

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,

Petitioner,

v.

DH INTERNATIONAL LTD.,

Patent Owner.

PTAB Case No. IPR2024-01322

Patent No. 9,022,294

PATENT OWNER'S NOTICE OF APPEAL

August 10, 2026

Notice is provided pursuant to 37 C.F.R. § 90.2(a) and 35 U.S.C. §§ 141(c), 142, and 319, that Patent Owner DH International Ltd., appeals to the United States Court of Appeals for the Federal Circuit from the Final Written Decision of the Patent Trial and Appeal Board (“PTAB”) in IPR2024-01322 entered on February 10, 2026 (Paper No. 33) (Exhibit A), and the Order Denying Director’s Review entered on June 17, 2026 (Paper No. 36) (Exhibit B). For the limited purpose of providing the Director with the information specified in 37 C.F.R. § 90.2(a)(3)(ii), Patent Owner indicates that the issues on appeal may include but are not limited to whether the PTAB erred in finding that the Petitioner has shown by a preponderance of the evidence that Claims 1-20 are unpatentable.

Simultaneous with this submission and in accordance with 37 C.F.R. § 90.2(a), a copy of this Notice of Appeal is being filed with the Director of the United States Patent and Trademark Office, filed with the PTAB, and served upon Petitioner in accordance with 37 C.F.R. § 42.6(e). In addition, this Notice of Appeal, along with the required docketing fees, is being filed with the Clerk’s Office for the United States Court of Appeals for the Federal Circuit in accordance with Fed. Cir. R. 15(a)(1).

August 10, 2026

Respectfully submitted,

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CERTIFICATE OF FILING

The undersigned hereby certifies that, in addition to being electronically filed through E2E, a true and correct copy of the above-captioned PATENT OWNER'S NOTICE OF APPEAL is being filed with the Director of the U.S. Patent and Trademark Office, via Priority Mail, on August 10, 2026, at the following address:

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The undersigned also hereby certifies that a true and correct copy of the above-captioned PATENT OWNER'S NOTICE OF APPEAL is being filed and the filing fee paid via electronic filing system, CM/ECF, with the Clerk's Office of the U.S. Court of Appeals for the Federal Circuit on August 10, 2026.

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6(e), the undersigned certifies that Patent Owner DH International Ltd. served this **PATENT OWNER'S NOTICE OF APPEAL** on the counsel of record for Petitioner Google LLC by filing this document through the P-TACTS, as well as delivering a copy via electronic mail to the following:

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Exhibit *A*

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,
Petitioner,

v.

DH INTERNATIONAL LTD.,
Patent Owner.

IPR2024-01322
Patent 9,022,294 B2

Before KARL D. EASTHOM, BRIAN P. MURPHY, and
MARY C. HOFFMAN, *Administrative Patent Judges*.

MURPHY, *Administrative Patent Judge*.

DECISION
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)
Denying Patent Owner's Motion to Exclude
37 C.F.R. § 42.6(c)

I. INTRODUCTION

A. Background and Summary

Google LLC (“Petitioner”) filed a Petition pursuant to 35 U.S.C. § 311 requesting institution of *inter partes* review of claims 1–20 of U.S. Patent No. 9,022,294 B2 (Ex. 1001, “the ’294 patent”). Paper 1 (“Pet.”). DH International (“Patent Owner”) timely filed a Patent Owner Preliminary Response. Paper 7 (“Prelim. Resp.”). Pursuant to authorization from the Board, Petitioner filed a Pre-Institution Reply to Patent Owner’s Preliminary Response addressing certain arguments by Patent Owner (Paper 8), and Patent Owner filed a Pre-Institution Sur-Reply (Paper 9). On March 24, 2025, we instituted *inter partes* review of claims 1–20 pursuant to 35 U.S.C. § 314 based on the challenges set forth in the Petition. Paper 10.

Subsequent to institution, Patent Owner filed a Response. Paper 17, (“Resp.”). Petitioner filed a Reply, and Patent Owner filed a Sur-Reply. Paper 19 (“Reply”); Paper 24 (“Sur-Reply”). Patent Owner also filed a Motion to Exclude: (i) Petitioner’s claim constructions, (ii) Paragraphs 1–52, 58–61, 63, 65, 69–71, 76, 79–80, 89, 113, 127, and 194 of the Lipoff Declaration (Ex. 1003), (iii) the Lipoff Reply Declaration (Ex. 1014), particularly including paragraphs 1–26, 28–31, 36–40, 57–83 and 85–89, (iv) all of Mr. Lipoff’s expert opinions, particularly including his opinions regarding the BLUETOOTH™ (hereafter, “Bluetooth”) Specification (Ex. 2003) contained in Mr. Lipoff’s Reply Declaration, and (v) all arguments in Petitioner’s Reply that rely on Mr. Lipoff’s Expert Reply Declaration. Paper 28 (“Motion” or “Mot.”). Petitioner filed an Opposition to Patent Owner’s Motion, and Patent Owner filed a Reply. Paper 29 (“Mot. Opp.”); Paper 30 (“Mot. Reply”).

We have jurisdiction under 35 U.S.C. § 6. This is a Final Written Decision under 35 U.S.C. § 318(a) as to the patentability of claims 1–20 of the '294 patent. We conclude Petitioner has demonstrated by a preponderance of the evidence that claims 1–20 of the '294 patent are unpatentable.

B. Real Parties in Interest and Related Matters

Petitioner, Google LLC, identifies itself as the real party in interest. Pet. 77. Petitioner also notes that “Google LLC is a subsidiary of XXVI Holdings Inc., which is a subsidiary of Alphabet Inc.,” and “XXVI Holdings Inc. and Alphabet Inc. are not real parties-in-interest to this proceeding.” *Id.* n.9. Patent Owner, DH International Ltd., identifies itself as the real party in interest. Prelim. Resp. 1.

Petitioner identifies the following related matters:

DH International Ltd. v. Google LLC, No. 1:23-cv-01116 (W.D. Tex., Sept. 15, 2023) (voluntarily dismissed Dec. 15, 2023); and

DH International Ltd. v. Apple Inc., No. 1:23-cv-01114 (W.D. Tex., Sept. 15, 2023).

Pet. 77–78. Petitioner notes that “G Holdings Ltd. previously asserted the '294 patent in *G Holdings Ltd., v. Samsung Electronics Co., Ltd.*, No. 2:20-cv-342-JRG (E.D. Tex., Oct. 29, 2020) (voluntarily dismissed Aug. 19, 2021).” *Id.* at 78 n.10.

Patent Owner identifies *DH International Ltd. v. Apple.*, N.D. CA, No. 3:23-cv-06185-TLT as involving the '294 Patent. Paper 4, 2. Patent Owner also identifies *Google LLC v. DH International Ltd.* IPR2024-01321, filed September 11, 2024, challenging claims 1–13 of U.S. Patent No. 7,628,333 B2 (“the '333 patent”), as a related matter. Prelim. Resp. 1; Paper 4, 2. Patent Owner further identifies the '294 patent as issuing from a

continuation-in-part application claiming priority to the '333 patent. Prelim. Resp. 1.

C. The '294 Patent

The '294 patent is directed to a portable electronic device, particularly a cellular phone (“cell phone”), that exchanges data with other devices by switching between alternate data conveyance operations. Ex. 1001, 9:28–49, 13:12–21, 13:25–32. The cell phone includes a “*data conveyance switching element*” that switches between a “*first state*” and a “*second state*” in response to whether or not an “*activation cue*” is received by the cell phone. *Id.* at 9:28–41, 13:50–58. For example, if a cell phone receives an activation cue from a nearby debit machine, receipt of the activation cue sets the switching element to the first state. *Id.* at 13:55–58 (switching element in “a first state when portable electronic device 102 has received the activation cue”), 15:4–6 (“If an activation cue is received . . . the switching element . . . will be assigned its first state.”).¹ The cell phone user can then trigger a data exchange with the debit machine over a “*first communication link*.” *Id.* at 9:1–6 (“communication link can be established”); 11:19–27 (debit machine transaction), 13:33–36 (“direct link”). If the cell phone does not receive an activation cue, the switching element is in the second state (default state) and the cell phone user can trigger a data exchange with another device, e.g., a remote cell phone, over a “*second communication link*” (e.g., a network). *Id.* at 9:42–49, 13:36–41, 13:55–58, 15:8–13, 15:24–28, 16:47–57.

Figure 4 in the '294 patent is exemplary and reproduced below:

¹ Quotations from patent documents may omit or de-emphasize bold numerals.

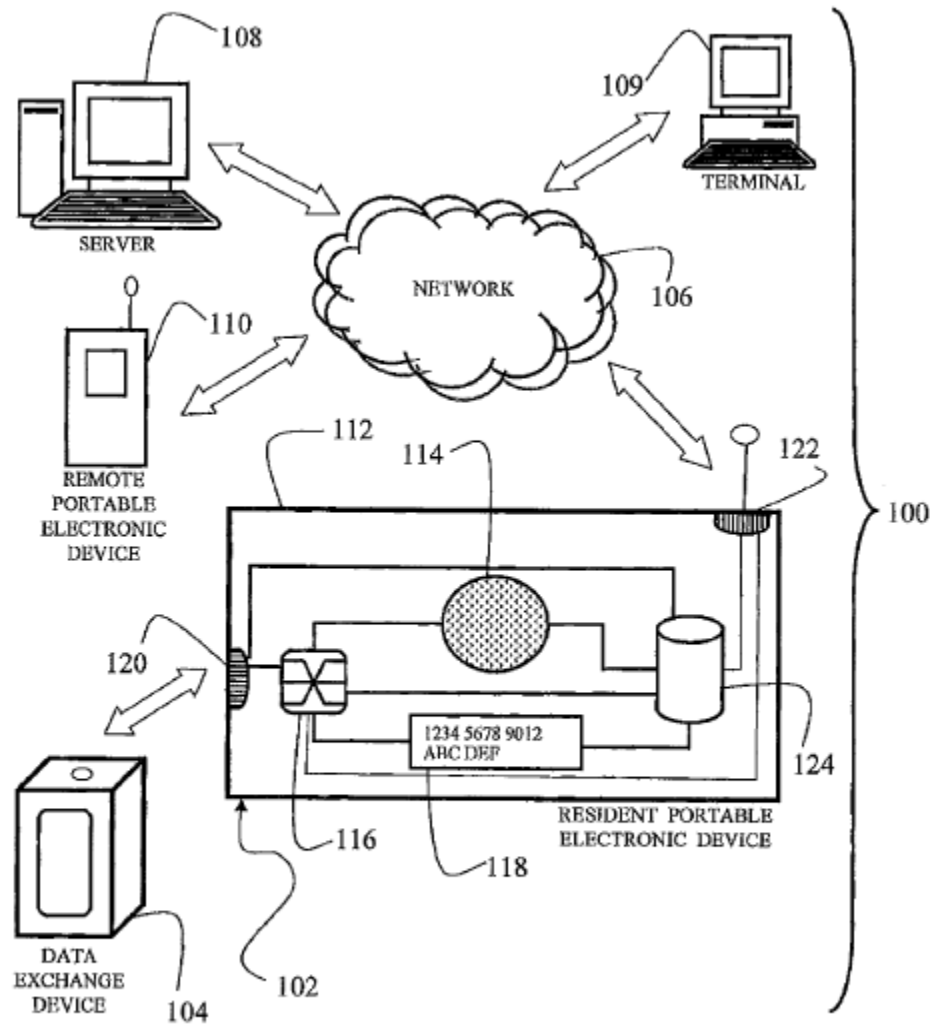


Fig. 4

Ex. 1001, 7:26–32, 13:25–32, Fig. 4. Figure 4 depicts data exchange system 100 that includes portable electronic device 102, e.g., a cell phone. *Id.* at 13:47–49 (“device 102 may be for example a cellular phone”). The cell phone can communicate data through a first communication link with first external data exchange device 104, e.g., a debit machine emitting an activation cue, or through a second communication link (network 106) with remote devices 108–110. *Id.* at 13:25–49, 15:3–28; *see also id.* at 11:10–27 (“[The][d]ebit machine would continuously, or at regular time intervals, or

when prompted to do so, emit an activation cue”), 14:48–50 (“device 110 . . . may be for example a cellular phone”).

The “activation cue is in the form of a data communication of a specific type which will be recognized by electronic device [102] as an activation cue, for example a predetermined bit sequence.” *Id.* at 9:24–27. An activation cue may be “either a continuously emitted activation cue which is readable within a determined physical distance from data exchange device 104, a pulse cue which is emitted at determined time intervals or a punctual cue which is selectively emitted one or more times [u]nder certain circumstances.” *Id.* at 14:65–15:3. The switching element in electronic circuit 116 “can be any type of device allowing data to be conveyed according to alternate data conveyance operations in response to an activation cue being received by transceiver 18 or not.” *Id.* at 9:28–31. Where electronic circuit 116 is a microchip, for example, the “switching element can be a series of instructions programmed onto the microchip whereby the data conveyance operation will be automatically executed according to whether or not an activation cue was received by” a transceiver on the cell phone. *Id.* at 9:33–38.

In operation, the cell phone user must selectively trigger control device 114, e.g. press a button on the cell phone, to issue an “*invariable activation command*” and initiate an exchange of data. *Id.* at 10:37–51 (“when control device is triggered, . . . an invariable activation command” is issued); 15:14–18 (“accomplished by entering a PIN code, pressing an authorization button”), 16:26–28 (“user must authorize the transaction by using control device 114, which may include entering a PIN code”), 17:1–3 (same). Selectively triggering the control device will initiate a data exchange with one of the external data exchange devices according to the

state of the switching element. *Id.* at 14:53–59, 15:3–28. If the cell phone has received an activation cue, the switching element in electronic circuit 116 is in a “*first state*” and will convey data to first data transceiver 120 for initiating a data exchange with first external data exchange device 104 over a first communication link (e.g., a direct link). *Id.* at 15:19–23, 15:55–63, 16:11–15. If the cell phone has not received an activation cue, the switching element in electronic circuit 116 is in a “*second state*” and will convey data to second data transceiver 122 for initiating a data exchange with second external data exchange device 108, 109, or 110 over a second communication link (e.g., network 106). *Id.* at 15:24–28, 15:54–16:2, 17:3–17.

D. Illustrative Claim

Petitioner challenges all claims 1–20 of the ’294 patent. Claims 1, 10–12, and 19 are the independent claims. Claims 2–9 depend, directly or indirectly, from claim 1. Claims 13–18 depend, directly or indirectly, from claim 12. Claim 20 depends from claim 19. Claim 1, reproduced below with Petitioner’s bracketed identifiers, illustrates the claimed subject matter:

[1.pre] A cellular phone, comprising:

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

[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;

[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;

[1.e] *a cue receiver operatively linked to said electronic circuit for receiving an activation cue* from a source external to said cellular 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

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

[1.h] 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.i] 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.

Ex. 1001, 18:64–19:44 (emphases added).

E. Prior Art and Asserted Grounds

Petitioner asserts claims 1–20 are unpatentable on the following grounds:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1–20	103(a) ²	Mooney ³
1–20	103(a)	Mooney, Lee ⁴

Petitioner also relies on the Declaration of Stuart Lipoff (Ex. 1003).
Patent Owner relies on the Declaration of Safwan Zaheer (Ex. 2001).

II. ANALYSIS

A. Level of Ordinary Skill in the Art

Petitioner contends:

A person of ordinary skill in the art (“POSITA”) at the time of the alleged invention of the ’294 patent would have had at least a bachelor’s degree in electrical engineering, or a related field, and at least two years of experience in design, development, and/or testing of network-enabled consumer devices, and familiarity with payment cards, or the equivalent, with additional education substituting for experience and vice versa.

Pet. 2 (citing Lipoff Decl. Ex. 1003 ¶ 57). “Patent Owner agrees with the Petitioner on the level of ordinary skill in the art.” Resp. 4. Patent Owner adds that a POSITA would have had “at least three years of relevant industry or research experience in wireless communication between devices.” *Id.* (citing Ex. 2001 ¶¶ 26–29). Mr. Zaheer testifies that a POSITA “would

² The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”), includes revisions to 35 U.S.C. §§ 102 and 103 that became effective after the filing of the application that led to the challenged patent. Hence, this *inter partes* review is governed by the pre-AIA provisions of 35 U.S.C. §§ 102 and 103.

³ U.S. Patent No. 6,941,156 B2 issued Sept. 6, 2005 to Mooney (“Mooney”) (Ex. 1005)

⁴ U.S. Patent No. 6,909,705 B1 issued June 21, 2005 to Lee et al. (“Lee”) (Ex. 1006)

have some familiarity with underlying technologies involving devices that utilize a transmitter and receiver for transmitting and receiving data along with processing that data with a processor.” Ex. 2001 ¶ 28.

In determining the level of ordinary skill in the art, various factors may be considered, including the “type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field.” *In re GPAC, Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (citing *Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc.*, 807 F.2d 955, 962 (Fed. Cir. 1986)). “These factors are not exhaustive but are merely a guide to determining the level of ordinary skill in the art.” *Daiichi Sankyo Co. v. Apotex, Inc.*, 501 F.3d 1254, 1256 (Fed. Cir. 2007). There is uncontested evidence in the record before us that reflects the knowledge and experience of a POSITA concerning portable electronic devices that transmit, receive, and process data.

