

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner

v.

DH INTERNATIONAL LTD.,
Patent Owner

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

SUPPLEMENTAL DECLARATION OF DR. R. MICHAEL BUEHRER

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I. INTRODUCTION

1. My name is R. Michael Buehrer, and I am over 21 years of age and otherwise competent to make this Declaration. I make this Declaration based on facts and matters within my own knowledge and on information provided to me by others.

2. I submitted a declaration (Ex. 1004) in support of Petitioner's Petition for *Inter Partes* Review of U.S. Patent Nos. 9,022,294 (the "Challenged Patent"). I understand the PTAB instituted the requested review. I have been asked to address a few additional issues raised by Patent Owner ("PO") in Patent Owner's Response ("POR") dated September 17, 2025, and the expert declaration of Mr. Safwan Zaheer (Ex. 2001). All opinions expressed in my original declaration (Ex. 1004) remain the same.

3. As part of my work and in forming my opinions in connection with this proceeding, I have reviewed the following materials. For any prior art listed below, it is my opinion persons of ordinary skill in my field would reasonably rely upon such prior art in forming opinions regarding the subject matter of this proceeding:

- Materials relied on for my previous Declaration
- Patent Owner Response (Paper 15)
- Declaration of Mr. Safwan Zaheer (Ex. 2001)
- Transcript of Deposition of Mr. Safwan Zaheer (Ex. 1019)
- Excerpt from McGraw-Hill Illustrated Telecom Dictionary (Ex. 1022)

II. SUPPLEMENTAL OPINIONS

A. The '294 Patent is not limited to devices or methods that facilitate secure or financial transactions.

4. The '294 Patent broadly applies to exchanging any data using different communication paths. *See* Ex. 1001 ('294 Patent), 16:7-8 (“One way to carry out the present invention is within a financial transaction.”), 1:16-18 (“This invention relates to a portable electronic device capable of alternate data conveyance operations responsive to an invariable activation command.”), 11:64-65 (“Portable electronic device 10 could also have a plethora of other alternate purposes.”). Notably, none of “data security,” “secure transactions,” “financial transaction,” or any other similar terms appear in the Claims, Title, Abstract, or Field of the Invention of the '294 Patent.

5. The '294 Patent's sole reference to “security” merely suggests that the mobile device may optionally be equipped with “security software, as known in the art.” Ex. 1001 ('294 Patent), 16:52-57. The PIN and biometric examples are disclosed only as optional triggering mechanisms for data conveyance. The patent expressly teaches that triggering may be performed using a simple “button,” without any security function. Specifically, the patent proposes an embodiment of triggering a data conveyance that relies solely on a “single button” and separately proposes an embodiment in which a data conveyance is triggered by both pressing a button while concurrently scanning one's fingerprint. Ex. 1001 ('294 Patent), 7:4-8, 10:52-56

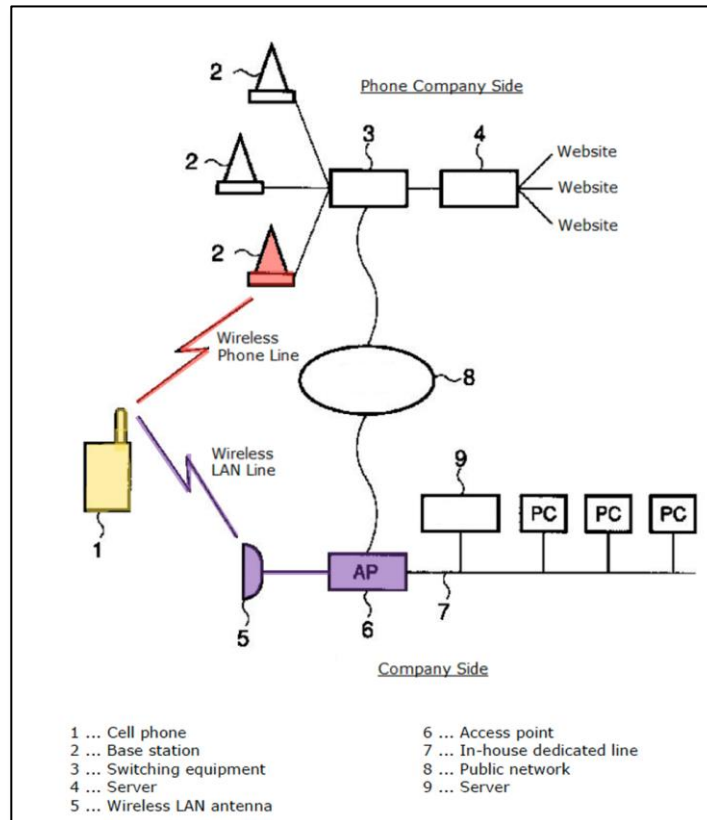
(“triggering of control device 12 may comprise a single step, such as pressing a single button, or more than one step, such as pressing a button and concurrently applying one’s fingerprint on a fingerprint scanner”). Consistent with the use of a button to trigger data conveyances, standard mechano-electrical buttons were (and are) routinely used in consumer mobile devices for non-secure actions such as initiating calls, waking the device, selecting menu options, or confirming user actions. Accordingly, a POSITA would not interpret the patent’s reference to a “control device” as requiring a security-based operation.

