

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.
Petitioner

v.

DH INTERNATIONAL LTD.
Patent Owner

Case No. IPR2025-00172
U.S. Patent No. 9,022,294

**PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 9,022,294**

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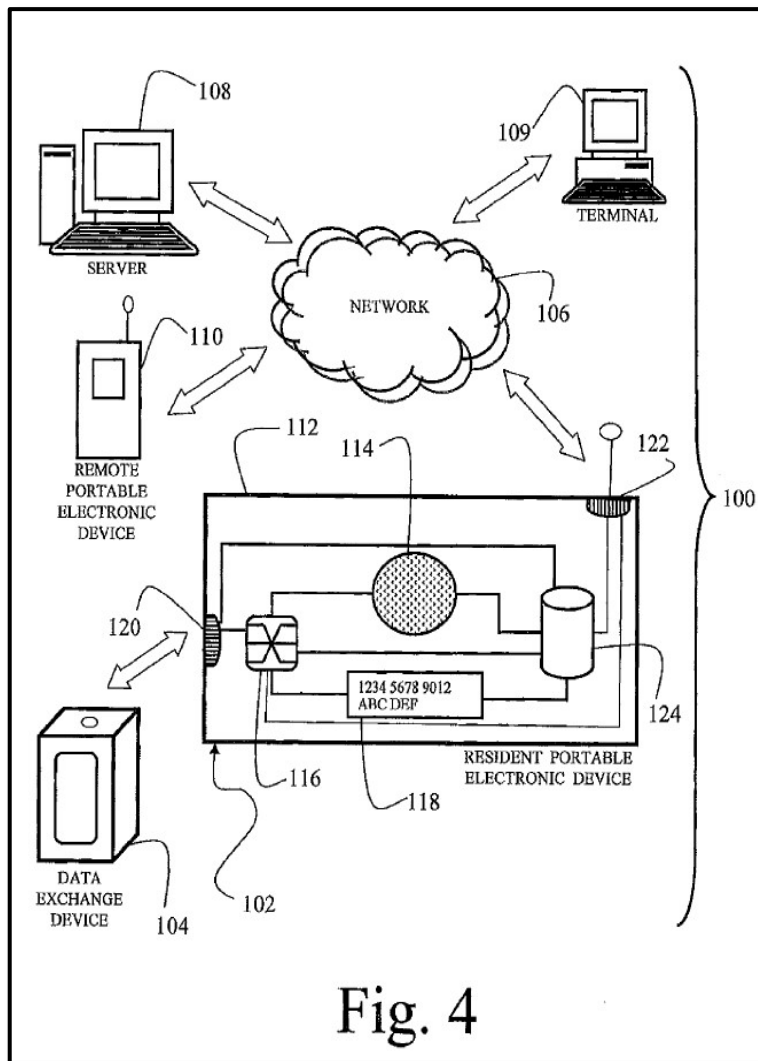
I. INTRODUCTION

Petitioner Apple Inc. (“Petitioner”) requests *Inter Partes* Review (“IPR”) of Claims 1-20 (the “Challenged Claims”) of U.S. Patent No. 9,022,294 (“the ’294 Patent”).

II. SUMMARY OF THE ’294 PATENT

A. The ’294 Patent’s Alleged Invention

The ’294 Patent is generally directed to “a portable electronic device capable of alternate data conveyance operations responsive to an invariable activation command.” *’294 Patent*, 1:16:18, Abstract. One such “portable electronic device” 102, depicted in Fig. 4., includes a “control device 114, an electronic circuit 116, a display screen 118, a first transceiver 120, a second transceiver 122 and power means 124.” *Id.*, 7:26-32, 13:42-47, Fig. 4.



Id., Fig. 4. “Portable electronic device 102 may be for example a cellular phone[.]”

Id., 13:47-49.

The portable electronic device 102 includes a “cue receiver” capable of receiving an “activation cue[.]” *Id.*, 15:4-6. When an activation cue is received, a switching element 116 changes from a default state (*e.g.*, an inactive state) to an activated state. *Id.*, 3:42-44, 13:55-60. In the absence of an activation cue, the switching element changes to or remains in the default state. *Id.*, 15:4-13.

The “control device 114” may be “a single button, a keypad wherein a personal identification number (PIN) code may be entered, a combination thereof or any other suitable control device” that can be selectively triggered to issue an invariable activation command. *Id.*, 13:61-67, 15:14-18. The invariable activation command, in turn, results in one of two data exchange operations depending on the state of the switching element. *Id.*, 2:12-21, 15:4-15. Then, “[u]pon control device 114 having been triggered” the portable device initiates a data conveyance operation that is conducted based on the state of the switching element. *Id.*, 2:12-21, 15:14-23.

An example application uses portable device 102 “to accomplish a financial transaction.” *Id.*, 16:8-10. In this application, “the user of portable electronic device 102 will be asked to pay an amount[,]” which may be displayed on display screen 118. *Id.*, 16:24-26, 16:66-17:1. “The user must authorize the transaction by using” or “triggering” “control device 114.” *Id.*, 16:26-27, 17:1-2. If “control device 114 is triggered, it will issue an invariable activation command” and transmit user data, such as “a credit card number . . . or any other user data[,]” to either (1) a merchant data exchange device 104 or (2) a remote data exchange device 108, 109, 110. *Id.*, 16:28-42, 17:10-14. Portable electronic device 102 decides whether to send this financial data to a merchant data exchange device or a remote data exchange device based on the state of the switching element. For example, device 103 can receive an “activation cue” from merchant data device 104, which causes the switching element

to be “assigned its first state[.]” *Id.*, 16:30-37. In this state, user data is conveyed “from electronic circuit 116 to first transceiver 120 and then to [merchant] data exchange device 104.” *Id.* Alternatively, if portable electronic device 102 has not received an activation cue, it is “assigned its second state whereby . . . user data [is] transferred from electronic circuit 116 to second transceiver 122 and then to remote data exchange device 108, 109, 110.” *Id.*, 16:47-51, 17:5-14.

Put simply, if an activation cue is received from a merchant data exchange device, device 102 communicates with that data exchange device via transceiver 120. If no activation cue is received, the device 102 communicates instead with a remote data exchange device via second transceiver 122.

B. The '294 Patent's Priority Claim

The '294 Patent issued from U.S. Application Serial No. 12/603,085 (the “'085 *Application*”), filed on October 21, 2009. The '085 Application was a continuation-in-part of U.S App. No. 10/552,912 (the “'912 *Application*”), which was a U.S. national stage application of PCT/IB2003/001523 filed on April 14, 2003. The '912 Application does not provide written description support for the Challenged Claims. Accordingly, the Challenged Claims may not claim priority to this earlier filing.

The Proposed Ground below relies on a combination of *Suga* and *Gorsuch*. Both references are prior art to the '294 Patent even if it were entitled priority to the

earlier April 14, 2003 filing. Accordingly, the Proposed Ground does not rise or fall with the outcome of this priority analysis. However, the subject technology—choosing whether to use a first or second transceiver for data transmissions—was well developed by 2009, including commercially available cellular telephones equipped with both WiFi and cellular transceivers. Applying the '294 Patent's proper priority date of October 21, 2009 allows Petitioner to paint a complete picture of the state of the art.

Patent Owner “is not presumed to be entitled to the earlier filing dates of ancestral applications which do not share the same disclosure.” *MaxLite, Inc. v. Jiaxing Super Lighting Elec. Appliance Co., Ltd.*, IPR2020-00208, Paper 14 (PTAB June 1, 2021). When challenging a priority claim, the burden of production first falls on Petitioner to raise the issue “by ‘identifying, specifically, the features, claims, and ancestral applications allegedly lacking written description support for the claims based on the identified features.’” *Id.* (quoting *Lupin*, IPR2015-01775, Paper 15 at 11 (citing *Focal Therapeutics*, IPR2014-00116, Paper 8 at 10)).

Each of the Challenged Claims require *two* distinct *data transceivers* for conveying data to external devices using *different communication links*. See, e.g., '294 Patent, Claim 1 (reciting a “*first data transceiver for sending data*”¹ from said

¹ All emphases added unless noted otherwise.

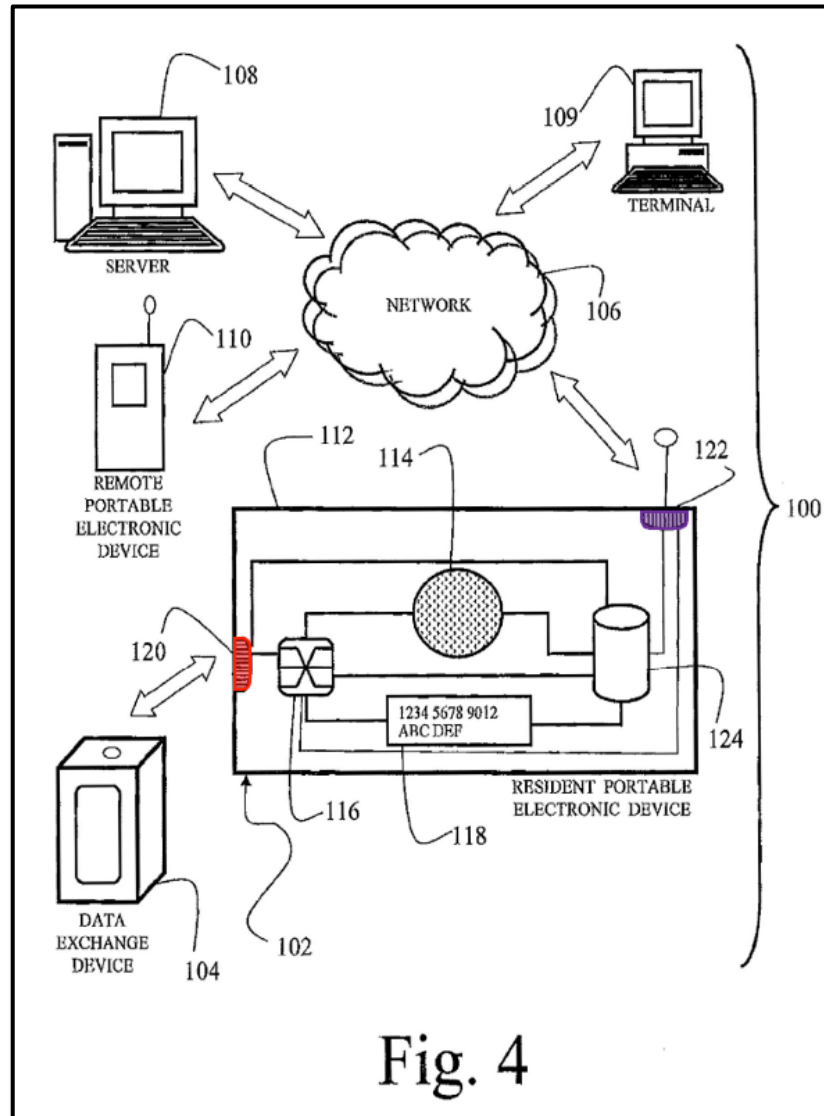
electronic circuit to the first external data exchange device *over said first communication link*” and a “*second data transceiver for sending data* from said electronic circuit to the second external data exchange device *over said second communication link*”), Claim 10 (reciting a “*first data transceiver* being operable *for data exchange over a first communication link*” and a “*second data transceiver* being operable *for data exchange over a second communication link* that is distinct from said first communication link”).

The '912 Application does not provide written description for this two-transceiver arrangement. Rather than choosing between distinct data transceivers for conveying data with different external entities, the '912 Application describes a portable electronic device that either (1) exchanges data with an external device via a single transceiver or (2) conveys data to the user via a user interface (*e.g.*, a display). Ex. 1002 (*'912 Application*),² 2:21-27, 3:31-4:5, 9:24-10:20, 12:20-26. It does not disclose, discuss, or even suggest multiple distinct transceivers for conveying data to different external devices via different communication links.

Fig. 4 and its corresponding description—included in the 2009 '085 Application—provide the earliest support for the Challenged Claims' two-transceiver arrangement. As illustrated below, a **first transceiver 120** and **second**

² All citations to the '912 Application refer to the native page and line numbers.

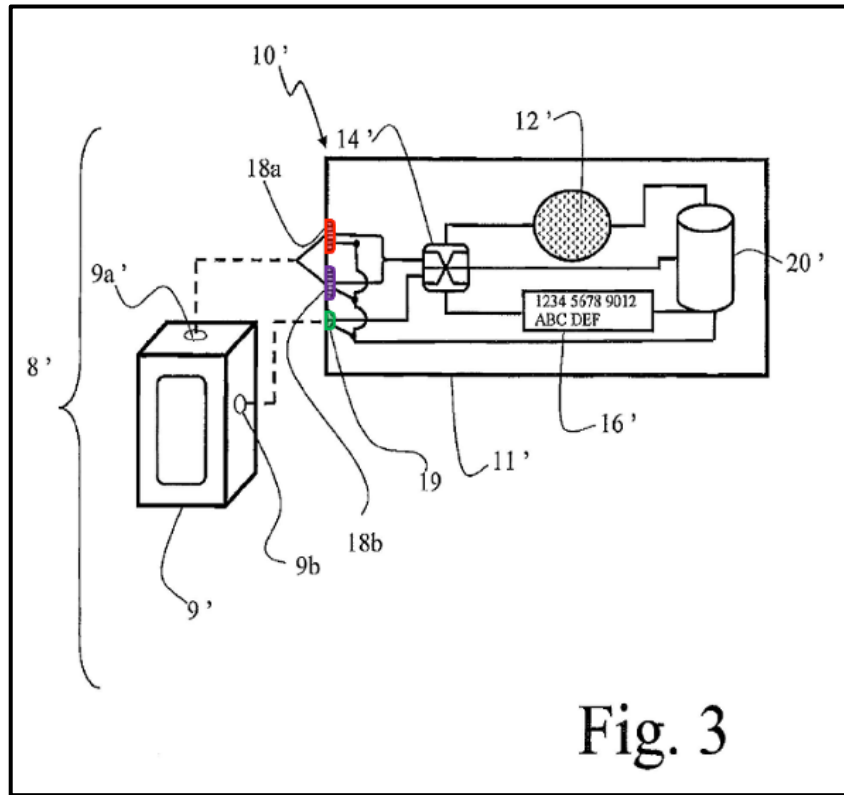
transceiver 122 are used to communicate with different devices via different communication links:



'294 Patent, Fig. 4 (annotated); Dec., ¶51.

The 2003 '912 Application includes no similar disclosure. There, as illustrated in Fig. 3, only a single transceiver for establishing a single communication link is disclosed to communicate data to an external device. Namely, **data transmitter 18a**

is used to transmit data, data receiver 18b receives data, and cue receiver 19 receives the activation cue from the external device:



'294 Patent, Fig. 3 (annotated); *Dec.*, ¶52. A POSITA would have understood that Fig. 3's data transmitter 18a and data receiver 18b form a single "transceiver" that can communicate over a single communication link to an external device. *Id.*³ A POSITA would also have understood that cue receiver 19 does not send data at all. *Id.* Further, there is no mention of a second external device or second communication link with a second external device. Accordingly, a POSITA would have understood

³ Citations to "*Dec.*" correspond to the supporting declaration of Dr. Michael Buehrer, Exhibit 1004.

that Fig. 3 and its corresponding description fail to provide written description support for the Challenged Claims' two-transceiver arrangement.

Because the '912 Application does not provide written description support for a second data transceiver for exchanging data over a second communication link, the Challenged Claims may not claim priority prior to the '912 Application's filing. *New Railhead Mfg., L.L.C. v. Vermeer Mfg. Co.*, 298 F.3d 1290, 1296 (Fed. Cir. 2002). Accordingly, Petitioner applies October 21, 2009 as the priority date for the '294 Patent. Petitioner reserves its right to respond to any attempt by Patent Owner to establish earlier priority. *Tech Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1328 (Fed. Cir. 2008).

C. The '294 Patent's Prosecution

A Non-Final Office Action issued on June 6, 2014 rejecting all claims as anticipated or obvious. Ex. 1003 ('294 File History"),⁴ 65-67. The Examiner did not identify any specific prior art reference, but instead asserted that the pending claims were taught by "conventional laptop computers [that] provid[ed] both wired and wireless network connections." *Id.*, 65 The Examiner explained that laptops, particularly those using the Microsoft Windows operating system, were known to

⁴ All citations to the '294 File History refer to the branded page numbers.

automatically establish a network connection to a wireless network or physical wired network, depending on availability. *Id.*, 65-66.

In response, the applicant amended the preamble of each claim to recite a “cellular phone,” rather than a “portable electronic device.” *Id.*, 48. The applicant also amended each independent claims to specify that the first and second communication links are distinct from one another. *Id.*, 48-49.

The Office then issued a notice of allowance, noting the claims “reflect that the device that is subject of the instant invention is a cell phone, among other amendments.” *Id.*, 30.

D. A Person of Ordinary Skill in the Art

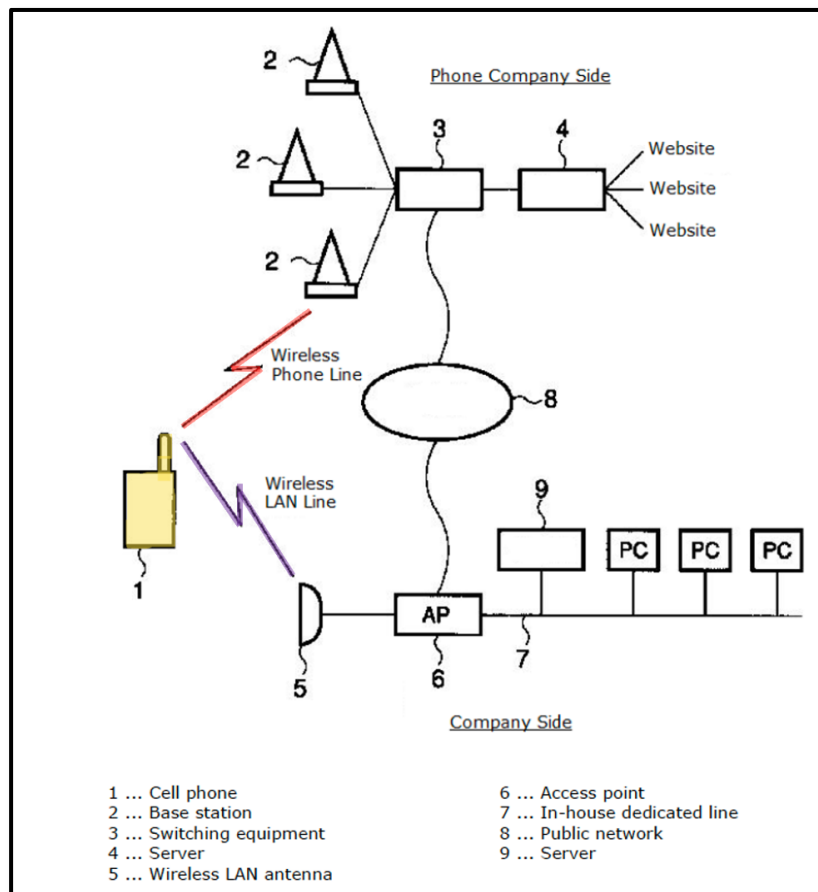
A person of ordinary skill in the art at the time of the alleged invention of the '294 Patent (“POSITA”) would have had a bachelor’s degree in Electrical Engineering, Computer Engineering, or in a similar discipline with at least two years of experience with wireless communication devices and networks. More education can substitute for practical experience and vice versa. *Dec.*, ¶34.