We adopt the parties’ agreed level of ordinary skill in the art, which is consistent with the description in the ’294 patent, the prior art of record, and the Declaration testimony of both experts.

B. Claim Construction

In this *inter partes* review, we apply the same claim construction standard that would be used in a civil action under 35 U.S.C. § 282(b). 37 C.F.R. § 42.100(b). In applying this standard, we generally give claim terms their ordinary and customary meaning as would be understood by a person of ordinary skill in the art at the time of the invention and in the context of the entire patent disclosure. *See id.*; *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–14 (Fed. Cir. 2005) (en banc). Claim terms “are

generally given their ordinary and customary meaning” as understood by a POSITA at the time of the invention. *Id.* When construing a disputed claim limitation, “we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips*, 415 F.3d at 1312–17).

Petitioner contends that “[o]ther than the means-plus-function limitations identified below, the Board need not construe any term of the ’294 patent to resolve the underlying controversy.” Pet. 5 (citing *Toyota Motor Corp. v. Cellport Sys., Inc.*, IPR2015-00633, Paper 11 at 16 (PTAB Aug. 14, 2015)). Patent Owner responds by offering constructions of the recited claim terms “*activation cue*,” “*data conveyance switching element*,” “*external data exchange device*,”⁵ and “*close proximity*” of the first external data exchange device to the claimed cellular phone as recited in dependent claims 8 and 16. Resp. 5–8. Petitioner replies to Patent Owner’s proposed claim constructions, and Patent Owner addresses Petitioner’s reply argument regarding the claim term “*close proximity*.” Reply 2–7; Sur-Reply 1–2.

We address the parties’ arguments below.

1. “activation cue”

Patent Owner argues that “*activation cue*” “means a predetermined indicator, such as ‘a predetermined bit sequence’ that is ‘recognized by the electronic device as an activation cue.’” Resp. 5 (citing Ex. 1001, 6:1-3⁶). Patent Owner also contends the “activation cue must be intended as a

⁵ Construction includes the “*data exchange device*” recited in claim 11.

⁶ We presume Patent Owner intended to cite Ex. 1001, 9:24–27, which includes the quoted phrases, on page 5 of the Response.

predetermined indicator and not a message or signal recognized as a message or signal for other action.” *Id.* at 5–6 (citing Zaheer Decl. Ex. 2001 ¶ 46). Patent Owner further argues that “[i]f the ‘activation cue’ is not predetermined, then the claim element has been improperly read out of the claims,” and a predetermined bit sequence “is an example of something that is specifically created to act as an activation cue.” *Id.* at 6. We address Patent Owner’s arguments below.

The ’294 claim language

We begin with the language recited in limitation [1.e]: “*a cue receiver operatively linked to said electronic circuit for receiving an activation cue from a source external to said cellular phone.*” Limitation [1.e] recites a cue receiver in functional terms, i.e., operatively linked to the electronic circuit in the cell phone for receiving an activation cue from a source external to the cell phone. Limitation [1.e] does not further limit the form or function of the activation cue. Dependent claim 3 recites a limitation where the first data transceiver on the cell phone “*includes a cue receiver*” for receiving the activation cue, but claim 3 does not limit the form or function of the activation cue.

Dependent claims 8 and 16 recite an embodiment “*where the cellular phone is conveyed toward a close proximity of the first external data exchange device and within range to receive the activation cue.*” To underscore the point, the dependent claim language reinforces the requirement of a cell phone receiver (e.g., the “[t]ransceiver is also a cue receiver,” Ex. 1001, 9:22) that receives an activation cue from a source external to the cell phone, such as an external data exchange device in close proximity. Ex. 1001, 13:33–36 (“proximity transaction wherein [the] devices are physically close to one another”), 14:65–67 (“a continuously

emitted activation cue which is readable within a determined physical distance from [the] data exchange device”). Nothing in the language of limitation [1.e], the corresponding limitation in the other independent claims, or the dependent claims limits the activation cue received from an external source to a “predetermined indicator” as argued by Patent Owner. Resp. 5–7.

Limitation [1.f] defines the switching element and the function of the “*activation cue*” received by the cue receiver in limitation [1.e]: “*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.*” Receipt of an activation by the cue receiver causes the switching element in the cell phone to be assigned its first state. The cause-response function of the activation cue and switching element works as follows:

If an activation cue is received by the portable electronic device 102 cue receiver, the switching element within electronic circuit 116 will be assigned its first state. *This means that if it is already in its first state, it will remain as such; while if it is in another state, it will be switched to its first state.* If no activation cue is received by the portable electronic device 102 cue receiver, the switching element within electronic circuit 116 will be assigned its second state. This means that if it is already in its second state, it will remain as such; while if it is in another state, it will be switched to its second state.

Ex. 1001, 15:4–13 (emphases added). Limitation [1.f], and the corresponding limitation in the other independent claims, recites a cause-response function that defines the interaction of the cue receiver and the switching element—receipt of an activation cue from an external source assigns the switching element to a first “activated” state. *Id.* at 9:45–46,

10:14–16, 13:55–60. If no activation cue is received, the switching element is in its default second state. *Id.* at 9:47–48, 10:7–9, 13:55–60. Nothing in the language of limitation [1.f], or the corresponding limitation in the other independent claims, limits the activation cue to a “predetermined indicator” as argued by Patent Owner. Resp. 5–7.

Limitation [1.h] recites the operative function of the cell phone when a user “*selectively trigger[s] . . . said invariable activation command,*” e.g., by pushing a button or entering a PIN on the cell phone to initiate “*a first data conveyance operation . . . for sending data from said electronic circuit to the first data exchange device over said first communication link.*”

Assigning the switching element to a first (activated) state upon receipt of an “*activation cue,*” as recited in limitation [1.f], allows a cell phone user to initiate a first data exchange, for example a data exchange with a debit machine emitting an activation cue in close proximity to the cell phone. Nothing in the language of limitation [1.h], or the corresponding limitation in the other independent claims, limits the “*activation cue*” to a predetermined indicator as argued by Patent Owner. Resp. 5–7.

The '294 patent specification and prosecution history

The '294 patent specification describes the “*activation cue*” in functional terms that mirror the claim language. The “activation cue is in the form of a data communication of a specific type which will be recognized by electronic device 10 as an activation cue, for example a predetermined bit sequence.” Ex. 1001, 9:24–27. Both parties cite the quoted description of the claimed “*activation cue*” in support of their respective constructions. Resp. 6 (partial quote from Ex. 1001, 9:24–27), 19 (citing Ex. 1001, 9:24–27); Reply 3 (citing Ex. 1001, 9:24–27). We agree with Petitioner that “the '294 Patent does not support limiting the claimed

‘activation cue’ to something that is intended as a predetermined indicator,” and “[n]othing in the ’294 Patent’s description requires the activation cue to be ‘intended as’ a predetermined indicator.” Reply 1, 3 (citing Ex. 1001, 9:24–27; *Kamstrup A/S v. Axioma Metering UAB*, 43 F.4th 1374, 1383-84 (Fed. Cir. 2022)).

The claim language and specification define and describe an “*activation cue*” in functional terms: a data communication from an external source is received by the cell phone and recognized as an activation cue if it causes the switching element to be assigned its first (activated) state. Ex. 1001, 9:28–31, 9:42–46, 10:14–16, 13:55–60, 14:53–59, 15:4–6, 19:20–26. Patent Owner agrees that “upon an activation cue being received by portable electronic device 10, switching element 44b switches to its activated state.” Resp. 19 (quoting Ex. 1001, 10:14–16). The activation cue may be a predetermined bit sequence, a predetermined contactless data transmission, continuously emitted, pulsed, or punctual, but these are *unclaimed* non-limiting embodiments of the preferred form of data transmission. *Id.* at 9:25–26 (“for example a predetermined bit sequence”), 11:20–22 (“One example . . . emit an activation cue in the form of a predetermined contactless data transmission”), 14:65–15:3 (continuously emitted, pulsed or punctual cue). We will not read such preferred embodiments from the specification into claim language that is not so limited. *See SuperGuide Corp. v. DirecTV Enterprises, Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004) (care should be taken “not to import into a claim limitations that are not part of the claim”); *see also In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993) (“limitations are not to be read into the claims from the specification”); *see also IQRIS Techns. LLC v. Point Blank Enterprises, Inc.*, 2025 WL 727717, *4 (Fed. Cir. 2025) (“It is the claims, not the preferred embodiments, that

define the metes and bounds of the patentee’s invention.”) (citing *Phillips*). We find that nothing in the claim language or intrinsic record limits the recited “*activation cue*” to a predetermined indicator as Patent Owner contends.⁷

We agree with Petitioner that because neither the claims nor the specification recite or require a predetermined indicator as an activation cue, “rejecting Patent Owner’s construction cannot read out an unrecited claim element.” Reply 3–4 (addressing arguments at Resp. 6). The activation cue is “recognized” as such when a received data transmission from an external source assigns the switching element in the cell phone to a first (activated) state or mode to allow a cell phone user to initiate a first data exchange. “Thus, the onus is on the electronic device to recognize the activation cue, not for the data communication to be predetermined or intended as such.” *Id.* at 4 (citing Ex. 1001, 9:24–27). Activating the switching element allows a first data conveyance operation to be initiated with a first external data exchange device over a first communication link when a user selectively triggers an invariable activation command by operating the cell phone. Ex. 1001, 9:24–27 (“recognized . . . as an activation cue”), 10:14–16 (“switching element . . . switches to its activated state”), 10:37–39 (“an invariable activation command”), 19:20–38 (claim 1). Nothing more is required of the activation cue.

⁷ Patent Owner cites to the prosecution history for the ’294 patent’s parent application in support of Patent Owner’s related argument attempting to distinguish Mooney’s teaching of limitation [1.e]. See Resp. 2–3, 19–24 (citing Ex. 2002, 218–219). The cited pages in Exhibit 2002 appear to be arguments that a prior art German patent application does not teach selective triggering of an “*invariable activation command*” or an “*activation cue*.”

In short, we do not find a basis in the intrinsic record for requiring an “*activation cue*” to “mean[] a predetermined indicator, such as ‘a predetermined bit sequence’” as argued by Patent Owner. Resp. 6 (citing Ex. 2001 ¶ 46).

Extrinsic evidence

Mr. Zaheer’s expert testimony, on which Patent Owner relies in support, cites to column 6 lines 1–3 of the ’294 patent, which reads as follows:

The invention also relates to a method for data conveyance with a portable electronic device of the type comprising: an electronic circuit capable of storing data therein, capable of processing data, and capable of data input and output

Ex. 2001 ¶ 46 (citing Ex. 1001, 6:1–3). The cited text from the ’294 patent specification refers to limitation [1.a] but does not support Mr. Zaheer’s conclusory testimony that the “*activation cue*” recited in limitation [1.e] “means a predetermined indicator, such as ‘a predetermined bit sequence.’” *Id.* Patent Owner even acknowledges that a predetermined bit sequence is a non-limiting example described in the ’294 patent. Resp. 6 (“predetermined bit sequence was but an example of something that ‘was intended to be a predetermined indicator’”); see Ex. 1001, 9:24–27 (“for example a predetermined bit sequence”). We find Mr. Zaheer’s testimony on this point to be conclusory and unpersuasive.

Patent Owner’s further argument, that an “*activation cue*” is “not a message or signal recognized as a message or signal for other action” is also unavailing. Resp. 5–6 (citing Ex. 2001 ¶ 46). A claim construction that excludes a particular element is viewed as a negative limitation. *Ethicon LLC v. Intuitive Surgical, Inc.*, 847 Fed. App’x 901, 907 (Fed. Cir. Mar. 15, 2021). “[S]uch exclusions must find support either in ‘the words of the

claim’ or through an ‘express disclaimer or independent lexicography in the written description that would justify adding that negative limitation.’” *Id.* (citing *Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1323 (Fed. Cir. 2003); *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366–67 (Fed. Cir. 2002)). Patent Owner’s argument amounts to reading a negative limitation—“not a message or signal . . . for other action”—into the claims, without support in the ’294 patent claim language, specification, or prosecution history. The ’294 patent does not use lexicography, disavowal, or other language sufficient to limit the claimed “*activation cue*” to a predetermined indicator that would exclude a message or signal for some “other action,” whatever Patent Owner may mean by other action. *See GE Lighting Sols., LLC v. AgiLight, Inc.*, 750 F.3d 1304, 1309 (Fed. Cir. 2014) (“To act as its own lexicographer, a patentee must ‘clearly set forth a definition of the disputed claim term,’ and ‘clearly express an intent to define the term.’”) (citing *Thorner v. Sony Computer Entm’t Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012)). “The standards for finding lexicography and disavowal are exacting,” and those standards are not satisfied by Patent Owner in this case. *Id.*

In sum, we construe the claimed “*activation cue*” as a data communication received by a cellular phone from an external source and recognized by the cellular phone as an activation cue that causes the data conveyance switching element to be assigned its first (activated) state.

2. “*data conveyance switching element*”

The Petition sets forth a proposed means-plus-function construction for the “*data conveyance switching element*” recited in limitation [1.f] pursuant to § 112, sixth paragraph. Pet. 6 (citing 35 U.S.C. § 112, sixth paragraph (pre-AIA)). The Petition characterizes the corresponding

structure as “*a physical structure, a virtual program, or both* because the ’294 patent explains that a switching element ‘can be any type of device allowing data to be conveyed according to alternate data conveyance operations,’ such as ‘a series of instructions programmed onto [a] microchip’ or a ‘decisional logical circuit,’ and ‘can be a physical structure, a virtual program, or both.’” *Id.* (citing Ex. 1001, 9:28–31, 9:40–41; Ex. 1003 ¶ 64). The Petition identifies the claimed function as “*switching between inactive and activated states based on the receipt of an activation cue.*” *Id.* (citing Ex. 1001, 2:4–9, 4:18–23, 5:48–53; Ex. 1003 ¶ 64).

Patent Owner asserts the “*data conveyance switching element*” “should be given its plain meaning, which is the switching of the data,” because “[t]he data itself is what is being switched.” Resp. 7 (citing Ex. 1001, Abstract (code 57), 9:28–31; Ex. 2001 ¶ 47). Patent Owner expressly acknowledges, however, that the ’294 patent describes the switching element in a different way:

The actual switching element is described in the ’294 Patent as a “[s]witching element 44b [that] can be any type of device allowing data to be conveyed according to alternate data conveyance operations in response to an activation cue being received by transceiver 18 or not.

Resp. 7, 31 (quoting Ex. 1001, 9:28–31). In reply, Petitioner emphasizes that the “switching element is broadly defined in the specification as ‘any type of device,’ that switches between inactive and activated states based on the receipt of an activation cue.” Reply 4 (citing Ex. 1001, 9:28–41; Pet. 6; Prelim. Reply 3).

The ’294 patent describes the claimed data conveyance method as follows:

In this method for data exchange, data will be conveyed to either one of the first and second data transceivers 120, 122 depending on whether the switching element comprised within electronic circuit 116 is in a first state or a second state, respectively.

Ex. 1001, 14:55–59. The '294 patent also refers consistently to the switching element in the context of switching between an activated state (“*first state*”) or inactive state (“*second state*”) for executing “alternate data conveyance operations,” rather than “switching of the data” as contended by Patent Owner. *Id.* at Title (code 54) (“Portable Electronic Device and Method for Alternate Data Conveyance Operations”), 1:16–18 (“portable electronic device capable of alternate data conveyance operations”), 9:28–31 (see quote above), 10:28–29 (“one of two alternate data conveyance operations will be initiated”), 11:3–5 (“alternate data conveyance operations responsive[] to the reception or non-reception of an activation cue”), 13:53–55 (“data forwarding switching element capable of alternate data conveyance operations responsive to reception or absence of an activation cue”).

The '294 patent claims and specification make clear that the switching element switches between a “*first state*” and a “*second state*” depending on whether or not an activation cue is received. Ex. 1001, 9:28–41, 14:53–59. The state of the switch, in turn, “allow[s] data to be conveyed according to *alternate data conveyance* operations.” *Id.* (emphasis added). Patent Owner agrees. Resp. 7, 30–31. Thus, the claim limitation is recited as a “*data conveyance switching element*” because the switching element allows the cell phone to switch between alternate operations for conveying data to either a first or second external data exchange device, depending on whether or not an activation cue has been received. *Id.*

Whether we construe the “*data conveyance switching element operatively linked to said electronic circuit*” under 35 U.S.C. Section 112, sixth paragraph or not, the result is the same. We note there is no presumption of applying means-plus-function analysis to the switching element, because the limitation does not use the words “means for” that would mandate such claim construction treatment, and “switching” may invoke structure as well as function. *See Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1349–1350 (Fed. Cir. 2015) (en banc) (holding that “use of the word ‘means’ creates a presumption that § 112, ¶ 6 applies”). Regardless, we look to the meaning of the claim phrase at issue in view of the specification.

