

# EXHIBIT 1

## **HBCU MESSAGING US FIRST INFRINGEMENT ANALYSIS**

### **U.S. Patent No. 8,918,127 – Apple Inc.**

#### **Claim 1**

HBCU Messaging US LP (“HBCU”) provides evidence of infringement of claim 1 of U.S. Patent No. 8,918,127 (hereinafter “the ’127 patent”) by Apple Inc. (“Apple”). In support thereof, HBCU provides the following claim charts.

“Accused Instrumentalities” as used herein is defined in HBCU’s Complaint. It is further understood, on information and belief, that Apple retains ownership of all relevant Apple-provided software on user’s Apple devices, and that such software is responsible, in material part, for the functionality of those devices.

These claim charts demonstrate Apple’s infringement, and provide notice of such infringement, by comparing each element of the asserted claims to corresponding components, aspects, and/or features of the Accused Instrumentalities. These claim charts are not intended to constitute an expert report on infringement. These claim charts include information provided by way of example, and not by way of limitation.

The analysis set forth below is based only upon information from available resources regarding the Accused Instrumentalities, as Apple has not yet provided any further non-public information. An analysis of Apple’s (or other third parties’) technical documentation and/or software source code may assist in fully identifying all infringing features and functionality. Accordingly, HBCU reserves the right to supplement this infringement analysis once such information is made available to HBCU. Furthermore, HBCU reserves the right to revise this infringement analysis, as appropriate, upon issuance of a court order construing any terms recited in the asserted claims. HBCU provides this evidence of infringement and related analysis without the benefit of claim construction or expert reports or discovery. HBCU reserves the right to supplement, amend or otherwise modify this analysis and/or evidence based on any such claim construction or expert reports or discovery.

Unless otherwise noted, HBCU contends that Apple directly infringes the ’127 patent in violation of 35 U.S.C. § 271(a) by selling, offering to sell, making, using, and/or importing the Accused Instrumentalities. The following exemplary analysis demonstrates that infringement. Unless otherwise noted, HBCU further contends that the evidence below supports a finding of indirect infringement under 35 U.S.C. §§ 271(b) and/or (c), in conjunction with other evidence of liability under one or more of those subsections. Apple makes, uses, sells, imports, or offers for sale in the United States, or has made, used, sold, imported, or offered for sale in the past, without authority, or induces others to make, use, sell, import, or offer for sale in the United States, or has induced others to make, use, sell, import, or offer for sale in the past, without authority products, equipment, or services that infringe at least claim 1 of the ’127 patent, including without limitation, the Accused Instrumentalities.

Unless otherwise noted, HBCU believes and contends that each element of each claim asserted herein is literally met through Apple’s provision of the Accused Instrumentalities. However, to the extent that Apple attempts to allege that any asserted claim element

## **HBCU MESSAGING US FIRST INFRINGEMENT ANALYSIS**

is not literally met, HBCU believes and contends that such elements are met under the doctrine of equivalents. More specifically, in its investigation and analysis of the Accused Instrumentalities, HBCU did not identify any substantial differences between the elements of the patent claims and the corresponding features of the Accused Instrumentalities, as set forth herein. In each instance, the identified feature of the Accused Instrumentalities performs at least substantially the same function in substantially the same way to achieve substantially the same result as the corresponding claim element.

To the extent the chart of an asserted claim relies on evidence about certain specifically identified Accused Instrumentalities, HBCU asserts that, on information and belief, any similarly functioning instrumentalities also infringes the charted claim. HBCU reserves the right to amend this infringement analysis based on other products made, used, sold, imported, or offered for sale by Apple. HBCU also reserves the right to amend this infringement analysis by citing other claims of the '127 patent, not listed in the claim chart, that are infringed by the Accused Instrumentalities. HBCU further reserves the right to amend this infringement analysis by adding, subtracting, or otherwise modifying content in the "Accused Instrumentalities" column of each chart.

# HBCU MESSAGING US FIRST INFRINGEMENT ANALYSIS

## Claim 1

1. A method of providing a messaging service for use in a wireless device of a sender, the method comprising:

## Accused Instrumentalities

The Accused Instrumentalities provide a messaging service for use in a wireless device of a sender.

***The Accused Instrumentalities provide a message service for use in a wireless device of a sender.***

In particular, the Accused Instrumentalities are used to provide Apple's iMessage messaging service for sending devices including Apple iPhone, iPad and iPod Touch wireless devices, as set forth below.

### What is the difference between iMessage and SMS/MMS?

Learn why some of your message bubbles are blue or green.

You can use the [Messages app on your iPhone, iPad, or iPod touch to send messages](#). Those messages are sent as iMessage or SMS/MMS. Learn more about the difference between the message types.

#### iMessage



iMessages are texts, photos, or videos that you send to another iPhone, iPad, iPod touch, or Mac over Wi-Fi or cellular-data networks. These messages are always encrypted and appear in blue text bubbles. To turn iMessage on or off, go to Settings > Messages.

#### SMS/MMS



If you aren't using iMessage, you can use SMS/MMS. These messages are texts and photos that you send to other cell phones or another iPhone, iPad, or iPod touch. SMS/MMS messages aren't encrypted and appear in green text bubbles on your device.

See: Exhibit 16, What is the difference between iMessage and SMS/MMS?