III. OVERVIEW OF THE PRIOR ART

A. Overview of *Suga*

Japan Patent Application No. 2003-110751 to Suga (“*Suga*”) (Ex. 1005) was filed October 10, 2001, published April 11, 2003, and is prior art to the '294 Patent under at least 35 U.S.C. § 102(a) and (b) (pre-AIA). *Suga* was neither cited nor discussed during the prosecution of the '294 patent. Ex. 1001, References Cited.

Suga discloses a cell phone 1 equipped with memory (e.g., memory card 35 and SRAM 37), a display (LCD panel 38), keyboard 39, and MPU 40, which “controls the operations of the entire cell phone 1.” *Suga*, [0035]-[0037], [0052], Fig. 2. Cell phone 1 is configured to perform data transmissions through both a wireless telephone connection⁵ (annotated red) and through a wireless LAN connection (annotated purple):



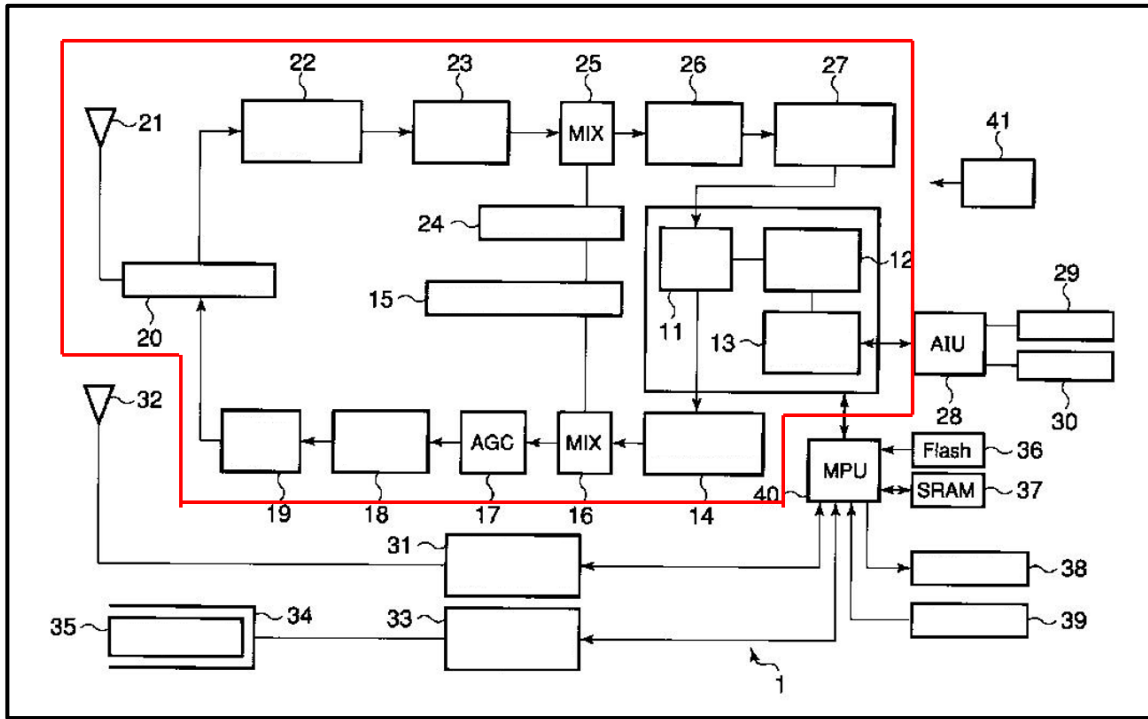
⁵ A POSITA would have understood that the wireless phone line connection discussed in *Suga* is a cellular connection. *Dec.*, ¶61, fn4 (discussing *Suga*, [0028]-[0033]). As such, this petition will use the terms interchangeably.

Suga, Fig. 1 (annotated). *Suga* explains that data communications such as email can use either its cellular connection or W-LAN connection:

Based on ***cellular mobile communication services*** provided by a phone company, the cell phone 1 is able to place calls to other phones via a wireless phone line that connects to a base station 2, ***exchange data with websites via an Internet connection service, and exchange data (such as sending and receiving e-mail) with other information devices. The cell phone 1 also exchanges data (such as e-mail) with other devices via a wireless LAN line.***

Id., [0016].

Suga describes separate transceiver hardware for these distinct wireless communication technologies. A Wireless LAN controller 31 allows cell phone 1 to transmit and receive data through a W-LAN connection. *Id.*, [0034]. The cell phone is also equipped with cellular transceiver circuitry. *Id.*, [0029]-[0030]. For cellular communications, duplexer 20 “separates transmitted and received signals to and from the antenna” which in turn “exchanges signals with the outside world by means of cell phone radio waves.” *Id.*, [0031]. These cellular transceiver components are shown in the annotated Fig. 1 within the **red boundary**.



Id., Fig. 2 (annotated).

A settings screen permits users to dictate how and when cellular and W-LAN transmission is utilized. As shown in Fig. 5, cell phone 1 can be configured to prioritize W-LAN and to automatically switch to a cellular network when a W-LAN connection is unavailable. Additionally, a user can set conditions (*e.g.*, data type and data volume) that cause the phone to attempt W-LAN communication. *Id.*, [0048-0049].

The image shows a screenshot of a 'Settings Screen' for network configuration. It is divided into two sections: 'During Transmission' and 'During Reception'. Under 'During Transmission', there is a checked checkbox for 'Prioritize use of wireless LAN'. Below this is a section for 'Conditions' with two unchecked checkboxes: 'When type of content is XXXX' and 'When content volume exceeds XXXX'. A green rectangular box highlights a checked checkbox for 'Automatically switch to phone line if wireless LAN line cannot be used'. Under 'During Reception', there is a checked checkbox for 'Prohibit reception of data over phone lines'.

Settings Screen

During Transmission

☒ Prioritize use of wireless LAN

_____ Conditions _____

☐ When type of content is XXXX

☐ When content volume exceeds XXXX

☒ Automatically switch to phone line if wireless LAN line cannot be used

During Reception

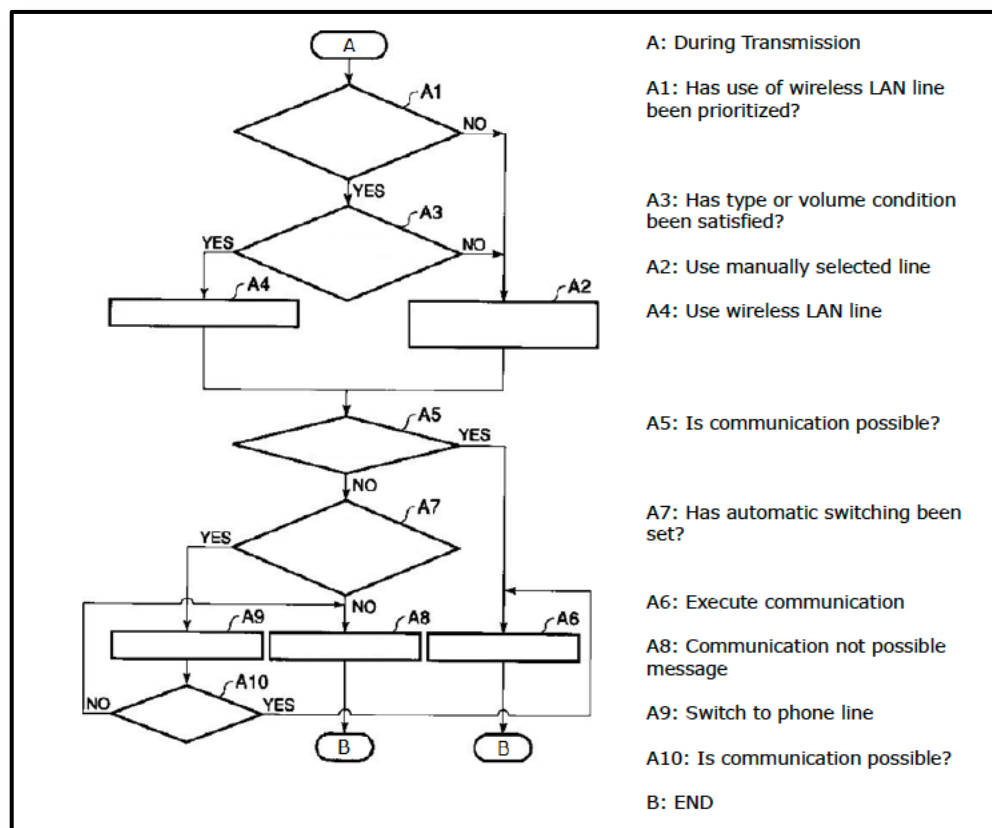
☒ Prohibit reception of data over phone lines

Id., Fig. 5 (annotated).

Fig. 6 depicts a flowchart of the complete process conducted by *Suga's* cell phone 1 when the user attempts to send data (for example, an email) if the phone is set to preferentially use wireless LAN. *Id.*, [0045], [0047]. At step A1, the system confirms that W-LAN should be prioritized. *Id.*, [0047]. At step A3, user set conditions are checked. *Id.*, [0048]. If these conditions are met,⁶ step A4 confirms the W-LAN transceiver will be used for the data transmission. *Id.*, [0049]. Step A5

⁶ *Suga* teaches that the data type and data volume conditions can both be enabled or disabled. *Suga*, [0043]. A POSITA would have understood that disabling both conditions results in a process flow, that for all data transmissions, attempts to use W-LAN prior to using cellular. *Dec.*, ¶64, fn5. That is, disabling both condition requirements means there are no data type or data volume conditions, and all data transmissions will satisfy step A3. *Id.*

analyzes whether communication is possible via the selected transceiver. If communication is possible with the W-LAN line, the communication is sent at step A6. *Id.*, [0050]. If communication with the W-LAN line is not possible, step A7 confirms that automatic switching has been set, switches the selected transceiver to cellular at step A9, confirms cellular transmission is possible at step A10, and executes transmission via the cellular connection at step A6. *Id.*, [0050]-[0052].



Id., Fig. 6.

Both *Suga* and the '294 Patent are directed to data communications⁷ using electronic devices and are in the same field of endeavor. *Compare Suga*, [0011] (disclosing a cell phone that can transmit data through a wireless telephone line and through wireless LAN, prioritizing use of W-LAN), *with '294 Patent*, Abstract, 13:47-49 (“Portable electronic device 102 may be for example a cellular phone[.]”), 16:8-10 (“[P]ortable electronic device 102 may be used to accomplish a financial transaction through one of different means as described hereinafter.”). Further, *Suga* is reasonably pertinent to a problem sought to be solved by the '294 patent—automatically managing data communications in a multi-transceiver device. *Compare Suga*, [0045-0052], Fig. 6, *with '294 Patent*, 17:27-32. Therefore, *Suga* is analogous art to the '294 Patent. *Dec.*, ¶65.

B. Overview of *Gorsuch*

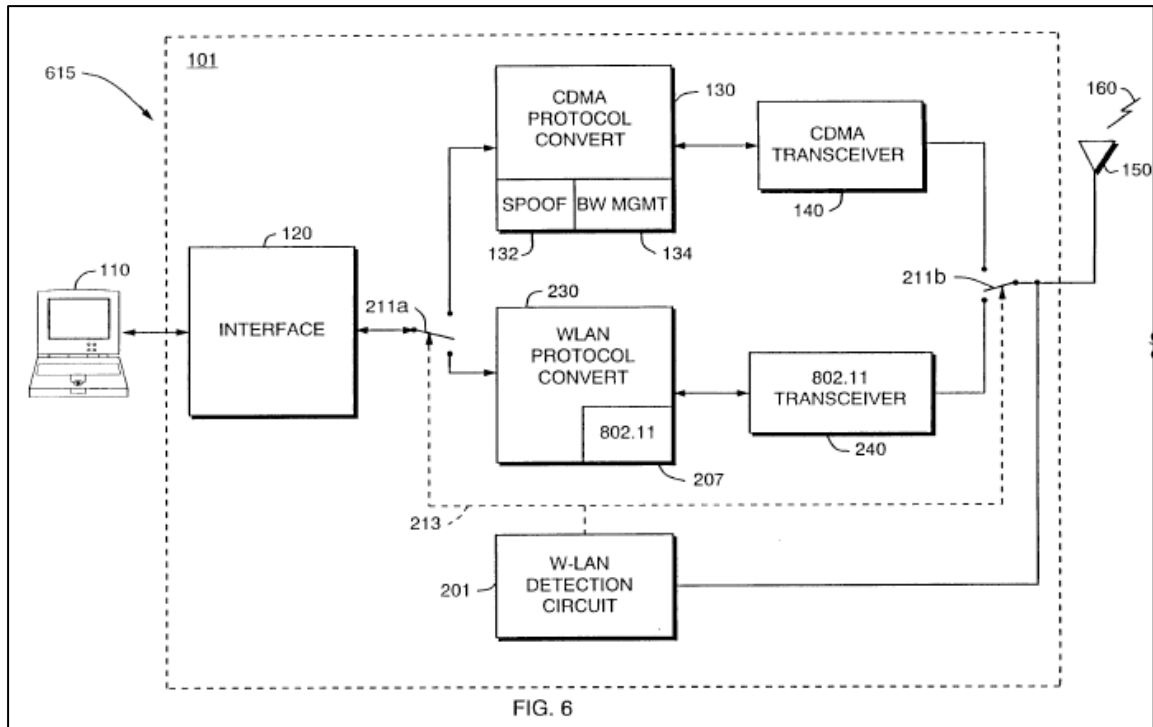
International Publication No. 2001/22662 to Gorsuch (“*Gorsuch*”) (Ex. 1006) was filed on August 28, 2000, published on March 29, 2001, and is prior art to the '294 Patent under at least 35 U.S.C. § 102(b) (pre-AIA). *Gorsuch* (22). *Gorsuch* was

⁷ The claims of the '294 Patent are facially agnostic to the type of data communicated. The specification clarifies that the invention is not limited to financial data. '294 Patent, 16:37-42 (listing different types of data that may be transmitted, including “any other user data including user identification data and/or user financial data”).

neither cited nor discussed during prosecution of the '294 Patent. Ex. 1001, References Cited.

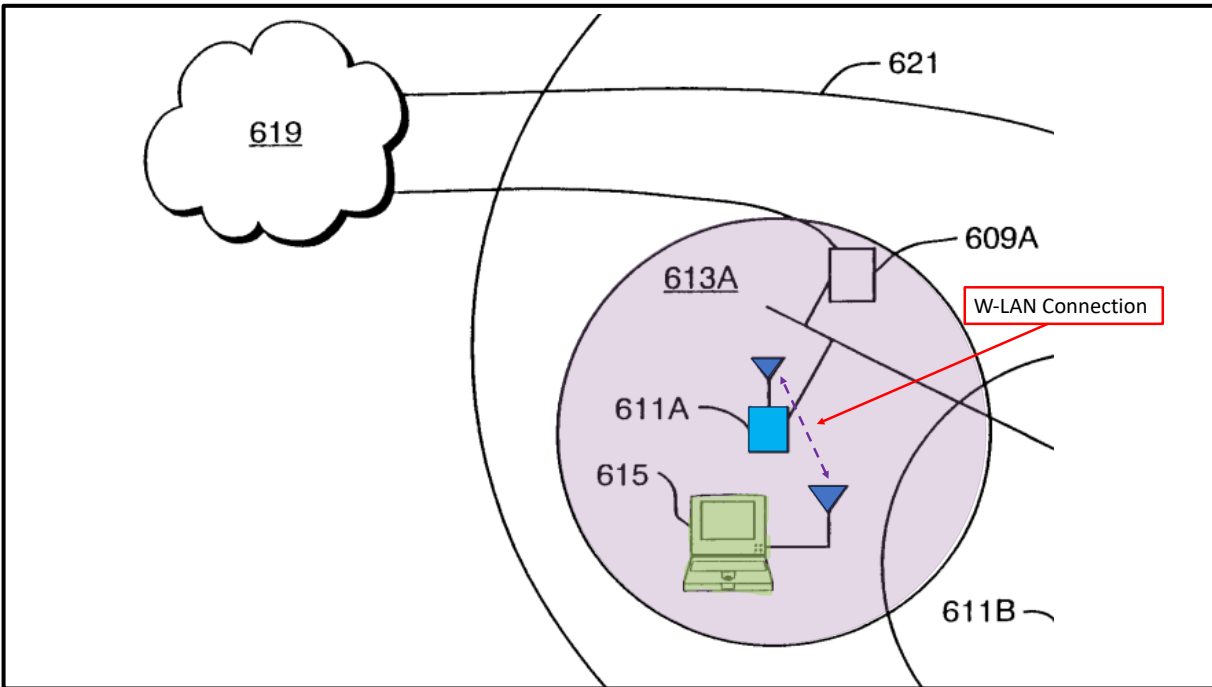
Gorsuch discloses techniques for switching between a local wireless connection (W-LAN), *e.g.*, WiFi, and a long-range cellular network connection on a mobile device. *Gorsuch*, 3:25-28. Specifically, a mobile device connects directly to a WLAN when possible/available and automatically reverts to a cellular network (CDMA) when the W-LAN is unavailable (*e.g.*, when out of range of a W-LAN base station). *Id.*, 2:1-30, 3:16-19, 3:25-28.

In one embodiment, user terminals are a “PDA or other similar device” equipped with “subscriber unit” 101. *Id.*, 14:4-9; *see also id.*, 1:4-8. The subscriber unit 101 includes two transceivers: W-LAN transceiver 240 and CDMA transceiver 140. *Id.*, Fig. 6, 14:4-14, *Dec.*, ¶67.



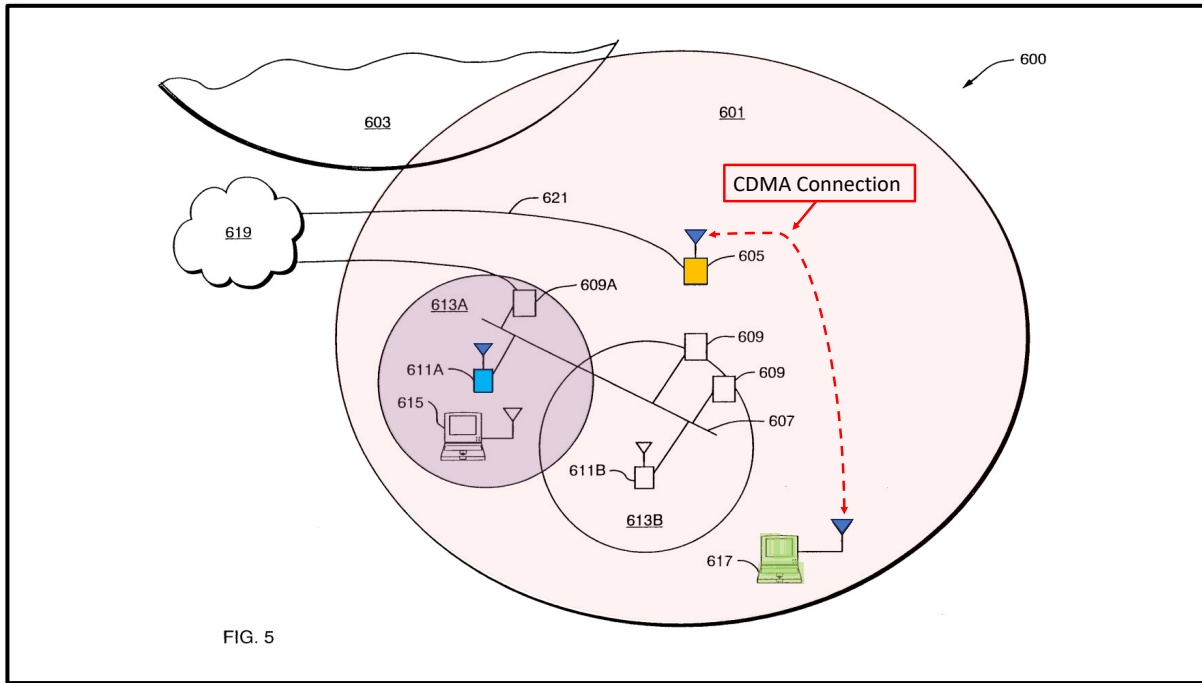
Gorsuch, Fig. 6.

