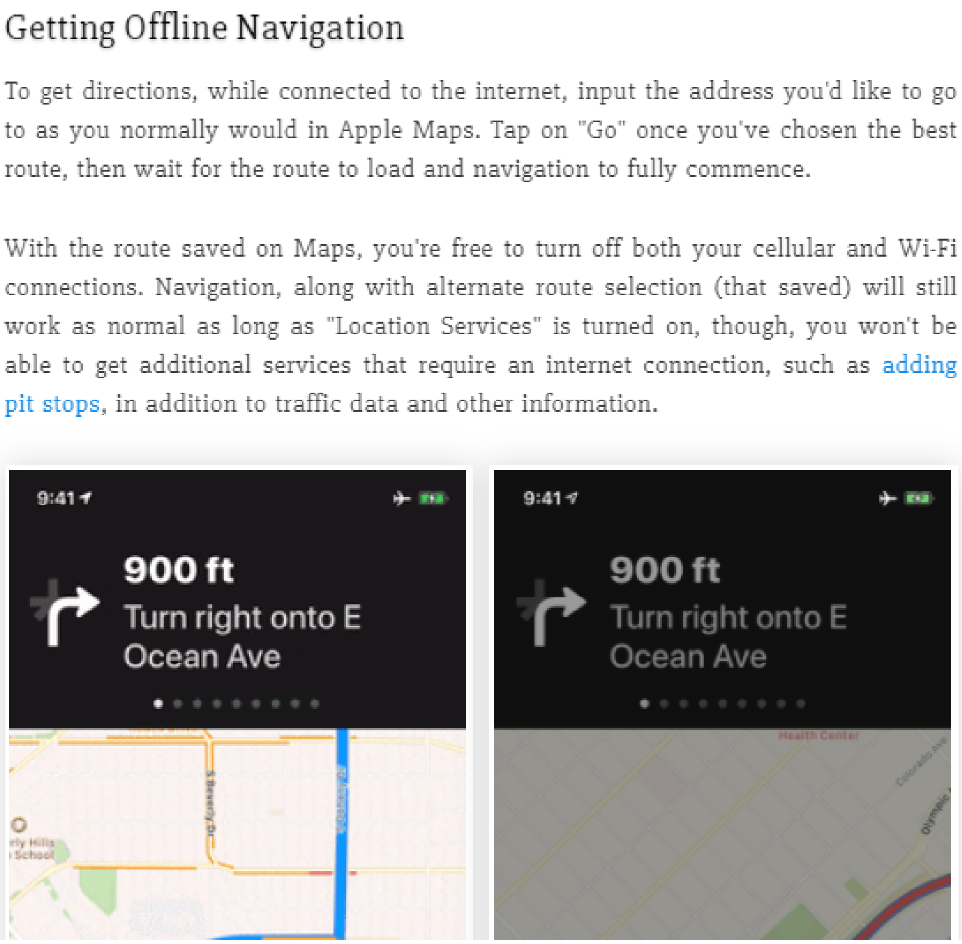 **Getting Offline Navigation** To get directions, while connected to the internet, input the address you'd like to go to as you normally would in Apple Maps. Tap on "Go" once you've chosen the best route, then wait for the route to load and navigation to fully commence. With the route saved on Maps, you're free to turn off both your cellular and Wi-Fi connections. Navigation, along with alternate route selection (that saved) will still work as normal as long as "Location Services" is turned on, though, you won't be able to get additional services that require an internet connection, such as adding pit stops, in addition to traffic data and other information. 9:41 900 ft Turn right onto E Ocean Ave 9:41 900 ft Turn right onto E Ocean Ave Plaintiff contends the Exhibit-B-listed mobile-wireless-communications device's application processor is programmed to process location based service information; i.e., to receive a location of the device from the wireless communications network and generate an indication of the device's location. For example, the application processor may use Apple Maps to obtain the device's location and provide direction from that location to a destination. Wireless mobile communication device- including to Apple's branded devices such as IPhone, MacBook, IPad and IPod (refer Exhibit B for complete list) has a processor for example, Quad-Core processor. When wireless communication device transceivers and processor are in communication, they are coupled. Further, the Location-based Service (LBS) provider, such as Apple Map, on the Exhibit-B utilizes the processor coupled to the transceiver to estimates/receive the location on mobile wireless communications devices (specifically one or more of the mobile wireless communications devices identified on Exhibit B) by utilizing wireless communication network or first computer.

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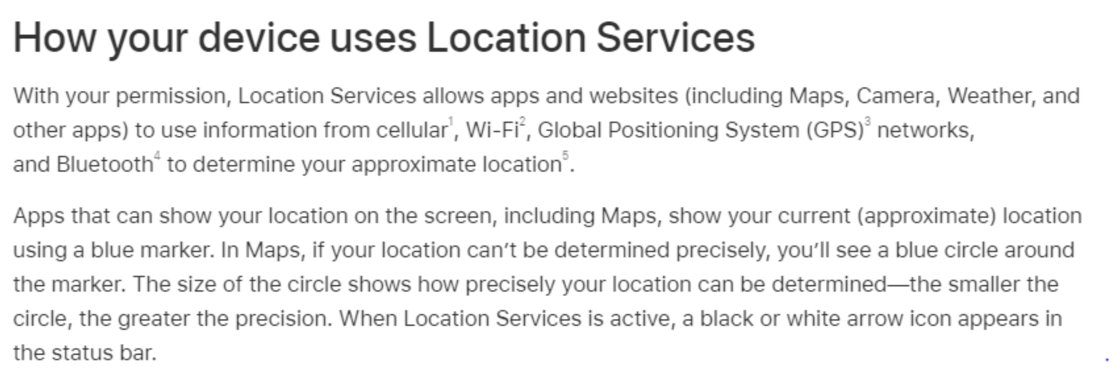
	For example, the Application processor may use Apple Maps to view and find places around the globe. Apple map can also show your current location and provide direction (including with respect to geographic features such as nearby restaurants) from your location/source to any destination. In using Apple Maps App, the mobile wireless communication device's application processor generates signals for displaying on the device's screen a blue marker that shows the current location of the wireless mobile communication device. The Apple map estimates the location of the device from various sources: GPS (GPS uses satellites and knows your location within a few meters), Bluetooth, Wi-Fi (the location of nearby Wi-Fi networks helps Maps know where you are), and cell towers (cell tower can be accurate up to a few thousand meters). When Apple Maps isn't sure about your location, a light blue circle around the blue dot is shown. You might be anywhere within the light blue circle. The size of the circle shows how precisely your location can be determined—the smaller the circle, the greater the precision. When Location Services is active, a black or white arrow icon appears in the status bar. Furthermore, Apple Maps App provides flexibility to download maps on internal memory of communication device such as iPhone, iPad, MacBook, iPod Touch, iwatch etc. (Exhibit B) and navigate offline. When internet is slow or mobile data is expensive, or communication device cannot connect to internet, an area can be saved to communication devices such as iPhone, iPad, MacBook, iPod Touch, iwatch etc. (Exhibit B) from Apple maps app and use it when offline. Communication device can use Offline maps for Navigation through the downloaded area without internet. The following exemplifies the existence of this limitation in Accused Systems:  How your device uses Location Services With your permission, Location Services allows apps and websites (including Maps, Camera, Weather, and other apps) to use information from cellular[1], Wi-Fi[2], Global Positioning System (GPS)[3] networks, and Bluetooth[4] to determine your approximate location[5]. Apps that can show your location on the screen, including Maps, show your current (approximate) location using a blue marker. In Maps, if your location can't be determined precisely, you'll see a blue circle around the marker. The size of the circle shows how precisely your location can be determined—the smaller the circle, the greater the precision. When Location Services is active, a black or white arrow icon appears in the status bar.

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	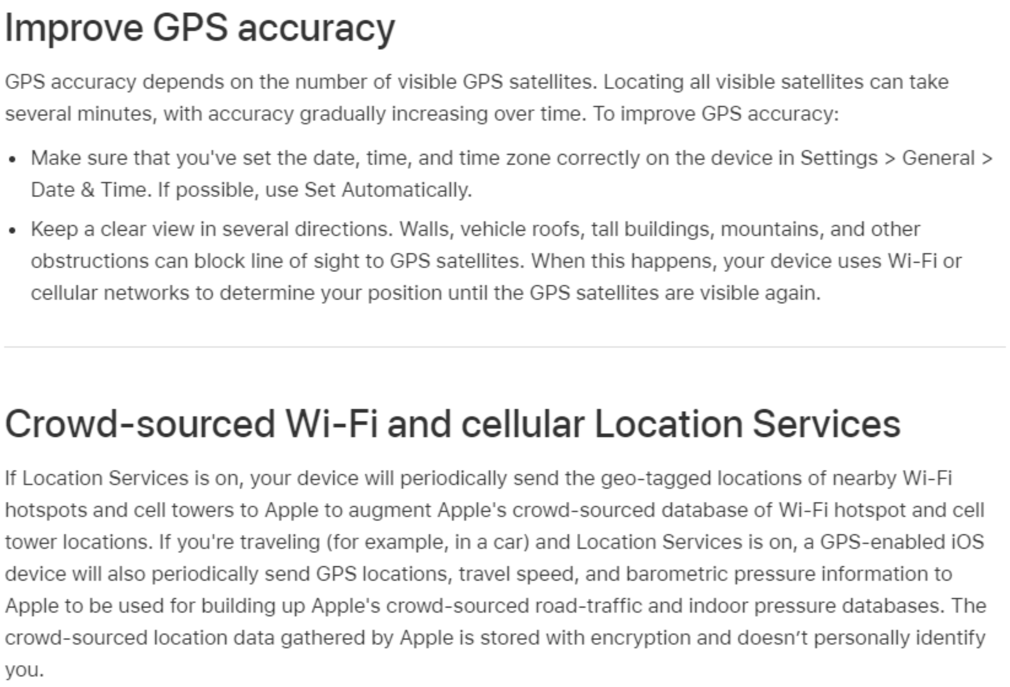 **Improve GPS accuracy** GPS accuracy depends on the number of visible GPS satellites. Locating all visible satellites can take several minutes, with accuracy gradually increasing over time. To improve GPS accuracy: • Make sure that you've set the date, time, and time zone correctly on the device in Settings > General > Date & Time. If possible, use Set Automatically. • Keep a clear view in several directions. Walls, vehicle roofs, tall buildings, mountains, and other obstructions can block line of sight to GPS satellites. When this happens, your device uses Wi-Fi or cellular networks to determine your position until the GPS satellites are visible again. **Crowd-sourced Wi-Fi and cellular Location Services** If Location Services is on, your device will periodically send the geo-tagged locations of nearby Wi-Fi hotspots and cell towers to Apple to augment Apple's crowd-sourced database of Wi-Fi hotspot and cell tower locations. If you're traveling (for example, in a car) and Location Services is on, a GPS-enabled iOS device will also periodically send GPS locations, travel speed, and barometric pressure information to Apple to be used for building up Apple's crowd-sourced road-traffic and indoor pressure databases. The crowd-sourced location data gathered by Apple is stored with encryption and doesn't personally identify you. Link: https://support.apple.com/en-in/HT203033

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	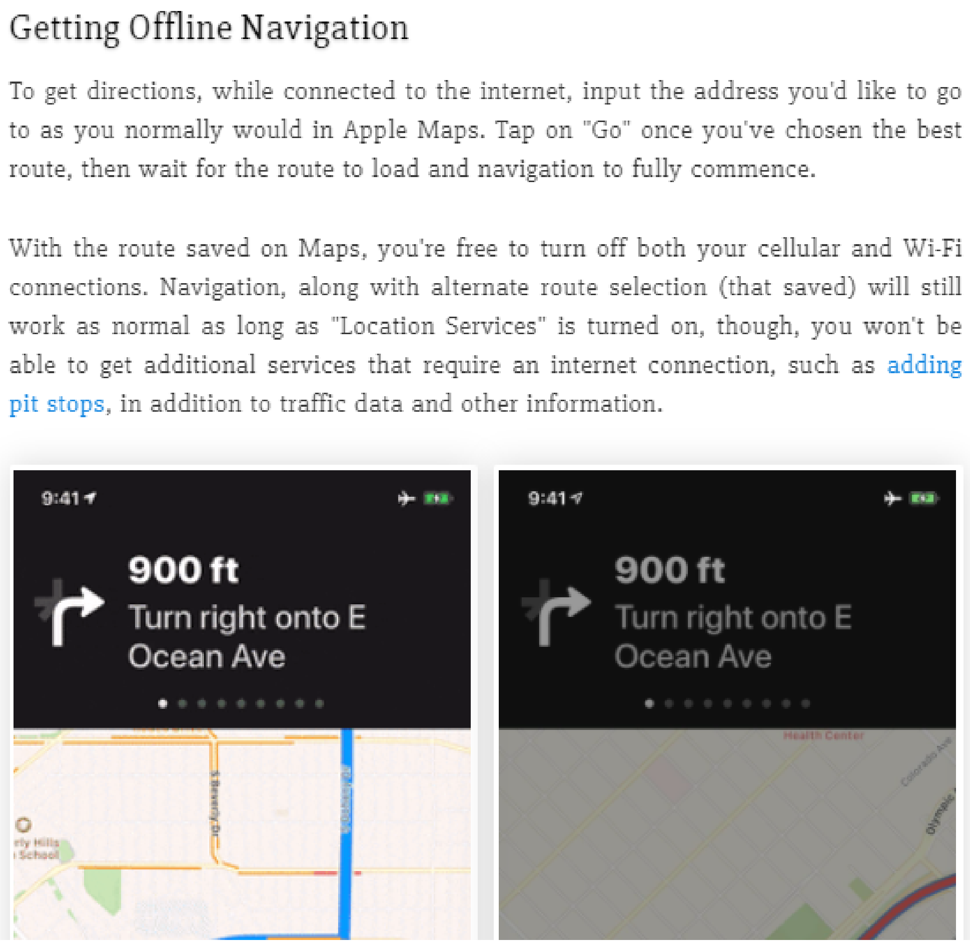 Getting Offline Navigation To get directions, while connected to the internet, input the address you'd like to go to as you normally would in Apple Maps. Tap on "Go" once you've chosen the best route, then wait for the route to load and navigation to fully commence. With the route saved on Maps, you're free to turn off both your cellular and Wi-Fi connections. Navigation, along with alternate route selection (that saved) will still work as normal as long as "Location Services" is turned on, though, you won't be able to get additional services that require an internet connection, such as adding pit stops, in addition to traffic data and other information. 9:41 900 ft Turn right onto E Ocean Ave 9:41 900 ft Turn right onto E Ocean Ave Link: https://ios.gadgethacks.com/how-to/download-maps-navigation-routes-for-offline-use-apple-maps-0184439/

