

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD.,

Petitioner,

v.

TELCOM VENTURES LLC,

Patent Owner.

Case No. IPR2025-00975

U.S. Patent 9,832,708

PATENT OWNER'S PRELIMINARY RESPONSE

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2001	Interim Processes for PTAB Workload Management, Acting Director Memorandum (March 26, 2025)
2002	FAQs for Interim Processes for PTAB Workload Management
2003	EDTX Litigation Second Amended Docket Control Order (Jan. 29, 2025)
2004	Docket Navigator Statistics for Judge Rodney Gilstrap
2005	Samsung's Preliminary Invalidity Contentions (Feb. 3, 2025)
2006	Exhibit 708-C (Samsung's Subject Matter Eligibility Contentions)
2007	Telcom Ventures Complaint for Patent Infringement
2008	Non-Final Office Action, Application No. 17/730,174
2009	Declaration of Dr. Chuck Easttom
2010	<i>Curriculum Vitae</i> of Dr. Chuck Easttom
2011	Chiradeep BasuMallick, "What is NFC (Near Field Communication)? Definition, Working, and Examples" (Sept. 29, 2022), https://www.spiceworks.com/tech/networking/articles/what-is-near-field-communication/
2012	Liu et al., "Near-Field Communications: A Comprehensive Survey," IEEE (June 2025)
2013	"The Creation of the NFC Forum and its Vision" (2011) https://cs.stanford.edu/people/eroberts/courses/cs181/projects/2010-11/NFCChips/nfcforum.html
2014	McHugh & Yarmey, "Near Field Communication: Introduction and Implication," ERIC (2012)
2015	Coskun et al., "The Survey on Near Field Communication," Sensors (June 5, 2015)
2016	"Cisco SIP IP Phone Administrator Guide, Release 7.5," Cisco https://www.cisco.com/c/en/us/td/docs/voice_ip_comm/cuipph/7960g_7940g/sip/7_5/english/administration/guide/ver7_5/sipaxa75.pdf
2017	Rosenberg et al., RFC 3261 SIP: Session Initiation Protocol (June 2002), https://www.ietf.org/rfc/rfc3261.txt

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2021	Rosenberg & Shockey, The Session Initiation Protocol (SIP): A Key Component for Internet Telephony, Computer Telephony, June 2000, at 124 https://gaia.cs.umass.edu/kurose_ross/retired/protocols_real_time_interactive.pdf
2022	Mealling & Daniel, RFC 2915 The Naming Authority Pointer (NAPTR) DNS Resource Record (Sept. 2000) https://www.cs.columbia.edu/sip/articles/SIP_tutorial_CT_Magazine_June2000.pdf
2023	Jeremy George, DNS Configuration, SIP.edu Cookbook (May 12, 2003), https://web.mit.edu/sip/sip.edu/dns.shtml
2024	Series E: Overall Network Operation, Telephone Service, Service Operation and Human Factors, International Telecommunication Union (Nov. 2010), https://www.itu.int/rec/t-rec-e.164-201011-i/en

TABLE OF CLAIMS

Reference	Claim Limitation
Claim 1	
1[pre]	A method of operating a smartphone using a first air interface and a second air interface that differs from the first air interface, the method comprising:
1[a]	communicating between the smartphone and an entity using the first air interface responsive to a proximity criterion having been satisfied between the smartphone and the entity to provide information to the entity over a short-range link between the smartphone and the entity;
1[b]	refraining from communicating between the smartphone and the entity by the smartphone using the first air interface absent the proximity criterion having been satisfied between the smartphone and the entity; and
1[c]	communicating between the smartphone and a base station using the second air interface to receive a communications service from the base station via the second air interface, wherein the smartphone receives the communications service from the base station via the second air interface but does not receive the communications service from the entity via the first air interface,
1[d]	wherein the communicating between the smartphone and the entity using the first air interface responsive to the proximity criterion having been satisfied between the smartphone and the entity to provide information to the entity over the short-range link between the smartphone and the entity is performed concurrently with the communicating between the smartphone and the base station using the second air interface to receive a communications service from the base station via the second air interface.
Claim 2	
2[pre]	The method according to claim 1,
2[a]	further comprising detecting that the proximity criterion between the smartphone and the entity is satisfied.
Claim 3	
3[pre]	The method according to claim 2, wherein the detecting comprises:
3[a]	detecting that a proximity criterion of less than 10 meters in distance is satisfied between the smartphone and the entity,