W-LAN transceiver 240 (within the subscriber unit of terminal 615, 617) can communicate with W-LAN base station 611A when the transceiver 240 is within the range 613A of the base station. *Id.*, 4:15-18, 13:1-10, Fig. 5. This communication path over the W-LAN connection is shown in the annotated excerpt of Fig. 5 below.



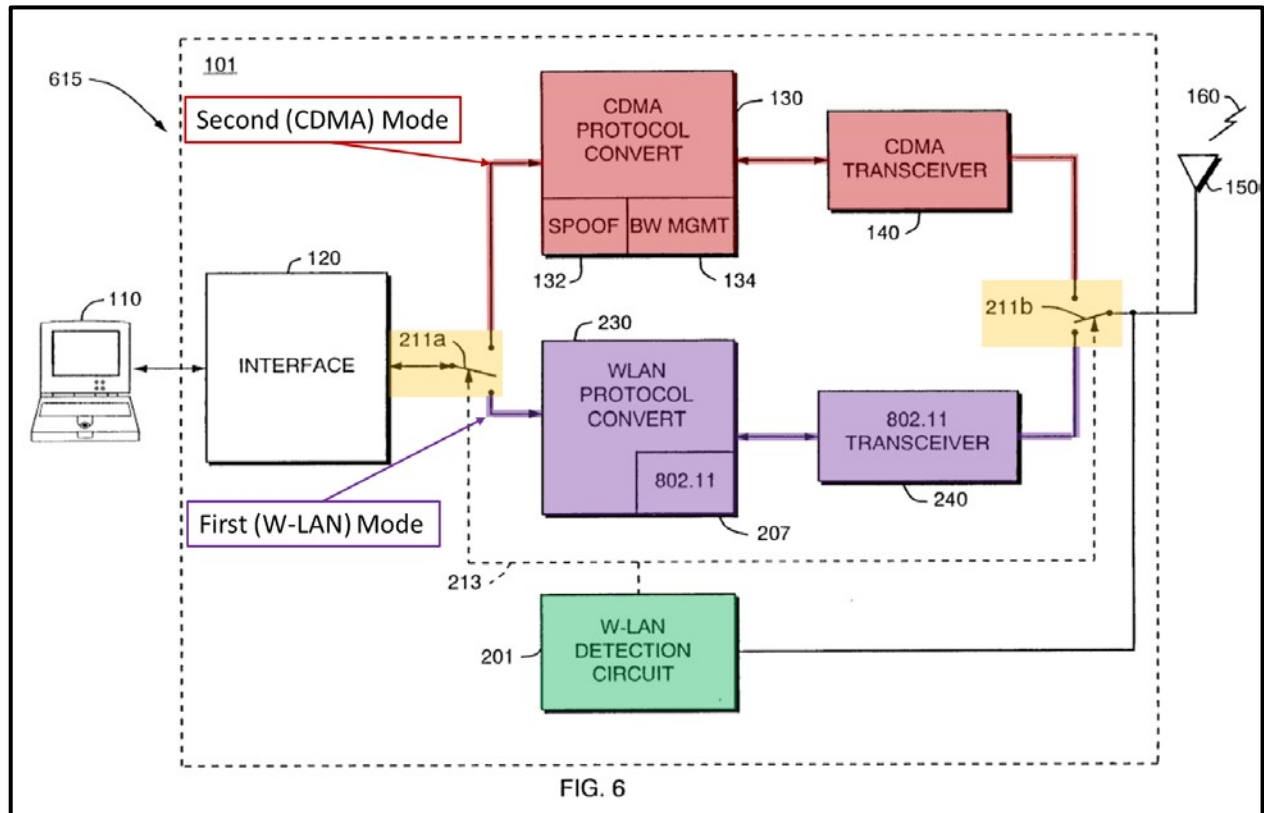
Id., Fig. 5 (annotated to indicate terminal 615 within range of W-LAN base station 611A).

When the terminal is not within range of a W-LAN base station, CDMA transceiver 140 (within the subscriber unit of terminal 615, 617) can communicate with a long range base station 605. *Id.*, 4:15-18, 12:18-19, 13:1-5, 13:28-32, Fig. 5. *Gorsuch*'s Fig. 5 illustrates this longer range connection between a terminal 617 and a cellular base station 605:



Id., Fig. 5 (annotated excerpt).

To switch between the W-LAN and CDMA transceivers and connections, subscriber unit 101 includes a W-LAN detection circuit 201. *Id.*, Abstract, 4:31-5:1, 13:14-22, 14:10-14, 16:1-12, Fig. 6. “W-LAN detection circuit 201 detects the presence or availability of a W-LAN base station 611[,]” by receiving a beacon frame from a W-LAN base station. *Id.*, 16:1-5; *see also id.*, Abstract, 4:31-5:1, 13:14-22, 14:10-14. If W-LAN detection circuit 201 receives a beacon frame, switches 211A and 211B are switched to utilize W-LAN communications. *Id.*, Abstract, 16:6-8, Fig. 6. But if no beacon frame is received, these same switches instead allow for cellular communications. *Id.*, Abstract, 16:3-5, Fig. 6. These two modes of operation are illustrated in annotated Fig. 6 below. *Dec.*, ¶70.



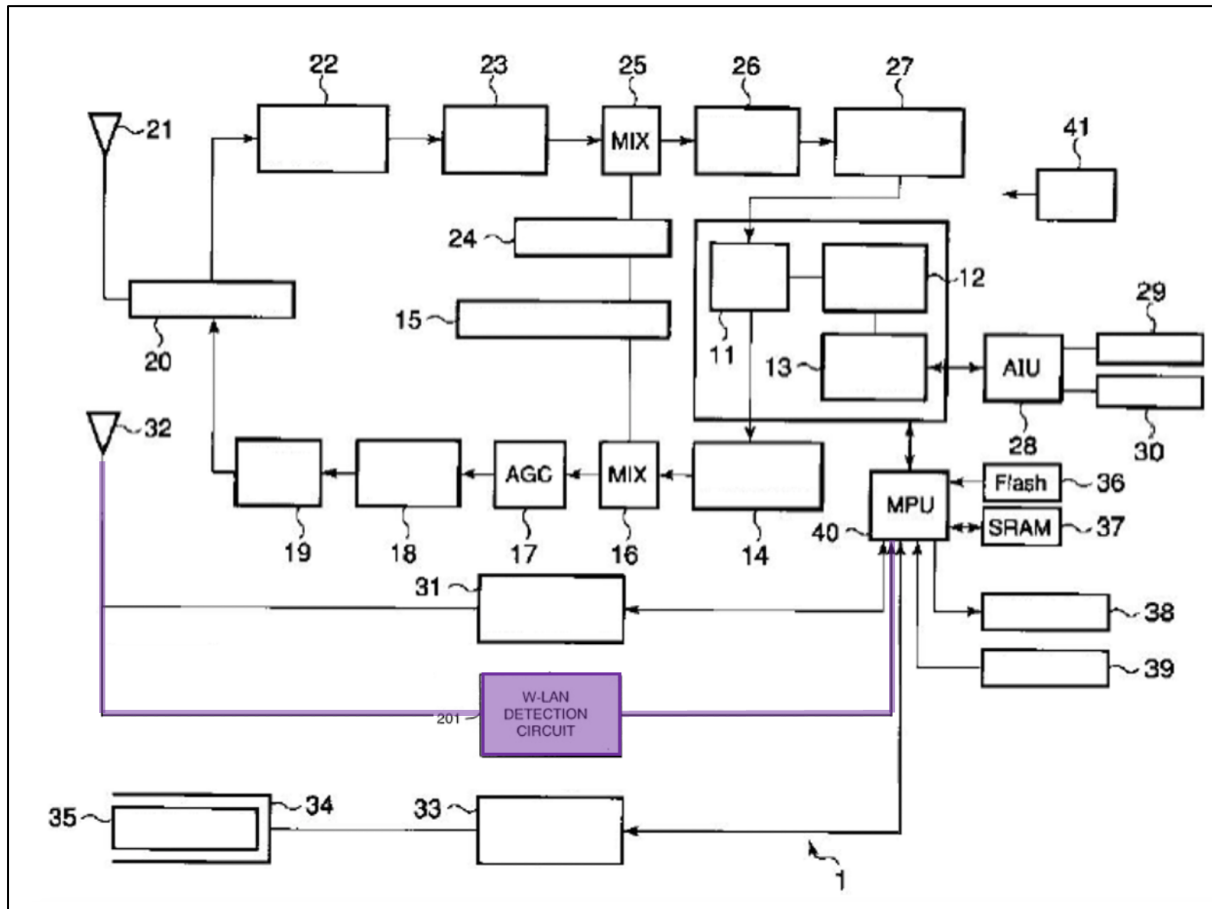
Gorsuch, Fig. 6 (annotated excerpt).

Both *Gorsuch* and the '294 Patent are directed to data communications using electronic devices and are in the same field of endeavor. *Compare Gorsuch*, Abstract, with Ex. 1001, Abstract. Further, *Gorsuch* is reasonably pertinent to a problem sought to be solved by the '294 patent—automatically managing data communications in a multi-transceiver device. *Compare Gorsuch*, Abstract, 3:29-4:4, with '294 Patent, 17:27-32. Therefore, *Gorsuch* is analogous art to the '294 patent. *Dec.*, ¶71.

C. Combining *Suga* and *Gorsuch*

As set forth above, both *Suga* and *Gorsuch* teach portable devices that automatically switch between W-LAN and cellular transceivers, prioritizing W-LAN when available. Although *Suga* details the process through which its cellular phone chooses which transceiver to use for a given data communication, including by utilizing W-LAN when “possible,” it does not describe in detail the process through which its phone determines whether W-LAN communications are in fact possible. *Gorsuch* teaches a subscriber unit 101 equipped with a W-LAN detection circuit that is specifically intended to detect W-LAN availability and to switch between W-LAN and cellular transceivers based on this detection. The Ground below establishes that a POSITA would have been motivated to implement *Gorsuch*’s W-LAN detection circuit into *Suga*’s cellular phone, providing a means to determine when W-LAN communications are possible.

As illustrated below, the proposed modification incorporates *Gorsuch*’s W-LAN detection circuit 201 into *Suga*’s cell phone architecture. In this arrangement, the MPU 40 uses information from the W-LAN detection circuit to determine whether W-LAN data transmissions are “possible,” allowing the MPU 40 to route data, such as an email, through the appropriate transmission pathway.



Suga, Fig. 2 (annotated to show *Gorsuch*'s W-LAN detection circuit in purple); *Dec.* ¶73.

D. Motivation to Combine *Suga* and *Gorsuch*

For a number of reasons, a POSITA would have been motivated to combine *Suga* and *Gorsuch* as proposed. First, a POSITA would have understood *Suga*'s cellular phone requires the ability to detect when W-LAN communications are “possible,” would have understood that *Suga* does not describe any specific means for detecting W-LAN availability and would have looked to known solutions in the art for detecting W-LAN availability. *Dec.*, ¶74. *Gorsuch* includes a starkly similar

disclosure to *Suga*, making its solution an intuitive one to incorporate into *Suga*'s cellular phone. *Id.* Indeed, both *Suga* and *Gorsuch* teach dual-transceiver equipped mobile devices that automatically choose a prioritized network based on availability. *Id.* (explaining that both *Suga* and *Gorsuch* choose between cellular and W-LAN transceivers, specifically). Given their similar structures and functionalities, a POSITA would have found *Gorsuch*'s W-LAN detection circuit an obvious choice to integrate into *Suga*'s cellular phone. *Id.*

Second, a POSITA would recognize that implementing *Gorsuch*'s W-LAN detection circuit in *Suga*'s cell phone would improve *Suga*'s similar device in the same way it benefits *Gorsuch*. *Dec.*, ¶75; *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007) (“[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious[.]”). *Suga* teaches that cell phone 1 sends data through the W-LAN if possible, reverting to a cellular connection when W-LAN is unavailable:

Communication is attempted [through W-LAN], and it is determined whether communication is possible (step A5). ***If communication is possible, communication is performed*** (step A6) and the process is terminated. If communication ***is not possible***, it is determined whether or not the “Automatically switch to phone line if wireless LAN line cannot be used” setting is enabled (step A7).

Suga, [0050]. A POSITA would understand that determining whether W-LAN communication is possible requires some ability to assess the availability of the W-LAN communication channel. *Dec.*, ¶75. This *could* be accomplished via brute force, attempting to transmit the actual data payload and then assessing whether the transmission was successful. *Id.* However, a POSITA would recognize that a more efficient means of accomplishing this step in *Suga*'s process is for the cellular phone to assess the W-LAN connection to determine its availability (*e.g.*, the presence or availability of the W-LAN connection) without attempting to transmit the full data payload. *Id.* *Gorsuch* teaches a beacon-based method for detecting the availability of a W-LAN connection that does not require attempting to transmit a full data payload. Namely, *Gorsuch*'s W-LAN detection circuit can detect the presence of a "beacon frame" transmitted periodically on the W-LAN network. *Gorsuch*, 13:14-22, 16:1-3 (noting the W-LAN detection circuit "detects the presence or availability of a W-LAN base station [] using . . . one of the techniques previously discussed"); *Dec.*, ¶75 (explaining that a POSITA would understand *Gorsuch*'s W-LAN detection circuit uses a beacon-based method to detect W-LAN availability). This beacon method of detecting the availability of W-LAN benefits *Gorsuch*'s system by allowing *Gorsuch*'s device to efficiently determine whether W-LAN should be selected for data transmission without having to attempt the actual data transmission and monitor for success or failure. *Id.* A POSITA would understand the same

efficiencies would benefit *Suga* in the same way, allowing *Suga*'s cellular phone to determine whether W-LAN communications are "possible" without attempting to actually transmit the full data payload over the W-LAN network. *Id.*

Finally, a POSITA would have expected success in making the proposed modification. Given the stark similarities between these references, as discussed above, integrating *Gorsuch*'s W-LAN detection circuit in *Suga*'s cellular phone would have been straightforward and well within the capabilities of a POSITA. *Dec.*, ¶76. Further, the benefits of automatically detecting network availability and choosing the optimal available network was widely recognized and implemented in the art. For example, the commercial Nokia 6136 cellular phone included a "seamless handoff of mobile voice and data from a wide area cellular network to WLAN or Wireless Fidelity (Wi-Fi), so it is possible to connect at a high speed to the internet from virtually anywhere." Ex. 1009, 59. Similarly, U.S. Patent No. 8,165,559 to Klesper et al. ("*Klesper*") (Ex. 1008) discloses a combo phone that is capable of connecting to an open access point, for example WiFi or WiMax, or to a cellular network access point to make a call to emergency services. *Klesper*, 8:8-14, Fig. 6. Further, Klesper states that "combo phones, as well as other types of call systems, are well known in the art." *Klesper*, 5:52-54. Finally, U.S. Patent No. 8,792,454 to Taniuchi et al. ("*Taniuchi*") (Ex. 1007) teaches a system for seamless roaming between multiple networks for a mobile node. *Taniuchi*, (57), 2:22-24,

1:21-27, Fig. 4; *Dec.*, ¶76. Taniuchi teaches transitioning from a WLAN to a cellular network when the signal strength of the WLAN drops below a predetermined threshold. *Taniuchi*, 16:29-41. Given the prevalence of dual-mode cellular devices, including cellular phones, a POSITA would have had an expectation of success when implementing *Gorsuch*'s W-LAN detection circuit in *Suga*'s cellular phone. *Dec.*, ¶76.

IV. PROCEDURAL REQUIREMENTS UNDER 37 C.F.R. § 42.104

A. Standing Under 37 C.F.R. § 42.104(A)

Petitioner certifies that the '294 Patent is available for IPR and that Petitioner is not barred or estopped from requesting an IPR challenging the claims of the '294 Patent. Specifically, (1) Petitioner is not the owner of the '294 Patent, (2) Petitioner has not filed a civil action challenging the validity of the claims of the '294 Patent, and (3) this Petition is filed less than one year after the Petitioner was served with a complaint alleging infringement of the '294 Patent.

B. Challenge Under 37 C.F.R. § 42.104(B) and Relief Requested

In view of the prior art and evidence presented, claims 1-20 of the '294 Patent are unpatentable and should be cancelled. 37 C.F.R. § 42.104(b)(1). Further, based on the prior art references identified below, IPR of the Challenged Claims should be granted. 37 C.F.R. § 42.104(b)(2).

Proposed Ground of Unpatentability	Exhibits
Ground 1: Claims 1-20 are obvious under pre-AIA 35 U.S.C. § 103 over <i>Suga</i> in view of <i>Gorsuch</i> .	Ex. 1005 Ex. 1006

Section V identifies where each element of the Challenged Claims is found in the prior art. 37 C.F.R. § 42.104(b)(4). The exhibit numbers of the evidence relied upon to support the challenges are provided above and the relevance of the evidence to the challenges raised is provided in Section V. 37 C.F.R. § 42.104(b)(5). **Exhibits 1001-1016** are also attached.

C. Claim Construction Under 37 C.F.R. § 42.104(B)(3)

In this proceeding, claims are interpreted under the same standard applied by Article III courts (*i.e.*, the *Phillips* standard). *See* 37 C.F.R § 42.100(b); *see also* 83 Fed. Reg. 197 (Oct. 11, 2018); *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (*en banc*). Under this standard, words in a claim are given their plain meaning, which is the meaning understood by a person of ordinary skill in the art in view of the patent and file history. *Phillips*, 415 F.3d 1303, 1312–13. Petitioner submits that all terms be given their plain and ordinary meaning consistent with the *Phillips* standard. Petitioner does not waive any argument in any litigation that claim terms in the '294 Patent are indefinite or additional terms need construction.

i. “Invariable Activation Command”

Independent claims 1, 10, and 12, recite an “invariable activation command” '294 Patent, 19:5-7, 20:18-20, 21:39-40. The specification of the '294 Patent

describes multiple examples of an “invariable action command” in the context of a device capable of transmitting data via two different paths. In each instance, the command “activates” a data transfer and is “invariable” in that the user cannot control which path the data transfer follows. Instead, the state of a switching element dictates the data path. Because the Proposed Ground teaches an activation command that cannot be varied by the user (*i.e.*, the decision to transmit data via a first or second communication link is determined by the detected availability/unavailability of a cue signal, rather than by the user), Petitioner does not believe an express construction of this phrase is required to resolve the issues presented herein.⁸ Instead, the phrase should be interpreted broadly enough to capture the consistent meaning ascribed to it by the intrinsic record. As set forth below, the intrinsic record repeatedly and consistently describes an invariable activation command as a command to transmit data through either a first or second data conveyance operation, where the decision of which operation to use is outside of user control.

⁸ The Board “only construe[s] terms ‘that are in controversy, and only to the extent necessary to resolve the controversy[.]’” *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co. Ltd. Matal*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

In an overview of the concept, the '294 Patent describes an invariable activation command that initiates a data transfer and stresses that the user will not be able to manually override the command:

In the case *where no activation cue was received* by portable electronic device 10, *data will be communicated to* the portable electronic device holder by means of *user interface device 16*. However, *if an activation cue was previously received* by portable electronic device 10, *a data exchange will be initiated between portable electronic device 10 and data exchange device 9*.