We determine that the ’294 patent provides a clear, concise meaning for the switching element upon which both parties rely for construction. Patent Owner’s express agreement with Petitioner, that the claimed switching element is described in the ’294 patent as “any type of device allowing data to be conveyed according to alternate data conveyance operations in response to an activation cue being received by transceiver 18 or not,” is particularly telling because it is not consistent with Patent Owner’s argument that the switching element means “switching of the data.” Resp. 7, 31 (citing Ex. 1001, 9:28–31⁸). The claim language does not recite, and the specification does not describe, the switching element as a device that switches the data.

Therefore, we determine the claimed “*data conveyance switching element*” means any type of switching device that allows data to be

⁸ We presume Patent Owner’s citation to “Exh. 2001, 9:28-31” on page 7 was intended to be a citation to the ’294 patent (Ex. 1001), as cited on page 31.

conveyed according to alternate data conveyance operations in response to whether or not an “*activation cue*” is received by the cell phone “*cue receiver*.”

3. “[*external*] data exchange device”

The Petition also proposes a means-plus-function construction of a “[*external*] data exchange device” as a device with a data transceiver coupled to a circuit that carries out the function of exchanging data. Pet. 7–8 (citing Ex. 1001, 2:14–17, 4:7–14, 9:3–6; Ex. 1003 ¶¶ 67–68). As above, whether we construe the “[*external*] data exchange device” under 35 U.S.C. Section 112, sixth paragraph or not, the result is the same.

Patent Owner, quoting the description of a data exchange device in the ’294 patent, contends that a “[*external*] data exchange device” “can be any sort of data exchange device comprising an electronic circuit (not shown) therein and a data transceiver 9a.” Resp. 8 (quoting Ex. 1001, 9:4–6). Patent Owner also responds to the Petition by clarifying that “[a]n external data exchange device is not a transceiver but a device with a transceiver.” *Id.* (citing Ex. 2001 ¶ 48). Petitioner argues in reply that Patent Owner does not contest Petitioner’s mappings of *Mooney*’s “cordless telephone base unit” or “cellular network infrastructure” to the claimed data exchange devices, such that no construction is necessary to resolve the dispute. Reply 5 (citing Resp. 16–37; *Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed. Cir. 2011)).

Limitations [1.c] and [1.d] recite “*a first [second] data transceiver operatively linked to said electronic circuit [in the cell phone],*” both of which are defined functionally as “*for exchanging data between said electronic circuit [in the cell phone] and a first [second] external data exchange device over a first [second] communication link.*” Nothing in the

language of limitations [1.c] and [1.d], or the corresponding limitations in the other independent claims, further limits the form or function of the “[*external*] *data exchange device*,” although a device external to the cell phone may invoke additional structure. We determine the plain meaning of “[*external*] *data exchange device*” as claimed and described in the ’294 patent governs: any [external] device that comprises an electronic circuit and data transceiver for exchanging data with the electronic circuit in the cell phone over a communication link.

4. “*close proximity*”

Dependent claims 8 (depends from claim 1) and 16 (depends from claim 12) each recite the limitation “*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.*” Patent Owner contends that “[c]lose proximity is within a several meter range,” and that “a POSITA would consider close proximity to be 10 meters or less.” Resp. 8 (citing Ex. 1001, 9:8–11, 15:55–57; Ex. 2001 ¶ 49). Patent Owner reasons that the “claim requires (1) a close proximity AND (2) within a range,” and that “*close proximity*” “must be different from the range term used in the claims.” Sur-Reply 1–2 (citing Ex. 1001, 19:65–20:1 (claim 8)).

We agree with Petitioner that the plain meaning of “*close proximity*” is “*within a range to receive the activation cue to initiate the wireless data exchange,*” and no further construction is warranted. Reply 6–7 (citing Ex. 1001, 9:8–11, claims 8, 16). Although claims 8 and 16 also claim an embodiment where the cell phone’s first data transceiver “*comprises a proximity transceiver for accomplishing a wireless data exchange . . . through a direct link*” with the first external data exchange device, the

claims define “*close proximity*” of the two devices in functional terms— “*within a range to receive the activation cue to initiate the wireless data exchange*”—not by limiting the physical distance between the devices.

Patent Owner’s counsel admitted as much at the Oral Hearing. Tr. 37:10–13 (“And there is no measurement of what close proximity is in the patent. I admit that.”) (Paper 32). The cell phone and first external data exchange device must be close enough for the cell phone data transceiver to receive the activation cue and allow a user to initiate a wireless data exchange through a direct link with the first external data exchange device.

Patent Owner and Petitioner both cite to column 9, lines 8–11 of the ’294 patent specification, which indicates that close proximity depends on the selected data exchange device and its configuration:

Data exchange device 10 can alternately be a computer, an interface machine such as an automatic teller machine, or *any other* suitable data exchange device.

Ex. 1001, 9:8–11 (emphasis added); Resp. 8; Reply 6. Patent Owner also cites a non-limiting example for initiating a wireless data exchange in a “proximity transaction,” where the cell phone and data exchange device are “physically close to one another” and communicating via “a direct link” to “allow[] data transmission within a limited range, *such as* within several meters *for example*.” *Id.* at 15:55–57 (emphases added); Resp. 8; *see also* Ex. 1001, 13:33–36 (“*for example* in a proximity transaction wherein devices 102 and 104 are physically close to one another”) (emphasis added). Patent Owner’s proposed construction is unduly narrow because the cited description is exemplary, not mandatory or restrictive, and does not limit “*close proximity*” to a range of several meters or 10 meters or less. *See SuperGuide*, 358 F.3d at 875 (“written description . . . is not a substitute for,

nor can it be used to rewrite, the chosen claim language”); *Sisvel Int’l S.A. v. Sierra Wireless, Inc.*, 81 F.4th 1231, 1236–1237 (Fed. Cir. 2023) (finding patent owner’s proposed construction “would improperly limit the claims to embodiments” described in the specification); *Cont’l Cirs. LLC v. Intel Corp.*, 915 F.3d 788, 797 (Fed. Cir. 2019) (disclosure of single embodiment, “without more,” is not sufficient to disavow broader claim scope).

C. Asserted Obviousness of Claims 1–20 Over Mooney (Ground 1)

Petitioner contends claims 1–20 of the ’294 patent are obvious over Mooney (Ground 1). Pet. 8–75 (citing Ex. 1003 ¶¶ 70–211). The Petition asserts that Mooney discloses, teaches, suggests or otherwise renders obvious all of the limitations recited in the claims, including all independent claims 1, 10–12, and 19. *Id.* at 15–42 (claim 1), 53–56 (claim 10), 56–62 (claim 11), 63–66 (claim 12), and 71–75 (claim 19). The Petition also argues that, to the extent Mooney does not disclose, teach, suggest, or otherwise render obvious limitations [1.h] and [1.i] (and their corresponding limitations in independent claims 10–12 and 19), the combination of Mooney and Lee discloses, teaches, suggests, or otherwise renders obvious those claim limitations (Ground 2). *Id.* at 42–47 (claim 1), 56 (claim 10), 62 (claim 11), 65–66 (claim 12), 71–72 (claim 19).

Patent Owner contends the Petition fails to establish that Mooney renders the challenged claims obvious, because the Petition “is based upon flawed assertions” of Petitioner’s expert that Patent Owner contends are not consistent with the Bluetooth specification cited in Mooney. Resp. 1 (citing Ex. 2003). Patent Owner attempts to distinguish Mooney from the claims of the ’294 patent based on: (i) the Bluetooth specification, (ii) Patent Owner’s proposed constructions of “*activation cue*,” “*data conveyance switching*

element,” “[*external*] data exchange device,” and “*close proximity*,” addressed above, and (iii) the expert testimony of Mr. Zaheer. Resp. 16–53 (citing Ex. 2001 ¶¶ 62–180). Patent Owner also argues there is no motivation to combine Mooney with the knowledge of a POSITA. Resp. 11–16 (citing Ex. 2001 ¶¶ 53–61).

“In an *inter partes* review, the burden of persuasion is on the petitioner to prove ‘unpatentability by a preponderance of the evidence,’ 35 U.S.C. § 316(e), and that burden never shifts to the patentee.” *In re Magnum Oil Tools Int’l Ltd.*, 829 F.3d 1364, 1375 (Fed. Cir. 2016) (quoting *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015)); *see also Aqua Products, Inc. v. Matal*, 872 F.3d 1290, 1306 (Fed. Cir. 2017 (en banc (quoting *Magnum Oil*))).

A patent claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious to a person of ordinary skill in the art at the time the invention was made. *See KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007) (quoting 35 U.S.C. § 103(a)). Obviousness is resolved based on underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness, i.e., secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). A party who petitions the Board for a determination of obviousness must show that “a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success in doing so.” *Procter & Gamble Co. v. Teva Pharms.*

USA, Inc., 566 F.3d 989, 994 (Fed. Cir. 2009) (quoting *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1361 (Fed. Cir. 2007)).

We assess Petitioner’s evidence and argument according to the above-referenced obviousness standard. For the reasons given below, we determine the Petition has established by a preponderance of the evidence that claims 1–20 of the ’294 patent are unpatentable as obvious over Mooney. We begin with a discussion of the Mooney reference.

1. Overview of Mooney

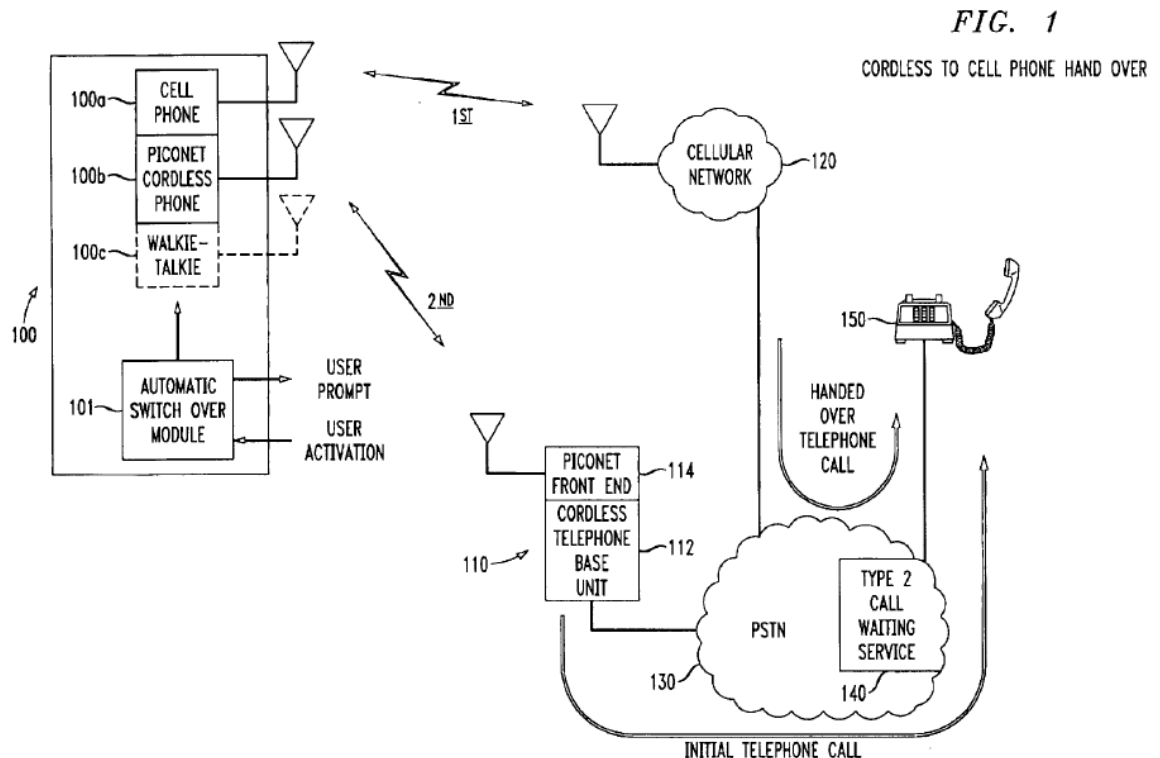
Mooney, titled “Automatic Handoff for Wireless Piconet Multimode Cell Phone,” is directed to “[a] technique and apparatus for transferring a communication link between two different modes of a multimode cell phone.” Ex. 1005, code (54), Abstract (code (57)). Mooney’s multimode cell phone includes three functional modes for making cordless telephone calls, namely “via a base station (i.e., cordless telephone mode), making direct intercom calls between two terminals (e.g., between two cellular telephone handsets), and . . . making an otherwise conventional cellular phone call.” *Id.* at 3:7–12; *see also id.* at 3:51–54 (“multiple functional modes, e.g., a cell phone mode 100a, a piconet cordless telephone 100b, and a walkie talkie mode 100c”). For example, if a multimode cell phone user is on a call “using a cordless telephone RF communication link” (cordless telephone mode), the call “may be automatically switched (with user prompt if desired) to a cell phone call . . . (e.g., when the cordless telephone goes out of range of its base unit), and vice versa.” *Id.* at Abstract (code (57)).

Mooney discloses and teaches the use of an “automatic switch over module” in the multimode cell phone to execute automatic signal-based switching between cordless telephone mode and cellular telephone mode, described as follows:

Importantly, an automatic switch over module 101 is in communication with each communication path functionality, e.g., with the cell phone functionality 100a, the piconet cordless telephone functionality 100b, and the walkie-talkie functionality 100c. The desired mode of the multimode cell phone 100 may be controlled through suitable communications with each communication path functionality 100a–100c.

Id. at 3:55–62.

Figure 1 of Mooney, reproduced below, depicts a multimode cell phone using the automatic switchover module to hand over a telephone call from cordless mode to cellular mode. *Id.* at 2:10–12.



In the example of Mooney Figure 1, a telephone call is established in piconet cordless mode (100b) “between the multimode cell phone 100 and a far end telephone 150.” *Id.* at 4:7–16. If the multimode cell phone user moves so that the phone “extends beyond its acceptable range” from cordless telephone base unit 110, the call “is automatically re-established using the

cellular network,” i.e., switched from cordless telephone mode (100b) to cell phone mode (100a). *Id.* at 4:17–27. An automated procedure for switching the call from cordless mode to cell phone mode “may be initiated by the user of the multimode cell phone 100 at the press of a designated button,” although “the transfer may be entirely automated without requiring input from the user.” *Id.* at 4:37–49.

2. Analysis of Claim 1 in View of Mooney

Our analysis of independent claim 1 applies equally to independent claims 10–12 and 19, unless otherwise noted. For the reasons articulated below, we determine the Petition has demonstrated by a preponderance of the evidence that independent claim 1 is unpatentable as obvious over Mooney.

a. Conveyance of “stored data”

Patent Owner argues that, although Mooney may teach “switching” in the sense of “transferring a communication link between two different modes of [a] multimode cell phone” during a phone call, “the data transmitted is [real-time] voice data, not data stored in the device *as described* in the ’294 Patent.” Resp. 11–12 (italics added) (citing Ex. 2001 ¶¶ 52–53 (“The switching taught by *Mooney* is actually transferring a communication path through the network.”)); *see also id.* at 12–19 (citing Ex. 1001, 9:3–8, 14:18–28, Fig. 1; Ex. 1005, 1:32–45, 6:33–35, Figs. 1, 2 ; Ex. 2001 ¶¶ 53–68). We view Patent Owner’s argument as an implicit acknowledgement that the preferred embodiment in the ’294 patent for transmitting data stored in the cell phone, such as a user’s credit card information, is “described” but not claimed in the patent. Resp. 12 (citing Ex. 2001 ¶ 53). Mr. Zaheer similarly emphasizes that a “POSITA would understand that voice is encoded in real-time as data in a cellular phone, the

same encoded voice data is being received at the terminating device” (far end telephone 150 in Mooney), and the voice data transmitted in Mooney’s system is “not data stored in the device as described in the ‘294 Patent.”

Ex. 2001 ¶ 53.

In its attempt to distinguish Mooney, Patent Owner repeatedly emphasizes the incorrect presumption that the ’294 patent claims recite or require transmission of “stored data,” i.e., data that has been stored in the cell phone prior to processing and transmission:

Further, the data transmitted [in Mooney] is voice data, not data stored in the device as described in the ’294 Patent. Resp. 12 (citing Ex. 2001 ¶ 53).

No transmission of the *data stored* in the multimode cell phone 100, such as phone book data, calling history, or user preferences, is described as occurring in Mooney. . . . Rather, real-time voice data []and call setup data is being transmitted. *Id.* at 14 (citing Ex. 2001 ¶ 56) (emphasis added).

Such a switch over is different from the switching of data conveyance switching element where the path to *stored data* is actually switched. *Id.* at 14–15 (citing Ex. 2001 ¶ 57) (emphasis added).

A POSITA would understand that switching data conveyance between devices communicating *stored data* directly or over a non-circuit based network . . . is different than setting up different paths between the same devices, i.e., multimode cell phone of 100 and far-end telephone 15[0] across a PSTN network[] as described in *Mooney*. *Id.* at 15 (citing Ex. 1001, 14:27–28; Ex. 2001 ¶ 59) (emphasis added).

The ’294 patent teaches *data that is stored prior to transmission*, which is not simply stored data as asserted by Petitioner. Petitioner referring to “memory” or “data that may be saved in a memory” fails to establish that *the data will be transmitted through a transceiver as required in the claims*, (e.g., element 1.h). *Id.* at 17 (distinguishing Mooney from limitation [1.a]) (emphases added).