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	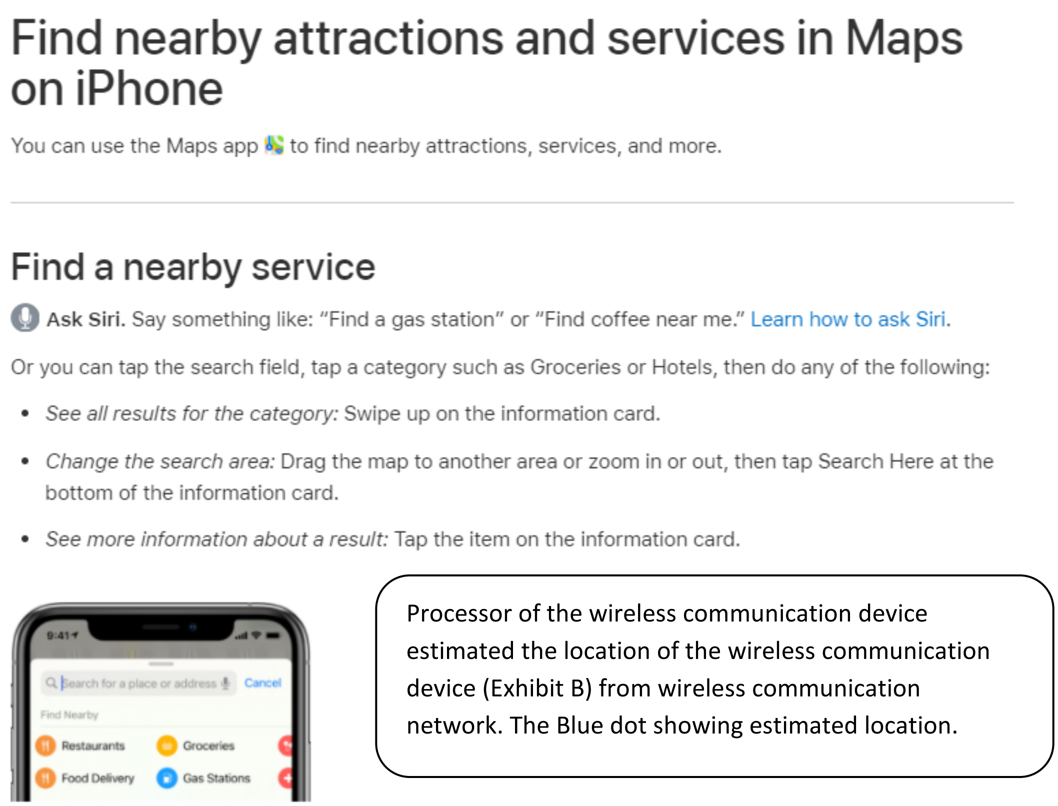 Find nearby attractions and services in Maps on iPhone You can use the Maps app to find nearby attractions, services, and more. Find a nearby service **Ask Siri.** Say something like: "Find a gas station" or "Find coffee near me." Learn how to ask Siri. Or you can tap the search field, tap a category such as Groceries or Hotels, then do any of the following: • *See all results for the category:* Swipe up on the information card. • *Change the search area:* Drag the map to another area or zoom in or out, then tap Search Here at the bottom of the information card. • *See more information about a result:* Tap the item on the information card. 9:41 Search for a place or address Cancel Find Nearby Restaurants Groceries Food Delivery Gas Stations Processor of the wireless communication device estimated the location of the wireless communication device (Exhibit B) from wireless communication network. The Blue dot showing estimated location. **Source:** Find nearby attractions and services in Maps on iPhone **Link:** https://support.apple.com/en-in/guide/iphone/iphbaf51b2c0/ios
and wherein the first processor determines user navigation information and displays the user navigation information according to the location of the wireless mobile communications device with respect to the geographic	Plaintiff contends the application processor of each Exhibit-B-listed item (i.e., mobile wireless processor processes location-service information, including displaying user navigation informa geographic features and a user-specified destination. For example, using Apple map app for mo Exhibit-B device's application processor) the device user locates the device's current location o destination on the options, provided in the Apple map app. The user can then navigate (i.e., the current location to destination. The processor displays navigation in the Apple Maps app to dis processor will show the directions and use real-time traffic information to find the best route to The following exemplifies this limitation's existence in Accused Systems:

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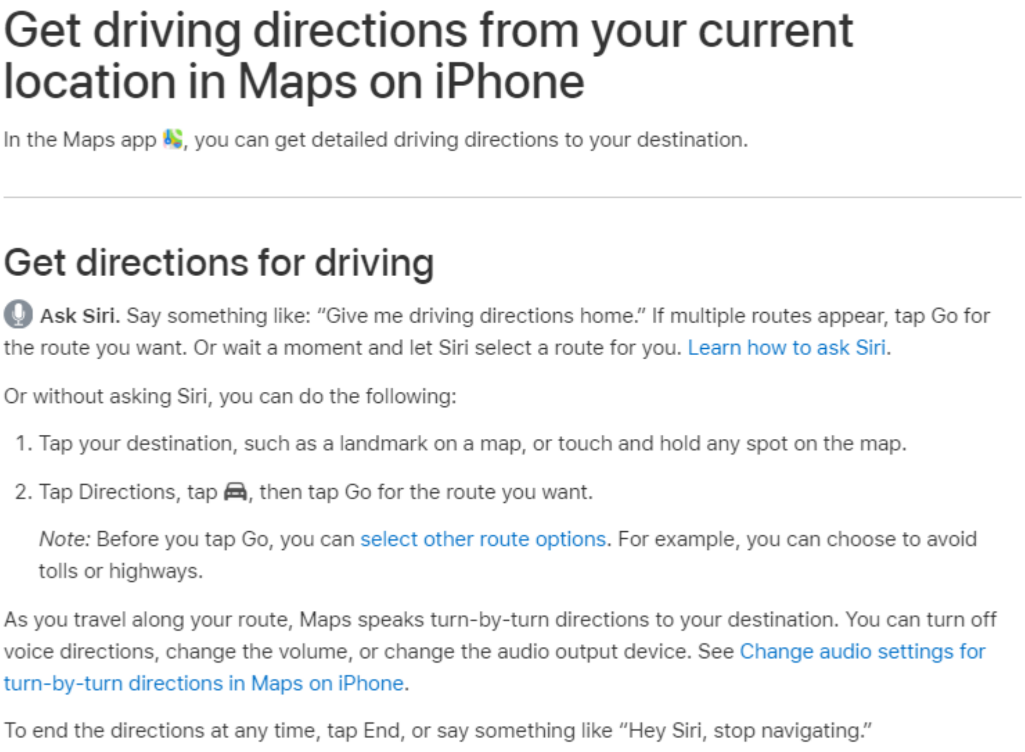
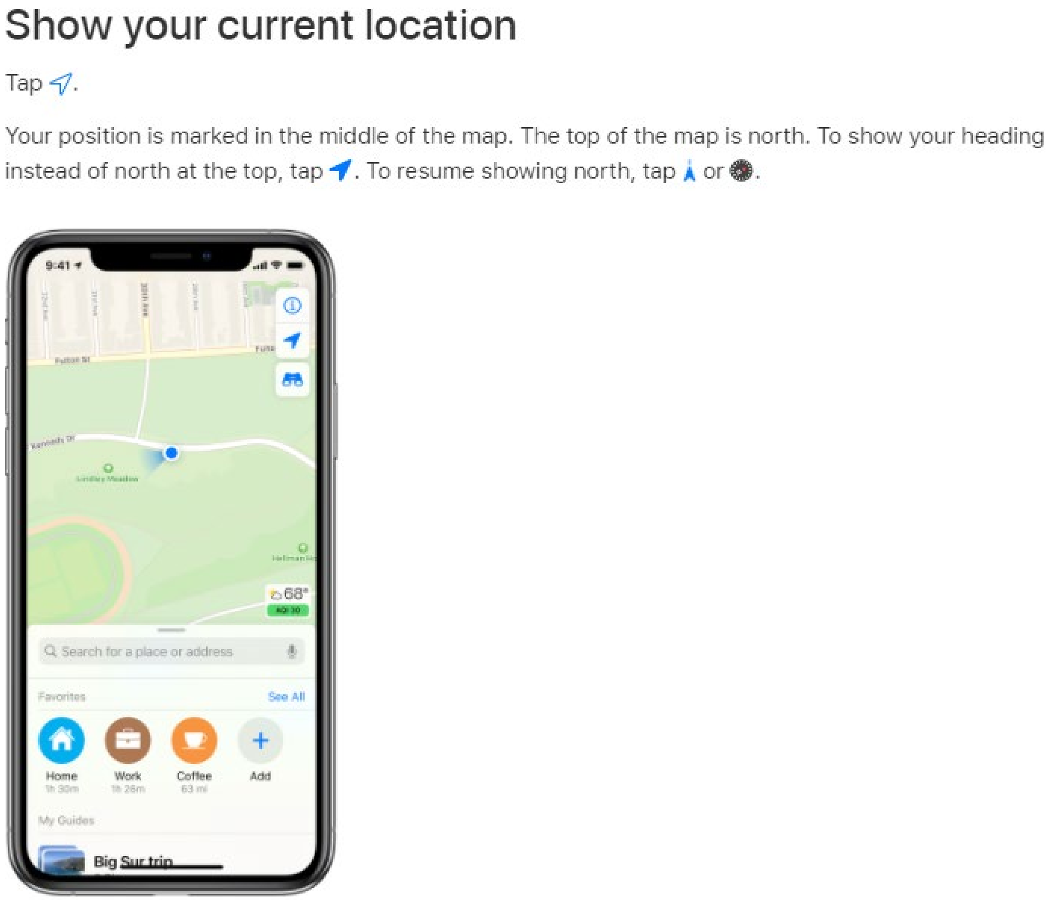
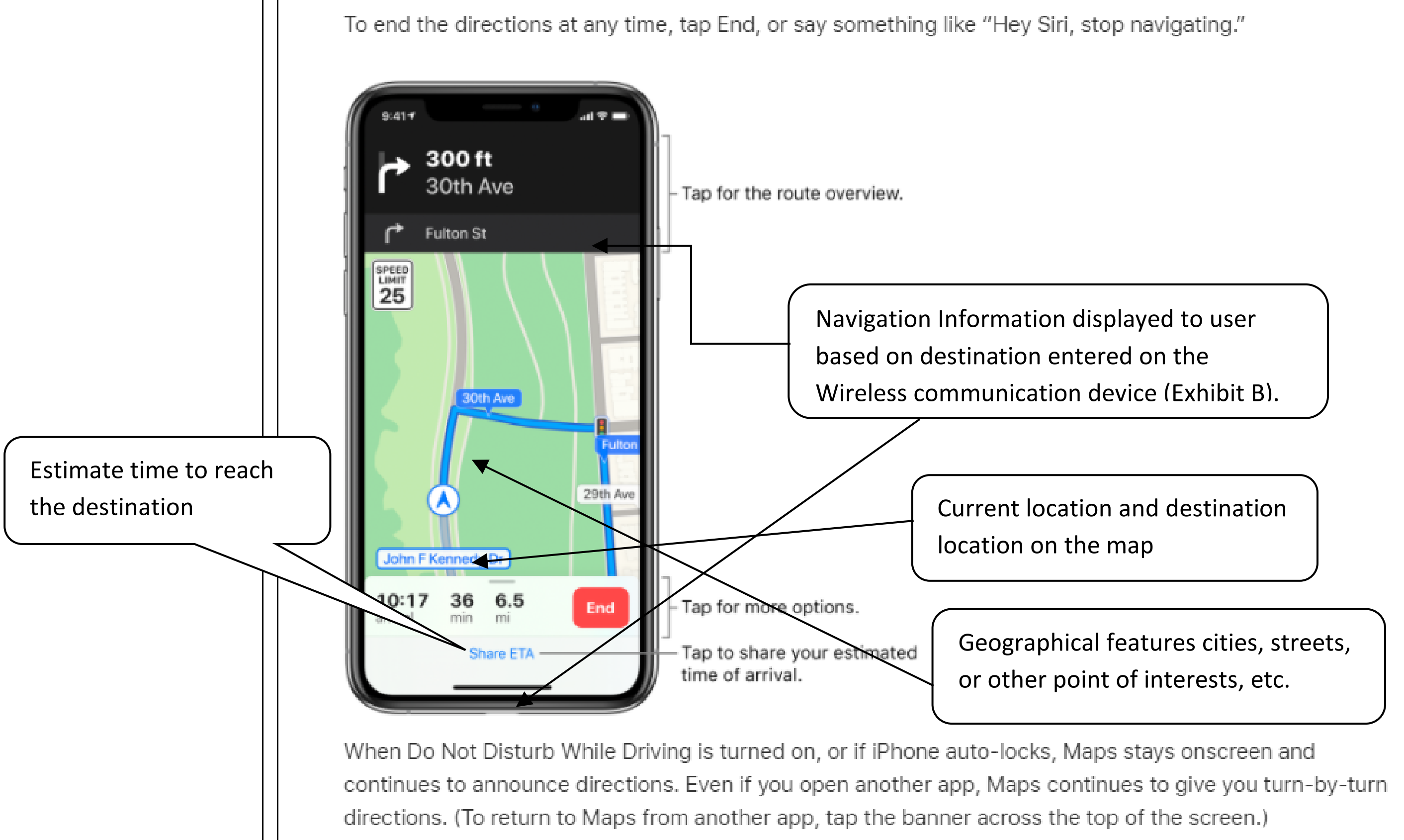
features and a destination specified at the wireless mobile communications device,	 **Get driving directions from your current location in Maps on iPhone** In the Maps app, you can get detailed driving directions to your destination. **Get directions for driving** **Ask Siri.** Say something like: "Give me driving directions home." If multiple routes appear, tap Go for the route you want. Or wait a moment and let Siri select a route for you. Learn how to ask Siri. Or without asking Siri, you can do the following: 1. Tap your destination, such as a landmark on a map, or touch and hold any spot on the map. 2. Tap Directions, tap 🚗, then tap Go for the route you want. *Note:* Before you tap Go, you can select other route options. For example, you can choose to avoid tolls or highways. As you travel along your route, Maps speaks turn-by-turn directions to your destination. You can turn off voice directions, change the volume, or change the audio output device. See Change audio settings for turn-by-turn directions in Maps on iPhone. To end the directions at any time, tap End, or say something like "Hey Siri, stop navigating." Link: https://support.apple.com/en-in/guide/iphone/ipha84a94043/ios