It is noted that, according to the present invention, *the activation command issued when control device 12 is triggered, is an invariable activation command*. That is to say that *the portable electronic device holder will not be able to select to issue different activation commands* by means of control device 12 depending on whether the user considers that a data exchange operation should be accomplished with an external data exchange device 9, or whether the user wishes to display information on screen 16 on the basis of data stored in memory 42. The same invariable activation command will thus be issued upon control device 12 being triggered, and *it is the state of switching element 44b, resulting from the receipt or non-receipt of an activation cue by portable electronic device 10, that will be decisive as to the type of data conveyance that will occur*.

'294 Patent, 10:29-51.

Turning to a specific example, the patent teaches that a user may use the alternative data path concept to accomplish a financial transaction. '294 Patent,

16:11-23, 16:58-65. At some point in the process, the user will be asked to make a payment, which can be authorized using the control device. '294 Patent, 16:24-28, 16:66-17:3. Authorizing the payment constitutes the user triggering the control device, which causes the device to issue an invariable activation command. '294 Patent, 16:28-30, 17:3-5. The payment is then made by transmitting data either (1) through a merchant data exchange device or (2) via a remote server, depending on whether an activation cue has been received. '294 Patent, 16:30-65; 17:5-17. In this example, “the user data conveyance is responsive to . . . invariable activation command being issued once the control device 114 has been triggered.” '294 Patent, 17:24-26. Accordingly, the invariable activation command causes a data transaction to occur, while the specific data path used is chosen based on reception, or lack thereof, of an activation cue.

This definition is bolstered by arguments made in the prosecution of the '294 Patent. There, applicant stressed that the term “invariable” means the control device cannot determine which data path is used:

It is recalled that the gist of the present invention is to *provide a device that may issue one of two data conveyance operations responsive to an invariable command issued by a user-triggered control device, depending on whether or not an external cue has been received*. This provides the advantages of: (1) the user specifically controlling when the data conveyance operations will occur, since the user will trigger the control device himself; while (2) *simultaneously avoiding the need*

for the user to decide which conveyance operation will occur, since the electronic circuit will decide this for the user.

Ex. 1003 ('294 File History"), 124.

In light of the full intrinsic record, an “invariable activation command” should capture a command to transmit data through either a first or second communication link, where the decision of which link is used is independent of the command issued. Petitioner reserves its rights to more concretely define this term in the parallel litigation.

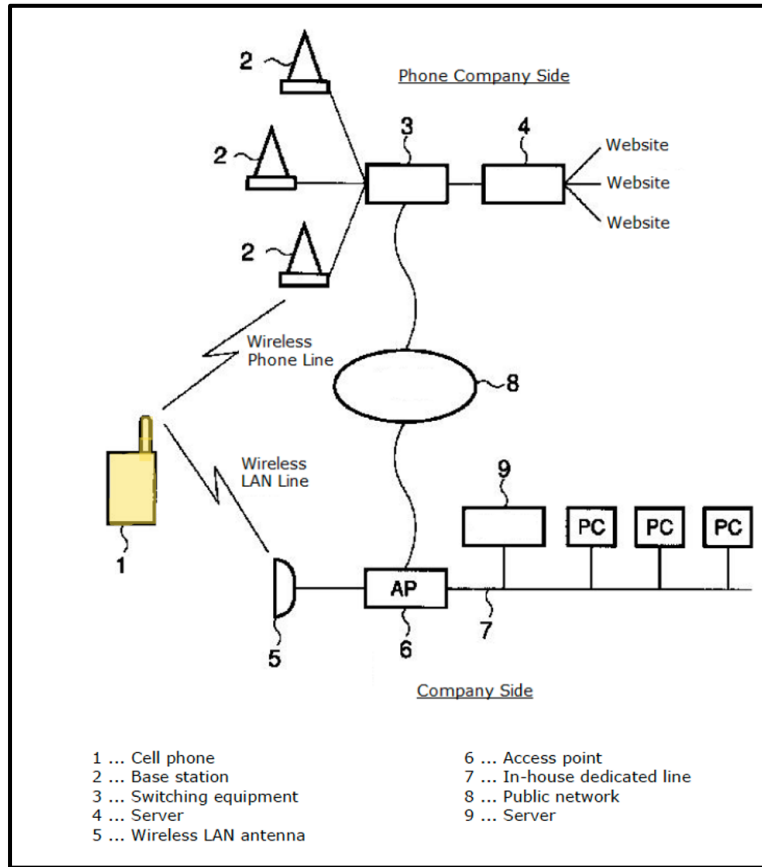
V. THE CHALLENGED CLAIMS ARE UNPATENTABLE

A. Ground 1: Claims 1-20 are obvious under pre-AIA 35 U.S.C. § 103 over *Suga* in view of *Gorsuch*.

i. Claim 1

[1(Pre)] A cellular phone, comprising:

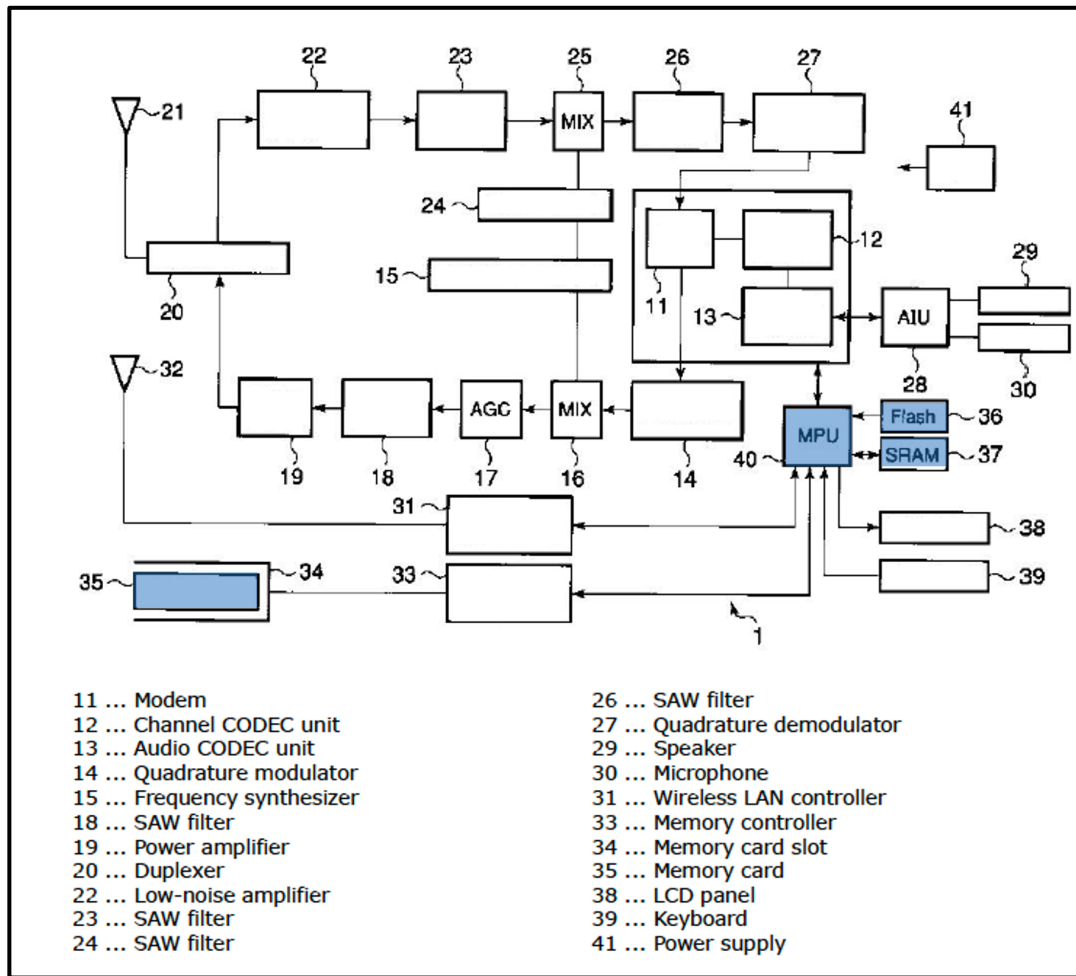
To the extent the preamble is limiting, *Suga* teaches it. For instance, *Suga* discloses “cell phone” 1 that can “exchange data with websites via an Internet connection service, and exchange data (such as sending and receiving email) with other information devices.” *Suga*, [0016], Fig. 1.



Id., Fig. 1 (annotated); *Dec.*, ¶77.

[1(a)] an electronic circuit capable of storing data therein, capable of processing data, and capable of data input and output;

Suga discloses this limitation. For example, *Suga* discloses that the cell phone includes, among other parts, MPU 40, a memory card 35, flash memory 36, and SRAM 37 that comprise an electronic circuit. *Suga*, [0035]-[0037]. A power supply 41 supplies power to the components of the cell phone 1, including the electronic circuit, as shown in Fig. 2 (electronic circuit in blue).



Id., Fig. 2 (annotated).

Suga further discloses the MPU 40 “controls the entire operation of the cellular phone 1[,]” including performing switching control between the cellular and W-LAN connections, and sending/receiving data “such as an e-mail” through either network. *Suga*, [0037], [0045]-[0047], [0053]. Therefore, a POSITA would understand that the MPU 40 “is capable of processing data[,]” “data [output,]” and “data input[.]” The memory card 35 “is used to store content handled by the cell phone 1” such as “e-mails, audio information, and video information.” *Suga*, [0035].

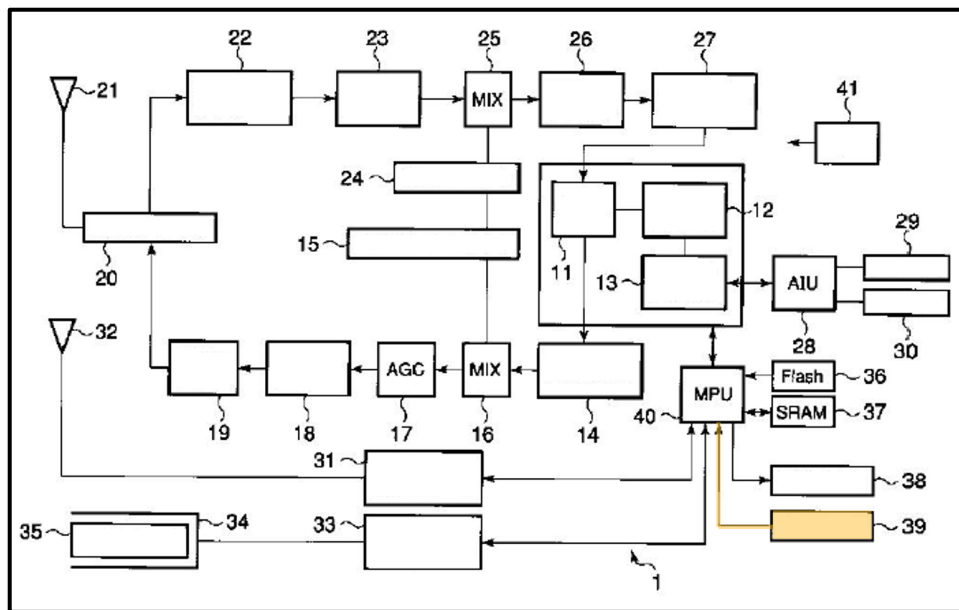
Flash memory 36 “is a memory built into the cell phone 1 and is used to store various types of data” and SRAM 37 “is a memory that provides a work area for the MPU 40.” *Id.*, [0036]. A POSITA would understand that a circuit including at least the MPU 40, memory card 35, flash memory 36, and SRAM 37 is “capable of storing data therein, capable of processing data, and capable of data input and output” to send and receive e-mails—functionality expressly ascribed to *Suga*’s cellular phone. *Dec.*, ¶¶78-79.

[1(b)] a user-triggered control device operatively linked to said electronic circuit, said user-triggered control device configured to be operated by a user via one of a button, a keypad, a tactile screen, and a biometric parameter detector, and after being operated issue an invariable activation command, with said invariable activation command being issued when said control device is selectively triggered by the user;

Suga discloses this element. *Dec.*, ¶¶70-85. For example, *Suga* discloses keyboard 39 (“a user-triggered control device”) that a user engages (*i.e.*, “selectively trigger[s]”) to initiate the process of sending an email. In response to the user triggering an email, *Suga*’s device causes the email to be transmitted either via a cellular connection or W-LAN connection, depending on the availability of W-LAN. As discussed below, because the choice between wireless networks is based on the availability of W-LAN and cannot be influenced by the user (at the time of transmission), the device’s command to transmit an email (“activation command”) is “invariable[,]” as claimed.

Suga's "user-triggered control device operatively linked to said electronic circuit . . . configured to be operated by a user via . . . a button"

Suga is silent in describing the process for a user to initiate sending an email. However, a POSITA would have understood that to send an email, a user would trigger the device by pressing one or more buttons on the keyboard 39 to initiate the transmission. *Dec.*, ¶81; Ex. 1010, Abstract, [0002]-[0003], Figs. 1, 4, and 5. This decision is processed by the MPU 40 in order to send the email. *Suga*, [0045]-[0047]; *Dec.*, ¶81. Therefore, either the keyboard alone, or combined with the MPU constitutes the control device. As shown in Fig. 2, keyboard 39 is connected to the MPU 40 and, therefore, is "operatively linked to said electronic circuit." *Dec.*, ¶81.



Suga, Fig. 2 (annotated); *Dec.*, ¶81.

Suga’s “invariable activation command [is] issued when said control device is selectively triggered by the user”

After a user triggers sending an email by pressing a key on keyboard 39, *Suga’s* device generates an “invariable activation command,” as claimed. Namely, *Suga’s* device transmits an email either via W-LAN or cellular based on W-LAN’s availability, providing the user no option to *vary* which connection is used for a given transmission. *Dec.*, ¶82 (explaining that the user engaging the keyboard 39 to authorize sending an email results in one of two data conveyance operations—data sent either via W-LAN or cellular—and that the choice of data path is outside the user’s control).

The user’s “trigger”—pressing a button to send an email—causes *Suga’s* electronic circuit to generate the activation command. Specifically, a POSITA would have understood that the MPU 40 in *Suga* interprets the user’s key press and then causes the device to convey an email to another party. *Dec.*, ¶83 (explaining (1) that a key press causes an email conveyance and (2) that the button press must be interpreted by the MPU to further the data conveyance). A POSITA would have understood that a user engaging the keyboard generates an electrical signal/impulse that is interpreted by the MPU. *Id.* Because the electrical signal/impulse causes a data conveyance, the signal from the keyboard to the MPU is an activation command, as claimed. *Id.* Alternatively, because the MPU interprets the keyboard’s

electrical signal/impulse to further the data conveyance, the collective operation performed by the keyboard and MPU issues an activation command, as claimed. *Id.*

Although *Suga*'s device does allow a user to set general preferences regarding when W-LAN and cellular connections are used, there is no ability for a user to "vary" an individual data transmission. That is, when a user triggers an email to be sent, the device selects a network pursuant to an algorithm that is influenced by the user settings, but does not provide the user any ability to vary which network is used. In this way, the email transmission is "invariable[.]" as claimed. *Dec.*, ¶84. In more detail, a user may choose to prioritize Wi-Fi when available by setting "Prioritize use of wireless LAN" and "Automatically switch to phone line if wireless LAN line cannot be used[.]" *Suga*, [0043], [0047]-[0052]. Fig. 5 After these options have been selected, a subsequent request to send an email will cause the cell phone to send the email through the W-LAN when "possible[.]" If W-LAN "communication is not possible . . . the controller switches to a phone line and attempts to communicate with the counterparty". *Suga*, [0047], [0050]-[0051], Fig. 6. Accordingly, when a user triggers the device by pressing a key on the keypad to send an email, *Suga*'s MPU 40 interprets the user input and causes an email to be sent via one of two transceiver paths where the choice of transceiver is invariably made by the device. *Id.* That is, the device selects one of two transceivers for the data transmission

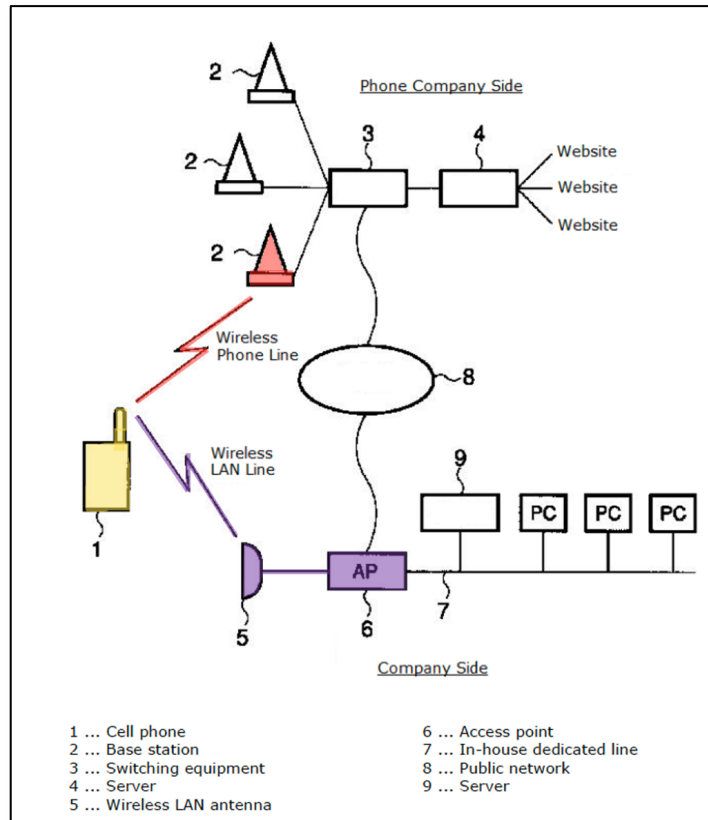
without providing the user an option to dictate or change the transceiver choice in real time. *Dec.*, ¶84.

In sum, by pressing one or more buttons on keyboard 39, a signal is sent to the MPU 40 in *Suga* that is an “invariable activation command” or alternatively causes one to be generated by the MPU. This command activates an email conveyance that causes the device to send an email through one of the two data paths without further user-intervention. *Dec.*, ¶85; *See* Section IV.C.

[1(c)] a first data transceiver operatively linked to said electronic circuit, said first data transceiver being for exchanging data between said electronic circuit and a first external data exchange device over a first communication link;

[1(d)] a second data transceiver operatively linked to said electronic circuit, said second data transceiver being for exchanging data between said electronic circuit and a second external data exchange device over a second communication link that is distinct from said first communication link;

Suga teaches this limitation. *Dec.*, ¶¶86-91. *Suga* discloses a cell phone 1 that transmits data through either a W-LAN network (using a first data transceiver over a first communication link) or a cellular network (using a second data transceiver over a second, distinct communication link). *Suga*, [0057], Fig. 1. Specifically, Fig. 1 discloses a cell phone 1 connecting to both a W-LAN access point 6 (“first external data exchange device”) via wireless LAN antenna 5 over a W-LAN line (“first communication link”) shown in purple, and a base station 2 (“second external data exchange device”) over a wireless phone line (“second communication link”) shown in red.



Suga, Fig. 1 (annotated); *Dec.*, ¶86.