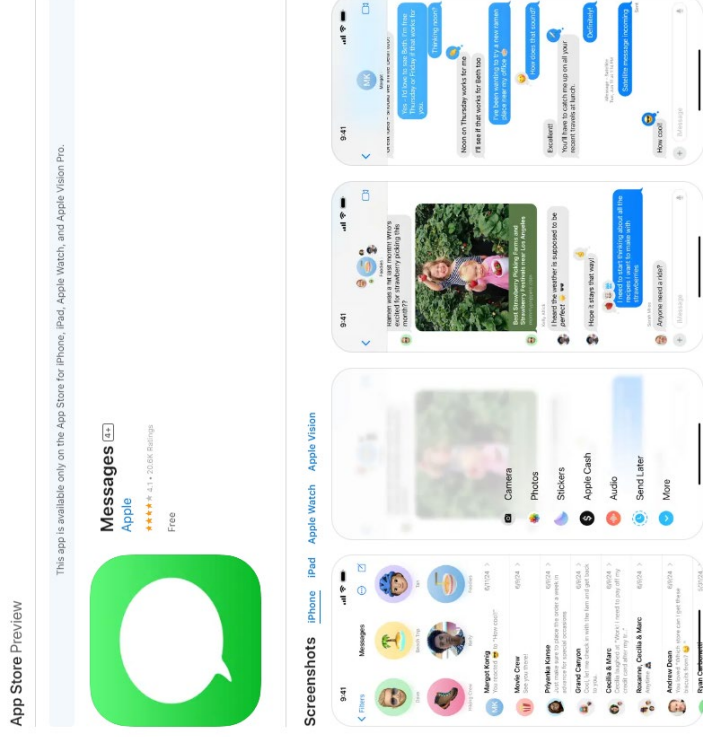
## HBCU MESSAGING US FIRST INFRINGEMENT ANALYSIS

receiving, by a message client running on the wireless device of the sender, information associated with a destination address of a wireless device of the sender, information associated with a destination address of a wireless device of a recipient, the message client capable of determining a transmission mode for sending an outgoing message to the wireless device of the recipient, wherein the wireless device of the sender is capable of sending messages in a plurality of transmission modes comprising a first transmission mode and a second transmission mode;

The Accused Instrumentalities perform receiving, by a message client running on the wireless device of the sender, information associated with a destination address of a wireless device of a recipient, the message client capable of determining a transmission mode for sending an outgoing message to the wireless device of the recipient, wherein the wireless device of the sender is capable of sending messages in a plurality of transmission modes comprising a first transmission mode and a second transmission mode, as set forth below.

***The Accused Instrumentalities include a message client running on the wireless device of the sender.***

In particular, the Apple "Messages App" comprises a messaging client running on, e.g., an iPhone of a message sender.



See: Apple Store Preview (<http://apps.apple.com/us/app/messages/id1146560473>).

## HBCU MESSAGING US FIRST INFRINGEMENT ANALYSIS

*The Accused Instrumentalities receive, by a message client running on the wireless device of the sender, information associated with a destination address of a wireless device of a recipient.*

Specifically, upon initiating a new message in a new conversation, the wireless device of the sender retrieves a recipient phone number from a message being composed. The phone number entered by a user constitutes information associated with a destination address of a wireless device of a recipient.

### **Request for public keys at the IDS database**

When composing a message, the sending device checks whether public keys are available for the receiving device in the IDS database by sending a request to the IDS database in this regard.

See: Exhibit 17, Apple Brief dated June 15, 2022, at 6

### **How iMessage sends and receives messages securely**

Users start a new iMessage conversation by entering an address or name. If they enter a phone number or email address, the device contacts the Apple Identity Service (IDS) to retrieve the public keys and APNs addresses for all of the devices associated with the addressee.

See: Exhibit 19, Apple Platform Security – May 2024 at 197

*The message client is capable of determining a transmission mode for sending an outgoing message to the wireless device of the recipient.*

When a new message in a new conversation is initiated by a sender registered with iMessage, the sending device contacts the Apple Identity Service (IDS) with the phone number of the recipient to perform certain checks and to provide information back to the sending device. In cases where the check returns public keys for the receiving device, the message client decides to send the outgoing message to the recipient using the iMessage service (first transmission mode); if no public keys are returned, the

## HBCU MESSAGING US FIRST INFRINGEMENT ANALYSIS

sending client decides to send the outgoing message to the recipient using SMS (second transmission mode).

### **iMessage security overview**

...  
When a user turns on iMessage on a device, the device generates encryption and signing pairs of keys for use with the service. ... The public keys are sent to Apple Identity Service (IDS), where they are associated with the user's phone number or email address, along with the device's APNs address.

As users enable additional devices for use with iMessage, their encryption and signing public keys, APNs addresses, and associated phone numbers are added to the directory service. Users can also add more email addresses, which are verified by sending a confirmation link.

...

See: Exhibit 19, Apple Platform Security – May 2024, at 196.

The IDS [Apple Identity Service] ... is a database, which stores and manages the registration of Apple devices for altogether different services. For example, the database contains information about whether devices have been activated for using the iMessage service. ... [T]he task of the IDS is to manage and provide registration information for a number of services, e.g. including for "FaceTime", "Handoff", "HomeKit", "Continuity", "Finding Friends", "Maps", "Digital Touch" or for the synchronization of messages. ...

Exhibit 30, Apple Rejoinder, dated November 2, 2016 at 13.

Request for public keys at the IDS database

When composing a message, the sending device checks whether public keys are available for the receiving device in the IDS database by sending a request to the IDS database in this regard.

- a) Public keys are stored in the IDS database if
- the receiving device is registered for iMessage and ...