The “data” term in the claims of the ’294 Patent has to be able to be transferred. *Id.* at 18.

Mooney uses real-time voice data being transmitted between telephones over circuits in a PSTN. Therefore, the “data” term described in the Petition is *not stored data*, rather it is real-time data, and this type of data fails to meet the data element used in later elements of the claims. The *same data that is stored* is processed, and capable of being input and output in the ’294 Patent. *Id.* at 18 (citing Ex. 2001 ¶¶ 66–67, distinguishing Mooney from limitation [1.a]) (emphases added).

There are several problems with Patent Owner’s argument.

First, the claims do not recite “stored data” or the processing and transmission of “stored data,” as explained below.

’294 patent limitation [1.a]

Limitation [1.a] recites “*an electronic circuit capable of storing data therein,*” not an electronic circuit capable of storing “user data,” such as a credit card number for transmission to an external data exchange device as exemplified in the preferred embodiment of Figure 4 in the ’294 patent. Ex. 1001, 16:28–46 (“user data being transferred from electronic circuit to first transceiver and then to data exchange device . . . for example a credit card number”), 17:5–17 (“user data being transferred from electronic circuit to second transceiver and then to remote data exchange device”). The Petition relies on Mooney’s capability of storing data, such as programmable instructions (or phone book data, user preferences and the like), as a disclosure of limitation [1.a]. Pet. 16–18 (citing Ex. 1003 ¶¶ 83–84; Ex. 1005, 1:54–66, 3:52–63, 7:9–12); *see also* Reply 10 (citing Ex. 1005, 1:13–22, 1:54–66, 3:52–63, 7:9–12, Fig. 1). Limitation [1.a], moreover, does not recite or imply a data processing or transmission function for “stored” data as argued by Patent Owner. Resp. 17–18.

We find Mr. Lipoff’s testimony, on which the Petition relies, to be credible and consistent with the disclosures in Mooney from the perspective of a POSITA:

Mooney discloses [1.a] because *Mooney*’s “multimode cell phone” includes various electrically coupled electronic components, including conventional storage for storing data, “an appropriate processor” capable of processing data, and “multiple functional modes, e.g., a cell phone mode 100a, a piconet cordless telephone 100b, and a walkie-talkie mode 100c.” and “automatic switchover module” capable of data input and output (collectively, “an electronic circuit”). Ex. 1003 ¶ 83 (citing Ex. 1005, 1:54–66, 3:52–63, 7:9–12).

Thus, a POSITA would have understood that the electronic circuit of *Mooney*’s multimode cell phone is capable of storing instructions (data) (in addition to “phone book data, calling history and user preferences”) that the processor processes to achieve the aforementioned “initiate, establish and switch over” functions. *Id.* ¶ 84 (citing Ex. 1005, 7:9–12).

Regarding the capability of *Mooney*’s electronic circuit to store data, *Mooney* states the following with regard to the Bluetooth technology used in the 3-in-1 cell phone:

This provides a cell phone that has advantages over competitors’ cell phones which are not similarly capable, including the ability and convenience of storing all phone book data, calling history and user preferences. Ex. 1005, 1:18–22.

In step 404, the need to initiate, establish and switch over to another mode (e.g., to a cellular phone call) is determined, either automatically or manually, by an appropriate processor in the multimode cell phone 100. *Id.* at 7:9–12.

Mooney discloses a 3-in-1 cell phone utilizing Bluetooth technology that has conventional storage and data processing capability, as Mr. Lipoff testifies.

Contrary to Patent Owner’s assertion, there is nothing inconsistent or “erroneous” in Mr. Lipoff’s testimony that the electronic circuit in *Mooney*’s

3-in-1 cell phone is capable of storing and processing data, including processing stored instructions to execute the automatic switch over function. *See* Resp. 18 (citing Ex. 2001 ¶¶ 65–67). Rather, we find Patent Owner’s criticism of Mr. Lipoff’s testimony to be conclusory and off the mark, particularly because the criticism is based on the incorrect presumption that “[t]he same data that is stored, is processed, and capable of being input and output in the ‘294 patent.” Resp. 18 (citing Ex. 2001 ¶ 67). In short, Patent Owner construes limitation [1.a] in a manner that would improperly limit the claims to a preferred embodiment for transmitting stored data.

’294 patent limitations [1.c], [1.d], [1.h] and [1.i]

Limitations [1.c] and [1.d] recite a first data transceiver and second data transceiver “*for exchanging data between said electronic circuit and a first [second] external data exchange device.*” The limitations do not recite exchanging stored data, such as a user’s credit card information or other user transaction data, with the external data exchange device. Patent Owner does not address limitations [1.c] and [1.d] in its Response or Sur-Reply. *See* Resp. and Sur-Reply *generally*; Reply 5 (“Patent Owner does not contest Petitioner’s mappings of *Mooney*’s ‘cordless telephone base unit’ or ‘cellular network infrastructure’ to the claimed data exchange devices.”). Limitations [1.c] and [1.d] do not rely on antecedent basis to limit the data exchange to stored data. Tr. 48:25–49:6 (“I admit -- that there's not antecedent basis there.”) (Paper 32).

We determine that limitations [1.c] and [1.d] do not limit the claims to an exchange of stored data.

When a user selectively triggers the claimed cell phone to issue an invariable activation command, limitations [1.h] and [1.i] recite “*sending data from said electronic circuit to the first [second] external data exchange*

device,” not sending stored data or processed data or sending user transaction data from the electronic circuit. Limitations [1.h] and [1.i] also do not rely on antecedent basis—such as “said data,” “said stored data,” or “said processed data”—to limit the claims to exchanging data stored in the electronic circuit of the cell phone with the external data exchange device. In short, limitations [1.h] and [1.i] do not limit the claims to an exchange of stored data.

We agree with Petitioner that Patent Owner is improperly reading a “stored data” limitation from a preferred embodiment described in the ’294 patent into broader claim language recited in the independent claims. Reply 9–10. We also agree with Petitioner that the recitations of “*an electronic circuit capable of storing data therein, capable of processing data, and capable of data input and output*” in limitation [1.a] are “expressed as distinct capabilities but nothing in [1.a] links them together,” and neither limitation [1.a] nor limitations [1.c], [1.d], [1.h], or [1.i] “requires that the same data be stored, processed, and transmitted.” *Id.* at 9. In sum, we determine that claim 1 and the other independent claims do not recite “stored data” or the processing and/or transmission of “stored data” as argued by Patent Owner.

A “data conveyance switching element” is not limited to switching the path to stored data

Second, Patent Owner’s argument that Mooney’s switch over function is different from the claimed switching element “where the path to *stored data* is actually switched,” is based on Patent Owner’s proposed claim construction for the “*data conveyance switching element*.” Resp. 14–15 (citing Ex. 2001 ¶ 57) (emphasis added). As Petitioner points out, Patent Owner’s proposed construction “conflicts with the express disclosure of the

'294 Patent.” Reply 2. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005) (en banc) (The “specification ‘is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.’”) (citation omitted).⁹ We have rejected Patent Owner’s proposed construction of the “*data conveyance switching element*” for the reasons given above in Section II.B.2.

Given our construction of “*data conveyance switching element*,” we determine the '294 patent claims do not recite or require switching the path to stored data. Therefore, Patent Owner’s argument is unavailing.

b. A POSITA’s view of Mooney as analogous art

Patent Owner argues that Mooney is directed to solving a different problem than the problem addressed in the '294 patent:

A POSITA would not look to *Mooney* relying on a piconet that requires preconfigured network association like Bluetooth when attempting to solve problems of a device capable of communicating with “data exchange devices [that] can be any sort of data exchange device comprising an electric circuit...therein and a data transceiver 9a therein able to cooperate with transceiver 18 of device 10, Exh. 1001, 9:3-8, such as 104 of Fig. 1 of the '294 Patent. The problem being solved is communicating with “any sort of data exchange device” and not preconfigured Piconet devices. *Mooney* is fundamentally about “telephone calls’ while '294 is about “transactions.”

⁹ Patent Owner also cites pages 218–219 of the prosecution history of the parent application that issued as U.S. Patent No. 7,628,333 (“’333 patent,” Ex. 2002), characterizing the switching element as “used to switch from local access of *stored data* to the transmission of *the stored data* is enabled by both user validation and ‘an activation cue’.” Resp. 2–3 (emphases added). As explained above in our claim construction of the “*data conveyance switching element*,” the '294 patent claims do not recite the switching element as accessing, transmitting, or conveying “stored data.”

Resp. 15–16 (citing Ex. 2001 ¶ 61). We understand Patent Owner’s argument to be that Mooney is about “telephone calls,” not “transactions” involving transmission of stored data in a data exchange, i.e., that Mooney is not analogous art to the ’294 patent. We disagree.¹⁰

A reference is analogous prior art if (1) it is from the same field of endeavor as the claimed invention, regardless of the problem addressed, or (2) it is reasonably pertinent to the particular problem with which the inventor is involved. *In re Clay*, 966 F.2d 656, 658–59 (Fed. Cir. 1992); *see also Donner Tech., LLC v. Pro Stage Gear, LLC*, 979 F.3d 1353, 1361 (Fed. Cir. 2020) (“a reference can be analogous art . . . even if there are significant differences between the two references”); *Scientific Plastic Products, Inc. v. Biotage AB*, 766 F.3d 1355, 1359 (Fed. Cir. 2014) (“A reference is reasonably pertinent if . . . it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem.”). We agree with Petitioner that a POSITA would have understood Mooney to be analogous art for two reasons. Reply 8 (citing Lipoff Reply Dec. Ex. 1014 ¶¶ 32–35). First, the challenged claims are not limited to financial transactions. *Id.* (citing Pet. 2; Ex. 1014 ¶¶ 27, 33). Second, Mooney is in the same field of endeavor as the ’294 Patent—portable electronic devices capable of alternate data conveyance operations—and addresses a similar problem—switching between alternate data conveyance operations. *Id.* (*Comparing Mooney*, 1:50–2:4 with Ex.

¹⁰ Patent Owner’s argument that a POSITA would not have been motivated to consider Mooney’s “switch over” of a telephone call through a PSTN circuit-based network also fails, because the ’294 patent claims are not limited to non circuit-based networks. Resp. 15 (citing Ex. 2001 ¶¶ 57–59).

1001, 1:15–18, 12:6–18; citing Pet. 2–5, 8–13, 28–34; Ex. 1014 ¶ 34).

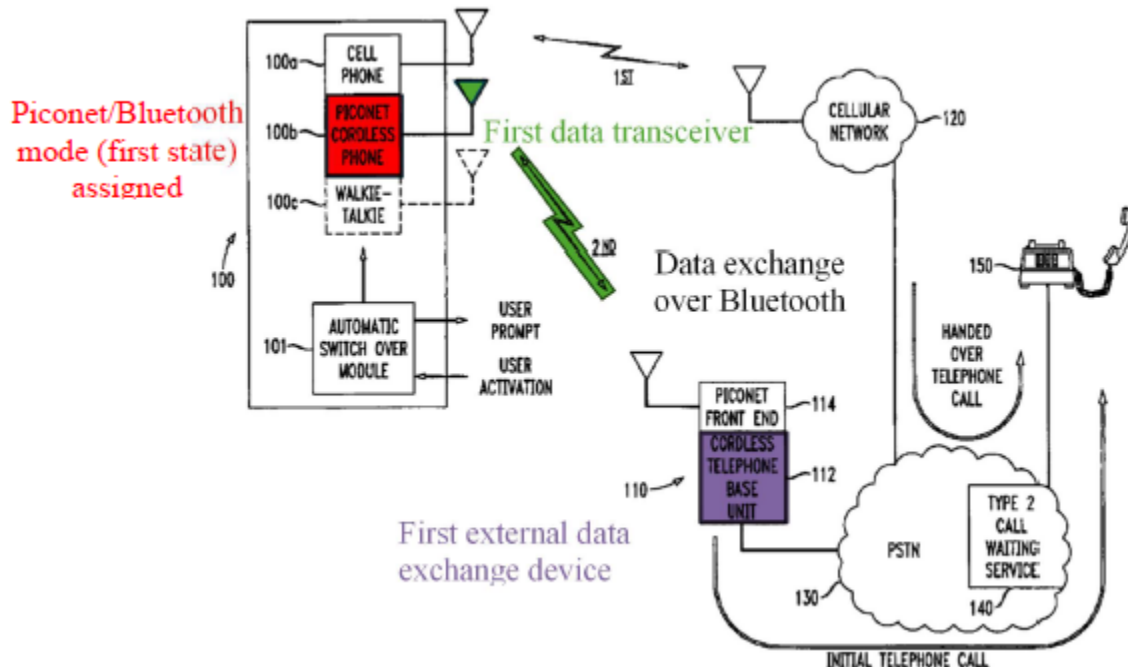
In sum, we find that Mooney is analogous art to the claimed invention in the '294 patent and discloses limitation [1.a].¹¹

c. Mooney teaches receiving an “activation cue”

Limitation [1.e] recites: “*a cue receiver operatively linked to said electronic circuit for receiving an activation cue from a source external to said cellular phone.*” A receiver (transceiver) in the cell phone receives an “*activation cue*” when it receives a data communication from an external source that causes the “*data conveyance switching element*” to be assigned its first (activated) state (limitation [1.e] as construed; limitation [1.f]), such that when a user selectively triggers the control device on the cell phone to issue an “*invariable activation command*,” a first data conveyance operation is initiated “*for sending data from said electronic circuit to the first external data exchange device over said first communication link*” (limitation [1.h]).

The Petition illustrates Mooney’s operation with references to claim 1 of the '294 patent added to Mooney Figure 1, reproduced below:

¹¹ Patent Owner does not contest the evidence that Mooney discloses limitations [1.b]–[1.d]. *See Resp., generally.* We determine the Petition establishes by a preponderance of the evidence that Mooney discloses limitations [1.b]–[1.d] for the reasons stated therein. Pet. 19–25 (citing Ex. 1003 ¶¶ 87–97; Ex. 1005, 1:31–34, 1:62–66, 3:4–7, 3:49–51, 4:7–17, 4:29–37, 4:54–56, 5:36–47, 5:57–62, 6:15–24, 7:9–12, Figs. 1, 2).



Pet. 37 (citing Ex. 1005, Fig. 1) (annotated, excerpted). In Mooney annotated Figure 1, 3-in-1 cell phone 100 includes three communication modules: cell phone module 100a, piconet cordless module 100b (red), and walkie-talkie module 100c. Piconet cordless module 100b is configured to communicate with—i.e., receive data input from and send data output to—matched cordless telephone base station 110 (base unit 112 (purple) and piconet front end 114). *Id.* at 21 (citing Ex. 1003 ¶¶ 91–93; Ex. 1005, 1:62–66, 3:49–55, 4:34–37, 4:54–56, 5:11–15, 6:15–24, Fig. 1).

Mooney’s 3-in-1 cell phone uses an RF communication link, such as Bluetooth (green), to establish a cordless telephone call with telephone 150. *Id.* Mooney states:

In the cordless telephone mode, the multimode cell phone 100 communicates between handset unit 100 and a matching piconet cordless telephone base unit 110 [purple] using a suitable piconet front end 114 in the base unit 110 and a matching piconet front end [100b, red] within the multimode cell phone 100.

Id. (quoting Ex. 1005, 4:7–11); *see also* Ex. 1003 ¶ 92. The Petition contends that a “POSITA would have understood that the data exchange (phone call) is facilitated by a transceiver operatively linked to other electronic circuit elements, e.g., the piconet cordless module [in 3-in-1 cell phone], because the module receives and transmits communications (data) using the same device.” *Id.* (citing Ex. 1003 ¶ 92; Ex. 1005, Fig. 1).

The Petition explains that when a caller using Mooney’s 3-in-1 cell phone is within range of the cordless telephone base station, the piconet cordless phone module transceiver receives Bluetooth signals from the base station over the RF (Bluetooth piconet) communication link. *Id.* at 26–27 (citing Ex. 1003 ¶ 99; Ex. 1005, 2:53–3:7, 4:34–37, 6:18–25, Fig. 2). The Petition further explains how a cordless telephone call is established:

[When] the “cordless telephone link (e.g., a piconet BLUETOOTH™ communication link of *good quality* has been established with the cordless base for a given length of time (e.g., for at least two minutes),” the piconet/Bluetooth cordless module is informed of the signal quality (via its first transceiver/cue receiver) and a call may be established in cordless mode via the BLUETOOTH™ link.

Id. (quoting Ex. 1005, 6:19–22) (also citing Ex. 1003 ¶ 99; Ex. 1005, 1:31–34 (“a 3-in-1 cell phone conventionally provides establishment of a telephone call with . . . a local cordless telephone, depending upon which mode the phone is in”), 2:53–3:7, 3:49–51, 4:12–15, 4:34–37, 4:54–56 (“as shown in step 202 of Fig. 2, a cordless telephone call is established using a cordless telephone mode of the multimode cell phone 100.”), 6:18–25, Fig. 2), Fig. 1, Fig. 2. The Petition contends that Mooney’s process for establishing a cordless telephone call teaches the claimed “*activation cue*”:

Mooney’s automatic switch over module (data conveyance switching element) is assigned, by the processor, to a first state

(piconet/Bluetooth connection for cordless telephone mode) upon coming in range of the base unit 110 and receiving at the piconet module transceiver (cue receiver) *a quality Bluetooth signal (activation cue)* indicating that the phone is capable of establishing a call in piconet/Bluetooth cordless mode.