Suga’s W-LAN transceiver and cellular transceiver are linked to the phone’s “electronic circuit”

Cell phone 1 includes an electronic circuit, comprising MPU 40, which “controls the operations of the entire cell phone 1,” including performing switching control between the cellular and W-LAN connections, and sending e-mail through either network. *See* Claim [1(a)]. Connected to this electronic circuit, W-LAN controller 31 (“a first data transceiver”) is used to transmit data over W-LAN and a cellular modem (“a second data transceiver”) is used to transmit and receive data via the cellular network.

This infrastructure allows *Suga* to perform data communications such as email using either a cellular connection or a W-LAN connection:

Based on *cellular mobile communication services* provided by a phone company, the cell phone 1 is able to place calls to other phones via a wireless phone line that connects to a base station 2, exchange data with websites via an Internet connection service, and *exchange data (such as sending and receiving e-mail) with other information devices. The cell phone 1 also exchanges data (such as e-mail) with other devices via a wireless LAN line.*

Id., [0016]. Because *Suga*'s MPU 40—part of the claimed “electronic circuit”—is responsible for causing an email to be sent via either transceiver, both transceivers are linked to the electronic circuit, as claimed. *Dec.*, ¶88.

Suga's Wireless LAN Controller 31 is a “First Transceiver”

Suga describes separate transceiver hardware for these distinct wireless communication technologies. A Wireless LAN controller 31 allows cell phone 1 to transmit and receive data through a W-LAN connection via antenna 32. *Suga*, [0034], Fig. 2. The Wireless LAN controller 31 and antenna 32 connected to the MPU 40 (“operatively connected to said electronic circuit”). These components are shown in the annotated Fig. 2 in green. The W-LAN controller 31 allows data communication to the access point 6 through a W-LAN line. *See id.*, Fig. 1.

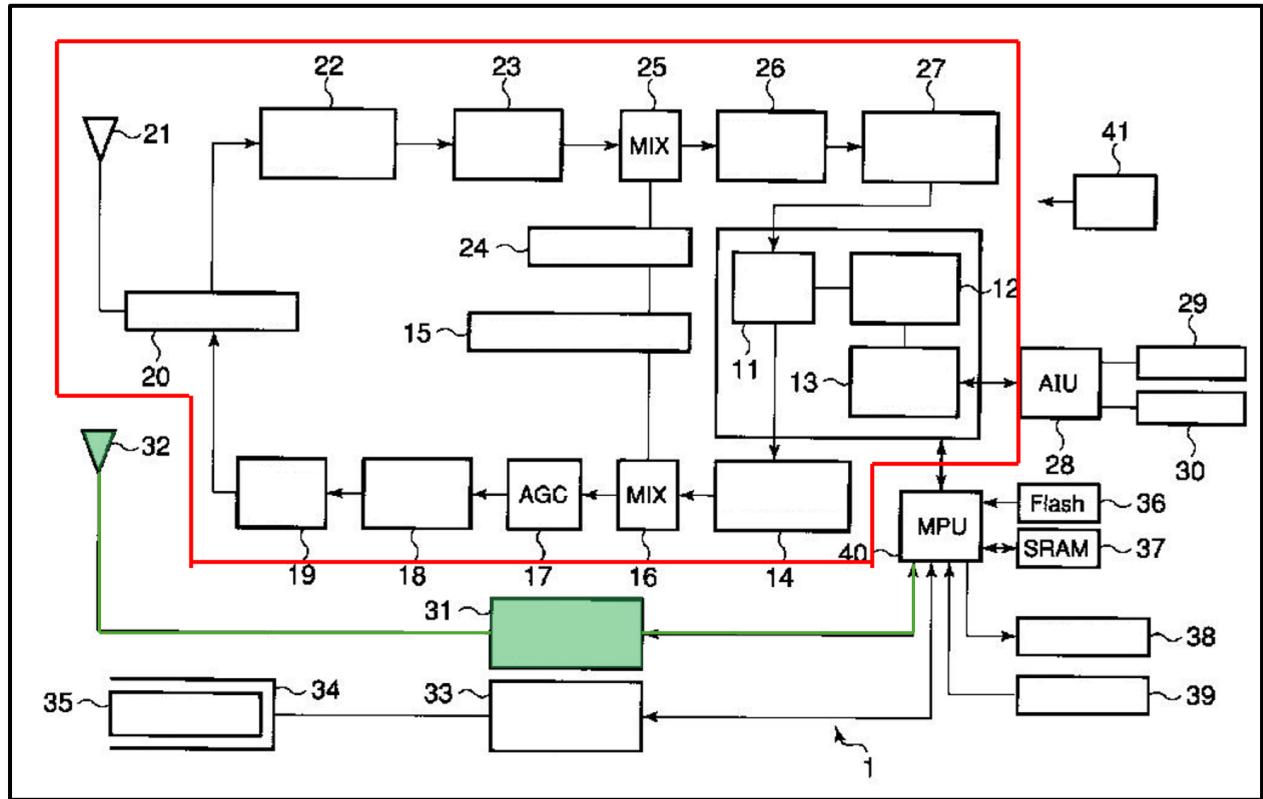
Suga's Cellular Modem is a “Second Transceiver”

The cell phone is also equipped with cellular transceiver circuitry to transmit and receive data through a cellular connection:

The cell phone 1 has a modem 11, a channel CODEC unit 12, and a voice CODEC unit 13 as modem functions for phone line connections. The modem 11 modulates and demodulates the transmitted and received signals. The channel CODEC unit 12 performs coding and decoding of channel signals. The audio CODEC unit 13 performs coding and decoding of audio signals.

The cell phone 1 also has a quadrature modulator 14, frequency synthesizer 15, mixer 16, AGC unit 17, SAW filter 18, power amplifier 19, duplexer 20, antenna 21, low-noise amplifier 22, SAW filter 23, SAW filter 24, mixer 25, SAW filter 26, and quadrature demodulator 27 *as signal transmitting and receiving functions for phone line connections.*

Id., [0029]-[0030], Fig. 2. The duplexer 20 “separates transmitted and received signals to and from the antenna” which in turn “exchanges signals with the outside world by means of cell phone radio waves.” *Id.*, [0031]. These cellular transceiver components are shown in the annotated Fig. 2 within the red boundary and are connected to the MPU (“operatively linked to said electronic circuit”).



Id., Fig. 2 (annotated); *Dec.*, ¶90. The cellular transceiver provides data communication to base station 2 through a wireless phone line. *See Id.*, Fig. 1.

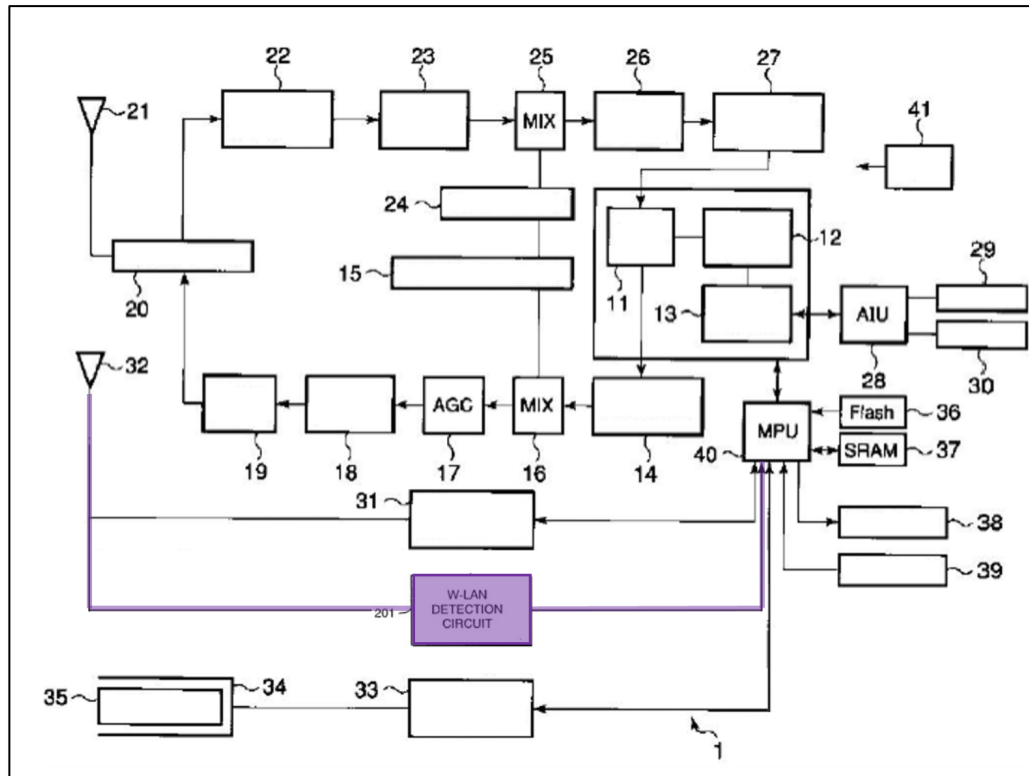
Suga’s W-LAN and Cellular are Separate and Distinct Connections

A POSITA would also have understood that the wireless phone line and W-LAN line are distinct from each other. *Dec.*, ¶91. Each communicates through separate components in the cell phone 1, transmits data with different external devices, and each uses a different communication standard. *Id.* For example, the cellular network discussed in *Gorsuch* is a “Code Division Multiple Access (CDMA)” while the W-LAN protocol is the “IEEE 802.11” standard. *Gorsuch*, 2:8-9, 2:31-32. *Suga* also teaches that the W-LAN described is IEEE 802.11 compliant.

Suga, [0039], [0041]. Therefore, the second communication link, a wireless phone line, is a “distinct from said first communication link[,]” the W-LAN line. *Dec.*, ¶91.

[1(e)] a cue receiver operatively linked to said electronic circuit for receiving an activation cue from a source external to said cellular phone;

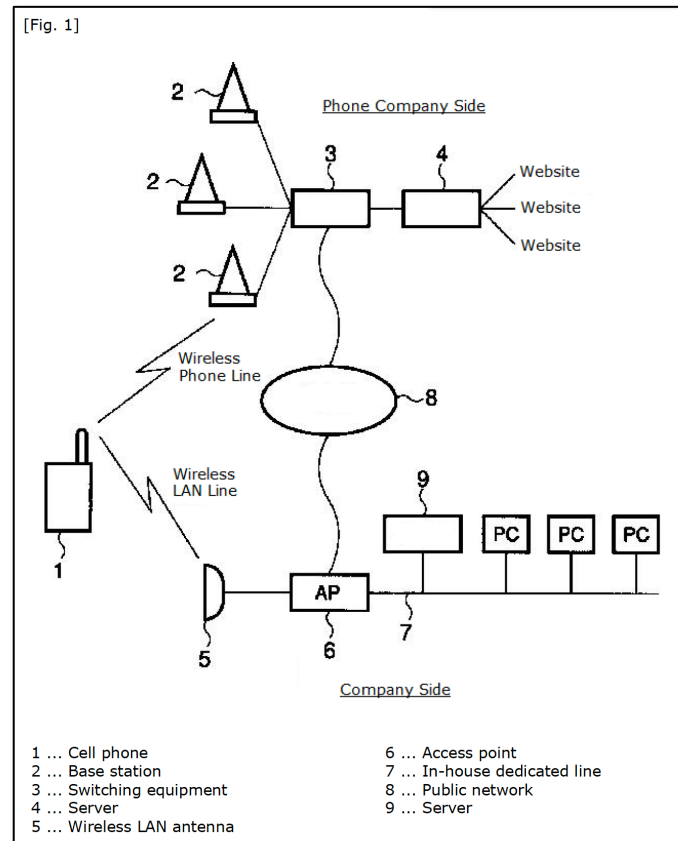
Suga in combination with *Gorsuch* discloses or suggests this limitation. *Dec.*, ¶¶92-93. As set forth in detail above, the proposed combination incorporates *Gorsuch*’s W-LAN detection circuit 201 (“cue receiver”) into *Suga*’s cellular phone to provide information on the availability of W-LAN. With this information, *Suga*’s MPU 40 (“electronic circuit”) can choose the proper transceiver for a data communication (*e.g.*, an email transmission). *Suga*’s Fig. 2 is annotated below to illustrate *Gorsuch*’s W-LAN detection circuit 201 inserted in parallel to *Suga*’s W-LAN transceiver circuitry and connected to MPU 40.



Suga, Fig. 2 (modified and annotated to show W-LAN detection circuit in *Suga*'s cellular phone); *Dec.*, ¶92.

Gorsuch's W-LAN detection circuit 201 that receives a beacon frame or beacon signal ("activation cue") from a W-LAN base station 611, which is "a source external to said cellular phone[.]" *Gorsuch*, Abstract, 4:31-5:1, 13:14-22, 14:10-14, 16:1-12, Fig. 6; *Dec.*, ¶93. "IEEE 802.11 specifies that a beacon frame should be transmitted at regular intervals" by a W-LAN hub. *Gorsuch*, 13:17-18. A POSITA would have understood that *Suga*'s access point 6, like *Gorsuch*'s W-LAN base station 611, also emits a beacon signal. *Dec.*, ¶93 (discussing *Suga*, [0039]-[0041] and explaining that *Suga*'s access point would emit beacon frames in order to remain

compliant with the IEEE 802.11 standard). Further, access point 6 is external to cell phone 1, as the two are linked via a “wireless LAN line” (*i.e.*, a wireless connection).



Suga, Fig. 1; *Dec.*, ¶93 (explaining that *Suga*’s access point 6 is wirelessly connected to *Suga*’s cell phone and is, therefore, a source external to the cell phone).

[1(f)] a data conveyance switching element operatively linked to said electronic circuit, said switching element being assigned a first state upon an activation cue having been received by said cue receiver, and being assigned a second state when no activation cue was received by said cue receiver; and

Suga in combination with *Gorsuch* teaches this limitation. *Dec.*, ¶¶94-98. As discussed above, *Gorsuch*’s W-LAN detection circuit 201 provides information to the MPU 40, allowing the MPU to select the correct transceiver for a data

transmission. *See* Section III.C. In this combination, the MPU 40 itself is a “data conveyance switching element[.]” *Dec.*, ¶94. It decides which transceiver is used for a data transmission and is responsible for routing the data to the selected transceiver. *Id.*

As discussed above in the summary of *Suga*, a settings screen permits users to dictate how and when cellular and W-LAN transmission is utilized. As shown in Fig. 5, cell phone 1 can be configured to prioritize W-LAN and to automatically switch to a cellular network when a W-LAN connection is unavailable. Additionally, a user can set conditions (*e.g.*, data type and data volume) that cause the phone to attempt W-LAN communication. *Suga*, [0048-0049].

The image is a screenshot of a 'Settings Screen' for a mobile device. It features a white background with black text. At the top, the title 'Settings Screen' is displayed. Below it, the section 'During Transmission' is underlined. Under this section, there are three settings: 1) '[✓] Prioritize use of wireless LAN' with a checked checkbox. 2) 'Conditions' followed by a horizontal line, with two sub-options: '[] When type of content is XXXX' and '[] When content volume exceeds XXXX', both with unchecked checkboxes. 3) '[✓] Automatically switch to phone line if wireless LAN line cannot be used' with a checked checkbox. This third option is highlighted by a green rectangular border. Below the 'During Transmission' section, the 'During Reception' section is underlined, followed by the option '[✓] Prohibit reception of data over phone lines' with a checked checkbox.

Settings Screen

During Transmission

[✓] Prioritize use of wireless LAN

_____ Conditions _____

[] When type of content is XXXX

[] When content volume exceeds XXXX

[✓] Automatically switch to phone line if wireless LAN line cannot be used

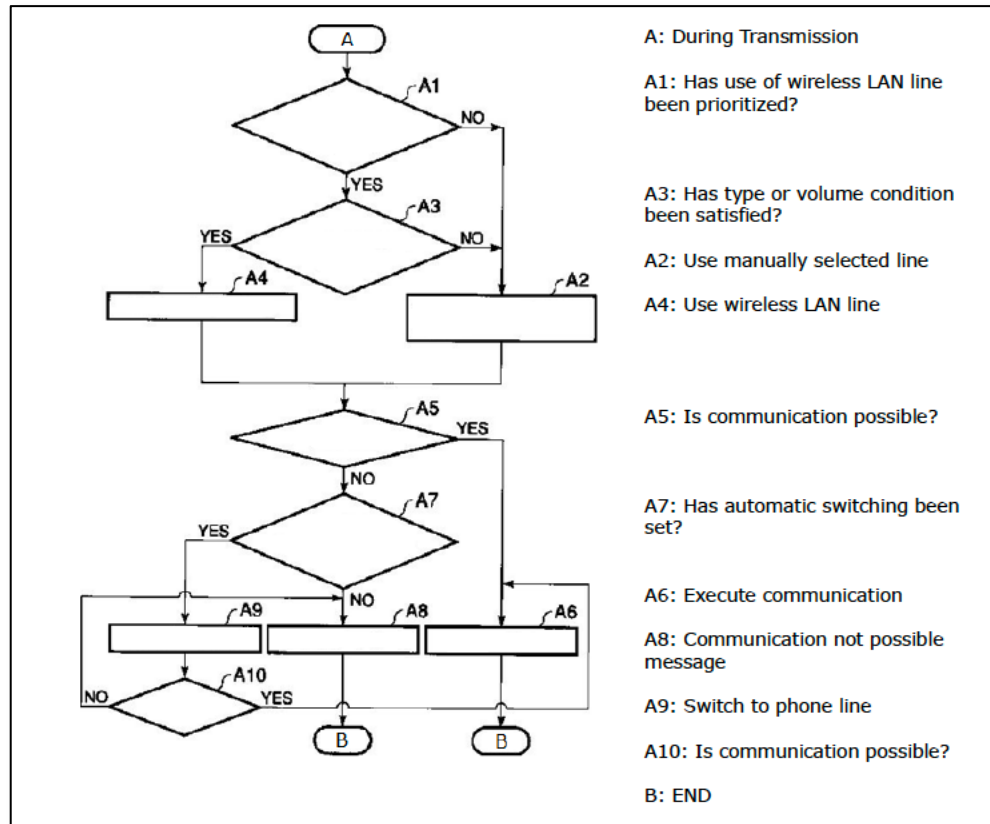
During Reception

[✓] Prohibit reception of data over phone lines

Id., Fig. 5 (annotated); *Dec.*, ¶95.

Fig. 6 (below) depicts a flowchart of the complete process conducted by *Suga*'s cell phone 1 when the user attempts to send data (for example, an email) if the phone is set to preferentially use wireless LAN. *Suga*, [0045], [0047]. At step A1, the system confirms that W-LAN should be prioritized. *Id.*, [0047]. At step A3, user set conditions are checked. *Id.*, [0048]. If these conditions are met,⁹ step A4 confirms the W-LAN transceiver will be used for the data transmission. *Id.*, [0049]. Step A5 analyzes whether communication is possible via the selected transceiver. *Dec.*, ¶96. If communication is possible with the W-LAN line, the communication is sent at step A6. *Suga*, [0050]. If communication with the W-LAN line is not possible, step A7 confirms that automatic switching has been set, switches the selected transceiver to cellular at step A9, confirms cellular transmission is possible at step A10, and executes transmission via the cellular connection at step A6. *Id.*, [0050]-[0052].

⁹ *Suga* teaches that the data type and data volume conditions can both be enabled or disabled. *Suga*, [0043]. A POSITA would have understood that disabling both conditions results in a process flow that, for all data transmissions, attempts to use W-LAN prior to using cellular. *Dec.*, ¶96, fn7. That is, disabling both condition requirements means there are no data type or data volume conditions and all data transmissions will satisfy step A3. *Id.*



Id., Fig. 6.