## HBCU MESSAGING US FIRST INFRINGEMENT ANALYSIS

See: Exhibit 17, Apple Brief, dated June 15, 2022, at 5-6

### **How iMessage sends and receives messages securely**

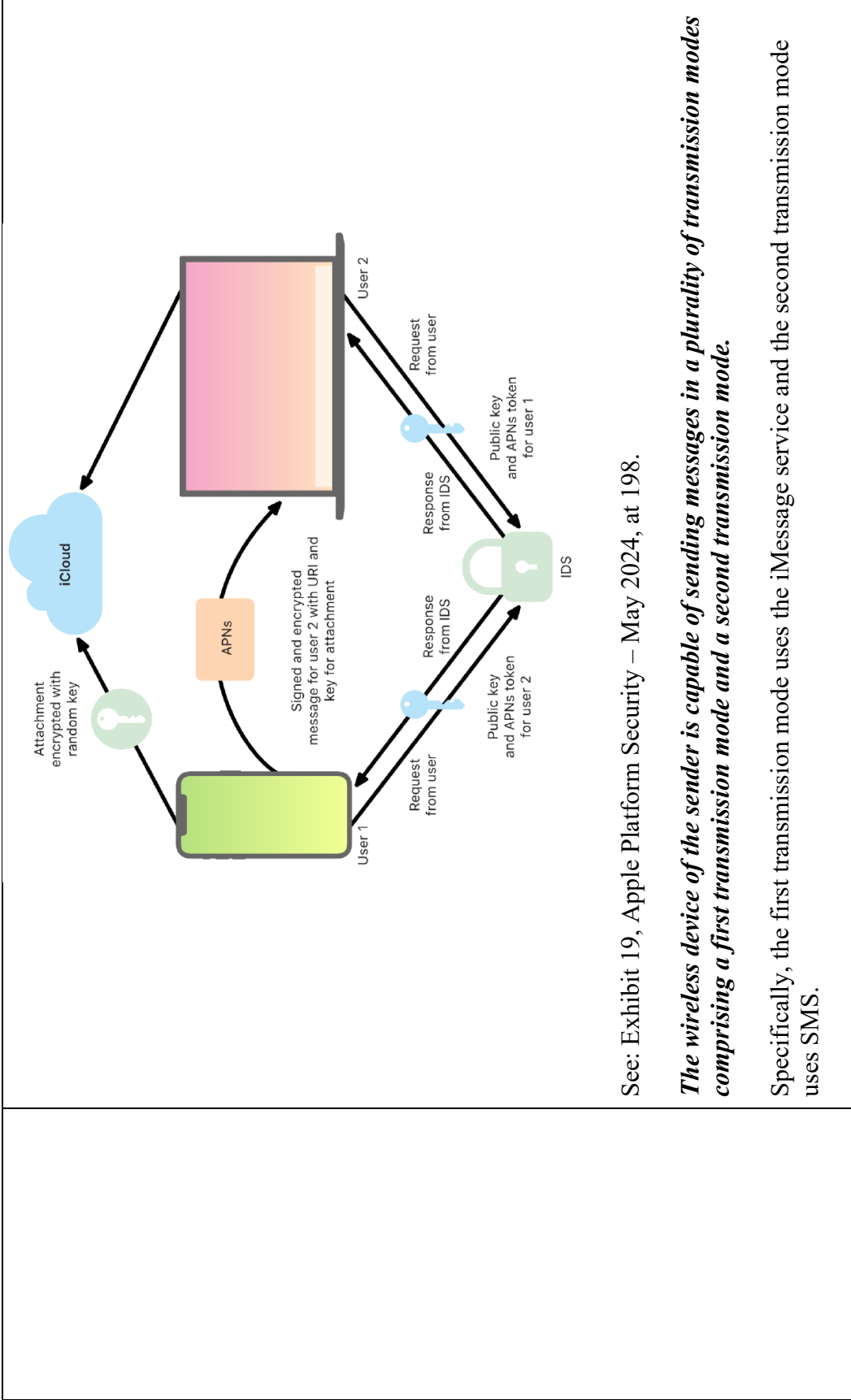
Users start a new iMessage conversation by entering an address or name. If they enter a phone number or email address, the device contacts the Apple Identity Service (IDS) to retrieve the public keys and APNs addresses for all of the devices associated with the addressee.

See: Exhibit 19, Apple Platform Security – May 2024 at 197.

The sending mobile wireless device registered with iMessage decides to send the messages to the receiving device as SMS instead of iMessage if it does not receive public keys in response to the request to the IDS database for the receiving device. ... If public keys are received/available for the receiving device, the sending device basically sends the message via iMessage.

See: Exhibit 17, Apple Brief dated June 15, 2022 at 5-6.

# HBCU MESSAGING US FIRST INFRINGEMENT ANALYSIS



See: Exhibit 19, Apple Platform Security – May 2024, at 198.

*The wireless device of the sender is capable of sending messages in a plurality of transmission modes comprising a first transmission mode and a second transmission mode.*

Specifically, the first transmission mode uses the iMessage service and the second transmission mode uses SMS.

## What is the difference between iMessage and SMS/MMS?

Learn why some of your message bubbles are blue or green.

You can [use the Messages app on your iPhone, iPad, or iPod touch to send messages](#). Those messages are sent as iMessage or SMS/MMS. Learn more about the difference between the message types.

### iMessage



### SMS/MMS



## HBCU MESSAGING US FIRST INFRINGEMENT ANALYSIS

	<p>iMessages are texts, photos, or videos that you send to another iPhone, iPad, iPod touch, or Mac over Wi-Fi or cellular-data networks. These messages are always encrypted and appear in blue text bubbles. To turn iMessage on or off, go to Settings &gt; Messages.</p> <p>To use SMS/MMS on an iPhone, you need a text-messaging plan. <a href="#">Contact your wireless carrier</a> for more information. You can also set up your other Apple devices to <a href="#">send and receive messages from any Apple device</a>.</p> <p>If Wi-Fi is unavailable, iMessages will be sent over cellular data. Cellular data rates might apply.</p> <p>Published Date: May 29, 2024</p> <p><b>See: Exhibit 16, What is the difference between iMessage SMS/MMS?</b></p> <p>The sending mobile wireless device registered with iMessage decides to send the messages to the receiving device as SMS instead of iMessage if it does not receive public keys in response to the request to the IDS database for the receiving device. ... If public keys are received/available for the receiving device, the sending device basically sends the message via iMessage.</p> <p><b>See: Exhibit 17, Apple Brief dated June 15, 2022 at 5-6.</b></p>
<p>determining, by the wireless device of the sender, whether the destination address corresponds to a subscriber of a service for receiving the outgoing message via a packet switched bearer by sending a request via</p>	<p>The Accused Instrumentalities perform determining, by the wireless device of the sender, whether the destination address corresponds to a subscriber of a service for receiving the outgoing message via the iMessage service by sending a request via a packet switched wireless local area network (WLAN) base station to a server, and receiving a response from the server via the packet switched WLAN base station, the response providing an indication of whether the destination address corresponds to a subscriber of the service, as set forth below.</p> <p><b><i>The Accused Instrumentalities send requests to, and receive responses from, a server.</i></b></p>