B. Suga’s Access Point and Base Station are “Data Exchange Devices”

6. I understand that PO asserts that data exchange device means “a device or node on a network or a device that is directly linked without a network connection,” and that external data exchange device means “a device with a transceiver.” Paper 15 (Patent Owner Response), 11.

7. It is my opinion that Suga’s network components as mapped to the data exchange device claim elements in the Petition and in my original declaration—specifically, the wireless LAN access point and the cellular base station—meet PO’s own proposed interpretations of “data exchange device” and “external data exchange device.” Paper 1 (Petition), 39-40; Ex. 1004 (Buehrer Declaration) ¶86; Paper 15 (Patent Owner Response), 11. Suga discloses a cellular phone configured to perform data transmissions over both (1) a wireless LAN (“W-LAN”) connection and (2) a

wireless telephone (“cellular”) connection. Paper 1 (Petition), 11-12. Figure 1 of Suga shows the cellular phone 1 communicating with a W-LAN access point 6 via wireless LAN antenna 5 and separately communicating with a base station 2 over a wireless phone line.



Paper 1 (Petition), 39-40; Ex. 1004 (Buehrer Declaration) ¶86 (citing Suga, Fig. 1 (annotated)). The Petition and my declaration mapped Suga’s W-LAN access point 6 and base station 2 as the claimed external data exchange devices. Paper 1 (Petition), 39-40; Ex. 1004 (Buehrer Declaration), ¶86.

8. A POSITA would have understood that both Suga’s W-LAN access point and its cellular base station qualify as “devices or nodes on a network” under

PO's proposed construction. Paper 1 (Petition), 39-40; Ex. 1004 (Buehrer Declaration) ¶86; Paper 15 (Patent Owner Response), 11. In wireless communication systems, access points, routers, and base stations are universally recognized as network nodes. That is, they are hardware components that originate, receive, forward, or otherwise process data to facilitate communication into and/or across networks. The Telecom Dictionary defines "node" broadly to capture access devices and other network infrastructure used to "route traffic through the network," which cleanly captures both Suga's W-LAN access point and cellular base station. Ex. 1022 (Excerpts of McGraw Hill Illustrated Telecom Dictionary (2nd ed., 2000)); *see also id.*, ("In general, it is common for a node to be used as a reference for any device that is connected to a communications network . . . includ[ing] routers, bridges, terminals, computers, hubs, controllers, and switches.").

9. A POSITA would also understand that Suga's access point and base station devices necessarily "exchange data" with the mobile device. For example, consistent with IEEE 802.11, Suga's access point transmits beacon frames that are received by Gorsuch's WLAN detection circuit 201, allowing the device to determine WLAN availability. Paper 1, 45; Ex. 1004 ¶93. Likewise, once WLAN availability is confirmed, Suga's controller selects the WLAN path and the mobile phone transmits the user's email data, completing the two-direction communication sequence. Paper 1, 49-50.

10. For these reasons, a POSITA would have understood that a “data exchange device” or “external data exchange device,” even under PO’s construction, is not limited to an endpoint device. Paper 1 (Petition), 39-40; Ex. 1004 (Buehrer Declaration) ¶86; Paper 15 (Patent Owner Response), 11. Rather, it encompasses any network node that engages in the exchange of data, including an access point, a base station, or an endpoint device.

C. Suga-Gorsuch Disclose Exchanging Data Via a “Direct Link” Within a “Close Proximity”

11. Claims 8 and 16 recite exchanging data between a cellular phone and “a first external data exchange device through a direct link representing said first communication link[,]” where the cellular phone is within “close proximity” of the first external data exchange device. Ex. 1001 (’294 Patent), Claims 8, 16. Claim 11 recites “exchanging data between said electronic circuit and said first data exchange device through a direct link[.]” *Id.*, Claim 11.