In the proposed combination, *Gorsuch's* W-LAN detection circuit 201 is used to determine whether a beacon signal has been detected. In the Fig. 6 process, this occurs at step A5. Namely, when MPU 40 implements the above method in the proposed combination, step A5 will result in “Yes” if *Gorsuch's* W-LAN detection circuit 201 has detected a beacon signal. Detecting the beacon signal indicates to the system that communication over W-LAN is possible, which leads the process to selecting the W-LAN connection to complete a data transmission (i.e., the transmission is executed via W-LAN at step A6). That is, *Suga's* cellular phone is in a “first state” as a result of having received an “activation cue,” and sends data

through the W-LAN connection as the preferred transmission type. *Suga*, [0049]-[0050] (describing performing communication through the W-LAN line where communication on that line is possible). Where a beacon signal (*activation cue*) is not detected, *Suga*'s cellular phone is in a "second state," and MPU 40 sends data using the wireless phone line instead. *Suga*, [0050]-[0052] (describing performing communication on the wireless phone line where communication on the W-LAN line is not possible). Because the choice of transceivers turns on whether W-LAN communications are "possible" and the proposed combination determines W-LAN availability based on the reception of a W-LAN beacon (*activation cue*), a POSITA would have understood that MPU 40 switches between the first and second state based on the beacon reception as indicated by *Gorsuch*'s W-LAN detection circuit. *Dec.*, ¶97.

The '294 Patent teaches that the "switching element" can be "any type of device[.]" including "instructions programmed onto [a] microchip[.]" a "decisional logical circuit[.]" or "a physical structure, a virtual program, or both." '294 Patent, 9:28-41. In the proposed combination, MPU 40 is a "data conveyance switching element[.]" *Dec.*, ¶98. It decides which transceiver is used for a data transmission and is responsible for routing the data to the selected transceiver. *Id.* (explaining that *Suga*'s MPU 40 implements this switching functionality using a combination of software instructions and physical signal routing in light of the W-LAN and cellular

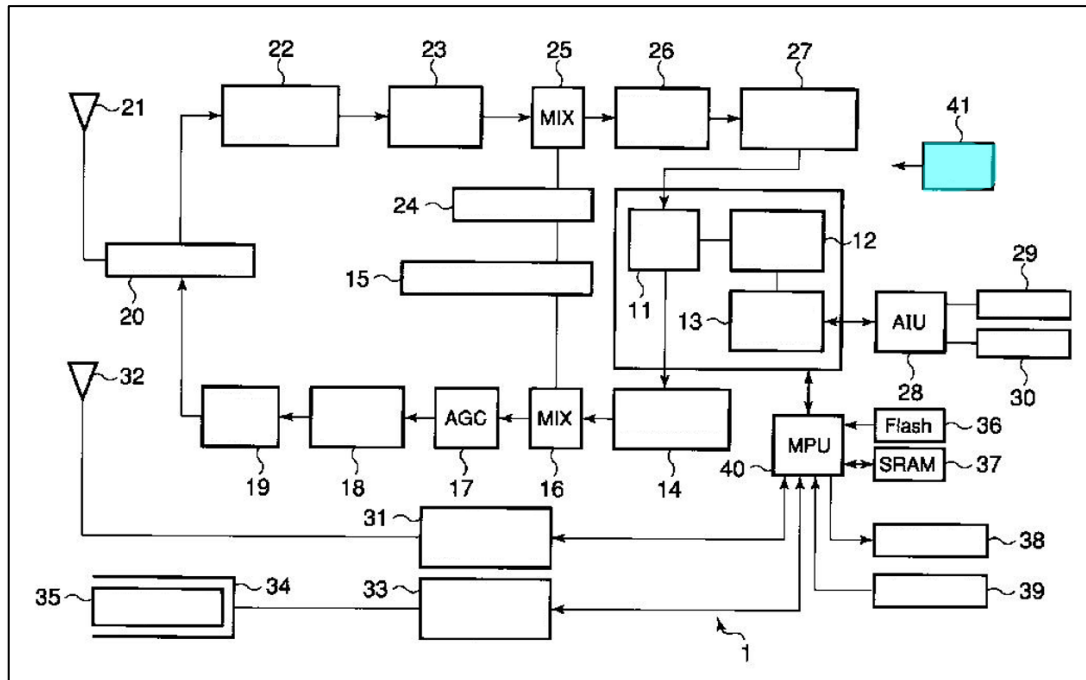
transceivers having separate connections to MPU 40, as depicted in Fig. 2). Indeed, *Suga* expressly describes switching between transceivers within MPU 40:

The *MPU 40 controls the operations of the entire cell phone 1*. For example, the *MPU 40 executes in the SRAM 37 a control program that realizes the line switching controls* of the present embodiment and that *controls switching between the circuit for phone line connections and the wireless LAN controller 31 for wireless LAN line connections*.

Suga, [0037].

[1(g)] power means for providing power to said portable electronic device cellular phone;

Suga discloses this limitation. *Dec.*, ¶99. For example, *Suga* discloses that cell phone 1 includes electric components including an LCD panel 38, MPU 40, memory card 35, and wireless LAN controller 31. *Suga*, [0034]-[0036], Fig. 2. A “power supply 41 provides power to the components in the cell phone 1.” *Suga*, [0037], Fig. 2.



Suga, Fig. 2 (annotated); *Dec.*, ¶99.

[1(h)(i)] wherein upon said control device being selectively triggered by the user to issue said invariable activation command: if said switching element is in said first state, a first data conveyance operation will be initiated through the instrumentality of said first data transceiver for sending data from said electronic circuit to the first external data exchange device over said first communication link;

and

[1(h)(ii)] if said switching element is in said second state, a second data conveyance operation will be initiated through the instrumentality of said second data transceiver for sending data from said electronic circuit to the second external data exchange device over said second communication link.

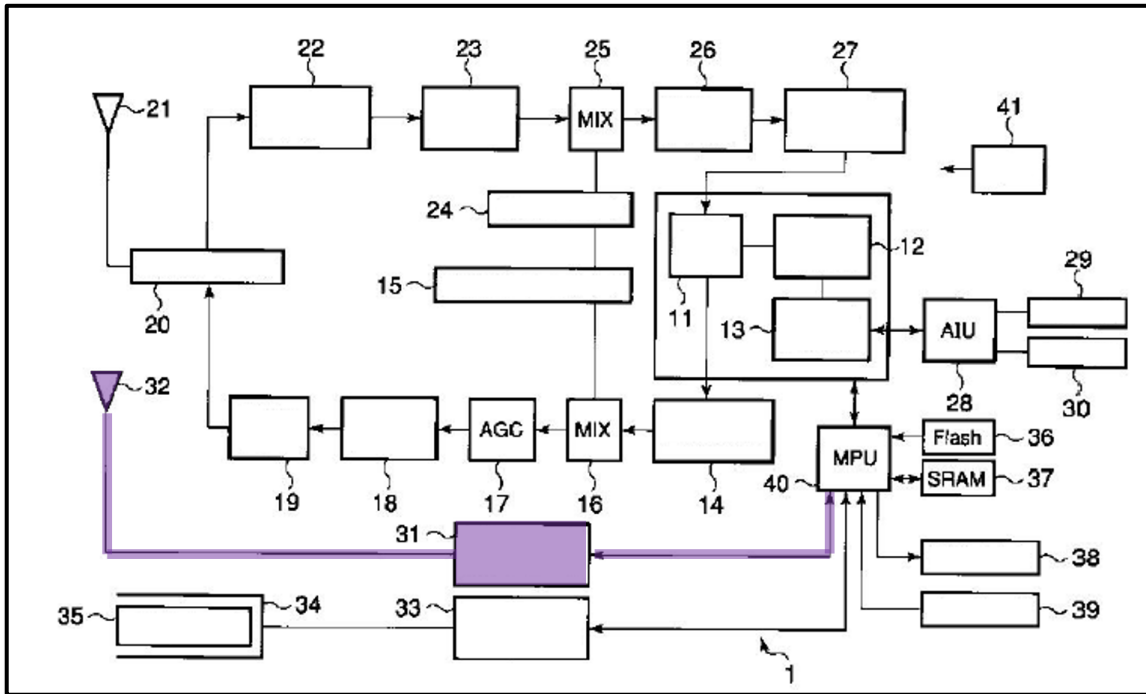
Suga in combination with *Gorsuch* teaches these limitations. *Dec.*, ¶¶100-104.

Summarizing these limitations, 1(h)(i) and 1(h)(ii) require that, upon user input, data is conveyed from the cellular phone along **one of two** different communication channels based on the state of the switching element. *Id.*, ¶100. The proposed *Suga*-

Gorsuch combination uses the W-LAN detection circuit of *Gorsuch* to determine if W-LAN is available, allowing the cell phone of *Suga* to efficiently transmit data through W-LAN when available. If W-LAN is not available, the cellular network is used to transmit the user data (*e.g.*, the user's email).

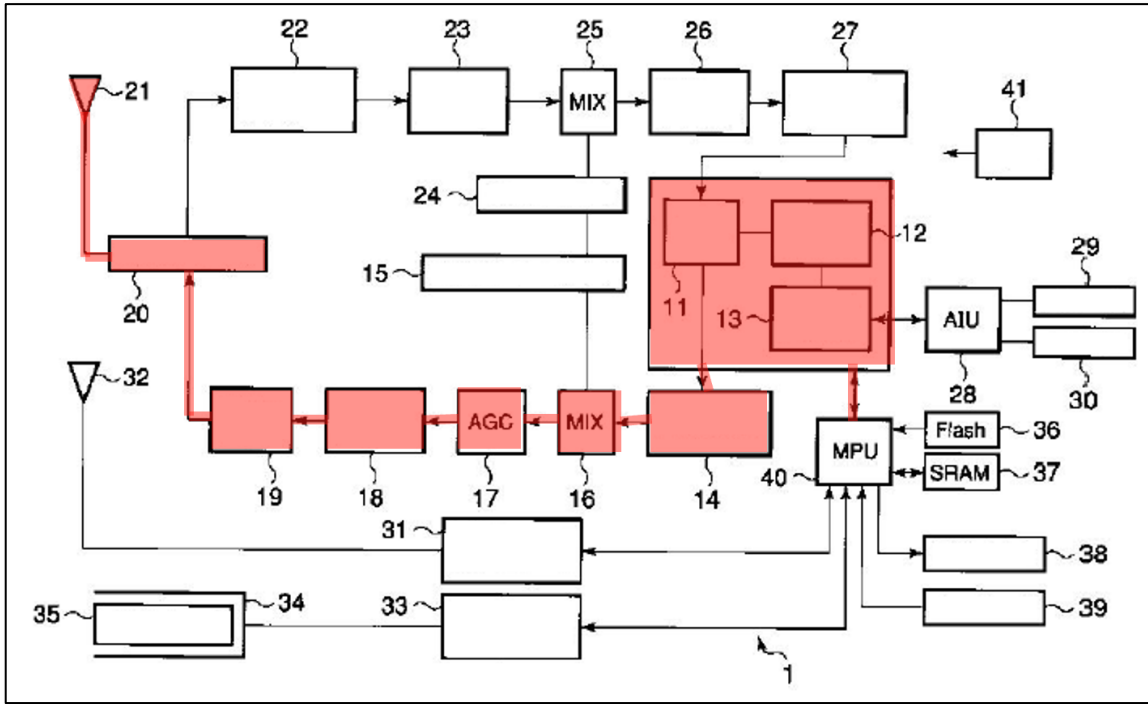
Specifically, a user inputs a command on the keyboard 39 of cell phone 1 to authorize sending an email, triggering an invariable activation command to be issued. *See* Claim [1(b)]; *Dec.*, ¶101. The user selection to send the email is processed by MPU 40 (part of the "electronic circuit" in *Suga*), which initiates the sending of the email data to an external device via either the W-LAN line or wireless phone line.

In the *Suga-Gorsuch* combination, MPU 40 constitutes a switching element that receives data on the presence or lack of a W-LAN beacon signal from the W-LAN detection circuit. *See* Claim [1(f)]. In a first state where a beacon is detected, the MPU will perform communication through the W-LAN line by routing the data through the wireless LAN controller 31 and antenna 32.



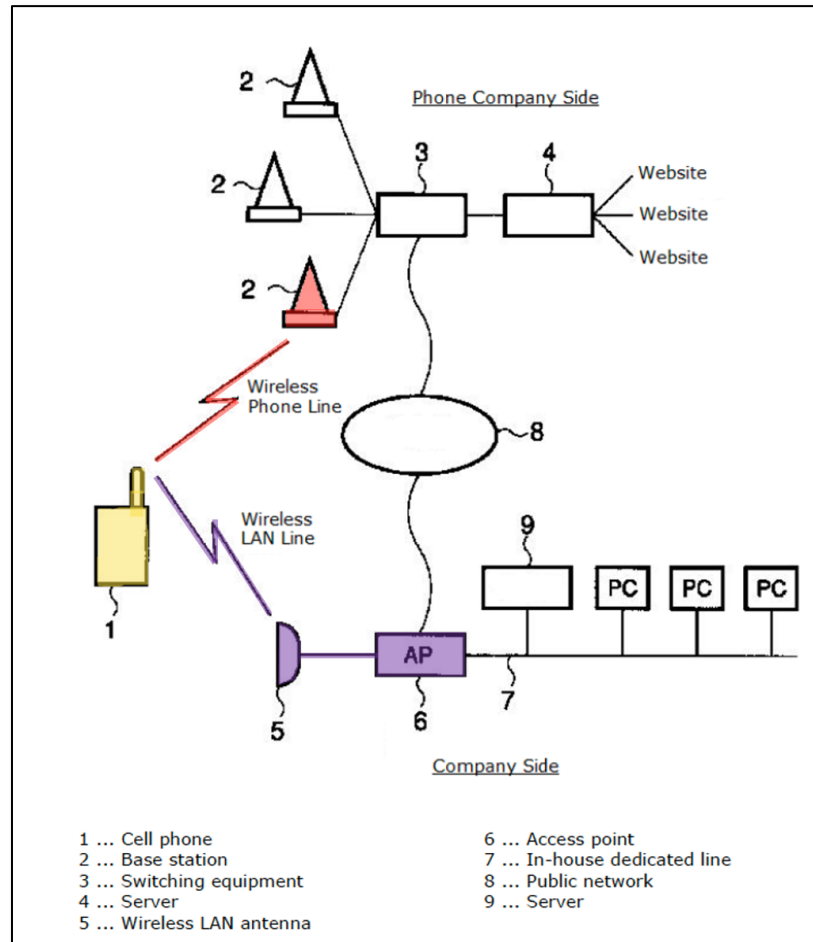
Suga, Fig. 2 (annotated); *Dec.*, ¶102.

If no beacon signal has been detected, the MPU 40 is in a second state and will send data through the wireless phone line by routing the data through the cellular transceiver as shown below.



Suga, Fig. 2 (annotated); *Dec.*, ¶103.

Suga's W-LAN communications, as shown in annotated Fig. 1 below, are conducted over the W-LAN line (in purple below) ("first communication link") between the W-LAN transceiver and the access point 6 ("first external data exchange device"). *Suga*, [0016]-[0017], Fig. 1; *see also* Claim [1(c)]. *Suga*'s cellular communications, as shown in annotated Fig. 1 below, are conducted over the wireless phone line (in red below) ("second communication link") between the cellular transceiver and base station 2 ("second external data exchange device"). *Suga*, [0016]-[0017], Fig. 1; *see also* Claim [1(d)].

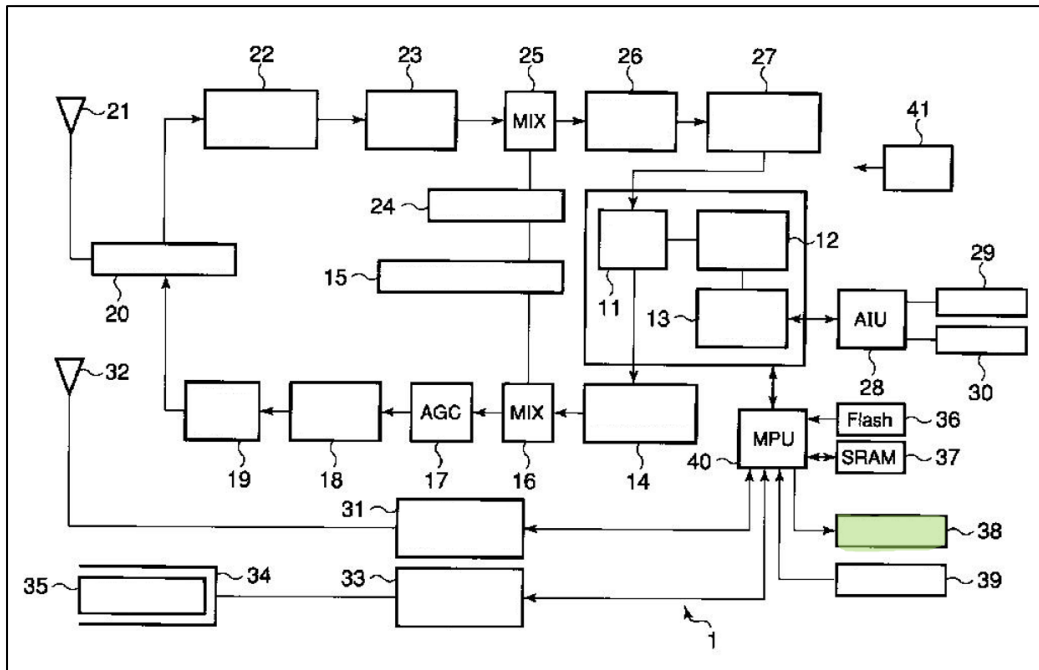


Suga, Fig. 1 (annotated excerpt); *Dec.*, ¶104.

ii. Claim 2

A cellular phone as defined in claim 1, further comprising a display screen operatively linked to said electronic circuit.

Suga discloses this limitation. *Dec.*, ¶105. For example, cell phone 1 in *Suga* has an LCD panel which “is used to display various types of information on a screen.” *Suga*, [0036]. The screen is connected to the MPU 40 (part of the “electronic circuit”).



Suga, Fig. 2 (annotated); *Dec.*, ¶105.

iii. Claim 3

A cellular phone as defined in claim 1, wherein said first data transceiver includes said cue receiver.

Suga in combination with *Gorsuch* teaches this limitation. *Dec.*, ¶¶106-107.

In the proposed combination, *Suga*'s cell phone 1 is equipped with a first data transceiver (*Suga*'s W-LAN controller 31) and the claimed cue receiver (*Gorsuch*'s W-LAN detection circuit). *See* Claim [1(e)]. A POSITA would have understood that the W-LAN detection circuit and W-LAN controller 31 are collectively a W-LAN transceiver. *Dec.*, ¶106 (explaining that both functional circuit blocks are connected in parallel between the W-LAN antenna and MPU 40 and concluding that they collectively serve the role of a W-LAN transceiver).

Alternatively, a POSITA would have been motivated to implement *Suga*'s W-LAN controller 31 and *Gorsuch*'s W-LAN detection circuit as a single integrated unit. *Dec.*, ¶107. *Gorsuch* teaches that “[t]he various components of the subscriber unit 101 may be realized in discrete devices or as an integrated unit.” *Gorsuch*, 14:10-16. A POSITA would have recognized that both cost and size benefits can be realized by integrating these components into a single unit and would have been motivated to do so. *Dec.*, ¶107.

iv. Claim 4

A cellular phone as defined in claim 1, wherein said control device is one of a manually activated button, a keypad for receiving a PIN code, a biometric parameter detector and a combination thereof.