## HBCU MESSAGING US FIRST INFRINGEMENT ANALYSIS

a packet switched wireless local area network (WLAN) base station to a server, and receiving a response from the server via the packet switched WLAN base station, the response providing an indication of whether the destination address corresponds to a subscriber of the service;

In particular, a wireless device of a sender (e.g., an iPhone) sends requests to, and receives responses from, the server comprising the Apple Identity Service (IDS).

The IDS [Apple Identity Service] ... is a database, which stores and manages the registration of Apple devices for altogether different services. For example, the database contains information about whether devices have been activated for using the iMessage service. ... [T]he task of the IDS is to manage and provide registration information for a number of services, e.g. including for "FaceTime", "Handoff", "HomeKit", "Continuity", "Finding Friends", "Maps", "Digital Touch" or for the synchronization of messages. ...

Exhibit 30, Apple Rejoinder, dated November 2, 2016, at 13.

### **Request for public keys at the IDS database**

When composing a message, the sending device checks whether public keys are available for the receiving device in the IDS database by sending a request to the IDS database in this regard.

- a) Public keys are stored in the IDS database if
  - the receiving device is registered for iMessage and ...

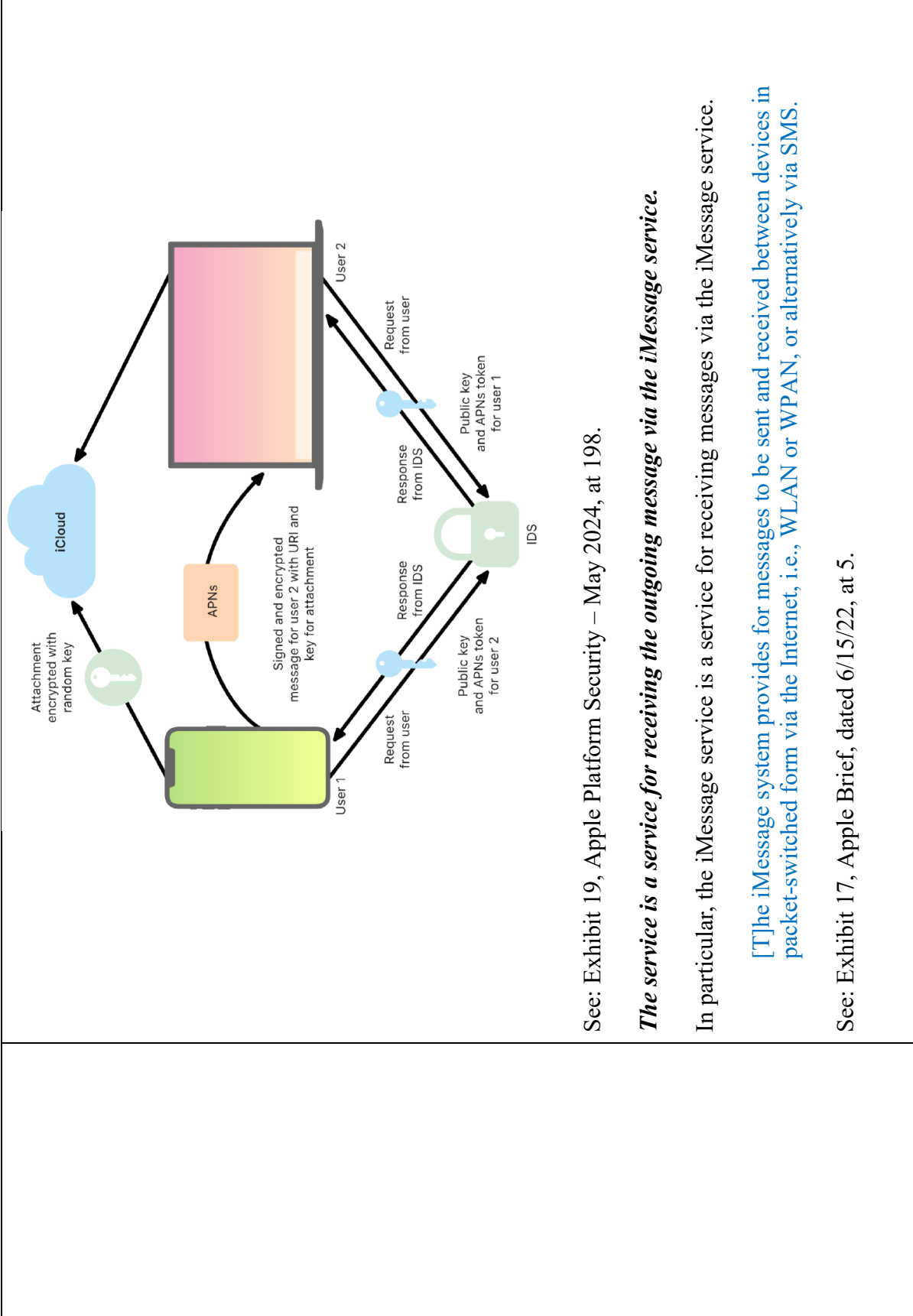
See: Exhibit 17, Apple Brief, dated June 15, 2022, at 5-6.

### **How iMessage sends and receives messages securely**

Users start a new iMessage conversation by entering an address or name. If they enter a phone number or email address, the device contacts the Apple Identity Service (IDS) to retrieve the public keys and APNs addresses for all of the devices associated with the addressee.