Exemplary Claim	Corresponding Structure in Accused Systems
	 Show your current location Tap ➤. Your position is marked in the middle of the map. The top of the map is north. To show your heading instead of north at the top, tap ➤. To resume showing north, tap ▲ or ●. Link: https://support.apple.com/en-in/guide/iphone/iph10d7bdf26/ios

Exemplary Claim	Corresponding Structure in Accused Systems
	 To end the directions at any time, tap End, or say something like "Hey Siri, stop navigating." 9:41 300 ft 30th Ave Fulton St SPEED LIMIT 25 30th Ave Fulton 29th Ave John F Kennedy Dr 10:17 36 min 6.5 mi End Share ETA Tap for the route overview. Tap for more options. Tap to share your estimated time of arrival. Navigation Information displayed to user based on destination entered on the Wireless communication device (Exhibit B). Estimate time to reach the destination Current location and destination location on the map Geographical features cities, streets, or other point of interests, etc. When Do Not Disturb While Driving is turned on, or if iPhone auto-locks, Maps stays onscreen and continues to announce directions. Even if you open another app, Maps continues to give you turn-by-turn directions. (To return to Maps from another app, tap the banner across the top of the screen.) Link: https://support.apple.com/en-in/guide/iphone/ipha84a94043/ios
	Plaintiff contends each Accused System includes at least one item listed on Exhibit A, each of least one antenna. Base station includes radio-frequency transceivers designed and used for rad When base-station transceivers and antennas are in communication, they are coupled. Further, antenna of each Exhibit-A item are also, by placement within a base station, physically coupled The cell of the wireless communications network include base stations for transmission and rec communication devices or UEs or user devices (mobile phones, laptops, tablets, PDAs etc.). Th these base stations are coupled with at least one antenna for the function of transmission and re The following exemplifies this limitation's existence in Accused Systems:

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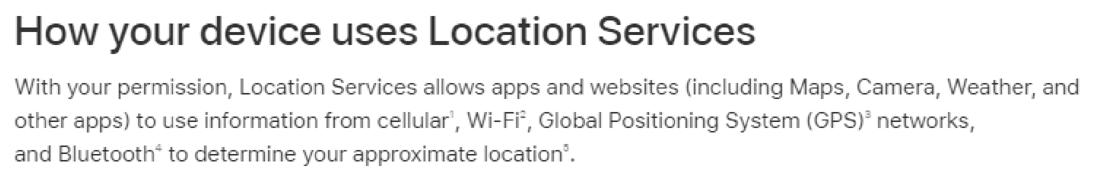
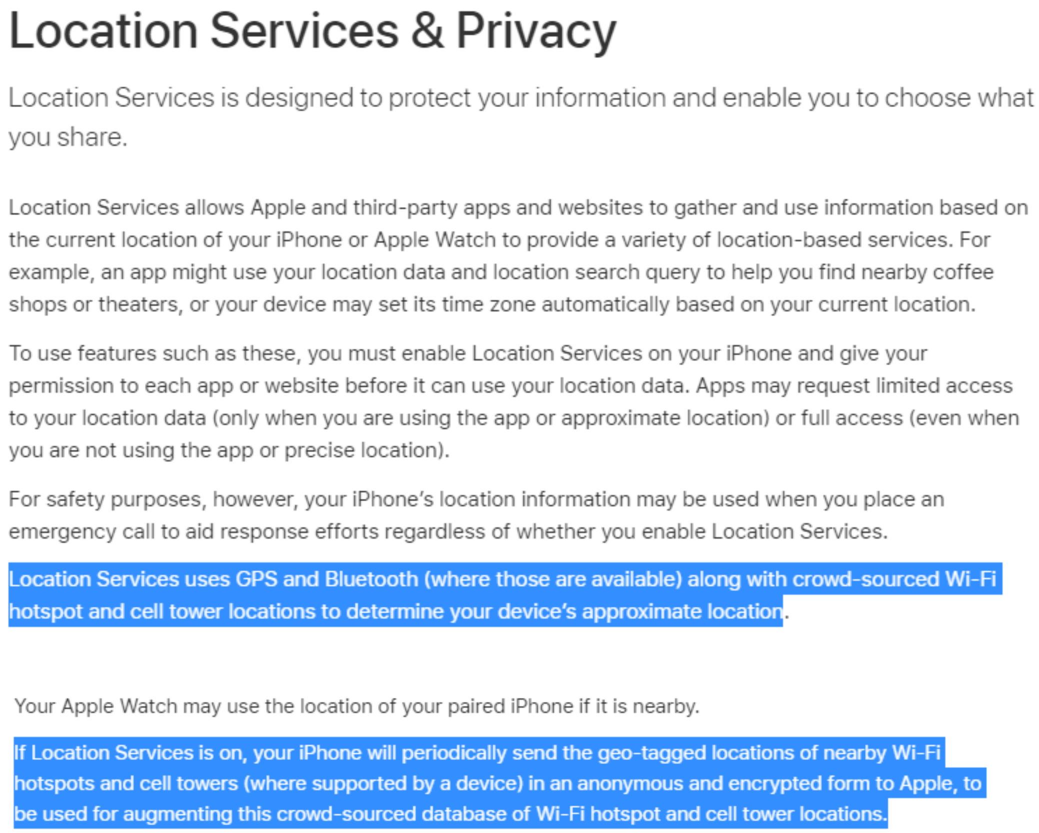
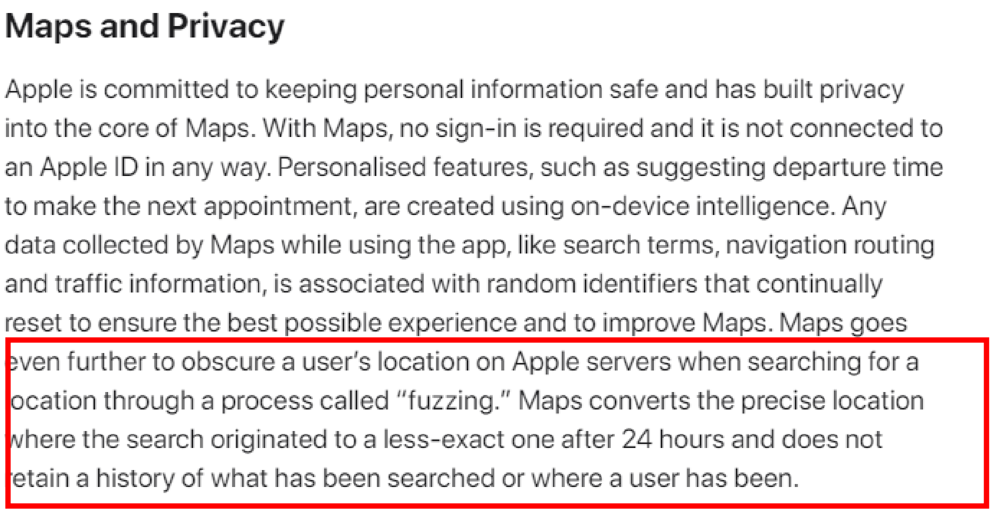
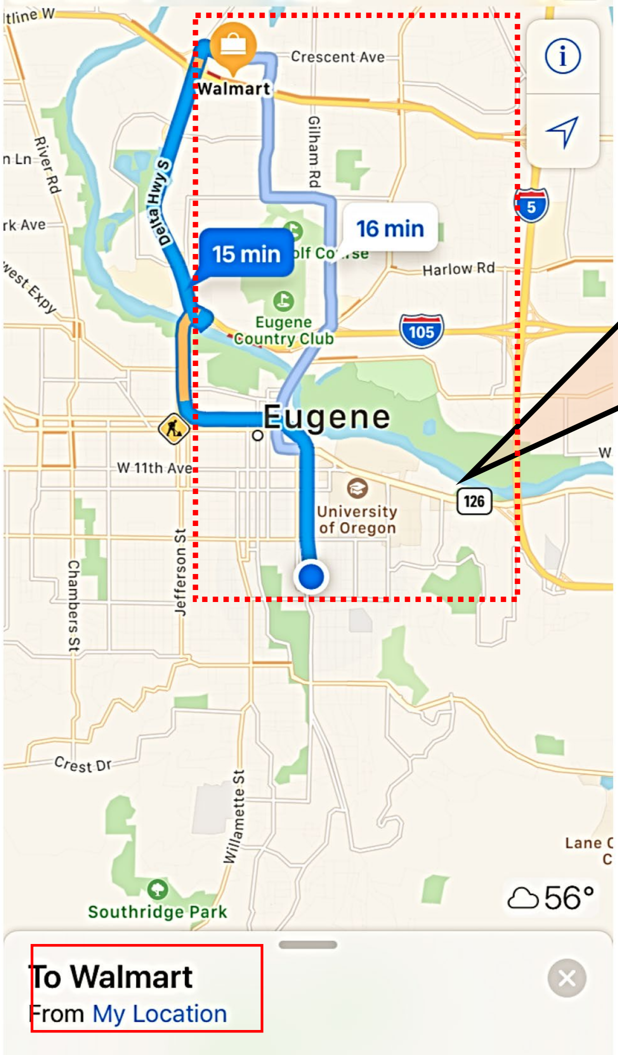
	 How your device uses Location Services With your permission, Location Services allows apps and websites (including Maps, Camera, Weather, and other apps) to use information from cellular[1], Wi-Fi[2], Global Positioning System (GPS)[3] networks, and Bluetooth[4] to determine your approximate location[5]. **Link:** https://support.apple.com/en-in/HT203033
wherein the first processor further sends the user navigation information to the network as a number of segments,	Plaintiff contends the Exhibit-B-listed mobile-wireless-communications device's motherboard processor is programmed to process location-service information; i.e., to receive a location of the device from the wireless communications network and generate an indication of the device's location. For example, the application processor may use Apple Maps to obtain the device's location and provide direction from that location to a destination. Wireless mobile communication devices including to Apple's branded devices such as Iphones, MacBook, IPad and IPod (refer Exhibit B for complete list) has a processor for example, Quad-Core processor. When wireless communication device transceivers and processor are in communication, they are coupled. Further, the Location-based Service (LBS) provider, such as Apple Map, on the Exhibit-B utilizes the processor coupled to the transceiver to estimates/receive the location on mobile wireless communications devices (specifically one or more of the mobile wireless communications devices identified on Exhibit B) by utilizing wireless communication network or first computer. For example, the Application processor may use Apple Maps to view and find places around the globe. Apple map can also show your current location and provide direction (including with respect to geographic features such as nearby restaurants) from your location/source to any destination. In using Apple Maps App, the mobile wireless communication device's application processor generates signals for displaying on the device's screen a blue marker that shows the current location of the wireless mobile communication device. The Apple map estimates the location of the device from various sources: GPS (GPS uses satellites and knows your location within a few meters), Bluetooth, Wi-Fi (the location of nearby Wi-Fi networks helps Maps know where you are), and cell towers (cell tower can be accurate up to a few thousand meters). When Apple Maps isn't sure about your location, a light blue circle around the blue dot is shown. You might be anywhere within the light blue circle. The size of the circle shows how precisely your location can be determined—the smaller the circle, the

Exemplary Claim	Corresponding Structure in Accused Systems
	greater the precision. When Location Services is active, a black or white arrow icon appears in the status bar. Furthermore, Apple Maps App provides flexibility to download maps on internal memory of communication device such as iPhone, iPad, MacBook, iPod Touch, iwatch etc. (Exhibit B) and navigate offline. When internet is slow or mobile data is expensive, or communication device cannot connect to internet, an area can be saved to IPhone or IPad (Exhibit B) from Apple maps app and use it when offline. Communication device can use Offline maps for Navigation through the downloaded area without internet. Further, Apple Maps or any other location based application, on the Exhibit-B utilizing the processor can send the user navigation information to the network as a number of segments as to receive the traffic information for the segments, it is required to send the navigation information to the network as a number of segments.
wherein at least one other processor outside the network updates the user navigation information in conformity with traffic congestion information accessible to the at least one other processor outside the network by computing a numerical value for the segments corresponding to the expected time to travel through the segments,	Plaintiff contends that Apple Maps server or any other location-based services server (Exhibit D) corresponds to this claim limitation because each such location-based services server can be outside the network and needs to be contacted to update the user navigation information in conformity with traffic congestion information accessible to the server by computing a numerical value for the segments corresponding to the expected time to travel through the segments. The following exemplifies the existence of this limitation in Accused Systems:

Exemplary Claim	Corresponding Structure in Accused Systems
	 Location Services & Privacy Location Services is designed to protect your information and enable you to choose what you share. Location Services allows Apple and third-party apps and websites to gather and use information based on the current location of your iPhone or Apple Watch to provide a variety of location-based services. For example, an app might use your location data and location search query to help you find nearby coffee shops or theaters, or your device may set its time zone automatically based on your current location. To use features such as these, you must enable Location Services on your iPhone and give your permission to each app or website before it can use your location data. Apps may request limited access to your location data (only when you are using the app or approximate location) or full access (even when you are not using the app or precise location). For safety purposes, however, your iPhone's location information may be used when you place an emergency call to aid response efforts regardless of whether you enable Location Services. Location Services uses GPS and Bluetooth (where those are available) along with crowd-sourced Wi-Fi hotspot and cell tower locations to determine your device's approximate location. Your Apple Watch may use the location of your paired iPhone if it is nearby. If Location Services is on, your iPhone will periodically send the geo-tagged locations of nearby Wi-Fi hotspots and cell towers (where supported by a device) in an anonymous and encrypted form to Apple, to be used for augmenting this crowd-sourced database of Wi-Fi hotspot and cell tower locations. https://support.apple.com/en-us/HT207056  Maps and Privacy Apple is committed to keeping personal information safe and has built privacy into the core of Maps. With Maps, no sign-in is required and it is not connected to an Apple ID in any way. Personalised features, such as suggesting departure time to make the next appointment, are created using on-device intelligence. Any data collected by Maps while using the app, like search terms, navigation routing and traffic information, is associated with random identifiers that continually reset to ensure the best possible experience and to improve Maps. Maps goes even further to obscure a user's location on Apple servers when searching for a ocation through a process called "fuzzing." Maps converts the precise location where the search originated to a less-exact one after 24 hours and does not etain a history of what has been searched or where a user has been.