Suga in combination with *Gorsuch* teaches this limitation. *Dec.*, ¶108. As discussed for limitation 1(b), *Suga* discloses cell phone 1 having a keyboard 39. A POSITA would have understood that a keyboard consists of various keys, each a “manually activated button[.]” *Id.*

v. Claim 5

A cellular phone as defined in claim 1, wherein said electronic circuit includes said switching element.

Suga combined with *Gorsuch* teaches this limitation. *Dec.*, ¶109. In the proposed combination, MPU 40 functions as a switching element. *See* Section III.C; Claim [1(h)]. The MPU 40 is part of the electronic circuit of the cell phone. *See* Claim [1(a)].

vi. Claim 6

A cellular phone as defined in claim 5, wherein said electronic circuit comprises a microchip, and wherein said switching element is a series of instructions programmed onto said microchip.

Suga combined with *Gorsuch* teaches this limitation. *Suga* discloses that the cell phone 1 includes MPU 40 and SRAM 37. *Suga*, [0037] A POSITA would understand that the MPU 40 constitutes a microchip and the SRAM 37 is a short term memory used by the MPU 40 to execute functions. *Suga*, [0037]; *Dec.*, ¶110. A POSITA would understand that in the proposed combination, the switching element is programmed onto the MPU 40 as a series of instructions to function as a switching element. *See* Claim [1(f)]. *Suga* contemplates switching between networks utilizing the MPU 40 and SRAM 37:

The MPU 40 controls the operations of the entire cell phone 1. For example, the MPU 40 executes in the SRAM 37 a control program that realizes the line switching controls of the present embodiment and that controls switching between the circuit for phone line connections and the wireless LAN controller 31 for wireless LAN line connections.

Suga, [0037]. Therefore, a POSITA would understand that the MPU 40 is programmed to switch between two data transmission states based on information obtained from the W-LAN detection circuit. *Dec.*, ¶110.

vii. Claim 7

A cellular phone as defined in claim 1, wherein said switching element comprises a logical circuit.

The '294 Patent provides little detail regarding the claimed “logical circuit.” At best, it suggests that implementing switching element as a “decisional logical circuit” is an alternative to implementing switching element as “instructions programmed onto [a] microchip[.]” ’294 Patent, 9:33-40. To the extent Patent Owner contends that Claim 7 captures software-driven switching (e.g., software switching that relies on logical circuits), despite the patent distinguishing software implementations from logical circuit implementations, the proposed combination satisfies this interpretation. *See* Claim [1(f)]; *Dec.*, ¶111. A POSITA would have understood that a processor such as MPU 40 consists of multiple logical circuits to run logical operations. A POSITA would understand that a software switch executed by a MPU 40 comprises a logical circuit. *Dec.*, ¶111.

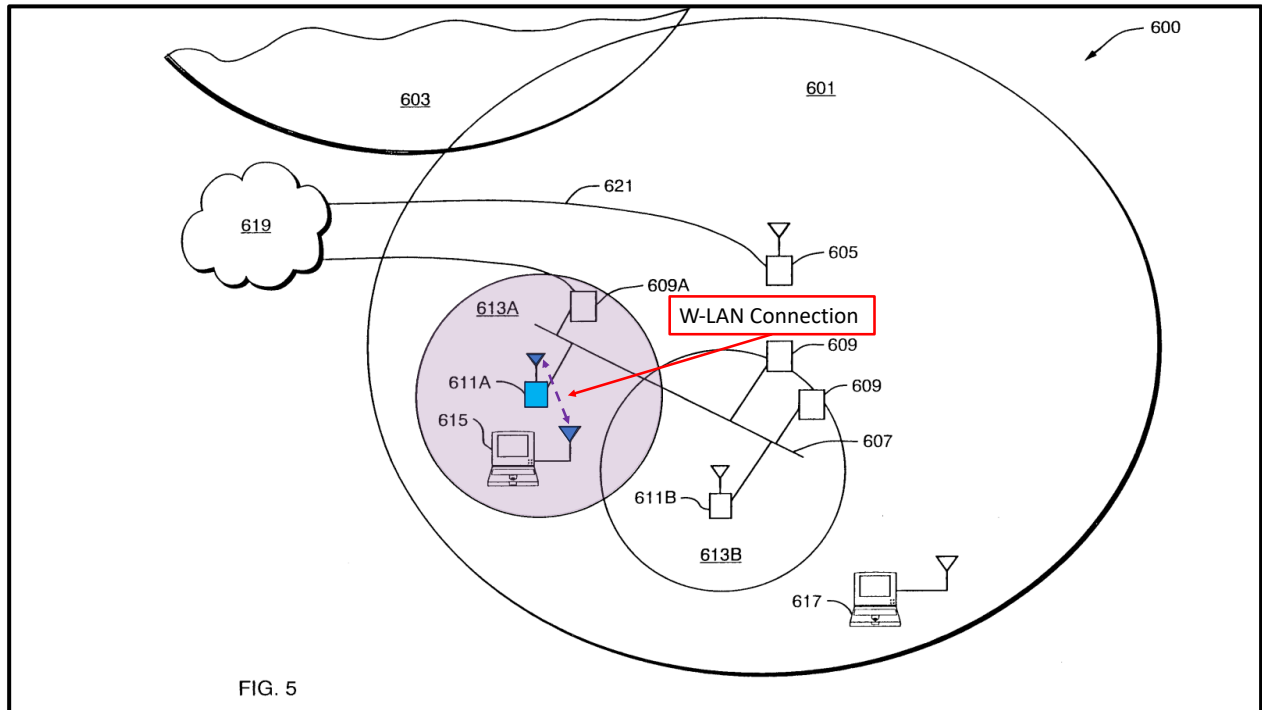
viii. Claim 8

A cellular phone as defined in claim 1, wherein said first data transceiver comprises a proximity transceiver for accomplishing a wireless data exchange with a first external data exchange device through a direct link representing said first communication link where the cellular phone is conveyed toward a close proximity of the first external data exchange device and within a range to receive the activation cue to initiate the wireless data exchange.

Suga in combination with *Gorsuch* teaches the limitations of claim 8. *Dec.*, ¶¶112-113. In the proposed combination, *Suga*’s cell phone 1 transmits data to W-

LAN access point 6. *See* Claim [1(h)]. A POSITA would have known that a W-LAN access points such as access point 6 operate with limited range. *Dec.*, ¶112.

As *Gorsuch* explains, W-LAN hubs have regions of coverage 613, that are “generally of the order of tens or hundreds of feet, which is significantly smaller than the cells 601, 603 associated with [a cellular network].” *Gorsuch*, 12:23-32, Fig. 5. Thus, a user device must be in proximity to the W-LAN hub, *i.e.*, within the coverage region 613 shown in annotated Fig. 5, below, to receive a beacon frame and subsequently transmit data with a W-LAN hub 611. A POSITA would have understood that the access point 6 in the *Suga-Gorsuch* combination would have a similarly limited range. *Dec.*, ¶113.

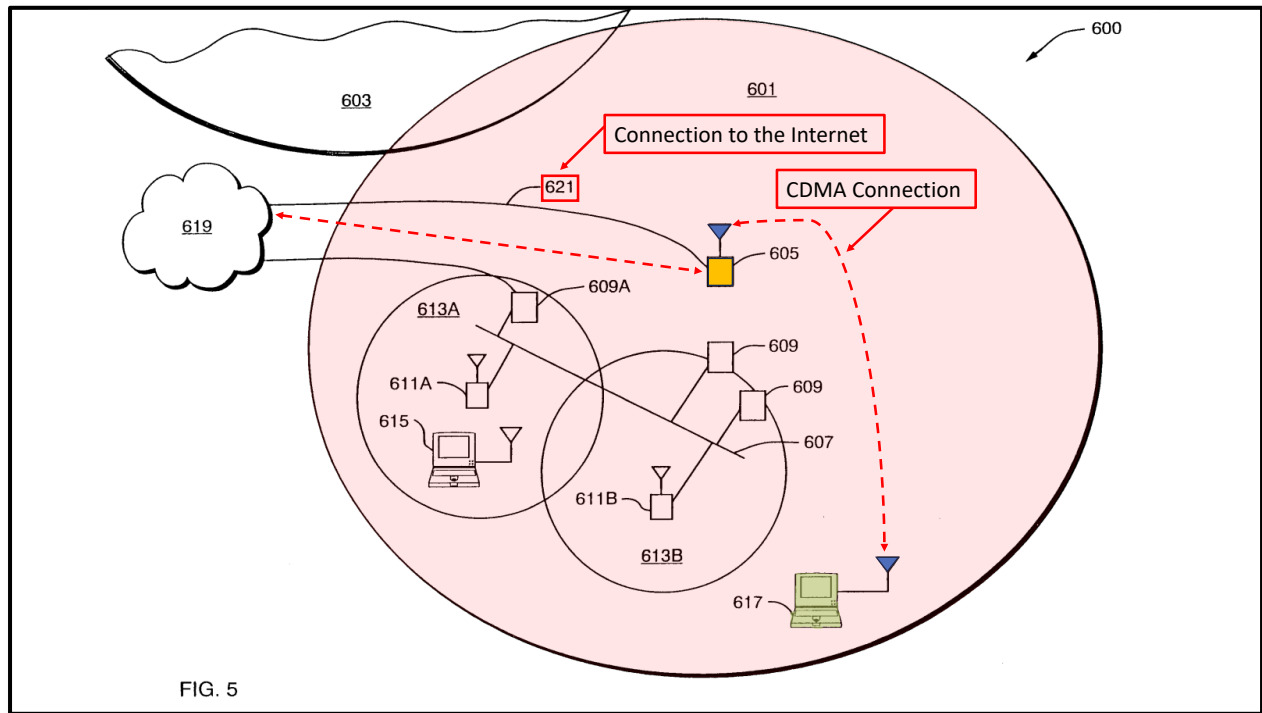


Gorsuch, Fig. 5 (annotated); *Dec.*, ¶113.

ix. Claim 9

A cellular phone as defined in claim 8, wherein said second data transceiver comprises a communication network transceiver for wireless communication through a communication network that represents said second communication link, with one of a remote portable electronic device, a remote server, a remote terminal and a combination thereof.

Suga in combination with *Gorsuch* teaches the limitations of claim 9. *Dec.*, ¶114. For example, *Suga*'s cell phone 1 communicates using "cellular mobile communication services provided by a phone company" that connects the cell phone 1 "via a wireless phone line that connects to a base station 2" ("said second communication link"), allowing the cell phone 1 to "exchange data with websites via an Internet connection service, and exchange data (such as sending and receiving email) with other information devices." *Suga*, [0016], Fig. 1; *see also* Claim [1(d)]. A POSITA would have understood that *Suga*'s base station 2 constitutes a remote terminal. *Dec.*, ¶114. The remote nature of a cellular base station is illustrated by *Gorsuch*. Namely, *Gorsuch*'s Fig. 5 below shows a device 617 connection to a cellular base station (base station 605), also a "remote terminal[.]" through a CDMA (cellular) connection, *Gorsuch*, Fig. 5; *Dec.*, ¶114. The cellular base station is itself connected to the Internet, allowing data exchange. A POSITA would have understood other cellular base stations, such as base station 2 of *Suga*, operate in a similar manner. *Dec.*, ¶114.



Gorsuch, Fig. 5 (annotated); Dec., ¶114.

x. Claim 10

[10(Pre)] A cellular phone, comprising:

See Claim [1(Pre)].

[10(a)] an electronic circuit capable of storing data therein, capable of processing data, and capable of data input and output;

See Claim [1(a)].

[10(b)] a user-triggered control device operatively linked to said electronic circuit, said user-triggered control device configured to be operated by a user via one of a button, a keypad, a tactile screen, and a biometric parameter detector, and after being operated issue an invariable activation command, with said invariable activation command being issued when said control device is triggered by the user;

See Claim [1(b)].

[10(c)] first and second data conveyance operations programmed in said electronic circuit;

Suga in combination with *Gorsuch* teaches this limitation for at least the same reasons as presented above for limitations 1(b), (c), (f), (h)(i) and (h)(ii). *See* Claims [1(b)], [1(c)], [1(f)], [1(h)]. As described above, *Suga* in combination with *Gorsuch* discloses or suggests transmitting an email over a network, where the data is transmitted either via a W-LAN network for a first data conveyance operation or a cellular network for a second data conveyance operation. *See* Claim [1(h)].

In the proposed combination, the MPU 40 of *Suga* is responsible for performing the first and second data conveyance operations. *See* Section III.C. *Suga* further discloses an electronic circuit including at least MPU 40 and memory card 35. MPU 40 “controls the operations of the entire cell phone 1.” *Suga*, [0037]. Memory card 35 “is used to store content handled by the cell phone 1.” *Suga*, [0035]. A POSITA would thus have understood that data conveyance operations are “programmed in” the memory card 35 of *Suga* and executed by MPU 40, each a part of the electronic circuit of cell phone 1. *Dec.*, ¶119.

[10(d)] a first data transceiver operatively linked to said electronic circuit, said first data transceiver being operable for data exchange over a first communication link;

See Claim [1(c)].

[10(e)] a second data transceiver operably linked to said electronic circuit, said second data transceiver being operable for data exchange over a second communication link that is distinct from said first communication link;

See Claim [1(d)].

[10(f)] a cue receiver operatively linked to said electronic circuit for receiving an activation cue from a source external to said cellular phone; and

See Claim [1(e)].

[10(g)] power means, for providing power to said cellular phone;

See Claim [1(g)].

[10(h)(i)] wherein upon said control device being selectively triggered by the user to issue said invariable activation command: if an activation cue was received by said cue receiver, said electronic circuit will accomplish said first data conveyance operation to convey data from said electronic circuit to said first data transceiver for transmitting data through said first data transceiver; and

[10(h)(ii)] wherein upon said control device being selectively triggered by the user to issue said invariable activation command: if no activation cue was received by said cue receiver, said electronic circuit will accomplish said second data conveyance operation to convey data from said electronic circuit to said second data transceiver for transmitting data through said second data transceiver.

See Claim [1(h)].

xi. Claim 11

[11(Pre)] A data exchange system comprising:

If the preamble is limiting, *Suga* in combination with *Gorsuch* discloses this limitation. *Suga* discloses transmitting emails from a cell phone 1 to external devices (See Claim [1(a)]), and both *Suga* and *Gorsuch* discloses transmitting data through different wireless networks to different external devices. See Claims [1(c)], 8, 9. A

POSITA would have understood that the *Suga-Gorsuch* combination, which transmits data from the cell phone 1 to either access point 6 or base station 2, is “a data exchange system[,]” as claimed. *Dec.*, ¶125.

[11(a)] a first data exchange device;

Suga discloses this limitation. Namely, *Suga* discloses a W-LAN access point 6 (“a first data exchange device”). *Suga*, [0022], Fig. 1; *See* Claim [1(c)].

[11(b)] a second data exchange device; and

Suga discloses this limitation. Namely, *Suga* discloses a base station 2 capable of exchanging data with cell phone 1 via a wireless phone line. *Suga*, [0018], Fig. 1; *See* Claim [1(c)].

[11(c)] a cellular phone, including:

See Claim [1(Pre)].

[11(c)(i)] an electronic circuit capable of storing data therein, capable of processing data, and capable of data input and output;

See Claim [1(a)].

[11(c)(ii)] a user-triggered control device operatively linked to said electronic circuit, said user-triggered control device configured to be operated by a user via one of a button, a keypad, a tactile screen, and a biometric parameter detector, and after being operated issue an invariable activation command, with said invariable activation command being issued when said control device is selectively triggered by the user;

See Claim [1(b)].

[11(c)(iii)] a first data transceiver operatively linked to said electronic circuit, said first data transceiver being for exchanging data between said electronic circuit and said first data exchange device through a direct link;

Suga alone or in combination with *Gorsuch* discloses this limitation for at least the reasons presented above in 1(c). See Claim [1(c)]. Additionally, a POSITA would understand that the W-LAN connection constitutes a direct link. See Claim 8.

[11(c)(iv)] a second data transceiver operatively linked to said electronic circuit, said second data transceiver being for exchanging data between said electronic circuit and said second data exchange device through a communication network that is distinct from said direct link;

See Claims [1(c)], [1(d)].

[11(c)(v)] a cue receiver operatively linked to said electronic circuit for receiving an activation cue from said first data exchange device;

See Claim [1(e)].

[11(c)(vi)] a data conveyance switching element operatively linked to said electronic circuit, said switching element being assigned a first state upon an activation cue having been received by said cue receiver, and being assigned a second state when no activation cue was received by said cue receiver; and

See Claim [1(f)].

[11(c)(vii)] power means for providing power to said cellular phone;

See Claim [1(g)].

[11(c)(viii)(A)] wherein upon said control device being selectively triggered by the user to issue said invariable activation command: if said switching element is in said first state, a first data conveyance operation will be initiated through the instrumentality of said first data transceiver for exchanging data between said electronic circuit and the first external data exchange device;

[11(c)(viii)(B)] if said switching element is in said second state, a second data conveyance operation will be initiated through the instrumentality of said second

data transceiver for exchanging data between said electronic circuit and the second external data exchange device.

See Claim [1(h)].

xii. Claim 12

[12(Pre)] *A method for data conveyance with a cellular phone of the type comprising: an electronic circuit capable of storing data therein, capable of processing data, and capable of data input and output, a user-triggered control device operatively linked to said electronic circuit, said user triggered control device configured to be operated by a user via one of a button, a keypad, a tactile screen, and a biometric parameter detector, and after being operated issue an invariable activation command, first and second data transceivers operatively linked to said electronic circuit, a cue receiver operatively linked to said electronic circuit, a data conveyance switching element operatively linked to said electronic circuit and capable of being in either one of a first and a second state, and power means for providing power to said cellular phone, said method comprising the steps of:*

See Claims [1(Pre)-1(g)].

[12(a)] *awaiting for an activation cue to be received at said cue receiver;*

Suga in combination with *Gorsuch* discloses or suggests this limitation. *Dec.*, ¶138. For example, *Gorsuch* discloses “waiting a minimum period of time” for the beacon frame (“activation cue”) to be received at W-LAN detection circuit 201 (“cue receiver”). *Gorsuch*, 13:14-22, 13:28-32; *see also* Claim [1(e)].

[12(b)] *if an activation cue is received at said cue receiver, assigning said first state to said switching element, while if no activation cue is received at said cue receiver, assigning said second state to said switching element; and*

See Claim [1(f)].

[12(c)] a user selectively triggering said control device to issue an invariable activation command whereby:”

See Claim [1(b)].

[12(d)(i)] if said switching element is in said first state, forwarding first data to said first data transceiver for initiating a data exchange operation with a first external data exchange device over a first communication link; and

[12(d)(ii)] if said switching element is in said second state, forwarding second data to said second data transceiver for initiating a data exchange operation with a second external data exchange device that is distinct from said first communication link.

Suga in combination with *Gorsuch* teaches these limitations for at least the same reasons as presented above for limitations 1(h)(i) and 1(h)(ii). See Claim [1(h)].