See: Exhibit 19, Apple Platform Security – May 2024 at 197.

# HBCU MESSAGING US FIRST INFRINGEMENT ANALYSIS



See: Exhibit 19, Apple Platform Security – May 2024, at 198.

***The service is a service for receiving the outgoing message via the iMessage service.***

In particular, the iMessage service is a service for receiving messages via the iMessage service.

[T]he iMessage system provides for messages to be sent and received between devices in packet-switched form via the Internet, i.e., WLAN or WPAN, or alternatively via SMS.

See: Exhibit 17, Apple Brief, dated 6/15/22, at 5.

## What is the difference between iMessage and SMS/MMS?

Learn why some of your message bubbles are blue or green.

You can [use the Messages app on your iPhone, iPad, or iPod touch to send messages](#). Those messages are sent as iMessage or SMS/MMS. Learn more about the difference between the message types.

### iMessage



iMessages are texts, photos, or videos that you send to another iPhone, iPad, iPod touch, or Mac over Wi-Fi or cellular-data networks. These messages are always encrypted and appear in blue text bubbles. To turn iMessage on or off, go to Settings > Messages.

### SMS/MMS



If you aren't using iMessage, you can use SMS/MMS. These messages are texts and photos that you send to other cell phones or another iPhone, iPad, or iPod touch. SMS/MMS messages aren't encrypted and appear in green text bubbles on your device.

See: Exhibit 16, What is the difference between iMessage and SMS/MMS?

## HBCU MESSAGING US FIRST INFRINGEMENT ANALYSIS

*The Accused Instrumentalities determine, by the wireless device of the sender, whether the destination address corresponds to a subscriber of a service for receiving the outgoing by sending a request to a server, and receiving a response from the server.*

Specifically, once the sending device sends a request to the IDS server with the destination address, it receives a response that either includes public keys for the recipient device(s) or not. Specifically, if the response from the IDS database includes keys, the wireless device of the sender determines that the destination address corresponds to a subscriber of the iMessage service.

### **Request for public keys at the IDS database**

When composing a message, the sending device checks whether public keys are available for the receiving device in the IDS database by sending a request to the IDS database in this regard.

- a) Public keys are stored in the IDS database if
  - the receiving device is registered for iMessage and ...

See: Exhibit 17, Apple Brief, dated June 15, 2022, at 5-6.

### **How iMessage sends and receives messages securely**

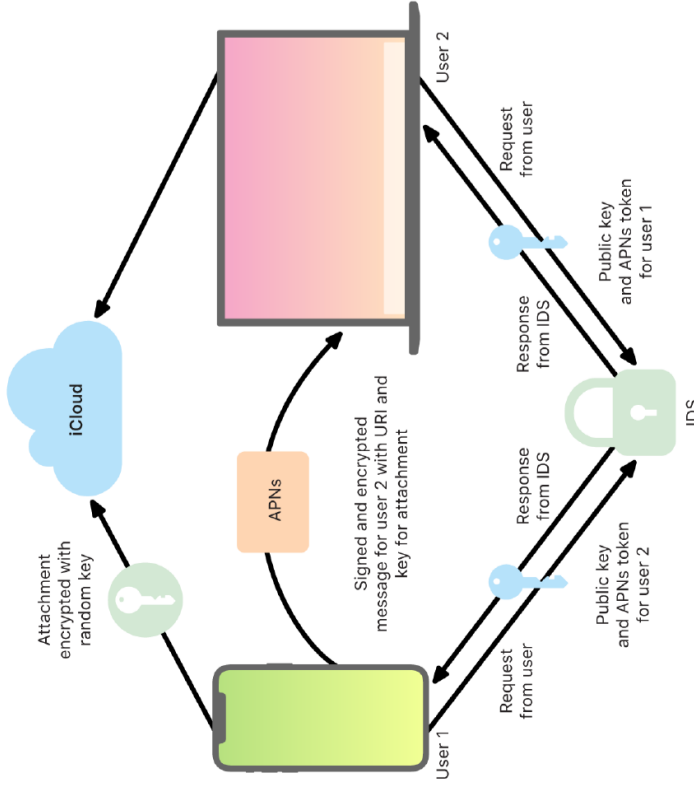
Users start a new iMessage conversation by entering an address or name. If they enter a phone number or email address, the device contacts the Apple Identity Service (IDS) to retrieve the public keys and APNs addresses for all of the devices associated with the addressee.

See: Exhibit 19, Apple Platform Security – May 2024 at 197.

The sending mobile wireless device registered with iMessage decides to send the messages to the receiving device as SMS instead of iMessage if it does not receive public keys in response to the request to the IDS database for the receiving device. ... If public keys are received/available for the receiving device, the sending device basically sends the message via iMessage.

**HBCU MESSAGING US FIRST INFRINGEMENT ANALYSIS**

See: Exhibit 17, Apple Brief dated June 15, 2022 at 5-6.



See: Exhibit 19, Apple Platform Security – May 2024, at 198.

***The sending device sends the request and receives a response via a packet switched wireless local area network (WLAN) base station.***

In particular, each of the sending devices of the Accused Instrumentalities is capable of WiFi communications that are sent via a WiFi base station. A WiFi base station comprises a packet switched

## HBCU MESSAGING US FIRST INFRINGEMENT ANALYSIS

wireless local area network (WLAN) base station. In at least one example where cellular data service is unavailable, the sending device sends the request and receives the response via the WiFi base station.

***The response provides an indication of whether the destination address corresponds to a subscriber of the service.***

Specifically, by returning keys with the response, the response provides an indication that the destination address corresponds to a subscriber of iMessage.

### **Request for public keys at the IDS database**

When composing a message, the sending device checks whether public keys are available for the receiving device in the IDS database by sending a request to the IDS database in this regard.

- a) Public keys are stored in the IDS database if
  - the receiving device is registered for iMessage and ...