Id. at 32 (emphasis added) (citing Ex. 1003 ¶ 106; Ex. 1005, 5:8–11, 6:14–24).

In sum, the Petition contends that when Mooney’s 3-in-1 cell phone is within range of the base station and receives a quality Bluetooth signal from for initiating a phone call in cordless telephone mode, a transceiver operatively linked to the piconet cordless module in the cell phone acts as “*a cue receiver . . . for receiving an activation cue from a source external to the cell phone,*” as recited in limitation [1.e]. *Id.* at 26–28 (citing Ex. 1003 ¶¶ 98, 99; Ex. 1005, 1:31–34, 2:36–47, 2:53–3:7, 3:13–25, 3:49–51, 4:6–15, 4:28–36, 6:14–25, 6:45–51). The Petition relies on Mr. Lipoff’s testimony:

[A] POSITA would have understood that a “good quality” Bluetooth signal originating from the base unit (e.g., one that is “within range” and/or “has been established with the cordless base for a given length of time”), is an activation cue that informs the multimode cell phone’s first transceiver/cue receiver of its ability to establish a call in piconet/Bluetooth cordless mode.

Id. at 27 (quoting Ex. 1003 ¶ 100); *see also* Reply 13–14 (citing Ex. 1014 ¶ 44–46). We agree and find Patent Owner’s counter-arguments unavailing.

Addressing Patent Owner’s “activation cue” arguments

Patent Owner challenges Petitioner’s contention that Mooney discloses, teaches, suggests, or otherwise renders obvious the “*activation cue*” recited in limitation [1.e]. Resp. 19–30 (citing Ex. 2001 ¶¶ 31–32, 69–

77; Ex. 2002, 218–219; Ex. 2003, 111).¹² A central theme of Patent Owner’s argument is that the Petition fails to account for Mooney’s teachings in view of the Cordless Telephony Profile cited in Mooney (“Bluetooth Specification,” Ex. 2003), in particular that Mooney does not teach a 3-in-1 cell phone receiving an “*activation cue*” in the form of messaging that indicates the quality of the Bluetooth signal. *Id.* at 19–28; *see* Ex. 1005, 3:22–25 (“the multimode 3-in-1 cell phone includes the Cordless Telephony Profile of BLUETOOTH™ capability”). As we explain below, we agree with Petitioner that Patent Owner’s arguments are unavailing because:

- 1) *Mooney*’s multimodal phone is not restricted to the functionalities outlined in Ex. 2003; 2) it is irrelevant whether *Mooney*’s multimodal phone pings the base unit first; and 3) a Bluetooth link is not the same as a phone call made using Bluetooth.

Reply 12.

i. L2CAP signaling is an “activation cue”

Patent Owner relies on a passage in the Bluetooth Specification that describes a process where a cell phone, out of range of a cordless base station, “searches for it [the base station] by periodically trying to page it.” Ex. 2003, 111. Patent Owner emphasizes that, in the cited passage, “[i]t is the cellular telephone that transmits a Bluetooth ping to notify the cordless telephone base unit it is in range; it is not an ‘activation cue’ received by the cellular telephone when it detects a signal from the cordless telephone base.”

¹²Patent Owner’s first argument, that “[t]he ‘activation cue’ must be recognized by the electronic device as an activation cue,” is addressed in our claim construction of “*activation cue*” above. Resp. 19.

Resp. 21 (citing Ex. 2003, 111). We agree with Petitioner that the cited passage relied on by Patent Owner does not undermine the express disclosure and teachings of Mooney, because Mooney's 3-in-1 cell phone is not restricted to the functions described in the Bluetooth Specification. As Petitioner points out, Mooney's devices are *capable* of implementing the described functions and seek to *improve* upon conventional multimodal phones. Reply 14 (citing Mooney, 1:46-48 ("There is a *need* in a 3-in-1 cell phone which provides smooth switchover and interaction between separate modes of operation." (emphasis added)), 3:22-25, 3:34-47).

It is irrelevant whether *Mooney's* 3-in-1 cell phone "pings" the base station first "to notify the cordless telephone base unit it is in range" (Resp. 21–22, 25–26), because that counter-argument does not address the Petition's contention. The Petition contends the "*activation cue*" is a quality Bluetooth signal transmitted from the base station and received by the 3-in-1 cell phone (piconet cordless module transceiver). Pet. 26–28, 32. Paging signals or "pings" emitted by the cell phone to locate the base station, as described in the Bluetooth Specification cited by Patent Owner, are not determinative of whether information (data) regarding the quality of the Bluetooth signal is received by the piconet cordless module transceiver when the cell phone is within range of the base station. Reply 15 (citing Ex. 1014 ¶¶ 48–51).

We agree with Petitioner that Mooney discloses a base station that communicates information (data) about the quality of the Bluetooth signal to a piconet cordless module transceiver in the cell phone. We further agree that preliminary paging signals sent from the cell phone to locate the base station do not undermine the Petition's evidence that Mooney discloses and teaches an "*activation cue*." *Id.* (citing Ex. 1014 ¶¶ 48–52; Pet. 26–28). We

are persuaded by Mr. Lipoff's Reply Declaration testimony, in response to Mr. Zaheer, that discusses the Larsson reference (Ex. 1007):

Mr. Zaheer disagrees with me that *Mooney* discloses the transmission of a quality Bluetooth signal. In my opinion, this disagreement suggests a lack of understanding of Bluetooth and basic concepts of networking because a POSITA would have known that the establishment of a wireless link between two devices involves a series of messages transmitted between the devices. For example, Larsson discloses aspects of establishing a wireless link in Bluetooth networking. *As shown in Figure 5, several messages are transmitted between devices in order to establish a connection.*

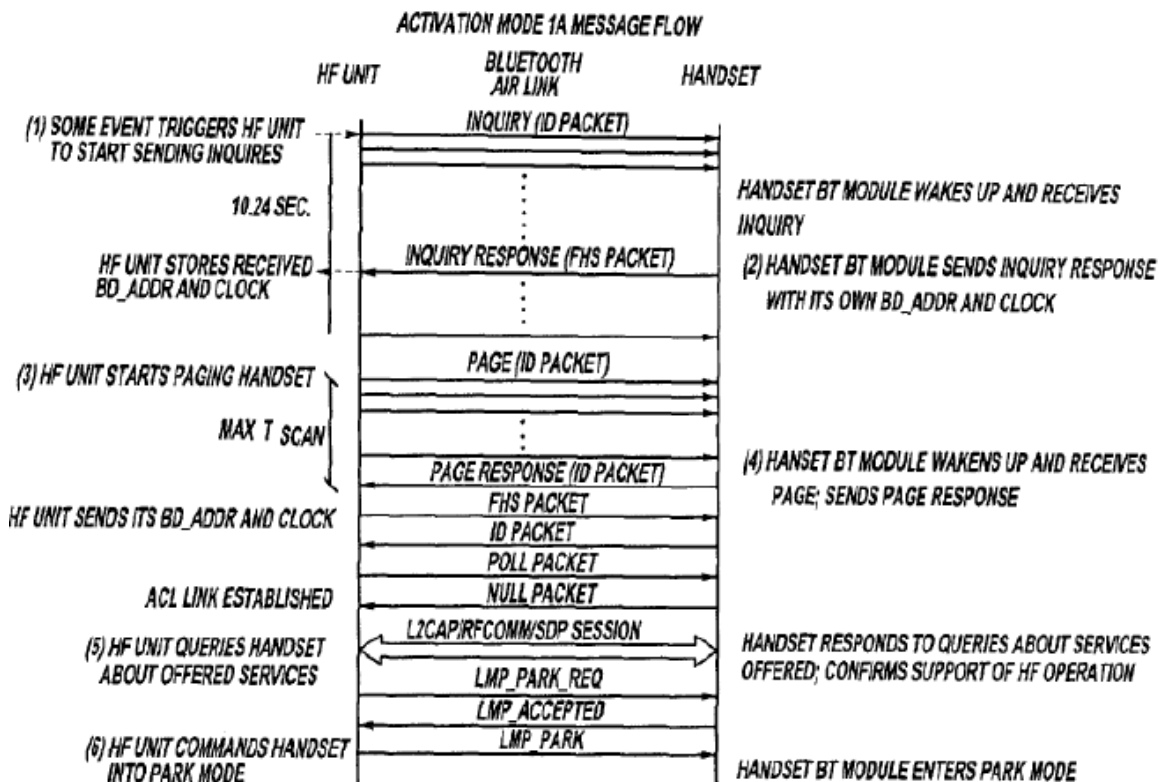


FIG - 5

In my opinion, Mr. Zaheer's opinions turn a blind eye to the fact that a Bluetooth connection involves the constant transmission of message signals back and forth between devices. It is also my opinion that, as depicted in Figure 5, a POSITA would have understood that after the paging messages and before the establishment of a call using the Bluetooth link, devices exchange

message signals to set up an ACL link, which enables the creation of a reliable L2CAP connection. Indeed, in the context of Bluetooth, a POSITA would have known that part of this series of messages involves the transmission of information that indicates *the signal is of sufficient quality to support a reliable connection.* For example, a POSITA would have known that the headers of L2CAP messages are monitored for errors. *When no errors are detected, this indicates that there is a reliable connection, or in other words, that a quality Bluetooth signal has been received.* In my opinion, a POSITA would have understood that *Mooney's* disclosure of a quality Bluetooth link of good quality means that the devices are exchanging information about the quality of the connection.

Ex. 1014 ¶ 48 (citing Ex. 1007, 3:23–4:22, 7:56–58, 8:48–53, Fig. 5; Ex. 2001 ¶¶ 69–74; Ex. 2003, 108) (emphases added).

In Larsson Figure 5, after the exchange of paging messages in steps (3) and (4), an ACL (asynchronous connection-less logic protocol) link is set up and a reliable L2CAP (Logical Link Control and Adaptation Protocol¹³) connection established (“L2CAP/RFCOMM/SDP SESSION”) indicating, as Mr. Lipoff explains, that a quality Bluetooth signal has been received. Patent Owner’s Sur-Reply does not address Larsson Figure 5 or Mr. Lipoff’s related testimony, other than to argue in conclusory fashion that “[t]here may be a virtual communication link (L2CAP connectionless channel), but there is no ‘Bluetooth signal’ that exists until after a call is made and a communication link is established.” Sur-Reply 7; *see also* Resp. 21 (“A connection-oriented L2CAP channel and, possibly, a L2CAP connectionless channel are established to be used for all TCS signaling during that Cordless Telephone session.”) (citing Ex. 2003, 111). We further note that Patent Owner did not depose Mr. Lipoff during this proceeding, choosing not to

¹³ Ex. 2003, 141.

cross-examine Mr. Lipoff on his opening Declaration or Reply Declaration testimony. We find Mr. Lipoff's testimony to be credible and consistent with the disclosures in Larsson and the Bluetooth Specification.

ii. Mooney's quality Bluetooth link is not "a call"

We also agree with Petitioner that Patent Owner's contention—Mooney's Bluetooth link is a phone call and not the Bluetooth connection itself (Resp. 22–23)—is self-contradictory. Reply 15 (citing Ex. 1014 ¶¶ 53–54). It is inherently inconsistent to argue that Mooney's quality Bluetooth link "is a call" (Resp. 22) because Mooney expressly discloses that calls are "*establish[ed]*" over either "a wireless cell phone network, *or* with a local cordless telephone, depending upon which mode the phone is in." *Id.* We again find Mr. Lipoff's cited testimony to be credible and consistent with the Bluetooth Specification:

[T]he Cordless Telephony Profile provides that,

in order to avoid the paging delay at call set-up and to enable broadcasted messages, the TL [Terminal, e.g. "a cordless telephone"] establishes a L2CAP connection to the GW [Gateway, e.g. PSTN base station] when it comes into range, and not before every call. This L2CAP connection remains until the radio link is lost or the TL stops being active in this profile. This means that the L2CAP connections used may be idle (i.e., not used to transfer data) for long periods of time.

In other words, this statement shows that *a Bluetooth link is established independent from a call*. This part of the Cordless Telephony Profile also directly contradicts Mr. Zaheer's opinion that the "Bluetooth link between the cellular telephone and the cordless base unit is established when in active use" (Ex. 2001, ¶73) because it demonstrates that the link persists even when not in active use.

Ex. 1014 ¶ 53 (emphasis added) (quoting Ex. 2003, 115; citing Ex. 2001 ¶¶ 73–74; Ex. 2003, 134 (Fig. 10.2) (describing a “SETUP” acknowledgement transmitted from the base unit to the cell phone before call information is shared or a call proceeds)); *see also* Ex. 2003, 109 (defining “GW” and “TL”). For the same reasons, we reject Patent Owner’s arguments that the “determination of quality is not a sent or received activation cue” and that the Bluetooth communication link “is being used for two different claim elements” in the Petition. Sur-Reply 5.

Thus, we agree with Petitioner that a POSITA would have understood that Mooney’s communication link (communication path) is established before a user initiates a telephone phone call, and, contrary to Patent Owner’s contention, the quality Bluetooth link established for a cordless telephone call is not the call itself. Reply 16 (citing Ex. 1014 ¶¶ 53–54). Therefore, we find Patent Owner’s first conclusion—that “*Mooney* fails to teach ‘activation cue’ because ... call data is transmitted *before* Petitioner’s alleged activation cue is received” (Resp. 28)—fails for the reasons discussed above. *Id.* at 17 (citing Ex. 1014 ¶¶ 41–55).

iii. Mooney’s timer confirms receiving a quality Bluetooth signal

Patent Owner further argues that “[t]he two-minute timer cannot act as ‘an activation cue’ because it is not received by *Mooney*’s cellular phone but is actually set within the cellular phone.” Resp. 27–28. We agree with Petitioner that Patent Owner’s “two-minute timer” argument is off the mark. Reply 18 (citing Ex. 1003 ¶¶ 98–100; Ex. 1014 ¶¶ 56). That is, Petitioner does not rely on the two-minute timer itself as the activation cue. *Id.* We reference our analysis and citation to Mr. Lipoff’s Declaration and Reply Declaration testimony, above.

We are further persuaded by Mr. Lipoff's Reply Declaration testimony that "a POSITA would have understood that *Mooney's* 'two minute' disclosure is merely an example of a series of received quality Bluetooth signals that would trigger a switch." Ex. 1014 ¶ 56 (citing Ex. 1003 ¶¶ 98–100; Ex. 1005, 1:31–34, 3:49–51, 4:6–15, 4:28–36, 6:14–25, 6:45–51). The cited disclosures in *Mooney* support Mr. Lipoff's opinion testimony:

Let's look at this *example*.

A person on their way home is talking to a co-worker on their multimode cell phone 100 (in cell phone mode). That person then arrives home and sits down near their cordless base station 110. Preferably, the multimode cell phone 100 maintains a configuration such that when a cordless telephone link (e.g., a piconet BLUETOOTH™ link of good quality) has been established with the cordless base for a given length of time (*e.g., for at least two minutes*), then the multimode cell phone handset 100 will *allow switch over to the cordless telephone call* and ultimately drop or terminate the original cell phone call.

Ex. 1005, 6:14–25 (emphases added). As Mr. Lipoff testifies, *Mooney* discloses an example of a two-minute timer used to confirm receipt of a good quality Bluetooth signal and establishment of a Bluetooth communication link that will allow a "switch over" from cellular to cordless telephone mode. We find that Patent Owner's two-minute timer argument does not undermine the Petition's contention or the salient point of Mr. Lipoff's supporting testimony based on the cited disclosures in *Mooney*.¹⁴

¹⁴ Patent Owner's Sur-Reply argument, that "[t]he term 'cue receiver' is not found in *Mooney*," is not dispositive or further developed by Patent Owner. Sur-Reply 3.

For the reasons given above, we determine that Mooney discloses, teaches, suggests, or otherwise renders obvious the “*activation cue*” recited in limitation [1.e].

d. Mooney teaches or renders obvious a “data conveyance switching element”

For limitation [1.f], the Petition contends that Mooney’s automatic switchover module, under the control of a processor, acts as a “*data conveyance switching element*” that switches between cordless mode and cell phone mode. Pet. 28–32 (citing Ex. 1003 ¶¶ 101–106). The Petition contends Mooney’s automatic switchover module is assigned by the processor to piconet cordless telephone mode (“*a first state*”) when a good quality Bluetooth signal is received by the piconet cordless phone module transceiver (“*assigned a first state upon an activation cue having been received by said cue receiver*”), as explained above. The Petition also contends that Mooney’s automatic switch over module is assigned by the processor to cell phone mode (“*a second state*”) when the 3-in-1 cell phone “senses” it has extended beyond an “acceptable” Bluetooth range and no longer receives a good quality Bluetooth signal from the base station (“*assigned a second state when no activation cue was received by said cue receiver*”). *Id.* at 32–33 (citing Ex. 1003 ¶¶ 107–109; Ex. 1005, 4:17–30, 4:57–58, 6:45–51, 7:9–12, Fig. 1).