Exemplary Claim	Corresponding Structure in Accused Systems
	The above proves the Apple Maps utilizes the Apple Servers for location information. This constitutes the second processor outside the network. https://www.apple.com/in/newsroom/2020/01/apple-delivers-a-new-redesigned-maps-for-all-users-in-the-united-states/

<table>
<tr><th>Exemplary Claim</th><th>Corresponding Structure in Accused Systems</th></tr>
<tr><td></td><td>



T-Mobile
4:14 PM
Crescent Ave
Walmart
Gilham Rd
River Rd
Delta Hwy S
16 min
15 min
Golf Course
Harlow Rd
5
105
Eugene Country Club
Eugene
W 11th Ave
126
University of Oregon
Jefferson St
Chambers St
Crest Dr
Willamette St
Southridge Park
Lane C
56°

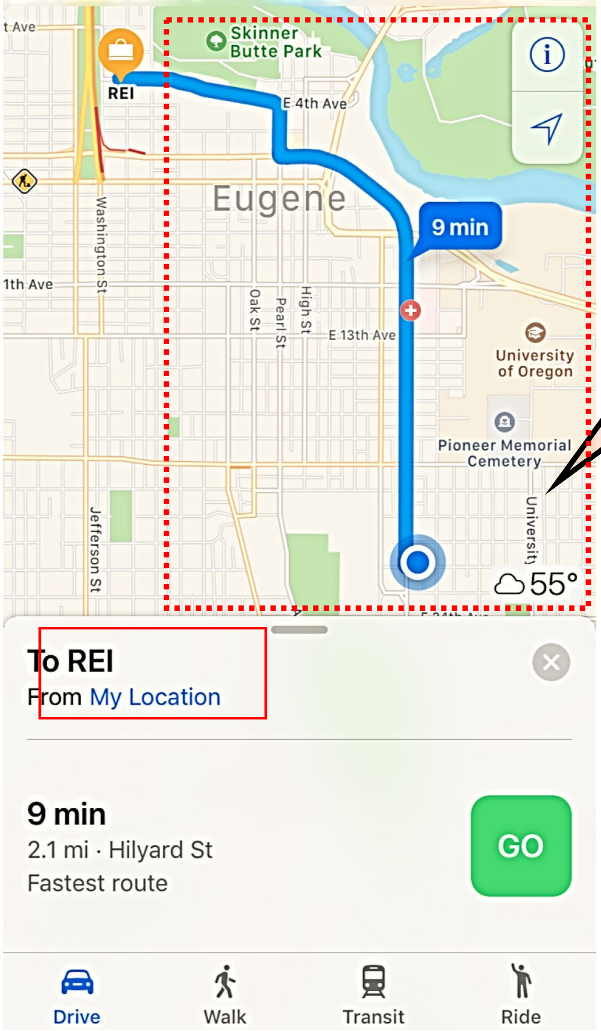
To Walmart
From My Location

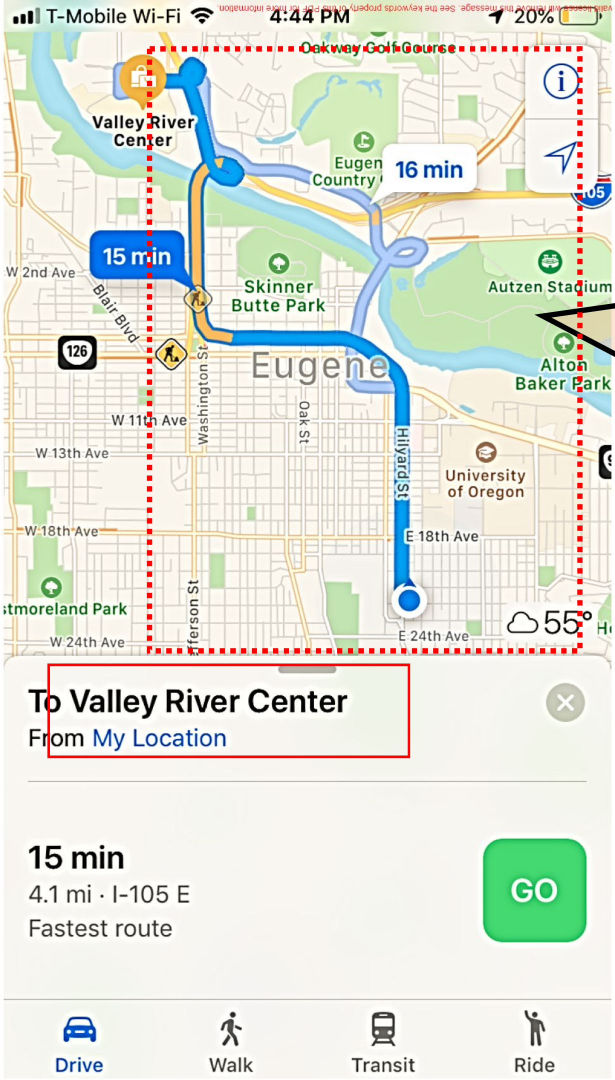
Navigation assistance provided by Apple Maps utilizes Apple Servers. Time and distance are providing the numerical value. Two different routes provided with different information regarding distance and time to reach the destination.

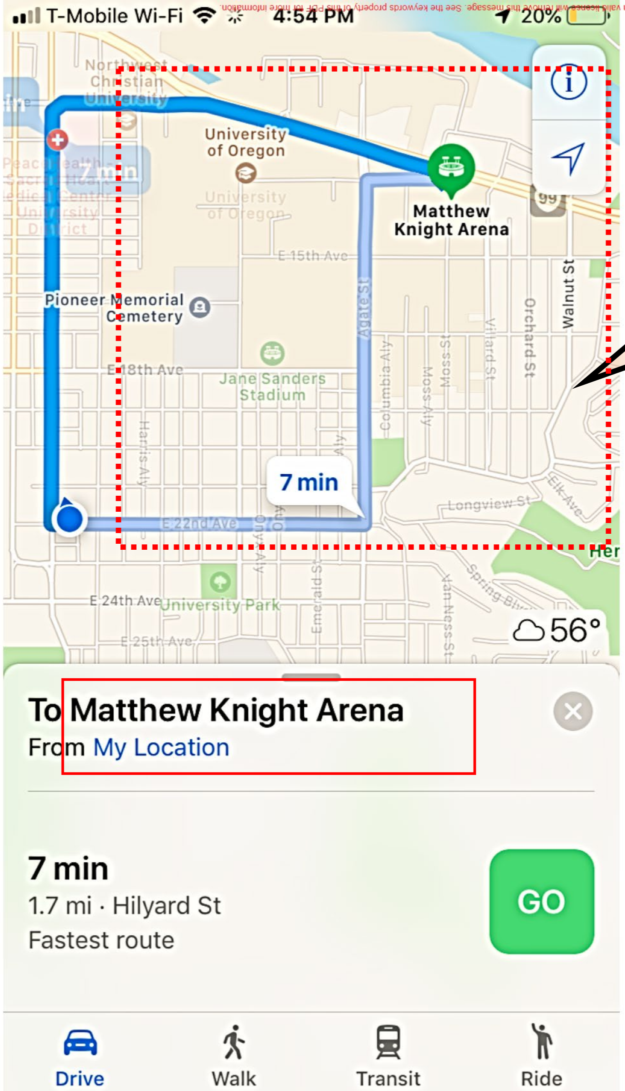
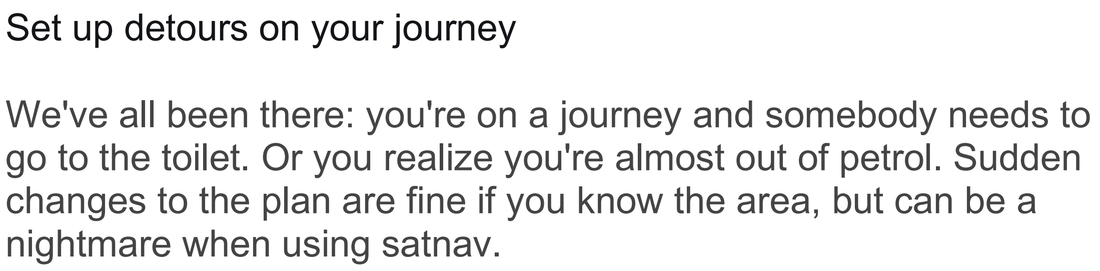
Apple Maps, using wireless telecommunications network, provides navigation assistance (directions) to a “user of a communications device” (Ex: iPhone) for travelling from a starting location (Ex: said user communication device’s current location) to a destination location (Ex: Walmart).

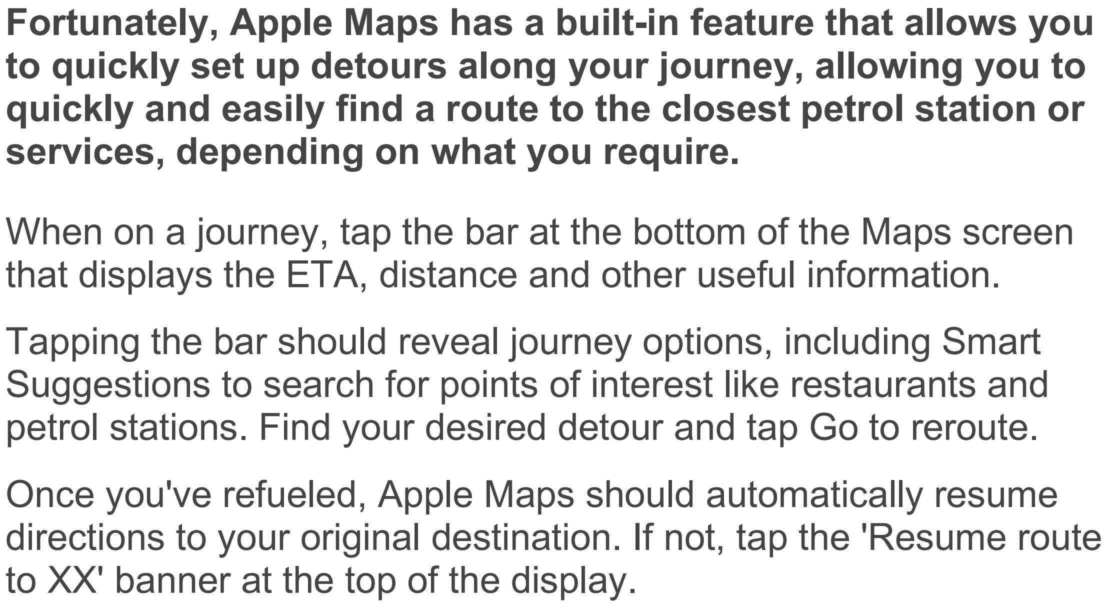
Attachment 2 (To Walmart from My Location using Apple Maps) at 1.

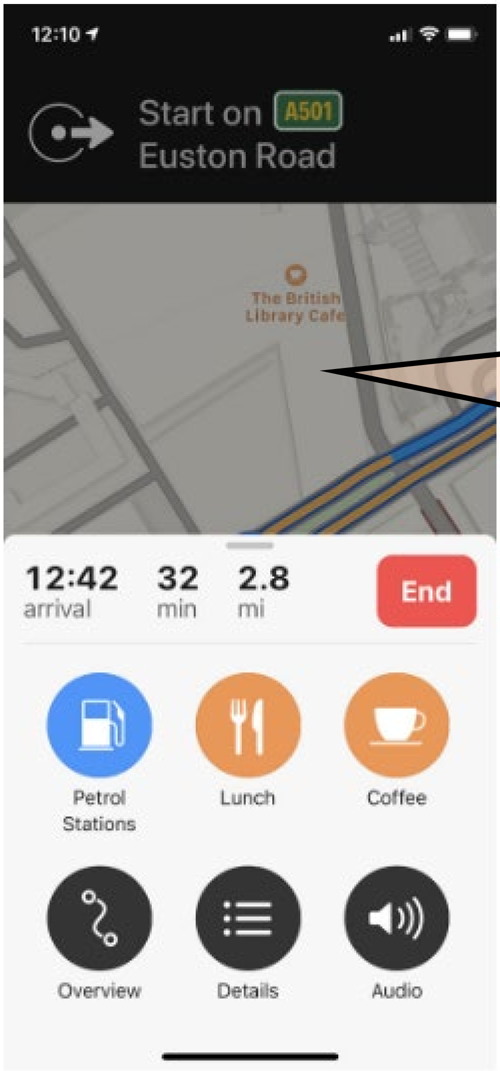
</td></tr>
</table>

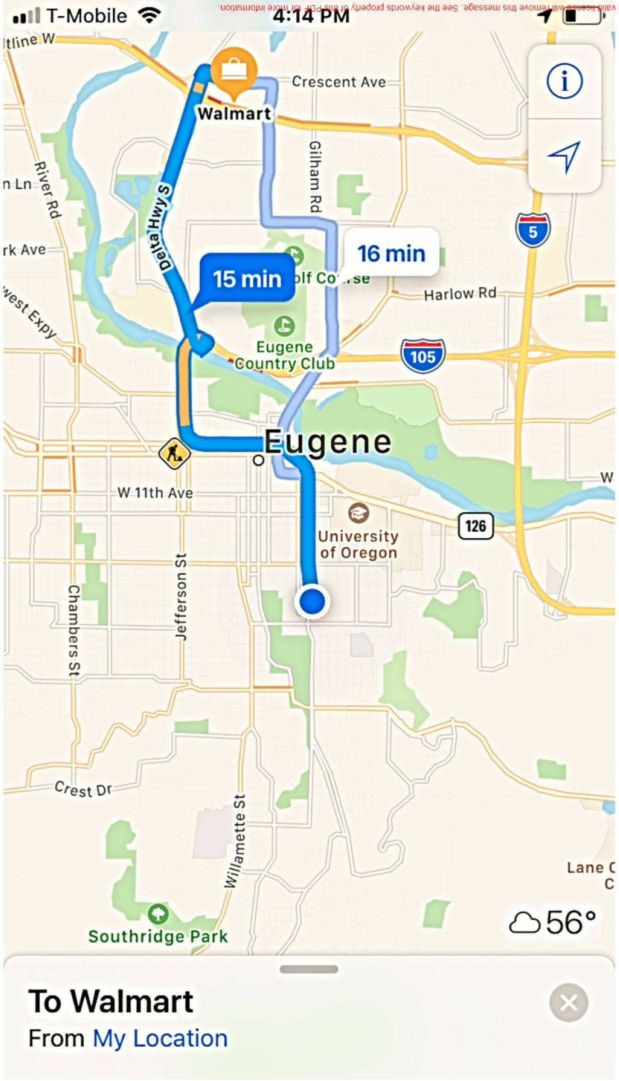
Exemplary Claim	Corresponding Structure in Accused Systems
	 T-Mobile Wi-Fi 4:22 PM 20% t Ave Skinner Butte Park REI E 4th Ave Eugene 9 min 1th Ave Washington St Oak St Pearl St High St E 13th Ave University of Oregon Pioneer Memorial Cemetery Jefferson St Universit 55° GO Drive Walk Transit Ride To REI From My Location 9 min 2.1 mi · Hilyard St Fastest route Navigation assistance provided by Apple Maps utilizes Apple Servers. Time and distance are providing the numerical value. Apple Maps, using wireless telecommunications network, provides navigation assistance (directions) to a "user of a communications device" (Ex: iPhone) for travelling from a starting location (Ex: said user communication device's current location) to a destination location (Ex: REI). **Attachment 3 (To REI from My Location using Apple Maps) at 2.**