See: Exhibit 17, Apple Brief, dated June 15, 2022, at 5-6.

### **How iMessage sends and receives messages securely**

Users start a new iMessage conversation by entering an address or name. If they enter a phone number or email address, the device contacts the Apple Identity Service (IDS) to retrieve the public keys and APNs addresses for all of the devices associated with the addressee.

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The sending mobile wireless device registered with iMessage decides to send the messages to the receiving device as SMS instead of iMessage if it does not receive public keys in response to the request to the IDS database for the receiving device. ... If public keys are received/available for the receiving device, the sending device basically sends the message via iMessage.

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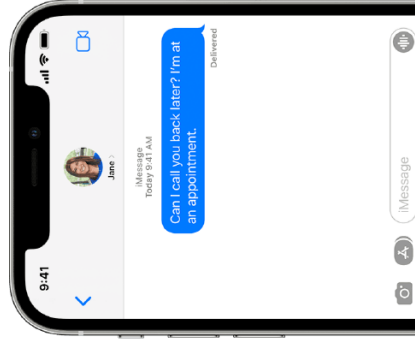
<p>selecting, by the wireless device of the sender, a transmission mode from the plurality of transmission modes, wherein the wireless device of the sender selects the first transmission mode when the indication corresponds to a subscriber of the service, and the wireless device of the sender is capable of selecting the second transmission mode when the indication does not correspond to a subscriber of the service</p>	<p>The Accused Instrumentalities perform selecting, by the wireless device of the sender, a transmission mode from the plurality of transmission modes, wherein the wireless device of the sender selects the first transmission mode when the indication corresponds to a subscriber of the service, and the wireless device of the sender is capable of selecting the second transmission mode when the indication does not correspond to a subscriber of the service as set forth below.</p> <p><b><i>The wireless device of the sender selects a transmission mode from the plurality of transmission modes.</i></b></p> <p>Specifically, the wireless device of the sender selects the iMessage service (first transmission mode) or SMS (second transmission mode).</p> <p>[T]he iMessage system provides for messages to be sent and received between devices in packet-switched form via the Internet, i.e., WLAN or WPAN, or alternatively via SMS.</p> <p>See: Exhibit 17, Apple Brief dated 6/15/22, at 5</p> <p>The sending mobile wireless device registered with iMessage decides to send the messages to the receiving device as SMS instead of iMessage if it does not receive public keys in response to the request to the IDS database for the receiving device. ... If public keys are received/available for the receiving device, the sending device basically sends the message via iMessage.</p> <p>See: Exhibit 17, Apple Brief dated June 15, 2022 at 5-6.</p>
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## What is the difference between iMessage and SMS/MMS?

Learn why some of your message bubbles are blue or green.

You can [use the Messages app on your iPhone, iPad, or iPod touch to send messages](#). Those messages are sent as iMessage or SMS/MMS. Learn more about the difference between the message types.

### iMessage



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### SMS/MMS



If you aren't using iMessage, you can use SMS/MMS. These messages are texts and photos that you send to other cell phones or another iPhone, iPad, or iPod touch. SMS/MMS messages aren't encrypted and appear in green text bubbles on your device.

## HBCU MESSAGING US FIRST INFRINGEMENT ANALYSIS

See: Exhibit 16, What is the difference between iMessage SMS/MMS?

*The wireless device of the sender selects the first transmission mode when the indication corresponds to a subscriber of the service, and the wireless device of the sender is capable of selecting the second transmission mode when the indication does not correspond to a subscriber of the service.*

Specifically, in at least some cases, when public keys are received from the IDS (i.e., when the indication corresponds to a subscriber of the service), the device of the sender is capable of selecting the iMessage service (the first transmission mode), and when public keys are not received the device of the sender is capable of selecting SMS (the second transmission mode).

The sending mobile wireless device registered with iMessage decides to send the messages to the receiving device as SMS instead of iMessage if it does not receive public keys in response to the request to the IDS database for the receiving device. ... If public keys are received/available for the receiving device, the sending device basically sends the message via iMessage.

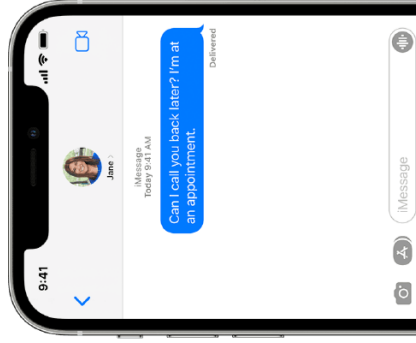
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See: Exhibit 16, What is the difference between iMessage SMS/MMS?

sending, by the wireless device of the sender, the outgoing message using the selected transmission mode,

***The Accused Instrumentalities perform sending, by the wireless device of the sender, the outgoing message using the selected transmission mode.***

Specifically, the wireless device of the sender sends the outgoing message using the selected transmission mode.

**HBCU MESSAGING US FIRST INFRINGEMENT ANALYSIS**

[T]he iMessage system provides for messages to be sent and received between devices in packet-switched form via the Internet, i.e., WLAN or WPAN, or alternatively via SMS.

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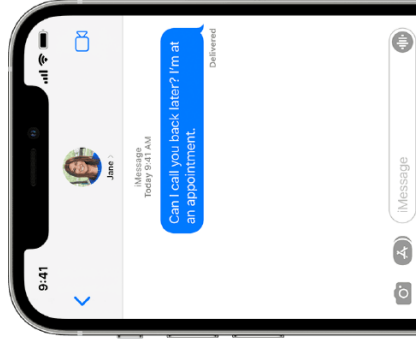
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See: Exhibit 16, What is the difference between iMessage SMS/MMS?

wherein, when the selected transmission mode is the first transmission mode, the wireless device of the sender sends the

***The Accused Instrumentalities perform wherein, when the selected transmission mode is the first transmission mode, the wireless device of the sender sends the outgoing message as one or more Internet protocol (IP) packets to the wireless device of the recipient via the packet switched WLAN base station.***

## HBCU MESSAGING US FIRST INFRINGEMENT ANALYSIS

outgoing message as one or more Internet protocol (IP) packets to the wireless device of the recipient via the packet switched WLAN base station,

Specifically, when the selected transmission mode is iMessage, in at least some cases the sending device sends the outgoing message to the wireless device of the recipient through a WiFi base station (i.e., a WLAN base station). For example, in a case where a cellular data network is unavailable, the sending device sends the outgoing message to the wireless device of the recipient through a WiFi base station. Transmission via the WiFi base station comprises sending the outgoing message as one or more Internet protocol (IP) packets to the wireless device of the recipient.