Patent Owner argues that in Mooney’s Figure 2 embodiment, a “call is not switched” but rather “reestablished on another path through the PSTN,” and the “‘switch over’ is simply activating an already established call path.” Resp. 13–14 (citing Ex. 1005, Figs. 1, 2; Ex. 2001 ¶ 55). Patent Owner contends that when Mooney’s system transfers a phone call from cordless mode to cell phone mode, i.e. switches modes during a call, “the transferring

of the call occurs ONLY after the second path has been successfully established.” Resp. 32–33 (citing Ex. 2001 ¶ 83; Ex. 1005, 6:26–39). Patent Owner argues that there “can be no change of state or transfer of a communication path until after the second communication path is established.” *Id.* Patent Owner asserts, therefore, that such an operation does not teach the recited switching element “requiring the state to change upon reception of the activation cue.” *Id.*; *see also id.* at 33–35 (citing Ex. 1005, 6:41–44; Ex. 2001 ¶¶ 84–86).

The point in dispute is whether Mooney’s automatic signal-based switching technique discloses, teaches, suggests, or otherwise renders obvious a switching element that assigns either a “*first state*” or “*second state*” (cordless mode or cellular mode) based on whether or not an “*activation cue*” (a good quality Bluetooth signal) is received before the user dials a telephone number (“*selectively triggered by the user to issue an invariable activation command*”) and before the call is initiated (established) (“*if said switching element is in said first [second] state, a first [second] data conveyance operation will be initiated . . . for sending data from said electronic circuit to the first [second] external data exchange device*”), in accordance with limitations [1.h] and [1.i]. Resp. 30–35 (citing Ex. 2001 ¶¶ 78–86).

The answer to the question must be determined based on the contentions raised in the Petition. The Supreme Court and Federal Circuit have emphasized that “petitioner’s contentions . . . define the scope of the litigation all the way from institution through to conclusion.” *SAS Institute, Inc. v. Iancu*, 584 U.S. 357, 367 (2018); *see also Axonics, Inc. v. Medtronic, Inc.*, 75 F.4th 1374, 1380 (Fed. Cir. 2023)) (quoting *SAS Institute*). The Petition relies on Mooney’s teaching of *automatic* signal-based switching,

where the automatic switching module in the 3-in-1 cell phone “selects a communication [path] *before* a call is established;” i.e., before a cell phone user initiates a call by dialing a telephone number. Reply 19–21 (citing Pet. 28–34; Ex. 1003 ¶¶ 106, 108–110). Patent Owner’s Response, in contrast, relies on Mooney Figures 1 and 2 that “depict the transfer of a telephone call from a cordless telephone call to a cellular telephone call,” namely a switch over *during a call* after a telephone number has been dialed and a call established. Resp. 31–35 (citing Ex. 1005, 4:37–49, 6:26–39 (describing operation of Figures 1 and 2); Ex. 2001 ¶¶ 81–85 (same)).

Petitioner replies that, because Patent Owner is addressing “embodiments in which a multimodal phone switches communication paths *mid-call* based on a user *prompt*,” Patent Owner’s arguments “do not address the mappings advanced in the Petition.” Reply 19. We agree, and adopt Petitioner’s reasoning quoted below:

That *Mooney* also describes switching between Bluetooth cordless and cellular modes during a call (POR, 31-33) does not negate the fact that *Mooney*’s device also determines which path to *initiate* a call with or that the path may be switched *prior to establishing* the call using an entirely automated process. As explained in Section III.B, “*establishment* of a telephone call with a wireless cell phone network, *or* with a local cordless telephone, *depend[s] upon which mode the phone is in.*” *Mooney*, 1:31-34 (emphases added). Patent Owner’s hypothetical—that “[t]he change of state ... may never occur[] [i]f the setup of the call path is not successful due to the far-end phone refusing to accept” (POR, 33)—also misses the mark because it presumes that the state is selected after the call is established, which is not the case as explained in Section III.B.

Reply 21. In short, Patent Owner distinguishes particular embodiments in *Mooney* from the claimed invention, rather than address the teachings of *Mooney* on which the Petition relies for its theory of obviousness. *See KSR*,

550 U.S. at 417 (“If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability.”).

For example, Patent Owner does not address the Petition’s mapping of limitations [1.f], [1.h], and [1.i] to the disclosures and teaching of Mooney. The Response relies on embodiments in Mooney where the automatic switchover module switches from cordless mode to cellular mode (or vice-versa) during a telephone call based on a user prompt. Patent Owner’s premise is that, when a switchover from cordless mode to cellular mode (or vice-versa) is made during a phone call, Mooney does not switch states based on the receipt of an “*activation cue*” because “a change of state only occurs . . . after 1) successfully setting up a second path; and 2) successfully transferring over to the new path.” Resp. 32–35 (citing Ex. 2001 ¶¶ 84–86). In other words, Patent Owner contends that switching the call path during a call, i.e., *after* a call already has been established and data exchanged, is not a disclosure or teaching of the claimed activation cue. Even if Patent Owner is correct, the argument does not address Petitioner’s contention.

Petitioner highlights the problem with Patent Owner’s argument. The Response does not address or effectively counter the Petition’s contention, supported by Mr. Lipoff’s persuasive testimony, that a POSITA reading Mooney would have understood that “the *automatic* switching module selects a communication [path] *before* a call is established,” i.e., before a 3-in-1 cell phone user *initiates a call* by dialing a phone number. Reply 19 (citing Pet. 28–34); Ex. 1003 ¶¶ 101–110. As discussed above and explained by Petitioner and Mr. Lipoff:

Mooney’s automatic switch over module (data conveyance switching element) is assigned, by the processor, to a first state (piconet/Bluetooth connection for cordless telephone mode) upon coming in range of the base unit 110 and receiving at the

piconet module transceiver (cue receiver) *a quality Bluetooth signal (activation cue) indicating that the phone is capable of establishing a call in piconet/Bluetooth cordless mode.*

Reply 19–20 (quoting Pet. 32 (emphasis added) (citing Ex. 1003 ¶ 106; Ex. 1005, 5:8–11, 6:14–24;)).

We further agree that Petitioner’s mapping of the switching element to the disclosures and teaching of Mooney is clear:

[B]ecause the determination of whether the data is to be conveyed to a “cordless telephone [Bluetooth] base unit” (first external data exchange device) using a “Bluetooth link,” or a “cellular network” (second external data exchange device) over a “cell phone link,” has already been made when the user dials a far end telephone number (upon triggering an invariable command, as explained in [1.b]), a POSITA would have also understood that *the automatic switch module is assigned to the piconet/Bluetooth mode (first state) or the cell phone mode (second state) before the call is “established” (data is exchanged)* Lipoff, ¶110.

Reply 20–21 (quoting Pet. 33–34) (emphasis added); Ex. 1003 ¶ 110. Patent Owner’s Sur-Reply arguments, that Mr. Lipoff’s “Declaration relies on the Expert’s view of what a POSITA would know rather than the text of the printed patent as required by 35 U.S.C. § 311(b)” and that “[n]o underlying facts or data on which the opinion is based are provided,” are incorrect, conclusory, and fail to shake the merits of the Petition and Petitioner’s Reply arguments. *See* Sur-Reply 3–4.

For the reasons given above, we determine that Mooney discloses, teaches, suggests, or otherwise renders obvious the “*data conveyance switching element*” recited in limitation [1.f].

e. Mooney teaches an “invariable activation command”

Petitioner contends that Mooney discloses or renders obvious limitation [1.h].¹⁵ Pet. 35–42. The Petition argues, in particular, that

when the automated switch module (switching element) is in piconet/Bluetooth cordless mode (the first state), and the user initiates a phone call by *dialing a telephone number on the keypad (upon said control device being selectively triggered by the user to issue said invariable activation command)*, call data is communicated (conveyed) from the piconet/Bluetooth module (electronic circuit element) through its corresponding first transceiver to the piconet/Bluetooth base unit (first external data exchange device) over the ‘Bluetooth link’ (first communication link).

Pet. 36–37 (citing Ex. 1003 ¶¶ 117–118; Ex. 1005, 1:34–38, 4:41–49, 5:8–11, 6:14–24, 7:9–12, Fig. 1) (emphasis added). The Petition similarly contends that Mooney discloses or renders obvious limitation [1.i], because when no Bluetooth signal is received and “the automated switch module (switching element) is in cellular mode (the second state) . . . data is communicated (conveyed) from the cell phone module (electronic circuit element) . . . over the ‘cell phone link’ (second communication link).” *Id.* at 37–38 (citing Ex. 1003 ¶¶ 119–120; Ex. 1005, 4:17–30, 4:57–58, 6:45–51, 7:9–12, Fig. 1).

With regard to “*said control device being selectively triggered by the user to issue said invariable activation command*” recited in limitation [1.h],

¹⁵ Patent Owner does not contest the evidence in the Petition that Mooney discloses the “*power means*” recited in limitation [1.g]. *See Resp. generally.* We find the Petition establishes by a preponderance of the evidence that Mooney discloses or renders obvious limitation [1.g] for the reasons given therein. Pet. 34–35 (citing Ex. 1003 ¶¶ 111–115; Ex. 1010, Abstract, 1:29–35, 1:64–2:2; Ex. 1011).

the Petition explains that calls are “initiated” or “established” by a user dialing a telephone number on the keypad of Mooney’s 3-in-1 cell phone. Pet. 38–39 (citing Ex. 1003 ¶ 121; Ex. 1005, 4:12–15, 4:54–56, 5:36–41, Fig. 2); *see also* Reply 22. The cell phone keypad is a user-triggered control device selectively operated by the user to issue the “*invariable activation command*” to initiate or establish a telephone call. *Id.*; *see also* Reply 22; Ex. 1001, 15:14–18 (“selectively triggering [the] control device to issue an invariable activation command . . . may be accomplished by entering a PIN code, pressing an authorization button . . . or the like”). We reject Patent Owner’s argument that “dialing a telephone number is not an invariable action command.” Resp. 37. What Petitioner did not argue—and what Patent Owner incorrectly suggests—is that connecting to the base station or dialing phone numbers somehow triggers the state change of the switching element or the activation cue itself. Resp. 36 (citing Ex. 2001 ¶ 89).¹⁶

We agree with Petitioner and Mr. Lipoff that, contrary to Patent Owner’s characterization of the Petition, a user dialing a phone number on Mooney’s 3-in-1 cell phone is a teaching of the claimed “*said control device being selectively triggered by the user,*” and the call that ensues is a teaching of the claimed “*to issue said invariable action command.*” Reply 22 (citing Pet. 19–20, 38–39); Ex. 1014 ¶¶ 66–68. We are further persuaded by Petitioner’s argument that although the ’294 patent does not define

¹⁶ Patent Owner’s citation to Ex. 1002 ¶¶ 62–94 at page 35 of the Response addressing Mooney’s teaching of limitation [1.h] (and at Resp. 41 regarding “*close proximity*” recited in claim 8) appears to be in error. Ex. 1002 is the prosecution history for the ’294 patent. Paragraphs 62–94 of Mr. Zaheer’s Declaration, Exhibit 2001, address his opinion attempting to distinguish limitations [1.a], [1.e], [1.f], and [1.h] from Mooney. Patent Owner does not further illuminate the citation to paragraphs “62–94” on page 35.

“invariable action command,” it does explain that the device user “will not be able to select to issue different activation commands by means of [the] control device.” Ex. 1001, 10:39–42. The ’294 patent further describes “[t]he same invariable activation command will . . . issue[] 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 determines which data conveyance path will be used. Reply 22 (citing Ex. 1001, 10:46–51); Ex. 1014 ¶ 68. Mooney discloses precisely what the ’294 patent describes as the “same” command issuing from the selective triggering of the control device; a command to initiate or establish a phone call as a result of a user dialing a phone number. *See* Tr. 20:4–5 (“It establishes the call. At that point, the user is not choosing.”) (Paper 32). It is the “state” or mode of Mooney’s automatic switch over module, resulting from the receipt or non-receipt of a quality Bluetooth signal, that determines whether data will be conveyed over a cellular communication link or cordless communication link when a call is initiated by the user.

In sum, we find that Mooney teaches or otherwise renders obvious *“said control device being selectively triggered by the user to issue said invariable activation command”* as recited in limitation [1.h].

f. Conclusion for Claim 1

For the reasons given above, we determine the Petition demonstrates by a preponderance of the evidence that independent claim 1 of the ’294 patent is unpatentable as obvious over Mooney.

3. Claims 2–20

The Petition contends that claim 2–20 are also obvious over Mooney alone. Pet. 47–75 (citing Ex. 1003 ¶¶ 136–211). Patent Owner argues that

Mooney does not disclose or render obvious claims 2–20 because *Mooney* does not disclose, teach, suggest, or otherwise render obvious the disputed limitations in claim 1, which we have addressed above. Resp. 38–53. Patent Owner does raise several additional arguments specific to claims 5–8, 13, 16, and 19 that we now address.

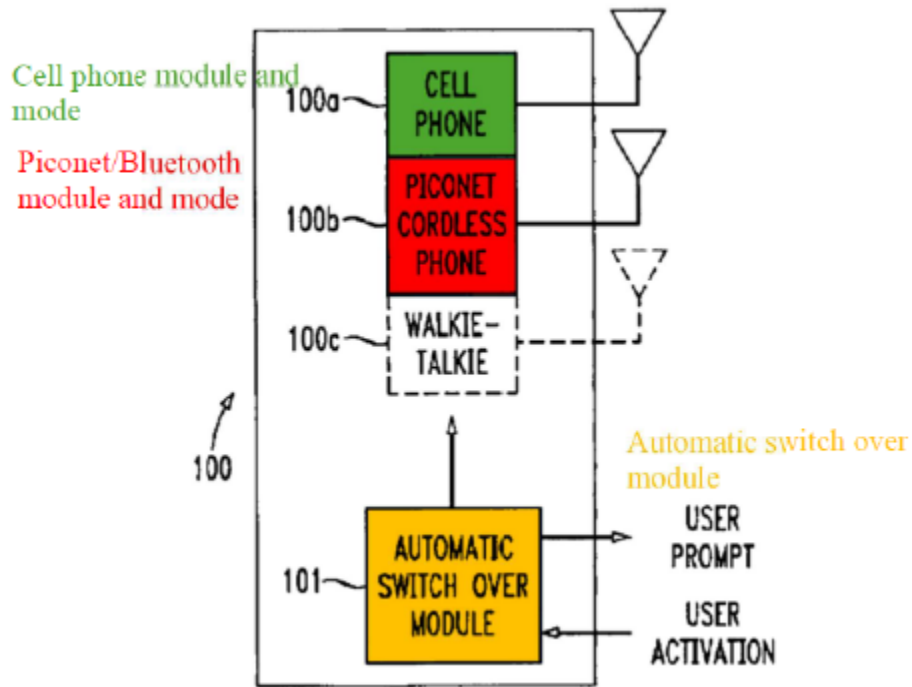
Claims 5–7

Claims 5–7 are directed to particular embodiments of the claimed electronic circuit and switching element. Claim 5 depends from claim 1 and recites “*wherein said electronic circuit includes said switching element.*” Claim 6 depends from claim 5 and recites “*wherein said electronic circuit comprises a microchip, and wherein said switching element is a series of instructions programmed onto said microchip.*” Claim 7 depends from claim 1 and recites “*wherein said switching element comprises a logical circuit.*”

For claims 5–7, Patent Owner contends that “Petitioner fails to identify where the switching element is, as defined in claim 1.” Resp. 39–40. For claim 6, Patent Owner further contends the Petition is inadequate because “[s]imply stating that a POSITA can implement switching in software does not establish that a POSITA would understand how to implement a data conveyance switch as required when all the elements related to the data conveyance are considered.” *Id.* at 40 (citing Ex. 2001 ¶ 110). We find Petitioner’s argument and evidence that claims 5–7 would have been obvious to a POSITA to be persuasive, particularly Mr. Lipoff’s testimony regarding claim 6 that “it was well known in the art to program a series of instructions onto a microchip, as evidenced by *Zhou* and *Ong.*” Pet. 48–49 (citing Ex. 1003 ¶¶ 140–143; Ong Ex. 1008, 3:41–49 (programming firmware to control processor); Zhou Ex. 1009, 7:46–49

(describing a microchip including a microprocessor), 39:63–66 (“microprocessor programmed to detect the transition between the positive EEG signal and negative EEG signal”), 55:12–15 (same)). We find Mr. Zaheer’s cited testimony and Patent Owner’s argument to be conclusory and unavailing.

We agree with Petitioner that neither claim 1, nor claims 5–7, recite or require a precise location within the electronic circuit (or within the microchip recited in claim 6) for the switching element. Claim 1 recites a switching element “*operatively linked to said electronic circuit.*” Ex. 1001, claim 1. Reply 23. Mooney’s “multimode cell phone includes an ‘automatic switch over module’ (data conveyance switching element) operatively connected to the processor, piconet/Bluetooth cordless module, and cell phone module (electronic circuit).” Pet. 28–29. Annotated Mooney Figure 1 below illustrates the operative connection between the “automatic switch module” and cell phone and piconet cordless modules (modes).