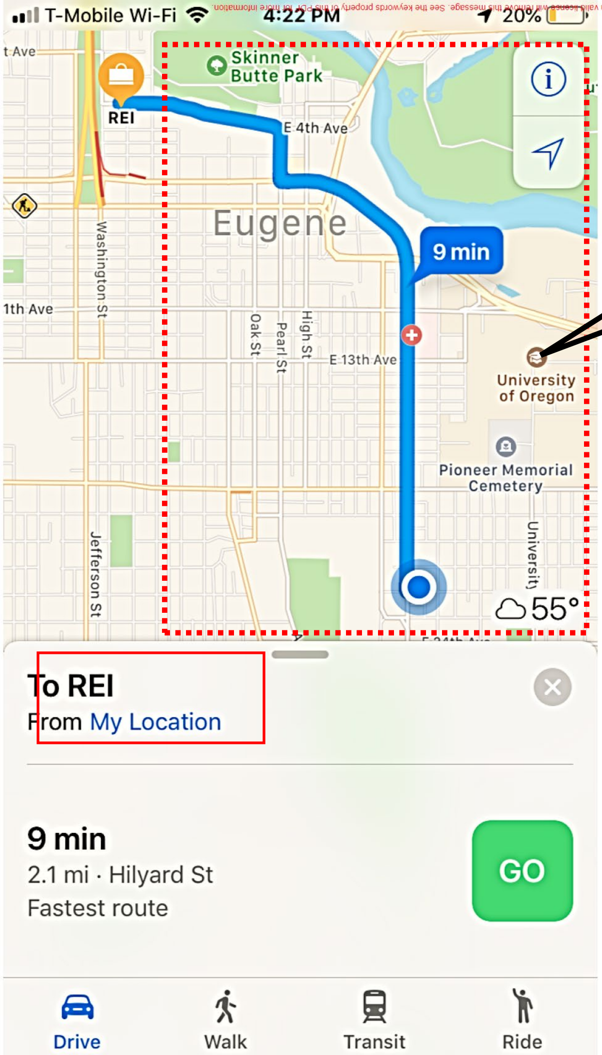
Exemplary Claim	Corresponding Structure in Accused Systems
	 T-Mobile Wi-Fi 4:44 PM 20% Oakway Golf Course Valley River Center 16 min 15 min Skinner Butte Park Autzen Stadium Eugene Alton Baker Park W 2nd Ave Blair Blvd 126 W 11th Ave W 13th Ave W 18th Ave Washington St Oak St Hilyard St University of Oregon E 18th Ave E 24th Ave W 24th Ave 55° GO Drive Walk Transit Ride To Valley River Center From My Location 15 min 4.1 mi · I-105 E Fastest route Navigation assistance provided by Apple Maps utilizes Apple Servers. Time and distance are providing the numerical value. Apple Maps, using wireless telecommunications network, provides navigation assistance (directions) to a “user of a communications device” (Ex: iPhone) for travelling from a starting location (Ex: said user communication device’s current location) to a destination location (Ex: Valley River Center). **Attachment 4 (To Valley River Center from My Location using Apple Maps) at 3.**

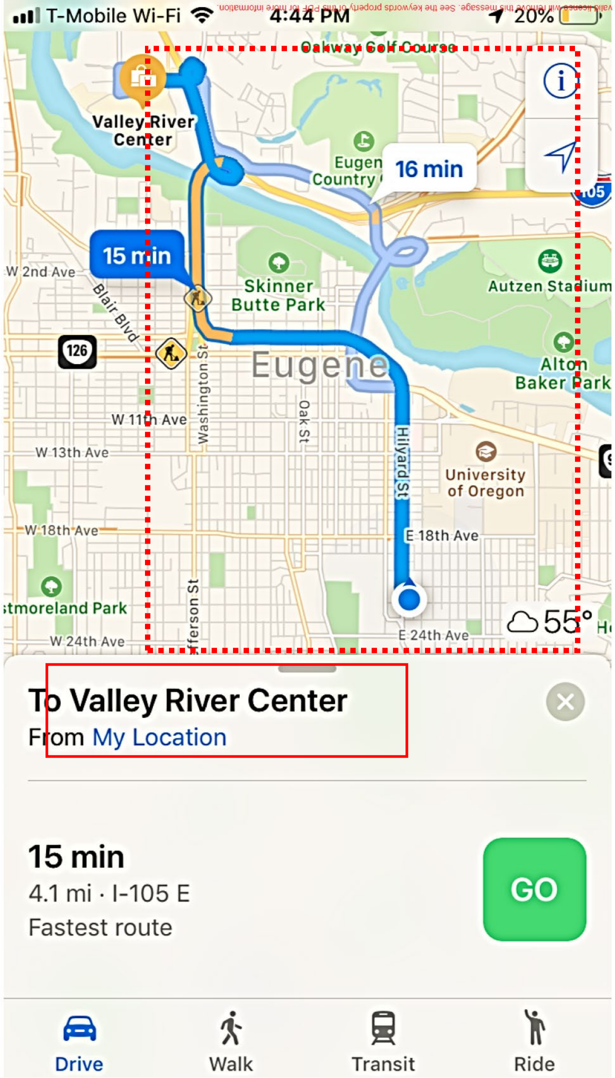
Exemplary Claim	Corresponding Structure in Accused Systems
	 T-Mobile Wi-Fi 4:54 PM 20% Northwest Christian University University of Oregon Matthew Knight Arena E 15th Ave Pioneer Memorial Cemetery E 18th Ave Jane Sanders Stadium Walnut St Orchard St Villard St Moss St Moss Aly Columbia Aly Agate St Harris Aly 7 min Longview St Elk Ave E 22nd Ave E 24th Ave University Park E 25th Ave Emerald St Van Ness St Spring Blvd 56° GO Drive Walk Transit Ride To Matthew Knight Arena From My Location 7 min 1.7 mi · Hilyard St Fastest route Navigation assistance provided by Apple Maps utilizes Apple Servers Apple Maps, using wireless telecommunication network, provides navigation assistance (directions) to a "user of a communications device" (Ex: iPhone) for travelling from a starting location (Ex: said user communication device's current location) to a destination location (Ex: Matthew Knight Arena). **Attachment 5 (To Matthew Knight Arena from My Location using Apple Maps) at 4.**  Set up detours on your journey We've all been there: you're on a journey and somebody needs to go to the toilet. Or you realize you're almost out of petrol. Sudden changes to the plan are fine if you know the area, but can be a nightmare when using satnav.

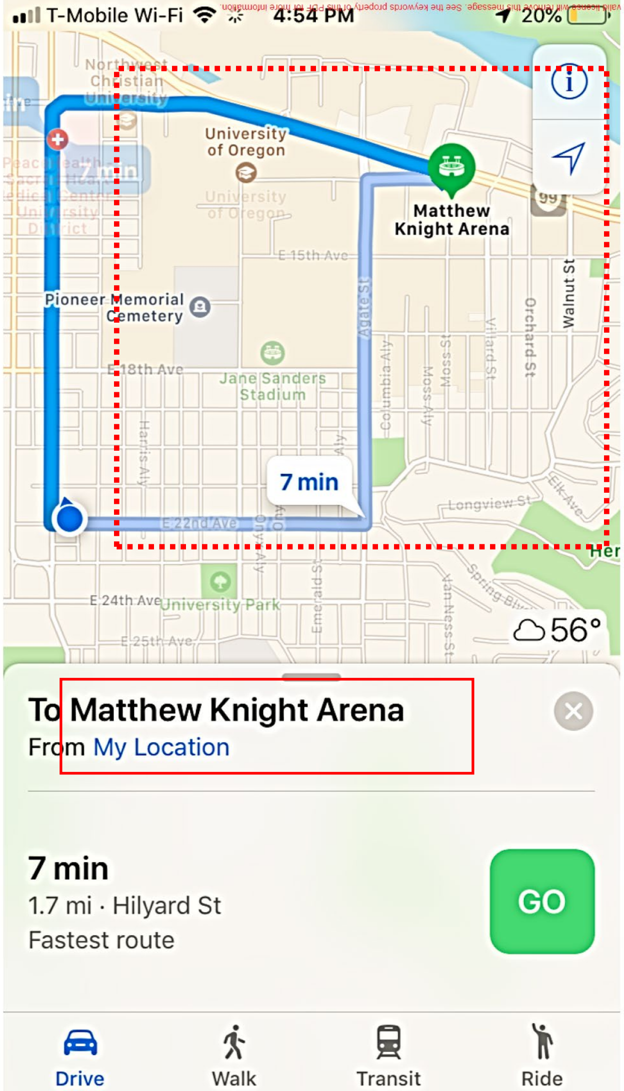
Exemplary Claim	Corresponding Structure in Accused Systems
	 **Fortunately, Apple Maps has a built-in feature that allows you to quickly set up detours along your journey, allowing you to quickly and easily find a route to the closest petrol station or services, depending on what you require.** When on a journey, tap the bar at the bottom of the Maps screen that displays the ETA, distance and other useful information. Tapping the bar should reveal journey options, including Smart Suggestions to search for points of interest like restaurants and petrol stations. Find your desired detour and tap Go to reroute. Once you've refueled, Apple Maps should automatically resume directions to your original destination. If not, tap the 'Resume route to XX' banner at the top of the display. **The above proves ascertain that the Apple Maps utilizes Apple Servers to update the real-time information, Also, based on the user selection, the numerical value such distance and time updated in real-time.**

Exemplary Claim	Corresponding Structure in Accused Systems
	 12:10 Start on A501 Euston Road The British Library Cafe 12:42 arrival 32 min 2.8 mi End Petrol Stations Lunch Coffee Overview Details Audio Numerical value calculated for the distance and time parameter on Apple Maps. Apple Maps utilizes the Apple Servers to calculate these numerical values. https://www.macworld.co.uk/how-to/use-apple-maps-iphone-3658346/
updates the user navigation information in conformity with the numerical values for the segments, and sends the updated user navigation	Plaintiff contends that Apple Maps server or any other location-based server corresponds to this claim limitation because each such server updates the user navigation information in conformity with the numerical values for the segments and sends the updated user navigation information to the wireless mobile communications device (Exhibit B). The following exemplifies the existence of this limitation in Accused Systems:

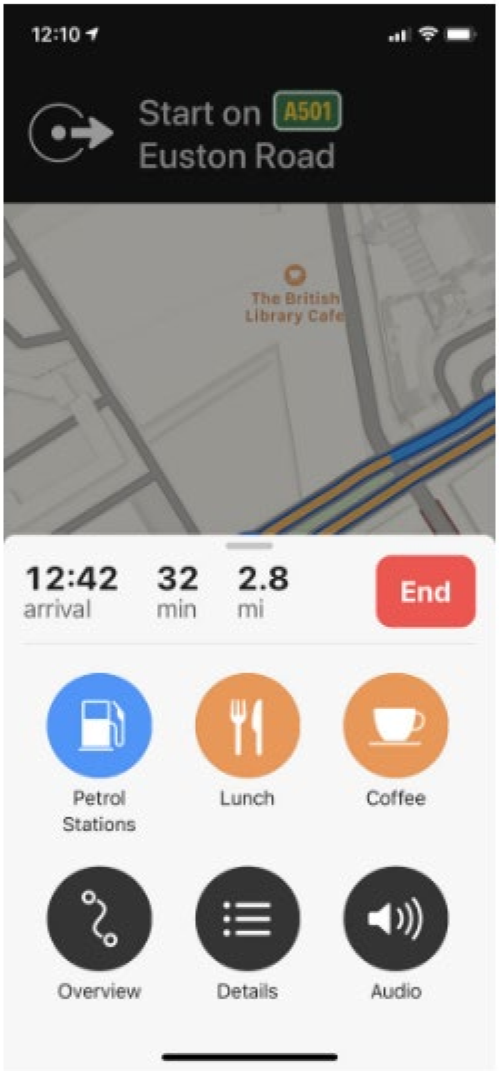
Exemplary Claim	Corresponding Structure in Accused Systems
information to the wireless mobile communications device;	 T-Mobile 4:14 PM Walmart Crescent Ave Gilham Rd River Rd Delta Hwy S 16 min 15 min Harlow Rd 5 105 Eugene Country Club Eugene W 11th Ave 126 University of Oregon Chambers St Jefferson St Crest Dr Willamette St Southridge Park 56° To Walmart From My Location **Attachment 2 (To Walmart from My Location using Apple Maps) at 1.**