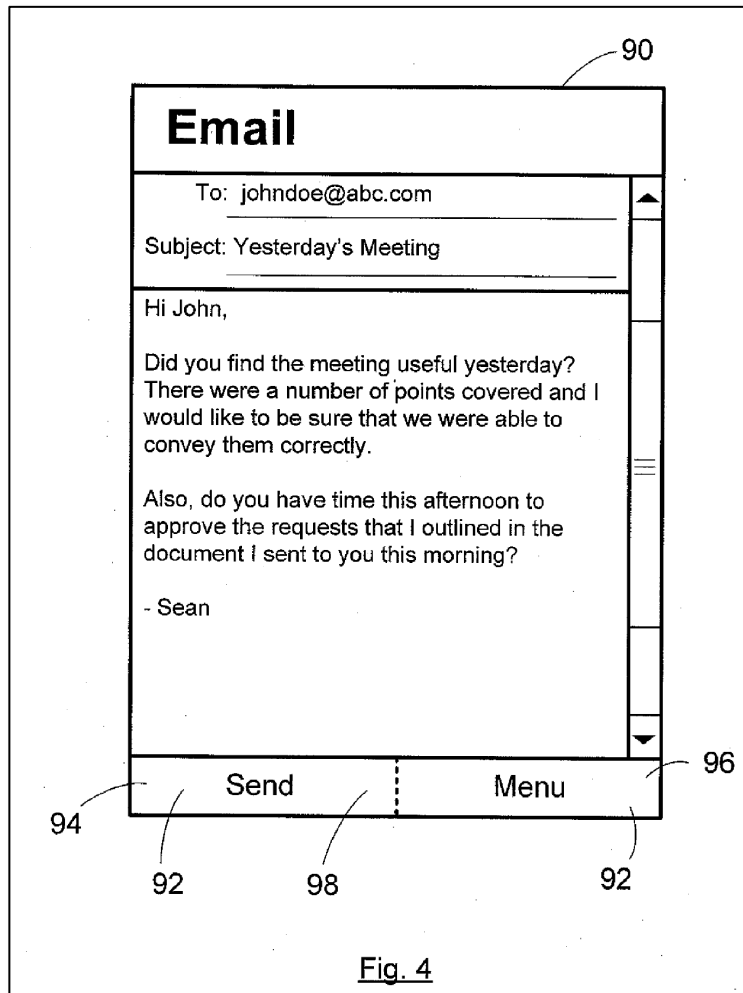
xiii. Claim 13

A method as defined in claim 12, further comprising the following step before the step of forwarding first data to said first data transceiver for initiating a data exchange operation with a first external data exchange device:

forwarding third data to and displaying said third data on a display screen provided on said cellular phone, wherein said third data is representative of the content of said first data.

Suga in combination with *Gorsuch* teaches these limitations. *Suga* teaches displaying data on the LCD panel 38. See *Suga*, [0051]-[0052]. However, *Suga* does not describe the process to initiate an email send, including how the email is displayed to the user, and how the user communicates that they wish to send the email. Although *Suga* does not describe what is displayed on the LCD panel 38 in the process of sending an email, a POSITA would have interpreted *Suga* to suggest displaying the email prior to sending. Indeed, it was well known in the art that an

email would be displayed on the screen of a cell phone and provide a user the option to send the email. *Dec.*, ¶142.



Ex. 1010, Fig. 4.

In many mobile email systems, once the user commands the cell phone to send the email, another option will be presented on the screen to the user. *Dec.*, ¶143. For example, after a user issues a command to send an email, a confirmation will appear on screen. Ex. 1010, [0002]-[0003], Fig. 5 (recognizing that after certain actions,

like sending an email, a confirmation message will appear on the screen requiring an additional confirmation to send the email).

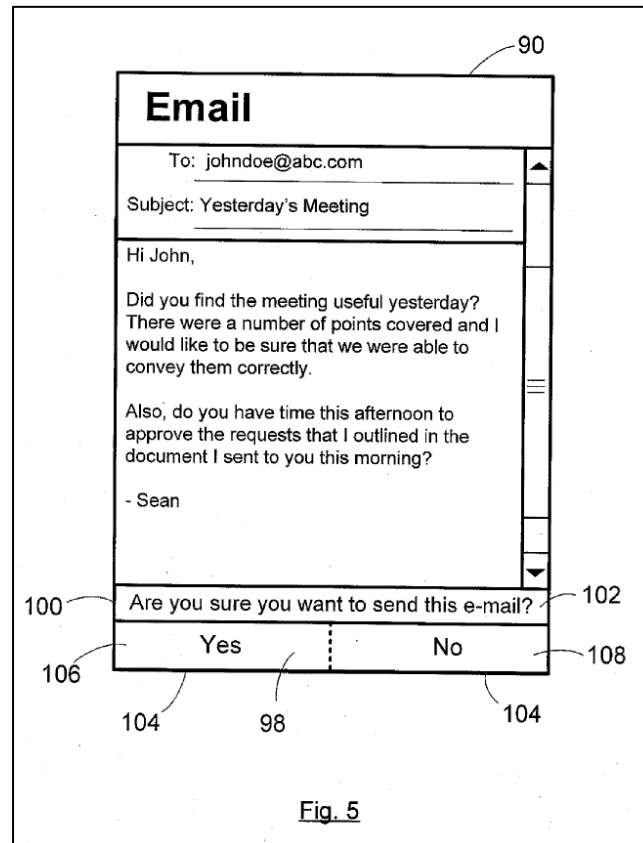


Fig. 5

Ex. 1010, Fig. 5. A POSITA would have understood that the MPU 40 would “forward[] third data to” the LCD panel 38 so that the data would be presented. *Dec.*, ¶143. This data is representative of the “first data,” as it is a confirmation message that the user desires to send the email. *Id.*

This step occurs prior to the “step of forwarding first data to said first data transceiver for initiating a data exchange operation with a first external data exchange device” as a confirmation message requires an affirmative action from a user before the cell phone will attempt to send the email. *Dec.*, ¶144.

xiv. Claim 14

A method as defined in claim 13, wherein after the step of forwarding said third data to the display screen, the method comprises the following step:

awaiting for an authorization command to be inputted through a user confirmation input device provided on said cellular phone before forwarding said first data to said first data transceiver.

Suga in combination with *Gorsuch* teaches this element. As discussed above, *Suga* does not disclose the process to initiate sending an email, but these processes were well known in the art. A POSITA would have interpreted *Suga* to teach or suggest that the email is displayed by the LCD panel until a user wishes to send the email. *Dec.*, ¶145. A POSITA would further have interpreted *Suga* to teach or suggest waiting for user authorization before sending the email. Namely, once the user desires the email to be sent, the user presses a button on the keyboard 39. It was established in the art that this can trigger a confirmation message, where the device waits for further input from a user before sending the email. *Dec.*, ¶145; *See Ex.* 1010, [0032]-[0037], Figs. 4 and 5 (describing a user pressing a key to send an email, a confirmation option message being presented alongside the email, and a user optionally confirming the user wishes to send the email). Finally, if a user confirms they wish the email to be sent, the email is forwarded by the MPU 40 to the relevant transceiver. *Dec.*, ¶145. After pressing the initial send button, the device is “awaiting for an authorization command[,],” waiting for the user to confirm they want to send the email.

This step occurs after “forwarding said third data to the display screen” since the user would be unable to review the email on the display prior to the data being presented on the device. *Dec.*, ¶146.

xv. Claim 15

A method as defined in claim 12, wherein said first and second data are identical.

Suga in combination with *Gorsuch* teaches this limitation. *Dec.*, ¶147. When the cellular phone of the *Suga-Gorsuch* combination sends data via one of two transceivers, each the first and second data is an email. (See Claims [1(h)], [12(d)]). Therefore, the first and second data are identical.

xvi. Claim 16

A method as defined in claim 12, wherein said first data transceiver is a proximity transceiver and the step of forwarding said first data to said first transceiver is for initiating a wireless data exchange operation with a proximate first external data exchange device through a direct link representing said first communication link where the cellular phone is conveyed toward a close proximity of the first external data exchange device and within a range to receive the activation cue to initiate the wireless data exchange.

See Claim 5.

xvii. Claim 17

A method as defined in claim 12, wherein said second data transceiver is a communication network transceiver and the step of forwarding said second data to said second data transceiver is for initiating a wireless data conveyance operation through a communication network representing said second communication link, with one of a remote portable electronic device, a remote server, a remote terminal and a combination thereof.

See Claim 6.

xviii. Claim 18

A method as defined in claim 12, wherein the step of selectively triggering said control device to issue the invariable activation command comprises selectively triggering one of the manually activated button, the keypad for receiving a PIN code, the biometric parameter detector and a combination thereof.

See Claim 4.

xix. Claim 19

[19(Pre)] A method for data conveyance with a cellular phone of the type comprising: an electronic circuit capable of storing data therein, capable of processing data, and capable of data input and output, a control device operatively linked to said electronic circuit, first and second data transceivers operatively linked to said electronic circuit, a cue receiver operatively linked to said electronic circuit, a data conveyance switching element operatively linked to said electronic circuit and capable of being in either one of a first and a second state, and power means for providing power to said cellular phone, said method comprising the steps of:

If the preamble is limiting, *Suga* in combination with *Gorsuch* teaches these limitations for the same reason as presented above for 1(Preamble) through 1(g) and 12(Preamble). See Claims [1(Pre)-1(g)], [12(Pre)].

[19(a)] awaiting for an activation cue to be received at said cue receiver;

See Claim [12(a)].

[19(b)] if an activation cue is received at said cue receiver, assigning said first state to said switching element, while if no activation cue is received at said cue receiver, assigning said second state to said switching element; and

See Claim [12(b)].

[19(c)] selectively triggering said control device to issue an invariable activation command whereby:

See Claim [12(c)].

[19(c)(i)] if said switching element is in said first state, forwarding first data to said first data transceiver for initiating a data exchange operation with a first external data exchange device over a first communication link; and

[19(c)(ii)] if said switching element is in said second state, forwarding second data to said second data transceiver for initiating a data exchange operation with a second external data exchange device over a second communication link that is distinct from said first communication link;

See Claim [12(d)].

[19(d)(i)] wherein said method further comprises the following steps before the step of forwarding first data to said first data transceiver for initiating a data exchange operation with a first external data exchange device: forwarding third data to and displaying said third data on a display screen provided on said cellular phone, wherein said third data is representative of the content of said first data; and

[19(d)(ii)] awaiting for an authorization command to be inputted through a user confirmation input device provided on said cellular phone before forwarding said first data to said first data transceiver; and

See Claims 13, 14.

[19(e)(i)] wherein said method further comprises the following steps before the step of forwarding second data to said second data transceiver for initiating a data exchange operation with a second external data exchange device: forwarding fourth data to and displaying said fourth data on said display screen, wherein said fourth data is representative of the content of said second data; and

[19(e)(ii)] awaiting for an authorization command to be inputted through said user confirmation input device before forwarding said second data to said second data transceiver.

Suga in combination with *Gorsuch* teaches this limitation for the same reason as presented above for 13, 14, and 15. See Claims 13-15. The *Suga-Gorsuch* combination teaches where the first and second data are identical (see Claim 15) and where the third data is representative of the content of the first data. See Claim 13.

Where the first and second data are identical, the third and fourth data would be identical, as the fourth data is representative of the second data. *Dec.*, ¶154.

xx. Claim 20

A method as defined in claim 19, wherein said control device includes said user confirmation input device.

See Claim 14.

VI. DISCRETIONARY CONSIDERATIONS

A. The Board Should Not Deny Institution Under *Fintiv*

The parallel litigation was recently transferred from the Western District of Texas to the Northern District of California. There is currently no schedule in place for the transferred case, so there is no jury trial date to guide a *Fintiv* analysis. Further, the parties have agreed to request a stay of the litigation pending resolution of *Inter Partes* Review and are currently finalizing a stipulation to memorialize this agreement. Ex. 1015, 3 (noting in a joint statement that DH will not object to Apple's planned Stipulation to Stay the parallel proceeding pending IPR). Accordingly, there is no basis on which to deny institution under *Fintiv*.

B. The *General Plastics* Factors Favor Institution

The Board set forth seven factors it considers in determining whether to exercise discretion to deny a petition under § 314(a). *General Plastic Industrial Co., Ltd. v. Canon Kabushiki Kaisha*, IPR2016-01357, Paper 19 at 15-19 (September 6, 2017) (precedential). Here, these factors weigh heavily in favor of institution.

There are two prior PTAB challenges to the '294 Patent—*Samsung Electronics Co., Ltd. v. G. Holdings, Ltd.*, IPR2021-00884 (“the Samsung IPR”) and *Google LLC v. DH International Ltd.*, IPR2024-01322 (“the Google IPR”). With respect to the first five *General Plastic* factors, it weighs against a discretionary denial that Apple is not a party to any prior IPR, that this is Apple’s first IPR challenge to the '294 Patent, and that Apple did not coordinate with Samsung or Google in any way. *See Unified Patents, Inc. v. Certified Measurement, LLC*, IPR2018-00548, Paper No. 7, 7-8 (Sep. 5, 2018) (finding that it “weighs especially heavily against a discretionary denial” when the Petitioner is not a party to any prior proceeding, and it is Petitioner’s first challenge to the challenged Patent); *see also Foursquare Labs, Inc. v. Mimzi LLC*, IPR2019-01287, Paper 11 (Jan. 14, 2020) (petitioners individually sued with no evidence of coordination weighed against denying institution); *see Alcatel-Lucent USA Inc. v. Oyster Optics, LLC*, Case IPR2017-02146, slip op. at 12 (PTAB Feb. 28, 2018) (Paper 12) (“Once resolution of factor 1 indicates that Petitioner had not previously filed a petition against the same patent, factors 2–5 bear little relevance.”).

Relevant to factor (3), the Board in *General Plastic* discussed the “potential for abuse” due to “[m]ultiple, staggered petitions challenging the same patent and same claims[.]” *Gen. Plastic*, IPR2016-01357, Paper 19 at 17. The Board explained, “[t]he absence of any restrictions on follow-on petitions would allow petitioners the

opportunity to strategically stage their prior art and arguments in multiple petitions, using our decisions as a roadmap, until a ground is found that results in the grant of review.” *Id.* Such roadmap concerns do not exist here. Importantly, the Samsung IPR was not denied institution. Instead, it was terminated pre-institution pursuant to settlement. Further, the Preliminary Response filed in the Samsung IPR addressed only *Fintiv*. There was no discussion of the merits, so Apple could not have used the Samsung POPR as a guide to reframe the Samsung prior art. Similarly, no substantive papers have been filed in the Google IPR since the petition was submitted, so no roadmap concerns are implicated.

As to the sixth factor, the instant petition respects the finite resources of the Board. The Samsung IPR was terminated pursuant to settlement prior to institution. To the extent the Board assigned to the Samsung IPR had already begun reviewing the challenge pre-termination, the instant Petition provides it an opportunity to pick up where it left off. The Google IPR advances different prior art than the current petition, so the grounds are not duplicative.

Regarding the seventh factor, there is no readily identifiable roadblock for the Board to issue a final determination within the statutory one-year limit.

Accordingly, the Board should reach the merits of this petition, and institute review of all Challenged Claims.

VII. CONCLUSION

For the foregoing reasons, Petitioner respectfully requests *inter partes* review of Claims 1-20 of the '294 Patent.

Respectfully submitted,

By: /s/ Paul R. Hart
Paul R. Hart, Reg. No. 59,646

COUNSEL FOR PETITIONER

VIII. MANDATORY NOTICES UNDER 37 C.F.R. § 42.8(A)(1)

A. Real Party-In-Interest

Petitioner is the real party-in-interest. 37 C.F.R. § 42.8(b)(1).

B. Related Matters

Pursuant to 37 C.F.R. § 42.8(b)(2), Petitioner is aware of the following matters involving the '294 Patent or related patents:

- *DH International Ltd v. Apple Inc.*, No. 1:23-cv-01114 (W.D. Tex.), transferred to Northern District of California (3:24-cv-06185)
- *DH International Ltd v. Google LLC*, No. 1:23-cv-01116 (W.D. Tex.), dismissed
- *Google LLC v. DH International Ltd.*, IPR2024-01322 (PTAB)
- *Samsung Electronics Co., Ltd. v. G. Holdings, Ltd.*, IPR2021-00884 (PTAB), terminated pre-institution pursuant to settlement
- *Google LLC v. DH International Ltd.*, IPR2024-01321 (PTAB), challenging related U.S. Patent No. 7,628,333
- *Samsung Electronics Co., Ltd. v. G. Holdings, Ltd.*, IPR2021-00885 (PTAB), challenging related U.S. Patent No. 7,628,333, terminated pre-institution pursuant to settlement
- *G. Holdings Ltd. v. Samsung Electronics Co., Ltd. et al*, No. 2:20-cv-00342 (E.D. Tex.), dismissed

C. Lead and Back-Up Counsel

Petitioner provides the following designation and service information for lead and back-up counsel. 37 C.F.R. § 42.8(b)(3) and (b)(4).

Lead Counsel	Back-Up Counsel
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APPENDIX OF EXHIBITS

Exhibit 1001	U.S. Patent No. 9,022,294 (“the ’294 Patent”)
Exhibit 1002	U.S. App. No. 10/552,912
Exhibit 1003	File History for U.S. Patent No. 9,022,294
Exhibit 1004	Declaration of Dr. Michael Buehrer (“ <i>Dec.</i> ”)
Exhibit 1005	Japanese Patent No. 2003110751 to Suga (“ <i>Suga</i> ”)
Exhibit 1006	International Patent Application Publication No. WO 2001/22662 to Gorsuch (“ <i>Gorsuch</i> ”)
Exhibit 1007	U.S. Patent No. 8,792,454 to Taniuchi et al. (“Taniuchi”)
Exhibit 1008	U.S. Patent No. 8,165,559 to Klesper et al. (“ <i>Klesper</i> ”)
Exhibit 1009	Nokia Corporation, Nokia 6136 User Guide, 9252766 Issue 2, copyright 2007
Exhibit 1010	U.S. Patent Publication No. 2007/0277120 to Wilson et al.
Exhibit 1011	Feng Zhang, <i>Vertical Handoff Between 3G Networks and WLANS</i> , copyright 2005
Exhibit 1012	Al Sacco, The Eight Hottest Smartphones of 2008, computerworld.com, https://www.computerworld.com/article/1367892/the-eight-hottest-smartphones-of-2008.html
Exhibit 1013	U.S. Patent No. 7,660,854 to Sorotzkin (“ <i>Sorotzkin</i> ”)
Exhibit 1014	U.S. Patent No. 6,671,718 to Meister et al. (“ <i>Meister</i> ”)
Exhibit 1015	<i>DH International Ltd. v. Apple Inc.</i> , 3:24-cv-06185 (N.D. Cal.), Dkt. 83, Joint Initial Case Management Statement
Exhibit 1016	Nokia N93 User Guide

CERTIFICATION OF WORD COUNT

The undersigned certifies pursuant to 37 C.F.R. § 42.24 that the foregoing Petition for *Inter Partes* Review, excluding any table of contents, mandatory notices under 37 C.F.R. § 42.8, certificates of service or word count, or appendix of exhibits, contains 13,968 words according to the word-processing program used to prepare this document (Microsoft Word).

Dated: December 3, 2024

By: /s/ Paul R. Hart
Paul R. Hart, Reg. No. 59,646

COUNSEL FOR PETITIONER

CERTIFICATE OF SERVICE ON PATENT OWNER
UNDER 37 C.F.R. § 42.105

Pursuant to 37 C.F.R. §§ 42.6(e) and 42.105, the undersigned certifies that on December 3, 2024, a complete and entire copy of this Petition for *Inter Partes* Review including exhibits was provided via Federal Express to the Patent Owner by serving the correspondence address of record for the '294 Patent as listed on PAIR:

Ward Law Office LLC
120 1/2 S. Washington Street, Suite 207
Tiffin, OH 44883

Further, a courtesy copy of this Petition for *Inter Partes* Review was sent via email to Patent Owner's litigation counsel:

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