Reply 24 (citing Ex. 1003 ¶ 103). Mooney’s annotated Figure 1 identifies the components in Mooney that correspond to the data conveyance switching element and its operative connections. Nothing further is required.

We determine the Petition demonstrates by a preponderance of the evidence that claim 5–7 of the ’294 patent are unpatentable as obvious over Mooney.

Claims 8 and 16

Dependent claims 8 and 16 both recite “*a wireless data exchange . . . where the cell phone is conveyed toward a close proximity of the first external data exchange device and within range to receive the activation cue.*” The Petition explains that in Mooney, when a caller on the multimode cell phone is “*within range* of the cordless telephone base station that is matched to the cordless telephone mode of the 3-in-1 cell phone,” the piconet/Bluetooth cordless module is informed of the signal quality (via its first transceiver/cue receiver) and a call may be established in cordless mode via the BLUETOOTH™ link. Pet. 50–51 (citing Ex. 1003 ¶¶ 144–145; Ex. 1005, 2:53–3:7, 4:34–37, 6:18–25, Fig. 2; Pet. 35–42 (argument for limitation [1.h])). Patent Owner responds that positioning Mooney’s 3-in-1 cell phone within range of the cordless base station to detect the piconet/Bluetooth signal “would place the cellular telephone towards the 30-meter range and not the several-meter range that the ’294 Patent defines as ‘close proximity.’” Resp. 41–42, 49 (citing Ex. 1001, 15:55–57, 15:61–63; Ex. 2001 ¶¶ 114–120, 158–159); Sur-Reply 1–2 (“‘Close proximity’ must be given a meaning in the claims, and it must be different from the range term used in the claims.”) (citing Ex. 1001, 19:65–20:1).

We agree with Petitioner that Patent Owner’s argument “is premised on Patent Owner’s erroneous construction of ‘*close proximity*’ and fails for the same reasons” articulated above in our claim construction of “*close proximity*.” Reply 24–25. Therefore, we determine the Petition establishes by a preponderance of the evidence that Mooney discloses and renders obvious claims 8 and 16.

Claim 13

Claim 13 depends from claim 12 and recites a method step that is performed “*before the step of forwarding first data to said first data transceiver*” and requires “*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.*”

The Petition explains that Mooney discloses forwarding an audio tone (third data representative of the content of the first data) to the user of the multimode phone to notify the user when the multimode cell phone is about to use piconet/Bluetooth mode. Pet. 66 (citing Ex. 1003 ¶ 185). The Petition contends that because the audio tone represents that the call (first data) will occur over a particular communication pathway (Bluetooth), “a POSITA would have understood that the audio tone is also representative of the content of first data because it informs the user which pathway will be used to place the call.” *Id.* Petitioner also contends:

A POSITA would have been motivated and found it obvious to display, e.g., the word Bluetooth, on a screen of the multimode phone (in addition to or instead of forwarding audio tones), to ensure the user is notified of the impending use of Bluetooth mode. Such a configuration would have been particularly useful to notify hearing-impaired users or users holding the phone away from their ear.

A POSITA would have had a reasonable expectation of success in configuring the multimode cell phone to forward the visual notification (third data) to a screen (display) of the multimodal phone, which would have only required conventional parts and routine skill to implement.

Id. at 67 (citing Ex. 1003 ¶¶ 186–187). We agree with Petitioner that Mooney’s forwarding of an audio tone representing a Bluetooth call mode is consistent with the ’294 patent, “which explains that third data being representative of the first data means that the third data may indicate the type, nature or content of data included in the first data, may include a portion of the data included in the first data, or may literally be identical to the first data.” *Id.* at 66–67 (citing Ex. 1001, 15:34–38). Displaying a “Bluetooth” message on the cell phone to indicate the impending call mode would have been an obvious variation, and routine implementation, as explained by Mr. Lipoff. Ex. 1003 ¶¶ 186–187.

Patent Owner responds that, although Mooney’s audio tones are used to notify the user “of switching between two established paths in a communication network,” the tones are “independent of a particular communication pathway.” Resp. 47 (citing Ex. 1005, 5:37–57, 6:25–30). Patent Owner contends that Caller ID information (“*first data*”) is forwarded to the cell phone before the audio tone signals are sent “to set up a call path through the PSTN network,” such that “the claim element is not met.” *Id.* at 47–48 (citing Ex. 2001 ¶¶ 148–149). Patent Owner’s argument is not entirely clear to us, although it appears to be based on the previously-discussed Mooney embodiments in Figures 1 and 2 for switching the call path during a phone call. We agree with Petitioner that Patent Owner does not address the express mappings in the Petition (Pet. 66–68), or explain

why Mooney does not render claim 13 obvious as set forth in the Petition.
Reply 25.

Therefore, we determine the Petition establishes by a preponderance of the evidence that Mooney discloses and renders obvious claim 13.

Claim 19[i]

Independent claim 19 is a method claim. Limitation 19[i] in dispute recites “*if said switching element is in said second state, 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.*”

The Petition explains that Mooney discloses forwarding audio tones to the user of the multimode phone to notify the user when the multimode cell phone is about to use cellular mode. Pet. 73 (citing Ex. 1003 ¶¶ 204–206). The Petition contends that because the audio tone represents that the call (second data) will occur over a particular communication pathway (cellular), a POSITA would have understood that the audio tone is also representative of the content of second data because it informs the user which pathway will be used to place the call. *Id.* (citing Ex. 1003 ¶ 205). The Petition contends:

As explained for claim 13, a POSITA would have understood that there are various ways to notify a cell phone user of its operational mode, including visual or tactile feedback, and would have also been motivated and found it obvious to forward one or more kinds of notifications (third data) to ensure the user is properly notified. Accordingly, a POSITA would have been motivated and found it obvious to display, e.g., the word cellular, on a screen of the multimode phone (in addition to or instead of forwarding audio tones) to notify the user which communication pathway the phone would use, and had a reasonable expectation of success in doing so, for [the] reasons articulated in claim 13.

Id. at 74 (citing Ex. 1003 ¶ 206).

Patent Owner responds in one sentence: “Now, the same audio tones are reused as the fourth data, but audio tones do not represent data.” Resp. 52 (citing Ex. 2001 ¶¶ 147–148, 175–176). Patent Owner’s conclusory response repeats Mr. Zaheer’s conclusory testimony. We agree with Petitioner’s Reply:

Regarding [19.i], Patent Owner vaguely alleges that audio tones do not “represent data.” Patent Owner, however, does not refute the Petition’s explanation that “the audio tone is ... *representative of the content of second data* because it informs the user which pathway will be used to place the call,” and why “a POSITA would have been motivated” with a reasonable expectation of success “to display, e.g., the word *cellular*, on a screen of the multimode phone (in addition to or instead of forwarding audio tones) to notify the user which communication pathway the phone would use.”

Reply 26 (citing Resp. 52; Pet. 73–74; Ex. 1003 ¶¶ 205–206) (first emphasis added). In short, for claim 13 a Mooney audio tone (“*third data*”) is representative of call data over a Bluetooth cordless path (“*representative of the content of said first data*”), and a “Bluetooth” display is an obvious variation for notifying the user. The same analysis applies to claim 19 for displaying the word “cellular” on the cell phone screen in addition to or instead of sending audio tones (“*fourth data*”) representative of call data over a cellular path (“*representative of the content of said second data*”).

Therefore, we determine the Petition establishes by a preponderance of the evidence that Mooney discloses and renders obvious claim 19.

4. Conclusion for Ground 1

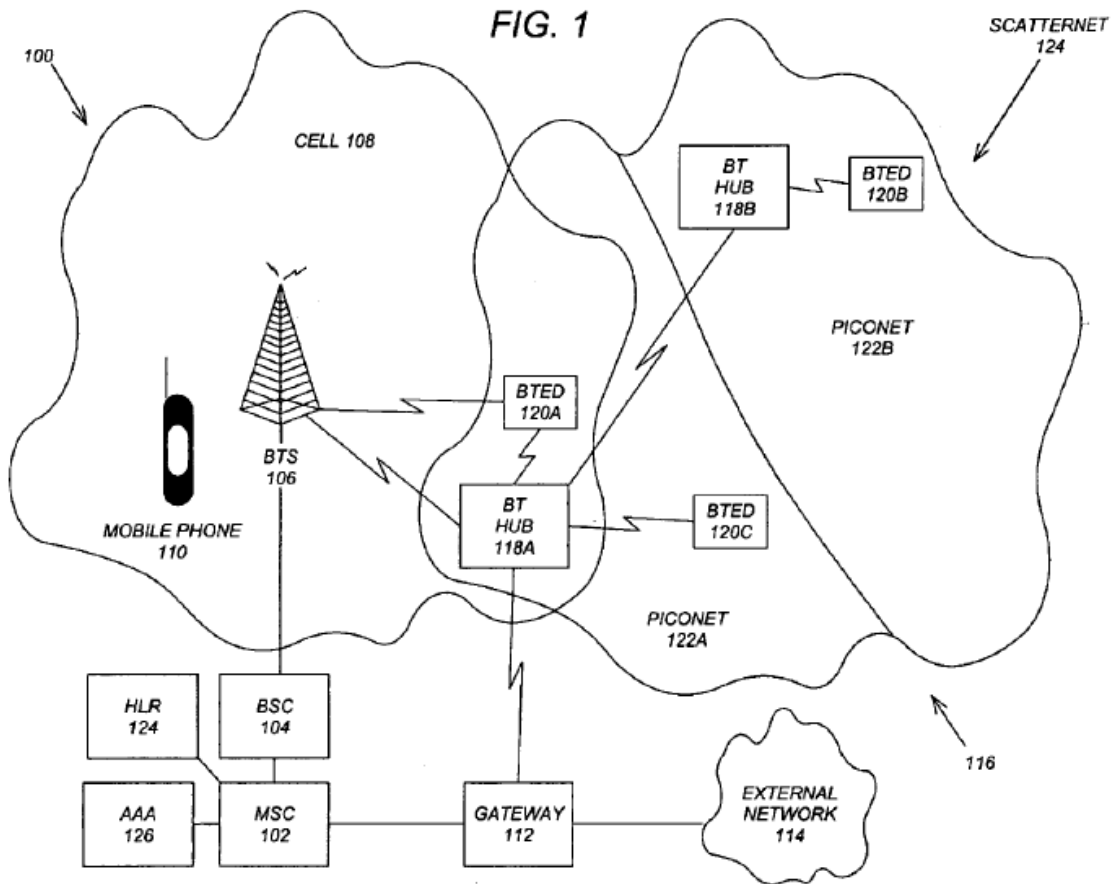
For the reasons given above, we determine the Petition demonstrates by a preponderance of the evidence that claims 1–20 of the ’294 patent are unpatentable as obvious over Mooney.

*D. Analysis of Limitations [1.h]–[1.i] in View of Mooney and Lee
(Ground 2)*

For Ground 2, the Petition contends that, to the extent there is a dispute as to whether Mooney alone discloses, teaches, suggests, or otherwise renders obvious limitations [1.h] and [1.i], the combination of Mooney and Lee renders those two limitations obvious. Pet. 42–47 (citing Ex. 1003 ¶¶ 129–135). Patent Owner opposes. Resp. 43–58 (citing Ex. 2001 ¶¶ 181–200). We address the parties’ arguments and evidence below, beginning with an overview of Lee.

1. Overview of Lee

Lee, titled “Integrating Wireless Local Loop Networks with Cellular Networks,” is directed to “Bluetooth networks, also known as wireless local loop, [being] integrated with cellular networks, so that the two networks can inter-operate with devices enabled for both types of networks.” Ex. 1006, code (54), Abstract (code (57)). Lee Figure 1 is reproduced below, depicts wireless network 100:



Id. at 2:45. As shown in Figure 1, wireless network 100 comprises a cellular telephone system that includes MSC (Mobile Switching Center) 102, BSC (Base Station Controller) 104, and BTS (Base Transceiver Station) 106. *Id.* at 2:45–50. The radio frequency (RF) signal from BTS 106 defines a perimeter of associated cell site 108 that is irregular in shape due to the terrain, buildings, and other structures. *Id.* at 2:51–54. “MSC 102 interfaces via [] gateway 112 both to one or more external networks 114 and/or a Bluetooth network 116.” *Id.* at 2:64–66.

Lee discloses a “dual-enabled” device, e.g., a mobile phone, configured to route a call over a Bluetooth network or a cellular network. *Id.* at 3:17–27, 4:17–30, Figs. 1–2. Lee’s mobile phone includes transceivers for communicating with a Bluetooth base unit (“BT Hub”) or a

cellular network. *Id.* at 3:17–27, 4:17–21, Fig. 1. A mobile phone may be directed to “the Bluetooth network exclusively when the cellular network is unavailable or subject to interference, such as within a building or vehicle,” or to the cellular network when “the Bluetooth network is unavailable or subject to interference, such as outside a building or vehicle.” *Id.* at 4:17–31, Fig. 2.

2. Analysis of Limitations [1.h]–[1.i]

Petitioner contends that “Lee discloses ‘a discovery and/or registration process’ through which its [dual-enabled] device’s internal logic determines whether to use a cellular or Bluetooth network *prior* to transmitting data.” Pet. 43 (citing Ex. 1003 ¶ 131; Ex. 1006, 4:56–5:6, Fig. 2); *see also id.* at 42–45 (citing Ex. 1003 ¶¶ 129–132; Ex. 1006, 4:17–31, 4:42–46, 4:56–5:10, 5:27–36, Fig. 2, claim 20). The Petition emphasizes that a “POSITA would have recognized that assessing signal (communication link) availability prior to sending data over that communication link, as taught by Lee, would have been similarly advantageous for Mooney’s multimode cell, which like Lee, utilizes Bluetooth or cellular communication links depending on signal strength.” *Id.* at 45–46 (citing Ex. 1003 ¶ 133). The Petition argues, in particular, that a

POSITA would have been motivated and found it obvious to implement ‘discovery process’ logic, as taught by Lee, in Mooney’s multimode to *reduce congestion and interference* over Mooney’s cellular and Bluetooth networks by enabling the multimode phone to determine whether to use cellular or Bluetooth mode before sending data over the corresponding communication links.

Id. at 46 (citing Lee, 4:6–16, 4:25–31, 4:66–5:6, 5:27–36; Ex. 1003 ¶ 134) (emphasis added).

Patent Owner contends “[t]here is no motivation to combine *Mooney* and *Lee*,” because *Mooney* is directed toward routing calls through a connection-oriented circuit-based PSTN network, and *Lee* “is directed toward a voice-over internet protocol (VOIP) network that is connectionless and simply routes VOIP packets.” Resp. 53 (citing Ex. 1005, 130 Fig. 1; Ex. 1006, 206 Fig. 1; Ex. 2001 ¶¶ 53–61, 182–185). Patent Owner further contrasts *Lee* from *Mooney*:

Additionally, the purpose of *Lee 705* is to integrate a wireless local loop network with a cellular network. No suggestion is found in *Lee 705* that it would work in a non-wireless network, such as a PSTN network. Rather, it teaches explicitly away from being implemented in a non-wireless in its title, abstract, and specification. *Lee 705* even states circuit switched voice data is received and translated to IP packets by the BT Hub 118.

Resp. 54 (citing Ex. 1005, Title (code 54), Abstract (code 57); Ex. 1006, 5:15–16; Ex. 2001 ¶¶ 187–188). As for the Petition’s asserted motivation to implement *Lee*’s discovery process logic to reduce congestion and interference over *Mooney*’s cellular and Bluetooth networks, Patent Owner argues there would have been no such motivation:

There is no congestion in the Bluetooth mode in *Mooney* as it is directly connected to a cordless telephone base station connected to a PSTN. Furthermore, if a person moves out of range of the cordless telephone base station, only two options exist for a call. Either it drops, or a connection is made through the cellular network. No consideration is given to congestion as only a predetermined fixed number of handsets are supported by the cordless telephone base station. . . .