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## HBCU MESSAGING US FIRST INFRINGEMENT ANALYSIS

	<p>iMessages are texts, photos, or videos that you send to another iPhone, iPad, iPod touch, or Mac over Wi-Fi or cellular-data networks. These messages are always encrypted and appear in blue text bubbles. To turn iMessage on or off, go to Settings &gt; Messages.</p> <p>If you aren't using iMessage, you can use SMS/MMS. These messages are texts and photos that you send to other cell phones or another iPhone, iPad, or iPod touch. SMS/MMS messages aren't encrypted and appear in green text bubbles on your device.</p> <p>To use SMS/MMS on an iPhone, you need a text-messaging plan. <a href="#">Contact your wireless carrier</a> for more information. You can also set up your other Apple devices to <a href="#">send and receive messages from any Apple device</a>.</p> <p>If Wi-Fi is unavailable, iMessages will be sent over cellular data. Cellular data rates might apply.</p> <p>Published Date: May 29, 2024</p> <p><b>See: Exhibit 16, What is the difference between iMessage and SMS/MMS?</b></p>
<p>wherein, when the selected transmission mode is the second transmission mode, the wireless device of the sender sends the outgoing message as a short message service (SMS) message to the wireless device of the recipient using the destination address via a base station that is independent of the packet switched WLAN</p>	<p>The Accused Instrumentalities perform wherein, when the selected transmission mode is the second transmission mode, the wireless device of the sender sends the outgoing message as a short message service (SMS) message to the wireless device of the recipient using the destination address via a base station that is associated with a cellular core network that is independent of the packet switched WLAN base station as set forth below.</p> <p><b><i>When the selected transmission mode is the second transmission mode, the wireless device of the sender sends the outgoing message as a short message service (SMS) message to the wireless device of the recipient using the destination address.</i></b></p> <p>Specifically, when the IDS fails to return keys to the sending iPhone, the outgoing message is sent as a SMS via a phone number destination address.</p> <p>The sending mobile wireless device registered with iMessage decides to send the messages to the receiving device as SMS instead of iMessage if it does not receive public keys in response to the request to the IDS database for the receiving device.</p>

switched WLAN base station, and

See: Exhibit 17, Apple Brief dated June 15, 2022, at 5

## What is the difference between iMessage and SMS/MMS?

Learn why some of your message bubbles are blue or green.

You can [use the Messages app on your iPhone, iPad, or iPod touch to send messages](#). Those messages are sent as iMessage or SMS/MMS. Learn more about the difference between the message types.

### iMessage



### SMS/MMS



iMessages are texts, photos, or videos that you send to another iPhone, iPad, iPod touch, or Mac over Wi-Fi or cellular-data networks. These messages are always encrypted and appear in blue text bubbles. To turn iMessage on or off, go to Settings > Messages.

If you aren't using iMessage, you can use SMS/MMS. These messages are texts and photos that you send to other cell phones or another iPhone, iPad, or iPod touch. SMS/MMS messages aren't encrypted and appear in green text bubbles on your device.

See: Exhibit 16, What is the difference between iMessage and SMS/MMS?

***The sending device sends the outgoing message via a base station that is associated with a cellular core network.***

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Specifically, a base station, e.g. a cell tower, is associated with a cellular core network is responsible for forwarding SMS messages originating from a mobile subscriber.

### **About mobile broadband/LTE**

The AT&T mobile broadband/LTE<sup>1</sup> network provides the backbone of AT&T wireless service.

- Mobile broadband/LTE is available in most cities, suburbs, and many rural areas. The connection is over the air from cell towers to the device.

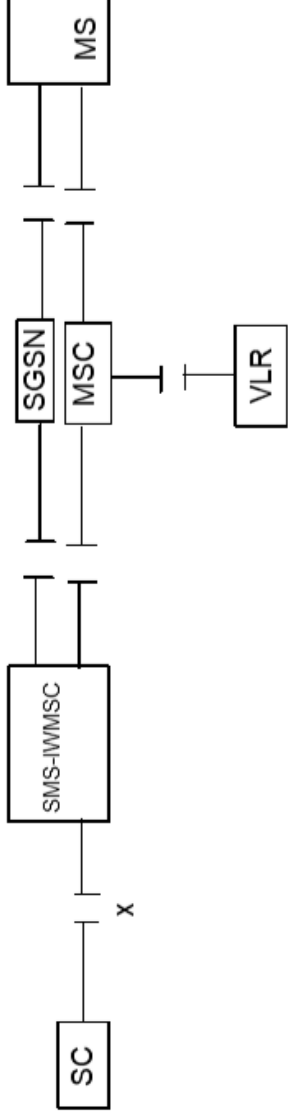
# 3GPP TS 23.040 V8.6.0 (2009-09)

*Technical Specification*

**3rd Generation Partnership Project;  
Technical Specification Group Core Network and Terminals;  
Technical realization of the Short Message Service (SMS)  
(Release 8)**

## 10.2 Short message mobile originated

The entities involved in this procedure is depicted in figure 17.