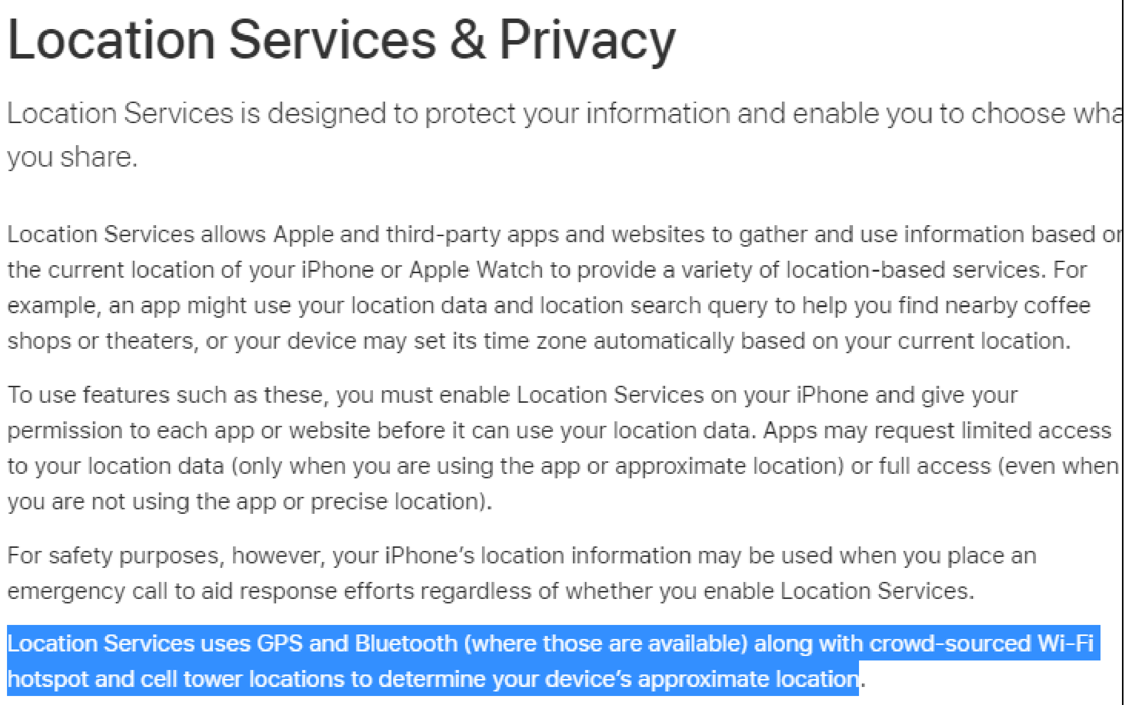
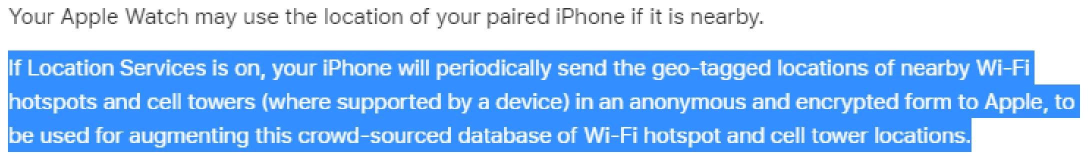
Exemplary Claim	Corresponding Structure in Accused Systems
	 T-Mobile Wi-Fi 4:22 PM 20% Skinner Butte Park REI E 4th Ave Eugene 9 min Washington St 1th Ave Oak St Pearl St High St E 13th Ave University of Oregon Pioneer Memorial Cemetery Jefferson St University 55° To REI From My Location 9 min 2.1 mi · Hilyard St Fastest route GO Drive Walk Transit Ride Navigation assistance provided by Apple Maps utilizes Apple Servers. Time and distance are providing the numerical value. Apple Maps, using wireless telecommunications network, provides navigation assistance (directions) to a “user of a communications device” (Ex: iPhone) for travelling from a starting location (Ex: said user communication device’s current location) to a destination location (Ex: REI). **Attachment 3 (To REI from My Location using Apple Maps) at 2.**

Exemplary Claim	Corresponding Structure in Accused Systems
	 T-Mobile Wi-Fi 4:44 PM 20% Oakway Golf Course Valley River Center Eugen Country 16 min 105 15 min W 2nd Ave Blair Blvd 126 Skinner Butte Park Autzen Stadium Eugene Washington St Oak St W 11th Ave W 13th Ave Alton Baker Park Hilyard St University of Oregon W 18th Ave E 18th Ave stmoreland Park W 24th Ave fferson St E 24th Ave 55° GO Drive Walk Transit Ride To Valley River Center From My Location 15 min 4.1 mi · I-105 E Fastest route **Attachment 4 (To Valley River Center from My Location using Apple Maps) at 3.**

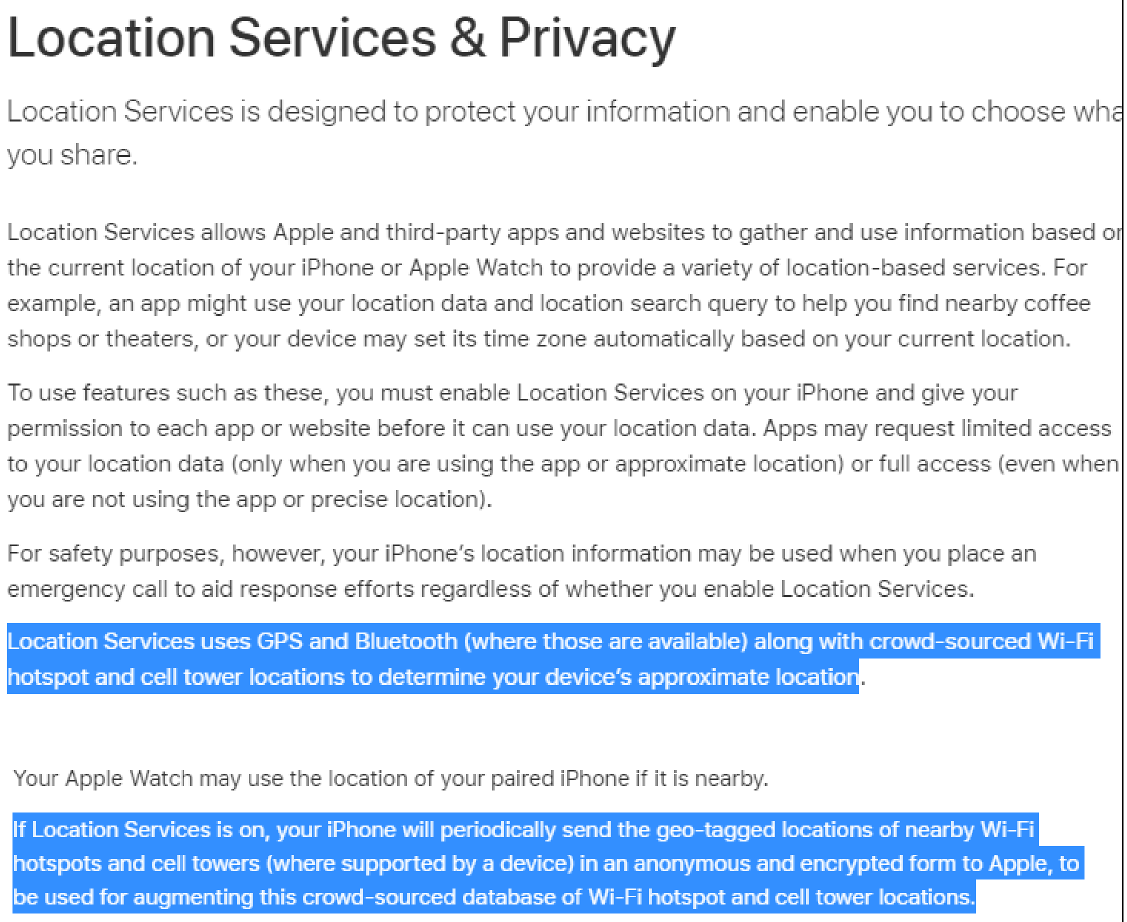
Exemplary Claim	Corresponding Structure in Accused Systems
	 T-Mobile Wi-Fi 4:54 PM 20% Northwest Christian University University of Oregon Matthew Knight Arena Pioneer Memorial Cemetery Jane Sanders Stadium 7 min E 15th Ave E 18th Ave E 22nd Ave E 24th Ave University Park E 25th Ave Walnut St Orchard St Villard St Moss St Columbia Aly Agate St Harris Aly Emerald St Longview St Elk Ave Spring Blvd Van Ness St 56° GO Drive Walk Transit Ride To Matthew Knight Arena From My Location 7 min 1.7 mi · Hilyard St Fastest route **Attachment 5 (To Matthew Knight Arena from My Location using Apple Maps) at 4.** Set up detours on your journey We've all been there: you're on a journey and somebody needs to go to the toilet. Or you realize you're almost out of petrol. Sudden changes to the plan are fine if you know the area, but can be a nightmare when using satnav.

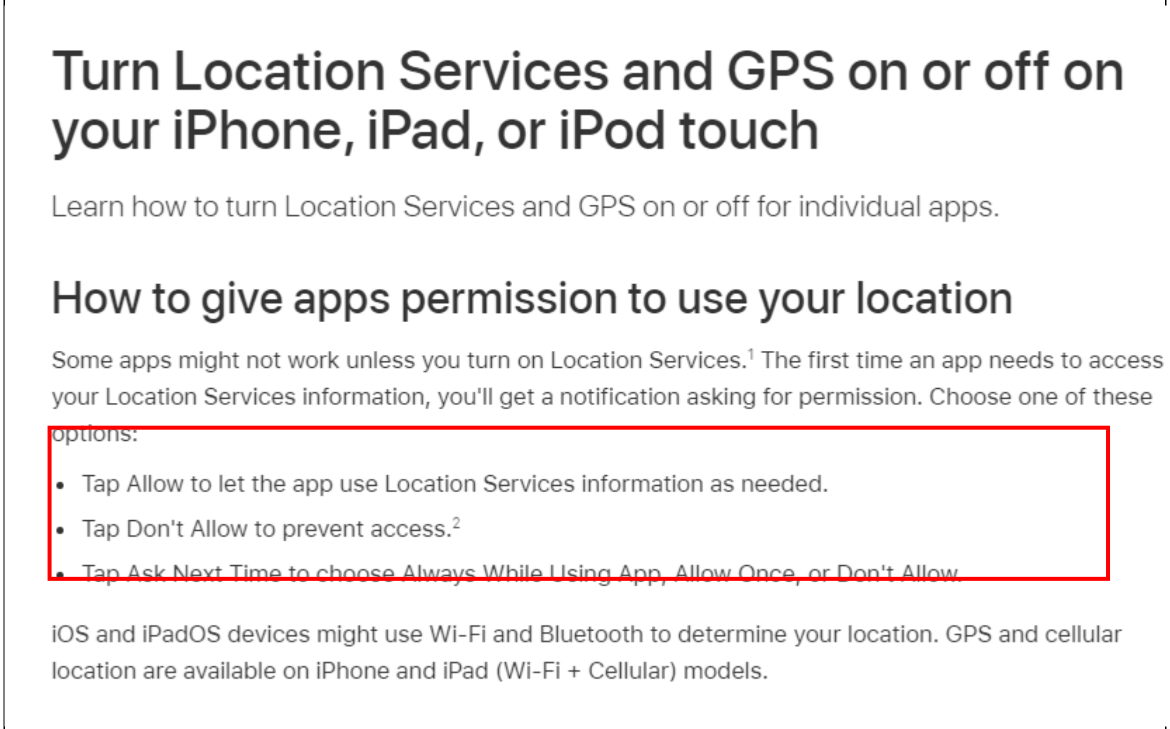
Exemplary Claim	Corresponding Structure in Accused Systems
	Fortunately, Apple Maps has a built-in feature that allows you to quickly set up detours along your journey, allowing you to quickly and easily find a route to the closest petrol station or services, depending on what you require. When on a journey, tap the bar at the bottom of the Maps screen that displays the ETA, distance and other useful information. Tapping the bar should reveal journey options, including Smart Suggestions to search for points of interest like restaurants and petrol stations. Find your desired detour and tap Go to reroute. Once you've refueled, Apple Maps should automatically resume directions to your original destination. If not, tap the 'Resume route to XX' banner at the top of the display. **The above proves ascertain that the Apple Maps utilizes Apple Servers to update the real-time information, Also, based on the user selection, the numerical value such distance and time updated in real-time.**

Exemplary Claim	Corresponding Structure in Accused Systems
	 12:10 Start on A501 Euston Road The British Library Cafe 12:42 arrival 32 min 2.8 mi End Petrol Stations Lunch Coffee Overview Details Audio https://www.macworld.co.uk/how-to/use-apple-maps-iphone-3658346/
at least one second radio-frequency transceiver and an associated at least one second antenna of the wireless communications network to which the second radio-	Plaintiff contends to this claim limitation that second radio-frequency transceiver can be a base station/ cell tower/base station/ Wi-Fi hotspot. A communication network includes cell sites or towers (examples of different types of access points or towers, which provide radio communication to and from wireless communication devices (specifically one or more of the mobile wireless communications devices identified on Exhibit-B). Thus, the cell sites (base stations) include the radio frequency transceiver coupled with antenna in any communication network. Towers and base stations include radio-frequency transceivers designed and used for radio-frequency communication with at least one antenna. When base-station transceivers and antennas are in communication, they are