12. In the context of the ’294 Patent, “direct link” distinguishes the short-range, single-hop connection between the portable device and a first external data exchange device from communication with a “remote” second device that requires multiple network hops. See Ex. 1001 (’294 Patent), 13:12-24 (explaining that data may be conveyed “through a direct link” to an external data exchange device, contrasted with conveying data to a “remote” second external device). It does not prohibit the first device from being part of a broader network. Indeed, the ’294 Patent

connects the concepts of “direct link” with proximity in a number of ways. For example, Claim 8 is the first instance of “direct link” in the claims. There, the claim specifies that the “first data transceiver comprises a proximity transceiver for accomplishing a wireless data exchange with a first external data exchange device through a direct link[.]” *Id.*, Claim 8. The specification repeatedly reinforces this connection between “direct link” and proximity, distinguishing direct links from communications with remotely located devices/nodes. *See, e.g., id.*, 13:12-24 (“[T]he invention may be used to control ***data conveyance within a resident portable electronic device in a transaction wherein data will either be conveyed towards***¹ a first portable device transceiver to be communicated to ***an external data exchange device for example through a direct link, or towards*** a second portable device transceiver for downloading information towards a second external data exchange device such as ***a server or a remote portable electronic device***. Herein, the expressions “***resident***” and “***remote***” are used to differentiate two portable electronic devices wherein one is remote relative to the so-called resident portable electronic device.”), 13:33-36 (“portable electronic device 102 will communicate with data exchange device 104 ***through a direct link***, for example ***in a proximity transaction wherein devices 102 and 104 are physically close to one another***”), 15:57-63 (“The step of forwarding first data to first transceiver 120 is then for

¹ All emphases added unless indicated otherwise.

initiating a wireless ***data exchange operation with a proximate first external data exchange device 104 through a direct link***. In such a case, first data exchange device 104 may also be a proximity device ***allowing data exchange within a limited range through a corresponding direct link.***”). I discussed this proximity focus of the patent’s treatment of “direct link” at length in my opening declaration. See Ex. 1004 (Buehrer Declaration), ¶¶112-113.

13. As set forth above in ¶¶6-10, PO’s proposed construction of “data exchange device” and “external data exchange device” encompasses any network node that engages in the exchange of data, including an access point, a base station, or an endpoint device. A POSITA would have understood “direct link” in the context of the ’294 Patent (and in light of PO’s proposed construction of “data exchange device” and “external data exchange device”) captures the type of short-range link formed between a handset and a WLAN access point. This is true for multiple reasons. First, as set forth at length in my initial declaration, the connection between a handset and WLAN access point (e.g., Suga’s W-LAN access point 6) is a proximate connection, distinguished from other connections in which the handset and data exchange device are remotely located. See Ex. 1004 (Buehrer Declaration), ¶¶112-113 (explaining that W-LAN communications operate in “smaller coverage areas” and are “limited in range” such that the user device “must be in proximity to the W-LAN” access point). Second, the connection between a handset and WLAN

access point is a single-hop communication with no intervening communication infrastructure. Put plainly, not only are the handset and WLAN access point proximate to one another (the patent’s focus), but they are directly connected without reliance on intermediary devices or infrastructure. This is true even though the access point is itself connected to a wider network and other devices/nodes that may be connected to the same WLAN. This is, the existence of upstream network infrastructure does not alter the fact that the handset’s data is exchanged with the WLAN access point via a short-range, single-hop wireless link. This understanding is consistent with Suga’s disclosure (Ex. 1005 (Suga), Fig. 1; [0016]) and with Gorsuch’s discussion of WLAN operation (Ex. 1004 (Buehrer Declaration), ¶86), both of which depict a direct wireless connection between a terminal and an access point as the mechanism for exchanging user data.

14. Accordingly, the proposed Suga–Gorsuch combination satisfies the “direct link” limitation. Suga’s WLAN connection is a short-range, single-hop communication between the cellular phone and the proximate WLAN access point (i.e., the first external data exchange device), over which data is exchanged without intermediary routing hardware. Paper 1 (Petition), 39 (citing Ex. 1004 (Buehrer), ¶86).

III. CONCLUSIONS

15. I declare that all statements made herein of my knowledge are true, and that all statements made on information and belief are believed to be true, and that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Date: December 10, 2025

By: 
R. Michael Buehrer