**Figure 17: Interfaces involved in the Short message mobile originated procedure**

See: Exhibit 23, 3GPP TS 23.040 V8.6.0 (2009-09)

***The base station that is associated with a cellular core network is independent of the packet switched WLAN base station.***

Specifically, base stations associated with a cellular core network, e.g. the core network of AT&T Wireless, are independent of Wi-Fi access points (e.g., such as access points sold by Apple).

## Differences between LTE mobile broadband and Wi-Fi

Mobile broadband/LTE (referred as the cellular network) and Wi-Fi can be used to access the internet and perform activities requiring a data connection.

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### Learn differences between broadband/LTE and Wi-Fi

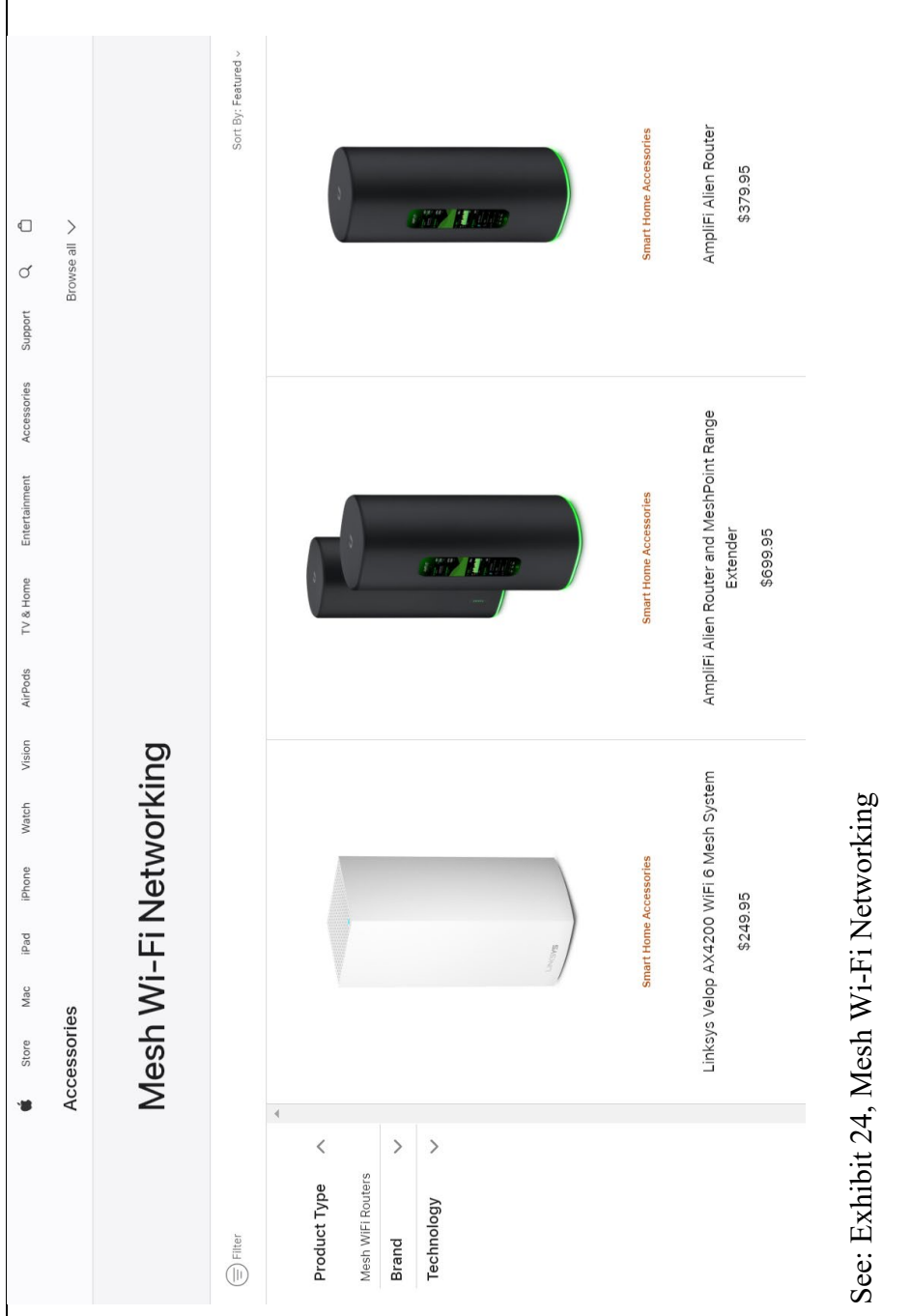
#### About mobile broadband/LTE

The AT&T mobile broadband/LTE<sup>1</sup> network provides the backbone of AT&T wireless service.

- Mobile broadband/LTE is available in most cities, suburbs, and many rural areas. The connection is over the air from cell towers to the device.
- The range of access may span miles from the tower to the mobile device. Geographic features, building construction, or even weather can impact range and quality.

See: Exhibit 22, Differences between LTE mobile broadband and Wi-Fi

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<p>wherein the request sent to the server and the response received from the server do not traverse the cellular core network.</p>	 <p>Sort By: Featured</p> <p>Filter</p> <p>Product Type &lt;</p> <p>Mesh WiFi Routers</p> <p>Brand &gt;</p> <p>Technology &gt;</p> <p>Smart Home Accessories</p> <p>Linksys Velop AX4200 WiFi 6 Mesh System \$249.95</p> <p>Smart Home Accessories</p> <p>Amplifi Alien Router and MeshPoint Range Extender \$699.95</p> <p>Smart Home Accessories</p> <p>Amplifi Alien Router \$379.95</p> <p>See: Exhibit 24, Mesh Wi-Fi Networking</p> <p><b><i>Within the Accused Instrumentalities, the request sent to the server and the response received from the server do not traverse the cellular core network.</i></b></p> <p>Specifically, in at least some cases (e.g., when cellular data service is unavailable and WiFi is used for sending/receiving the request/response), the request and response are not sent through the cellular core network.</p>
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