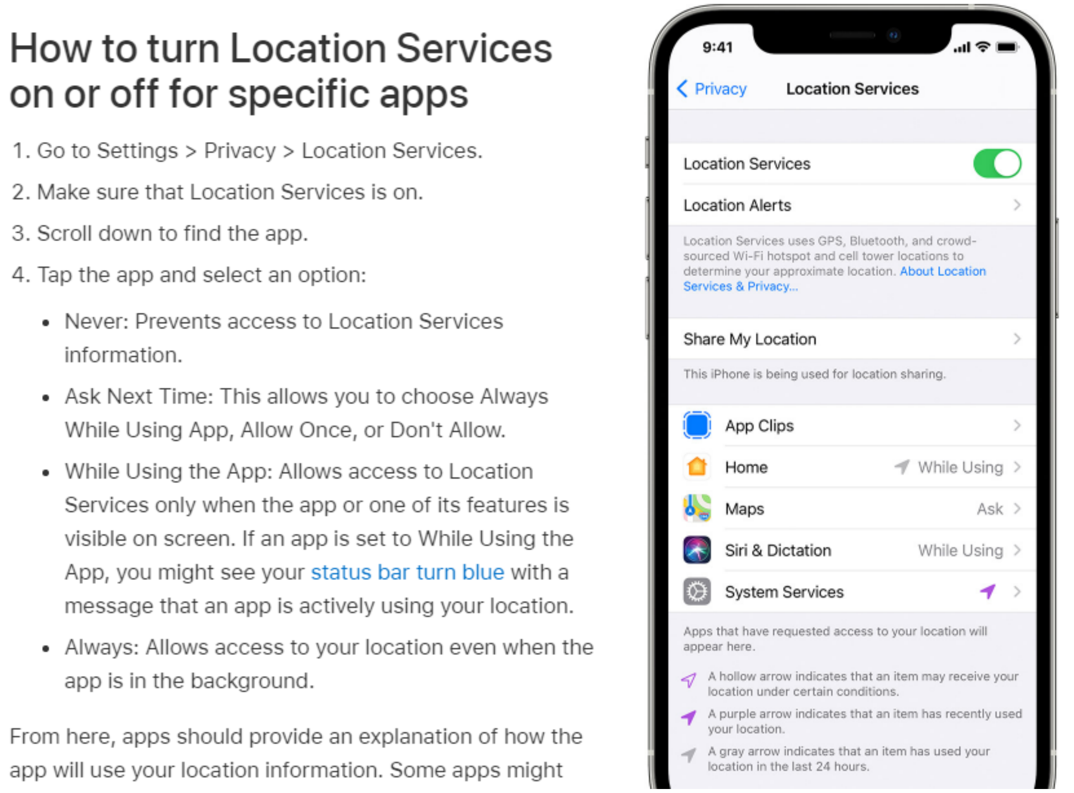
Exemplary Claim	Corresponding Structure in Accused Systems
frequency transceiver is coupled; and	coupled. Further, in addition to being so coupled, the transceivers and antenna are coupled to the devices they are attached to. Each said base station base station/ cell tower/base station/ Wi-Fi hotspot includes a radio-frequency transceiver connected to one or more antennas.  Location Services & Privacy Location Services is designed to protect your information and enable you to choose wha you share. Location Services allows Apple and third-party apps and websites to gather and use information based o the current location of your iPhone or Apple Watch to provide a variety of location-based services. For example, an app might use your location data and location search query to help you find nearby coffee shops or theaters, or your device may set its time zone automatically based on your current location. To use features such as these, you must enable Location Services on your iPhone and give your permission to each app or website before it can use your location data. Apps may request limited access to your location data (only when you are using the app or approximate location) or full access (even when you are not using the app or precise location). For safety purposes, however, your iPhone's location information may be used when you place an emergency call to aid response efforts regardless of whether you enable Location Services. Location Services uses GPS and Bluetooth (where those are available) along with crowd-sourced Wi-Fi hotspot and cell tower locations to determine your device's approximate location.  Your Apple Watch may use the location of your paired iPhone if it is nearby. If Location Services is on, your iPhone will periodically send the geo-tagged locations of nearby Wi-Fi hotspots and cell towers (where supported by a device) in an anonymous and encrypted form to Apple, to be used for augmenting this crowd-sourced database of Wi-Fi hotspot and cell tower locations. https://support.apple.com/en-us/HT207056

Exemplary Claim	Corresponding Structure in Accused Systems
a second processor coupled to the at least one second radio-frequency transceiver programmed to acquire the information indicative of a location of the wireless mobile communications device,	Plaintiff contends that each Apple Server (computer or second processor) described computer corresponds to this claim limitation because each Exhibit-C described computer is coupled to cell tower/base station/ Wi-Fi hotspot of the communication network which provides radio communication to and from wireless communication mobile devices (specifically one or more of the mobile wireless communications devices identified on Exhibit B). The cell tower/base station/ Wi-Fi hotspot include the radio frequency transceiver(s) and the associated antenna(s). The following exemplifies the existence of this limitation in Accused Systems:

Exemplary Claim	Corresponding Structure in Accused Systems
	 Location Services & Privacy Location Services is designed to protect your information and enable you to choose wha you share. Location Services allows Apple and third-party apps and websites to gather and use information based o the current location of your iPhone or Apple Watch to provide a variety of location-based services. For example, an app might use your location data and location search query to help you find nearby coffee shops or theaters, or your device may set its time zone automatically based on your current location. To use features such as these, you must enable Location Services on your iPhone and give your permission to each app or website before it can use your location data. Apps may request limited access to your location data (only when you are using the app or approximate location) or full access (even when you are not using the app or precise location). For safety purposes, however, your iPhone's location information may be used when you place an emergency call to aid response efforts regardless of whether you enable Location Services. Location Services uses GPS and Bluetooth (where those are available) along with crowd-sourced Wi-Fi hotspot and cell tower locations to determine your device's approximate location. Your Apple Watch may use the location of your paired iPhone if it is nearby. If Location Services is on, your iPhone will periodically send the geo-tagged locations of nearby Wi-Fi hotspots and cell towers (where supported by a device) in an anonymous and encrypted form to Apple, to be used for augmenting this crowd-sourced database of Wi-Fi hotspot and cell tower locations. https://support.apple.com/en-us/HT207056
wherein the second processor selectively acquires the information indicative of a location of the wireless mobile communications device dependent on the setting of preference flags,	Plaintiff contends that each Apple Server (computer or second processor) described computer corresponds to this claim limitation because if the preference flags are not enabled (i.e., the wireless-mobile-communication device's user has not granted permission), the Apple Server (computer or second processor) computer or second processor do not proceed with determining the device's location or communicating that location. The Apple Server (computer or second processor) computer will not be able to determine and track the location of the Wireless communication device (Exhibit B) such as Apple iPhone 12 Pro Max**,** Apple iPhone 12 Pro, Apple iPhone 12, Apple iPhone 11 Pro Max, Apple iPhone 11 Pro, Apple iPhone 11, Apple iPhone XR, Apple iPhone XS, Apple

Exemplary Claim	Corresponding Structure in Accused Systems
	iPhone X, Apple iPhone SE, if the location flag on the Wireless communication device (Exhibit B) is turned off (that is, locations privacy settings are set to "off"). The following exemplifies the existence of this limitation in Accused Systems:  **Turn Location Services and GPS on or off on your iPhone, iPad, or iPod touch** Learn how to turn Location Services and GPS on or off for individual apps. **How to give apps permission to use your location** Some apps might not work unless you turn on Location Services.[1] The first time an app needs to access your Location Services information, you'll get a notification asking for permission. Choose one of these options: • Tap Allow to let the app use Location Services information as needed. • Tap Don't Allow to prevent access.[2] • Tap Ask Next Time to choose Always While Using App, Allow Once, or Don't Allow. iOS and iPadOS devices might use Wi-Fi and Bluetooth to determine your location. GPS and cellular location are available on iPhone and iPad (Wi-Fi + Cellular) models.

Exemplary Claim	Corresponding Structure in Accused Systems
	https://support.apple.com/en-in/HT207092

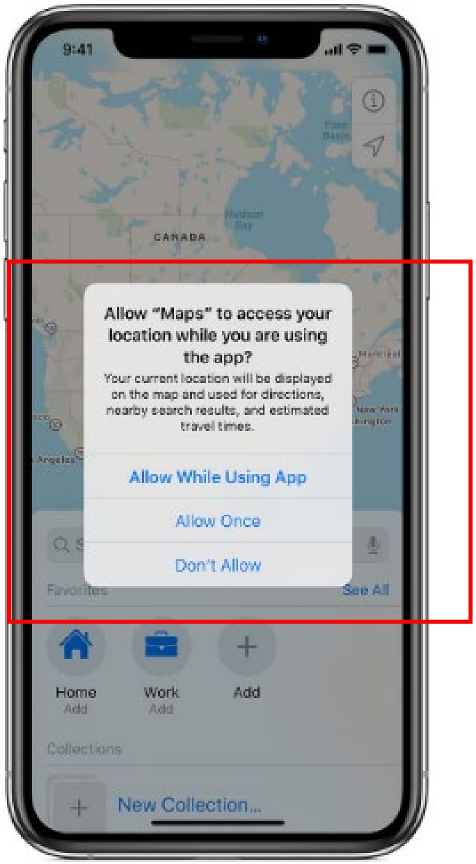
Exemplary Claim	Corresponding Structure in Accused Systems
	 ## How to turn Location Services on or off for specific apps 1. Go to Settings > Privacy > Location Services. 2. Make sure that Location Services is on. 3. Scroll down to find the app. 4. Tap the app and select an option: - Never: Prevents access to Location Services information. - Ask Next Time: This allows you to choose Always While Using App, Allow Once, or Don't Allow. - While Using the App: Allows access to Location Services only when the app or one of its features is visible on screen. If an app is set to While Using the App, you might see your status bar turn blue with a message that an app is actively using your location. - Always: Allows access to your location even when the app is in the background. From here, apps should provide an explanation of how the app will use your location information. Some apps might 9:41 Privacy Location Services Location Services ● Location Alerts Location Services uses GPS, Bluetooth, and crowd-sourced Wi-Fi hotspot and cell tower locations to determine your approximate location. About Location Services & Privacy... Share My Location This iPhone is being used for location sharing. App Clips Home While Using Maps Ask Siri & Dictation While Using System Services Apps that have requested access to your location will appear here. A hollow arrow indicates that an item may receive your location under certain conditions. A purple arrow indicates that an item has recently used your location. A gray arrow indicates that an item has used your location in the last 24 hours.

Exemplary Claim	Corresponding Structure in Accused Systems
	https://support.apple.com/en-in/HT207092

<table>
<tr><th>Exemplary Claim</th><th>Corresponding Structure in Accused Systems</th></tr>
<tr><td></td><td>

Give apps permission to use your location

The first time an app tries to access your location, it must ask for your permission. You see a prompt explaining which app is asking for permission to use your location as well as the app developer's reason for requesting it.



Allow “Maps” to access your location while you are using the app?

Your current location will be displayed on the map and used for directions, nearby search results, and estimated travel times.

Second Processor (Apple Server (computer or second processor)) will not be able to

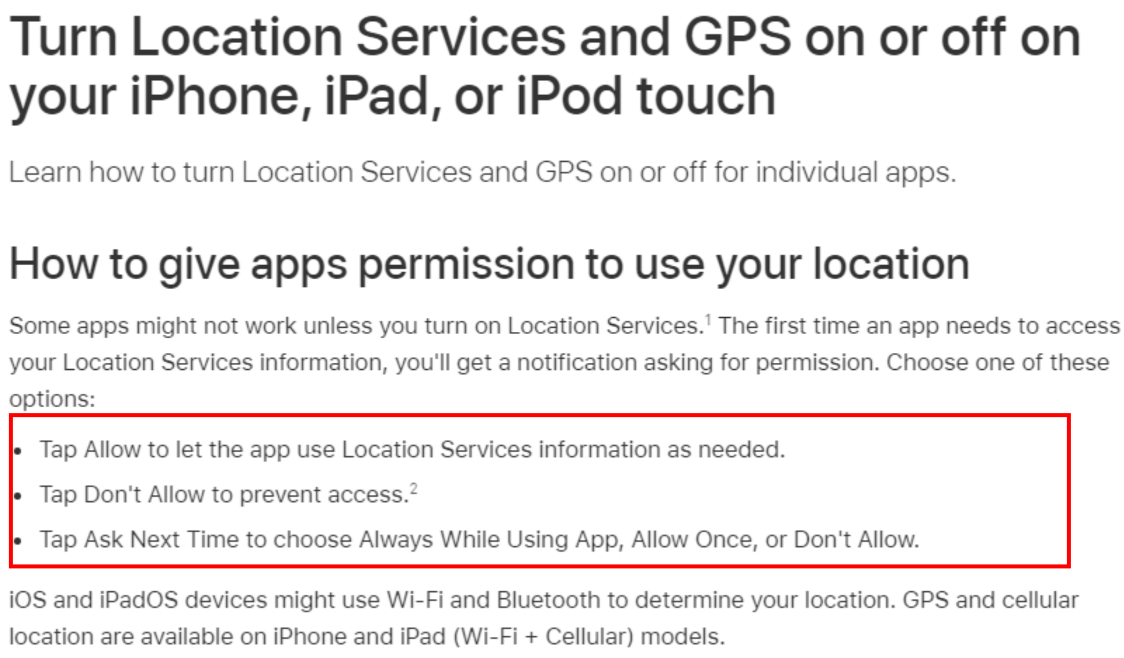
acquire the information indicative of the location of the Wireless communication device (Exhibit B) if “Location” flag is turned OFF or permission is denied.

</td></tr>
<tr><td>wherein the second processor acquires the information indicative of a location of the wireless mobile communications device if the preference flags are set to a state that permits tracking of the wireless mobile</td><td>

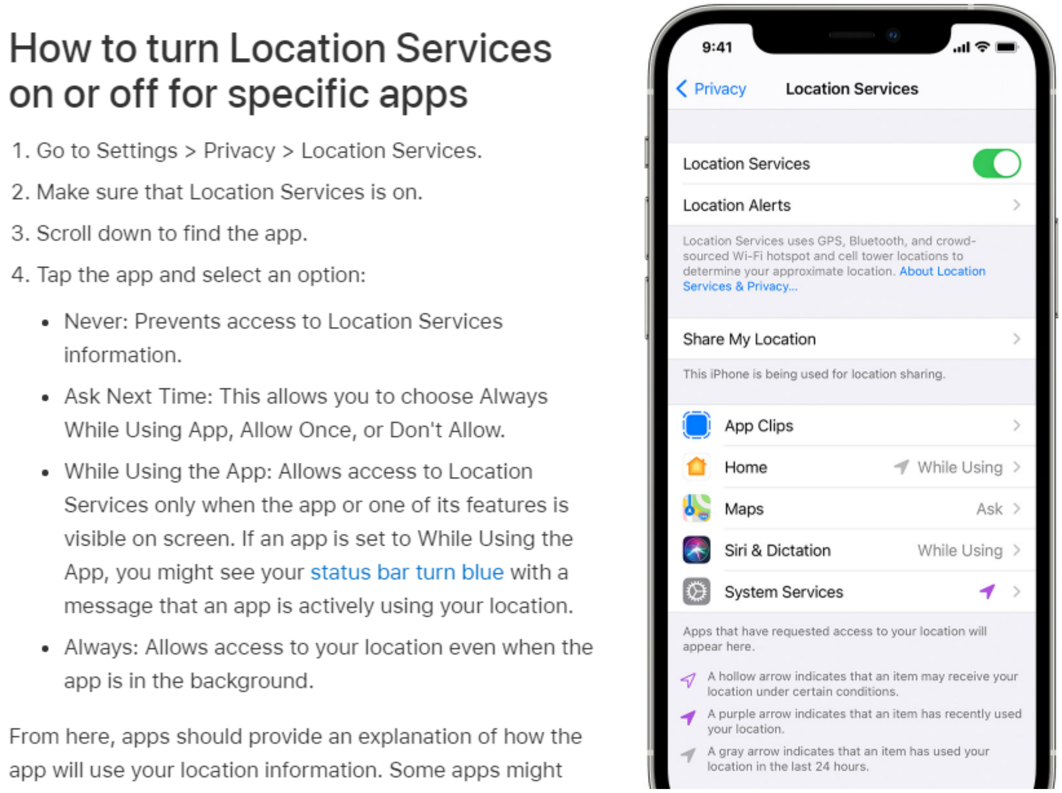
Plaintiff contends that each Apple Server (computer or second processor) described computer corresponds to this claim limitation because if the preference flags are not enabled (i.e., the wireless-mobile-communication device’s user has not granted permission), the Apple Server (computer or second processor) do not proceed with determining the device’s location or communicating that location.