Mooney is dependent upon a PSTN network and network features, with a cellular telephone used as a cordless handset, and, *Lee 705* is dependent upon a VOIP network with a cellular telephone used as a cellular telephone that hands off between piconet base stations and cellular base stations (No need for *Mooney*’s teachings). Further, there is no advantage to using the

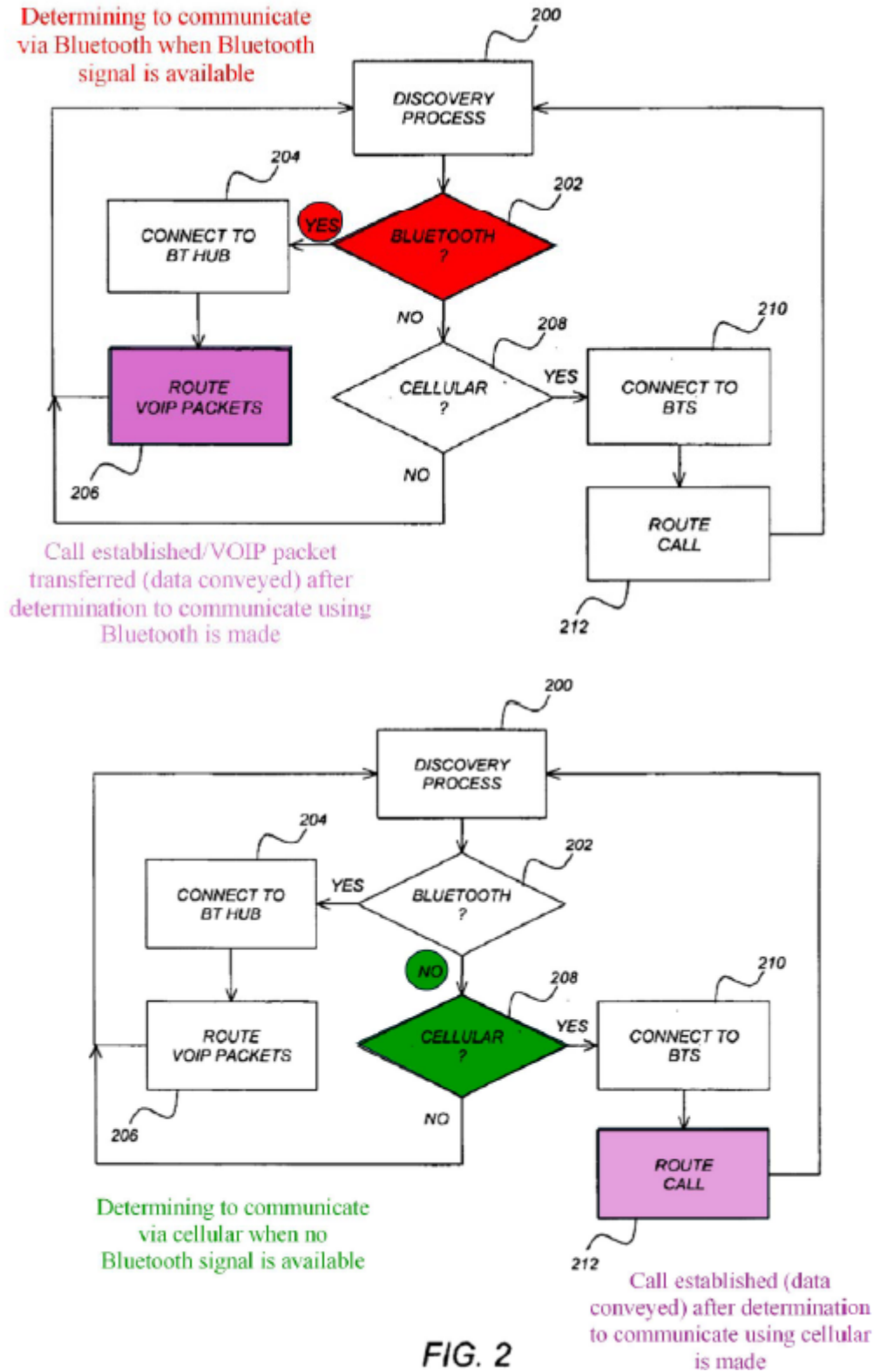
approach of *Lee 705* to increase capacity or reduce congestion in *Mooney* as congestion can never be a problem because *Mooney* is circuit based and does not use shared resources as the cellular approach of *Lee 705*.

Id. at 56 (citing Ex. 2001 ¶¶ 191, 194).¹⁷

We find that a preponderance of the evidence demonstrates a POSITA would have been sufficiently motivated to combine *Mooney* and *Lee* with a reasonable expectation of success for switching a cellular phone between alternate data conveyance operations as recited in limitations [1.h] and [1.i].¹⁸ As Petitioner emphasizes, “*Lee*’s ‘discovery and/or registration process’ is not about updating the location of the device, it is about a device’s internal logic determining whether to use a cellular or Bluetooth network” before transmitting call data. Reply 26 (citing Ex. Pet. 43; Ex. 1003 ¶ 131; Ex. 1006, 4:56–5:6, Fig. 2, claim 20). Annotated versions of Figure 2 from the Petition illustrate the point:

¹⁷ Patent Owner’s Sur-Reply argument, that “no ‘Bluetooth signal’ [] exists until after a call is made and a communication link is established,” is unavailing for the reasons stated above in Section II.C.2.c., d. Sur-Reply 7.

¹⁸ The Petition cross-references the same arguments and evidence to apply to Limitations [10.h], [10.i] (Pet. 56), [11.k], [11.l] (Pet. 62), [12.c], [12.d] (Pet. 64–66), and [19.c], [19.d] (Pet. 71–72).



Reply 26–28 (citing Pet. 44–45; Ex. 1003 ¶ 131; Ex. 1006, Fig.2)

(annotated)). Once again, we find Mr. Lipoff’s testimony to be consistent with the references and persuasive:

As illustrated in Figure 2, block 202 [red], the device “determines whether the dual-enabled BTED 120A has identified a BT Hub 118 for use in communications, as well as discovery and registration. If so, control transfers to Blocks 204 and 206” to connect to the BT Hub (step 204) and routes “Voice-over-IP (VoIP) packets to the correct destination” (step 206). Ex. 1003 ¶ 131 (citing Ex. 1006, 5:7–10).

If the Bluetooth network is “unavailable,” however, the device connects to the cellular network [green] so that the data is transmitted over a cellular network. *Id.* ¶ 132 (citing Ex. 1006, 4:25–31, 4:66–5:6, 5:27–36, Fig. 2).

Lee describes numerous “advantages” of its disclosed methods, including “*increased capacity*” over the cellular and Bluetooth networks and “*reduced congestion and interference*” over both networks. A POSITA would have recognized that assessing signal (communication link) availability prior to sending data over that communication link, as taught by *Lee*, *would have been similarly advantageous for Mooney’s multimode cell*, which like *Lee*, utilizes Bluetooth or cellular communication links depending on signal strength. *Id.* ¶ 133 (citing Ex. 1006, 4–16) (emphases added).

Thus, a POSITA would have been motivated and found it obvious to implement “discovery process” logic, as taught by *Lee*, in *Mooney’s* multimode to reduce congestion and interference over *Mooney’s* cellular and Bluetooth networks by enabling the multimode phone to determine whether to use cellular or Bluetooth mode prior to sending data over the corresponding communication links. *Id.* ¶ 134 (citing Ex. 1006, 4:6–16, 4:25–31, 4:66–5:6, 5:27–36).

We are persuaded by Petitioner that Patent Owner’s argument, based on Mr. Zaheer’s supporting testimony, does not consider the proposed combination for what the combination would fairly teach a POSITA. Reply 29 (citing Resp. 53, 57–58). “The question in an obviousness inquiry is

whether it would have been obvious to a [POSITA] to combine the relevant disclosures of the two references, not whether each individual reference discloses all of the necessary elements.” *Palo Alto Networks, Inc. v. Centripetal Networks, LLC*, 122 F.4th 1378, 1386 (Fed. Cir. 2024) (citation omitted). The Petition does not argue for integrating Lee’s networks and VoIP functionality into Mooney’s system. Ground 2 provides that a POSITA would have been motivated to increase capacity and reduce congestion and interference by implementing Lee’s discovery process/logic in Mooney’s system to determine whether to use a cellular or Bluetooth network prior to transmitting call data. Reply 29–30 (citing Pet. 46). We agree with Petitioner that “[n]othing in *Mooney* precludes multiple cell phones from connecting to the base unit (and thus sharing the same resource and causing congestion) or suggests that congestion is impossible.” *Id.* at 30 (citing Ex. 1014 ¶ 84 (discussing how Ex. 2003 supports that congestion would be a problem)).

We determine that a preponderance of the evidence supports the Petition’s contention that the use of Lee’s discovery process logic to reduce congestion and interference in Mooney’s cellular and Bluetooth networks is sufficient motivation to combine the two references in the manner asserted in the Petition.

3. Conclusion for Ground 2

For the reasons given above, we determine the Petition demonstrates by a preponderance of the evidence that the combination of Mooney and Lee renders limitations [1.h] and [1.i] obvious.

III. MOTION TO EXCLUDE

Patent Owner moves to exclude: (i) Petitioner’s claim constructions;

(ii) certain paragraphs in Mr. Lipoff’s Expert Declaration (Ex. 1003) and Reply Declaration (Ex. 1014); (iii) the entirety of Mr. Lipoff’s Expert Declaration (Ex. 1003) and Reply Declaration (Ex. 1014); and (iv) Petitioner’s Reply Brief. Paper 28 (“Motion” or “Mot.”). Apart from Patent Owner’s objections to Petitioner’s claim constructions, Patent Owner moves to exclude Mr. Lipoff’s testimony based on three faulty and unsupported propositions—irrelevance of the testimony, opinions not based on the skill level of a POSITA, and lack of Bluetooth expertise. Petitioner opposes the Motion (“Opp.”), and Patent Owner filed a reply. Paper 29 (Opp.); Paper 30.

As explained in detail in this Decision, we find Mr. Lipoff’s testimony to be highly relevant and material to the issues raised in this proceeding, in conformity with the agreed level of skill in the art, and consistent with someone having reasonable knowledge of the Bluetooth Specification cited in Mooney. Mr. Lipoff has Bachelor of Science degrees in electrical engineering and engineering physics, a Master of Science degree in electrical engineering, much more than two years of experience in design, development, and/or testing of network-enabled consumer devices, and familiarity with payment cards or the equivalent—education and experience that reflects his status as an expert witness in the context of the parties’ agreed standard for a POSITA. Ex. 1003 ¶¶ 11–23; Ex. 1004; Pet. 2 (citing Ex. 1003 ¶ 57). The Federal Circuit has made clear that, “[t]o offer expert testimony from the perspective of a skilled artisan in a patent case—like for claim construction, validity, or infringement—a witness must at least have ordinary skill in the art.” *Kyocera Senco Indus. Tools Inc. v. Int’l Trade Comm’n*, 22 F.4th 1369, 1376–77 (Fed. Cir. 2022). Mr. Lipoff satisfies the legal standard for qualification as an expert to offer opinion testimony in this

proceeding.

Moreover, “it would be improper to require an expert witness to possess ordinary skill in the art and *nothing more*. If that were the case, ‘a person of exceptional skill in the art would be disqualified from testifying as an expert because [he is] not ordinary enough.’” *Id.* at 1377 (citing *Endress + Hauser, Inc. v. Hawk Measurement Systems Pty.*, 122 F.3d 1040, 1042 (Fed. Cir. 1997)). Patent Owner’s unfounded assertion, that “Mr. Lipoff’s opinions are tainted as ‘based upon his personal knowledge and professional judgment’ and not the knowledge of a POSITA at the time of the invention,” appears to be a complaint that Mr. Lipoff is overqualified, a challenge that would contravene the decision in *Endress*. We also agree with Petitioner that Patent Owner has not identified any particular statement or opinion presented by Mr. Lipoff that is not provided *from* the vantage point of a POSITA. Opp. 2. Consistent with the Federal Circuit decisions in *Kyocera* and *Endress*, we determine Mr. Lipoff to be more than qualified to testify as an expert in this proceeding.¹⁹

Patent Owner also “agrees with the Petitioner on the level of ordinary skill in the art.” Resp. 4. Patent Owner adds that a POSITA would have had “at least three years of relevant industry or research experience in wireless communication between devices.” *Id.* (citing Ex. 2001 ¶¶ 26–29). Mr. Lipoff has such experience. Ex. 1003 ¶¶ 19–22. And even if “Mr. Lipoff is not a Bluetooth Expert” as Patent Owner asserts (Mot. 4–5), Patent Owner’s

¹⁹ Challenging the sufficiency of Mr. Lipoff’s testimony is an improper use of a motion to exclude. *See Consolidated Trial Practice Guide*, 79 (“A motion to exclude must explain why the evidence is not admissible (e.g., relevance or hearsay) but may not be used to challenge the sufficiency of the evidence to prove a particular fact.”).

argument ignores the Parties’ agreed level of ordinary skill, which does not require any particular expertise in Bluetooth. It was Patent Owner who chose to respond to the Petition by raising the specter of the Bluetooth Specification as inconsistent with the Petition’s theory of obviousness over Mooney. Petitioner was entitled to reply to Patent Owner’s argument and offer the Reply Declaration of Mr. Lipoff as rebuttal to the expert testimony offered by Mr. Zaheer. *See* Resp. 19–37 (repeatedly referencing the Bluetooth Specification and citing Ex. 2001 ¶¶ 70–91); *see also Rembrandt Diagnostics, LP v. Alere, Inc.*, 76 F.4th 1376, 1384–1385 (Fed. Cir. 2023) (reply argument not improper if it “is offered ‘to explain, repel, counteract, or disprove the evidence of the adverse party’”) (citations omitted).

Mr. Lipoff’s Declaration expressly states that he is “informed that an obviousness determination must be made from the perspective of a POSITA” (Ex. 1003 ¶ 46) and that he “applied [that standard] in forming [his] opinions.” Ex. 1003 ¶ 33, *see also id.* ¶¶ 33–35, 38–52. Mr. Lipoff also expressly states that “claims 1-20 of the ’294 Patent would have been obvious to a POSITA based on the following grounds.” *Id.* ¶ 80. Patent Owner overlooks these and other statements that confirm Mr. Lipoff’s opinion testimony is rendered from the perspective of a POSITA.

In sum, we find no basis to exclude any of Mr. Lipoff’s testimony or Petitioner’s Reply.

With regard to Patent Owner’s request to exclude Petitioner’s claim constructions as “improper and irrelevant,” we note that we have applied well-established claim construction principles to construe the disputed claim limitations. We find that the Petition complies with PTAB Rule 104(b)(3) by offering claim constructions for potential “means-plus-function or step-plus-function limitation[s]” recited in claims 1–20 of the ’294 patent, and

otherwise relying on the plain and ordinary meaning of the claim terms. Pet. 5–8 (citing *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc); 37 C.F.R. § 42.100(b) (2018)); 37 C.F.R. § 42.104(b)(3).

Patent Owner also moves to exclude paragraphs 1–52, 58–61, 63, 65, 69–71, 76, 79–80, 89, 113, 127, and 194 of Mr. Lipoff’s Declaration (Ex. 1003) and paragraphs 1–26, 28–31, 36–40, 57–83 and 85–89 of Mr. Lipoff’s Reply Declaration (Ex. 1014) because they are uncited in the Petition and Reply. Mot. 2–3.

Even if the identified paragraphs in Mr. Lipoff’s Declarations are not cited in the Petition or Reply, Patent Owner fails to establish why the paragraphs are inadmissible or that the proper remedy is exclusion from the record. First, Patent Owner does not explain why the identified paragraphs are irrelevant under the Federal Rules of Evidence. Without an explanation as to relevance, the Board would be forced to undergo the burdensome task of reviewing each paragraph without any guidance from the moving party. *See* 37 C.F.R. § 42.20(c) (“moving party has the burden of proof to establish that it is entitled to the requested relief”). Second, the Board has found that merely being uncited is not a sufficient reason to exclude paragraphs of an expert declaration. *See, e.g., LONGi Green Energy Technology Co., Ltd. v. Hanwha Global Asset Corp.*, IPR2019-01072, Paper 38, 8–10 (PTAB Dec. 3, 2020); *Amerigen Pharm. Ltd. v. Janssen Oncology, Inc.*, IPR2016-00286, Paper 86, 45–46 (PTAB Jan. 17, 2018) (“We are unaware of any legal basis for striking uncited paragraphs of an expert declaration.”). The Board is capable of weighing the probative value of Mr. Lipoff’s testimony—cited and uncited—in the context of the arguments made by the Parties. Patent Owner does not provide the Board with a reason to depart from this practice.

In sum, we decline to exclude any uncited paragraphs of Mr. Lipoff’s

Declarations.

IV. CONCLUSION

We conclude Petitioner has established by a preponderance of the evidence that claims 1–20 of the '294 patent are unpatentable. In summary:

Claim(s)	35 U.S.C. §	Reference(s)/Basis	Claim(s) Shown Unpatentable	Claim(s) Not shown Unpatentable
1–20	103	Mooney	1–20	
1–20	103	Mooney and Lee	1–20	
Overall Outcome			1–20	

V. ORDER

Accordingly, it is:

ORDERED that Petitioner has shown by a preponderance of the evidence that claims 1–20 of the '294 patent are unpatentable;

FURTHER ORDERED that Patent Owner's Motion to Exclude (Paper 28) is *denied*; and

FURTHER ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

IPR2024-01322
Patent 9,022,294 B2

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Exhibit B

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE OFFICE OF THE UNDER SECRETARY OF COMMERCE
FOR INTELLECTUAL PROPERTY AND DIRECTOR OF THE
UNITED STATES PATENT AND TRADEMARK OFFICE

GOOGLE LLC,
Petitioner,

v.

DH INTERNATIONAL LTD.,
Patent Owner.

IPR2024-01322
Patent 9,022,294 B2

Before JOHN A. SQUIRES, *Under Secretary of Commerce for Intellectual
Property and Director of the United States Patent and Trademark Office.*

ORDER

The Office received a request for Director Review of the Final Written Decision in the above-captioned case and an authorized response to the request. *See* Papers 34, 35.

Having reviewed the request and response, it is:

ORDERED that the request for Director Review is denied.

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