The Apple Server (computer or second processor) will not be able to determine and track the location of the Wireless communication device (Exhibit B) including but not limited to Apple iPhones, iPads, MacBook, iPods, iPod Touch, iwatch etc.,), Apple iPhone 12 Pro Max**,** Apple iPhone 12 Pro, Apple iPhone 12, Apple iPhone 11 Pro Max, Apple iPhone 11 Pro, Apple iPhone 11, Apple iPhone XR, Apple iPhone XS, Apple iPhone X,

</td></tr>
</table>

Exemplary Claim	Corresponding Structure in Accused Systems
communications device,	Apple iPhone SE (refer Exhibit B for complete list), if the location flag on the Wireless communication device (Exhibit B) is turned off (that is, locations privacy settings are set to "off"). The following exemplifies the existence of this limitation in Accused Systems:  Turn Location Services and GPS on or off on your iPhone, iPad, or iPod touch Learn how to turn Location Services and GPS on or off for individual apps. How to give apps permission to use your location Some apps might not work unless you turn on Location Services.[1] The first time an app needs to access your Location Services information, you'll get a notification asking for permission. Choose one of these options: • Tap Allow to let the app use Location Services information as needed. • Tap Don't Allow to prevent access.[2] • Tap Ask Next Time to choose Always While Using App, Allow Once, or Don't Allow. iOS and iPadOS devices might use Wi-Fi and Bluetooth to determine your location. GPS and cellular location are available on iPhone and iPad (Wi-Fi + Cellular) models.

Exemplary Claim	Corresponding Structure in Accused Systems
	https://support.apple.com/en-in/HT207092

Exemplary Claim	Corresponding Structure in Accused Systems
	

How to turn Location Services on or off for specific apps

1. Go to Settings > Privacy > Location Services.
2. Make sure that Location Services is on.
3. Scroll down to find the app.
4. Tap the app and select an option:
   - Never: Prevents access to Location Services information.
   - Ask Next Time: This allows you to choose Always While Using App, Allow Once, or Don't Allow.
   - While Using the App: Allows access to Location Services only when the app or one of its features is visible on screen. If an app is set to While Using the App, you might see your status bar turn blue with a message that an app is actively using your location.
   - Always: Allows access to your location even when the app is in the background.

From here, apps should provide an explanation of how the app will use your location information. Some apps might

Location Services ●

Location Alerts

Location Services uses GPS, Bluetooth, and crowd-sourced Wi-Fi hotspot and cell tower locations to determine your approximate location. About Location Services & Privacy...

Share My Location

This iPhone is being used for location sharing.

App Clips

Home: While Using

Maps: Ask

Siri & Dictation: While Using

System Services

Apps that have requested access to your location will appear here.

A hollow arrow indicates that an item may receive your location under certain conditions.

A purple arrow indicates that an item has recently used your location.

A gray arrow indicates that an item has used your location in the last 24 hours.

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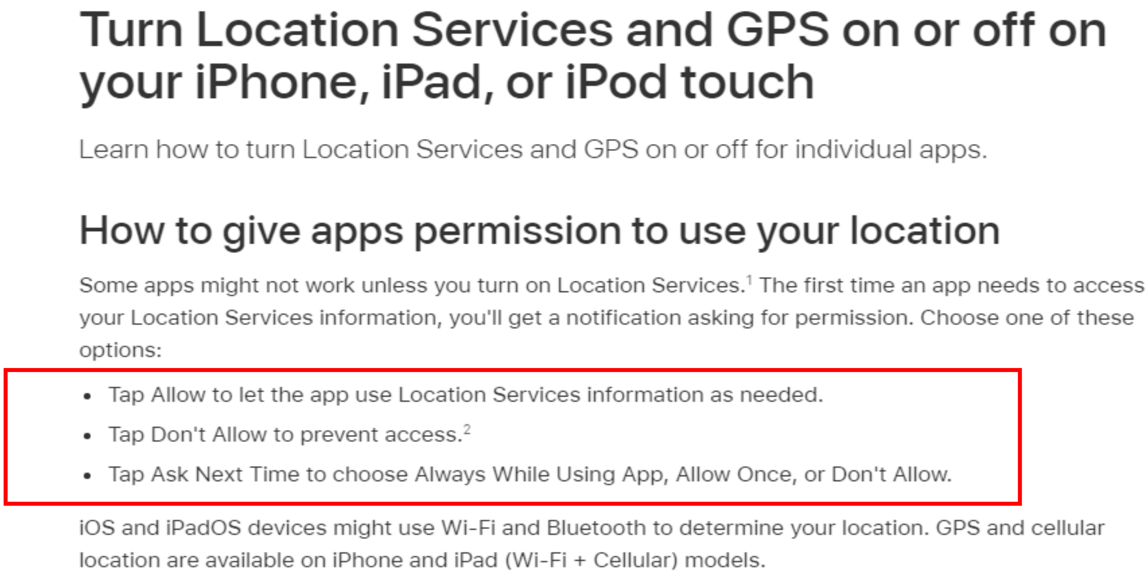
and wherein the second processor does not acquire the information indicative of the location of the wireless mobile communications device if the preference flags are set to a state that prohibits tracking of the wireless mobile	Plaintiff contends that each Apple Server (computer or second processor) described computer corresponds to this claim limitation because if the preference flags are not enabled (i.e., the wireless-mobile-communication device's user has not granted permission), the Apple Server (computer or second processor) do not proceed with determining the device's location or communicating that location. The Apple Server (computer or second processor) will not be able to determine and track the location of the Wireless communication device (Exhibit B) including but not limited to Apple iPhones, iPads, MacBook, iPods, iPod Touch, iwatch etc.,), Apple iPhone 12 Pro Max**,** Apple iPhone 12 Pro, Apple iPhone 12, Apple iPhone 11 Pro Max, Apple iPhone 11 Pro, Apple iPhone 11, Apple iPhone XR, Apple iPhone XS, Apple iPhone X,

Exemplary Claim	Corresponding Structure in Accused Systems
communications device.	Apple iPhone SE (refer Exhibit B), if the location flag on the Wireless communication device (Exhibit B) is turned off (that is, locations privacy settings are set to “off”). The following exemplifies the existence of this limitation in Accused Systems:  Turn Location Services and GPS on or off on your iPhone, iPad, or iPod touch Learn how to turn Location Services and GPS on or off for individual apps. How to give apps permission to use your location Some apps might not work unless you turn on Location Services.[1] The first time an app needs to access your Location Services information, you'll get a notification asking for permission. Choose one of these options: • Tap Allow to let the app use Location Services information as needed. • Tap Don't Allow to prevent access.[2] • Tap Ask Next Time to choose Always While Using App, Allow Once, or Don't Allow. iOS and iPadOS devices might use Wi-Fi and Bluetooth to determine your location. GPS and cellular location are available on iPhone and iPad (Wi-Fi + Cellular) models.

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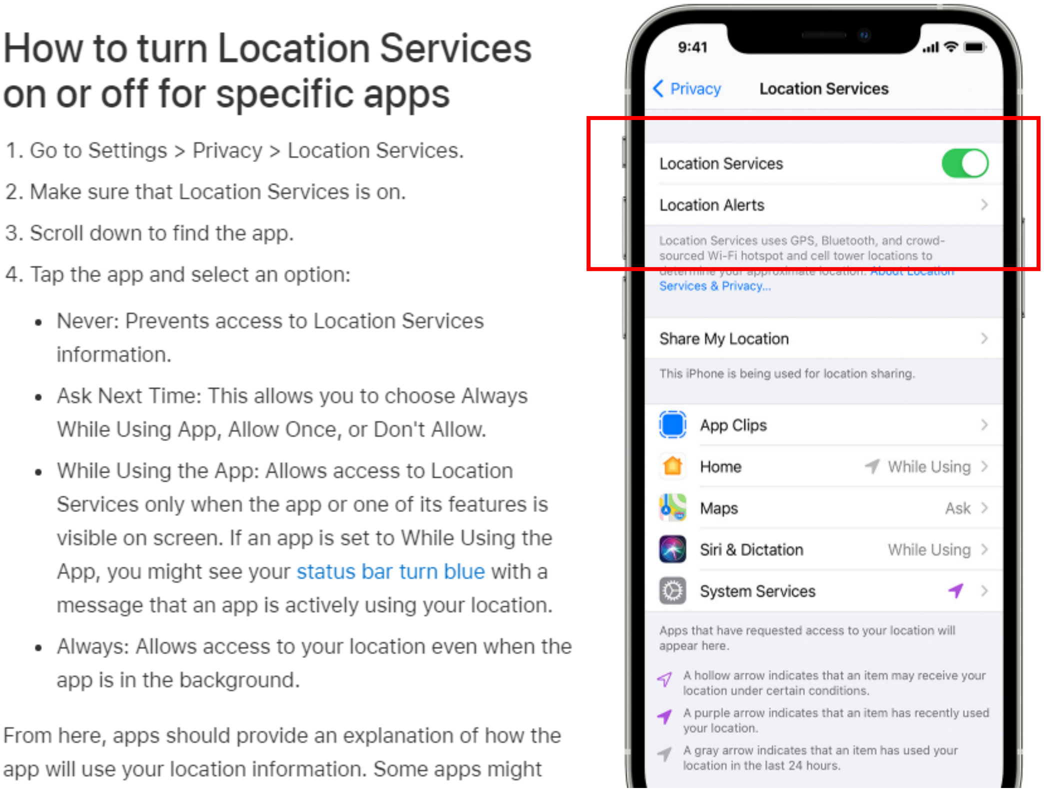
	https://support.apple.com/en-in/HT207092  **How to turn Location Services on or off for specific apps** 1. Go to Settings > Privacy > Location Services. 2. Make sure that Location Services is on. 3. Scroll down to find the app. 4. Tap the app and select an option: - Never: Prevents access to Location Services information. - Ask Next Time: This allows you to choose Always While Using App, Allow Once, or Don't Allow. - While Using the App: Allows access to Location Services only when the app or one of its features is visible on screen. If an app is set to While Using the App, you might see your status bar turn blue with a message that an app is actively using your location. - Always: Allows access to your location even when the app is in the background. From here, apps should provide an explanation of how the app will use your location information. Some apps might 9:41 Privacy Location Services Location Services ● Location Alerts Location Services uses GPS, Bluetooth, and crowd-sourced Wi-Fi hotspot and cell tower locations to determine your approximate location. About Location Services & Privacy... Share My Location This iPhone is being used for location sharing. App Clips Home While Using Maps Ask Siri & Dictation While Using System Services Apps that have requested access to your location will appear here. A hollow arrow indicates that an item may receive your location under certain conditions. A purple arrow indicates that an item has recently used your location. A gray arrow indicates that an item has used your location in the last 24 hours.

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26. Defendant makes, uses, offers to sell, and/or sells within or imports into the U.S. wireless networks, wireless-network components, and related services that use identified locations of wireless devices to provide tracking such that Defendant infringes claims 1–24 of the ’147 patent, literally or under the doctrine of equivalents.

27. Defendant put the inventions claimed by the ’147 Patent into service (i.e., used them); but for Defendant’s actions, the claimed-inventions embodiments involving Defendant’s products and services would never have been put into service. Defendant’s acts complained of herein caused those claimed-invention embodiments as a whole to perform, and Defendant obtaining monetary and commercial benefit from it.

28. Defendant has and continues to induce infringement. Defendant has actively encouraged or instructed others (e.g., its customers), and continues to do so, on how to use its products and services (e.g., U.S. wireless networks, wireless-network components that use identified locations of wireless devices to provide tracking of mobile devices) such to cause infringement claims 1–24 of the ’147 patent, literally or under the doctrine of equivalents.

Moreover, Defendant has known and should have known of the ’147 patent, by at least by the date of the patent’s issuance, or from the issuance of the ‘284 patent, which followed the date that the patent’s underlying application was cited to Defendant by the U.S. Patent and Trademark Office during prosecution of one of Defendant’s patent applications, such that Defendant knew and should have known that it was and would be inducing infringement.

29. Defendant has and continues to contributorily infringe. Defendant has actively encouraged or instructed others (e.g., its customers and/or the customers of its related companies), and continues to do so, on how to use its products and services e.g., U.S. wireless networks, wireless-network components that use identified locations of wireless devices to provide tracking of mobile devices) such as to cause infringement of one or more of claims 1– of the ’147 patent, literally or under the doctrine of equivalents. Moreover, Defendant has known of the ’147 patent and the technology underlying it from at least the date of issuance of the patent or from the issuance of the ‘284 patent, which followed the date that the patent’s underlying application was cited to Defendant by the U.S. Patent and Trademark Office during prosecution of one of Defendant’s patent applications, such that Defendant knew and should have known that it was and would be contributorily infringing.

30. Defendant has caused and will continue to cause Traxcell damage by infringing the ’147 patent.

VI. PRAYER FOR RELIEF

WHEREFORE, Traxcell respectfully requests that this Court:

i. enter judgment that Defendant has infringed the Patents-in-Suit;

ii. award Traxcell damages in an amount sufficient to compensate it for Defendant's infringement of the Patents-in-Suit, in an amount no less than a reasonable royalty, together with prejudgment and post-judgment interest and costs under 35 U.S.C. § 284;

iii. award Traxcell an accounting for acts of infringement not presented at trial and an award by the Court of additional damage for any such acts of infringement;

iv. declare this case to be "exceptional" under 35 U.S.C. § 285 and award Traxcell its attorneys' fees, expenses, and costs incurred in this action;

v. declare Defendant's infringement to be willful and treble the damages, including attorneys' fees, expenses, and costs incurred in this action and an increase in the damage award pursuant to 35 U.S.C. §284;

vi. a decree addressing future infringement that either (i) awards a permanent injunction enjoining Defendant and its agents, servants, employees, affiliates, divisions, and subsidiaries, and those in association with Defendant, from infringing the claims of the Patents-in-Suit or (ii) award damages for future infringement in lieu of an injunction, in an amount consistent with the fact that for future infringement the Defendant will be adjudicated infringers of a valid patent, and trebles that amount in view of the fact that the future infringement will be willful as a matter of law; and,

vii. award Traxcell such other and further relief as this Court deems just and proper.

JURY DEMAND

Traxcell hereby requests a trial by jury on issues so triable by right.

Respectfully submitted,

Ramey & Schwaller, LLP

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