Reference	Claim Limitation
3[b]	wherein the detecting is performed by the smartphone, by a device that is associated with the entity and/or by a system that is associated with the smartphone.
Claim 4	
4[pre]	The method according to claim 1,
4[a]	wherein the entity comprises a first device, wherein the information provided to the entity comprises first information, and wherein the method further comprises: selectively sending, by the smartphone, second information to a second device and receiving, by the smartphone, third information from the second device responsive to the proximity criterion having been satisfied between the smartphone and the entity,
4[b]	wherein the smartphone does not receive the communications service from the second device.
Claim 5	
5[pre]	The method according to claim 1
5[a]	wherein the communicating, over the short-range link, between the smartphone and the entity using the first air interface responsive to the proximity criterion having been satisfied is performed over a point-to-point short-range link between the smartphone and the entity using a time division duplex protocol.
Claim 6	
6[pre]	The method of claim 1,
6[a]	further comprising enabling a function by the smartphone in response to an identity, wherein the identity is communicated between the smartphone and the entity.
Claim 7	
7[pre]	The method of claim 6,
7[a]	wherein the enabling the function is performed in response to comparing the identity with one or more identities.
Claim 8	
8[pre]	The method of claim 6,
8[a]	further comprising establishing the short-range link between the smartphone and the entity in further response to the identity.
Claim 9	
9[pre]	The method of claim 1,

Reference	Claim Limitation
9[a]	further comprising providing a notification at the smartphone in response to receiving a signal from the entity.
Claim 10	
10[pre]	The method of claim 1,
10[a]	wherein the entity comprises a first device to which the smartphone provides the information over the short-range link, and
10[b]	wherein the method further comprises sending the information to a second device responsive to the proximity criterion having been satisfied between the smartphone and the entity.
Claim 11	
11[pre]	A smartphone comprising:
11[a]	a processor that is configured to control the smartphone to perform operations comprising:
11[b]	communicating between the smartphone and an entity using a first air interface responsive to a proximity criterion having been satisfied between the smartphone and the entity to provide information to the entity over a short-range link between the smartphone and the entity;
11[c]	refraining from communicating between the smartphone and the entity by the smartphone using the first air interface absent the proximity criterion having been satisfied between the smartphone and the entity; and
11[d]	communicating between the smartphone and a base station using a second air interface to receive a communications service from the base station via the second air interface, wherein the smartphone receives the communications service from the base station via the second air interface but does not receive the communications service from the entity via the first air interface,
11[e]	wherein the communicating between the smartphone and the entity using the first air interface responsive to the proximity criterion having been satisfied between the smartphone and the entity to provide information to the entity over the short-range link between the smartphone and the entity is performed concurrently with the communicating between the smartphone and the base station using the second air interface to receive a communications service from the base station via the second air interface.
Claim 12	
12[pre]	The smartphone according to claim 11,

Reference	Claim Limitation
12[a]	wherein the operations further comprise detecting that the proximity criterion between the smartphone and the entity is satisfied.
Claim 13	
13[pre]	The smartphone according to claim 12, wherein the detecting comprises:
13[a]	detecting that a proximity criterion of less than 10 meters in distance is satisfied between the smartphone and the entity,
13[b]	wherein the detecting is performed by the smartphone, by a device that is associated with the entity and/or by a system that is associated with the smartphone.
Claim 14	
14[pre]	The smartphone according to claim 11,
14[a]	wherein the entity comprises a first device, wherein the information provided to the entity comprises first information, and wherein the operations further comprise: selectively sending, by the smartphone, second information to a second device and receiving, by the smartphone, third information from the second device responsive to the proximity criterion having been satisfied between the smartphone and the entity,
14[b]	wherein the smartphone does not receive the communications service from the second device.
Claim 15	
15[pre]	The smartphone according to claim 11,
15[a]	wherein the communicating, over the short-range link, between the smartphone and the entity using the first air interface responsive to the proximity criterion having been satisfied is performed over a point-to-point short-range link between the smartphone and the entity using a time division duplex protocol.
Claim 16	
16[pre]	A method of operating a smartphone using a first air interface and a second air interface that differs from the first air interface, the method comprising:
16[a]	communicating between the smartphone and an entity using the first air interface responsive to a proximity criterion having been satisfied between the smartphone and the entity to provide information to the entity;

Reference	Claim Limitation
16[b]	refraining from communicating between the smartphone and the entity by the smartphone using the first air interface absent the proximity criterion having been satisfied between the smartphone and the entity; and
16[c]	communicating, by the smartphone, using the second air interface to receive a communications service via the second air interface, wherein the smartphone receives the communications service via the second air interface but does not receive the communications service from the entity via the first air interface,
16[d]	wherein the communicating between the smartphone and the entity using the first air interface responsive to the proximity criterion having been satisfied between the smartphone and the entity to provide information to the entity is performed concurrently with the communicating by the smartphone using the second air interface to receive the communications service via the second air interface,
16[e]	wherein the communicating between the smartphone and the entity using the first air interface responsive to the proximity criterion having been satisfied between the smartphone and the entity to provide information to the entity is performed over a point-to-point short-range link between the smartphone and the entity using a time division duplex protocol, and
16[f]	wherein the entity is not involved in providing the communications service.
Claim 17	
17[pre]	The method according to claim 16,
17[a]	wherein the communicating by the smartphone using the second air interface to receive the communications service via the second air interface comprises communicating between the smartphone and a base station using the second air interface to receive the communications service from the base station via the second air interface.
Claim 18	
18[pre]	A smartphone comprising:
18[a]	a processor that is configured to control the smartphone to perform operations comprising:

Reference	Claim Limitation
18[b]	communicating between the smartphone and an entity using a first air interface responsive to a proximity criterion having been satisfied between the smartphone and the entity to provide information to the entity;
18[c]	refraining from communicating between the smartphone and the entity by the smartphone using the first air interface absent the proximity criterion having been satisfied between the smartphone and the entity; and
18[d]	communicating, by the smartphone, using a second air interface to receive a communications service via the second air interface, wherein the smartphone receives the communications service via the second air interface but does not receive the communications service from the entity via the first air interface,
18[e]	wherein the communicating between the smartphone and the entity using the first air interface responsive to the proximity criterion having been satisfied between the smartphone and the entity to provide information to the entity is performed concurrently with the communicating by the smartphone using the second air interface to receive the communications service via the second air interface,
18[f]	wherein the communicating between the smartphone and the entity using the first air interface responsive to the proximity criterion having been satisfied between the smartphone and the entity to provide information to the entity is performed over a point-to-point short-range link between the smartphone and the entity using a time division duplex protocol, and
18[g]	wherein the entity is not involved in providing the communications service.
Claim 19	
19[pre]	The smartphone according to claim 18,
19[a]	wherein the communicating by the smartphone using the second air interface to receive the communications service via the second air interface comprises communicating between the smartphone and a base station using the second air interface to receive the communications service from the base station via the second air interface.

I. INTRODUCTION

Telcom Ventures LLC (“Telcom Ventures” or “Patent Owner”) respectfully submits this Preliminary Response (“POPR”) requesting that the Board deny institution of the Petition for *inter partes* review (Paper 1, “Petition,” or “Pet.”) filed by Petitioner Samsung Electronics Co. Ltd. (“Samsung” or “Petitioner”).

The Petition seeks *inter partes* review (“IPR”) of claims 1-19 (the “Challenged Claims”) of U.S. Patent No. 9,832,708 (the “’708 Patent,” Ex. 1001). The Petition sets forth two grounds. Petitioner’s first ground asserts that U.S. Patent Application No. 2009/0069049 to Jain (“Jain,” Ex. 1017) alone would have rendered the Challenged Claims obvious. Petitioner has only identified disparate disclosures within Jain and has drawn conclusions contrary to the reference’s teachings by relying heavily on gap filling and expert testimony in an attempt to reach the claimed inventions of the ’708 Patent.

Petitioner’s single-reference obviousness ground based on Jain fails for several reasons. First, despite the claims requiring a smartphone, Petitioner relies on two separate devices (i.e., a mobile device and a separate transaction card) in Jain to meet the claims. *See* Pet. at 9-11. Worse, Petitioner’s combination of Jain’s distinct transaction card and mobile device, *see* Pet. at 10, to meet the required smartphone fails because there can be no dispute that Jain’s transaction card—not the mobile device—provides short range connectivity alleged to correspond to the claimed first

air interface. Jain would not have rendered the required smartphone obvious because Jain specifically teaches keeping its mobile device and transaction card separate.

Second, Petitioner cannot demonstrate that Jain's mobile device communicates "responsive to a proximity criterion having been satisfied between the smartphone and the entity," *see* Pet. at 15, because only the transaction card (not the mobile device) includes Near-Field Communication ("NFC") capabilities. Shifting this capability to the mobile device would contradict Jain's disclosure of using a separate and distinct transaction card capable of independently performing financial transactions.

Finally, Petitioner cannot demonstrate that Jain's mobile device communicates "using the first air interface . . . concurrently with the communicating between the smartphone and the base station using the second air interface." Pet. at 24-25. Jain discloses a multi-component system in which both the cellular and short-range antennas can be turned off and on, and does not disclose use of both antennas concurrently. Accordingly, Ground 1 (alleged obviousness based on Jain alone) fails.

Petitioner's second ground asserts that U.S. Patent Application No. 2006/0165060 to Dua ("Dua," Ex. 1018) would have rendered the Challenged Claims obvious. But Dua fails to render any of the Challenged Claims obvious, and Petitioner's single-reference obviousness ground based on Dua impermissibly

disregards key requirements and gap fills missing disclosures without a sufficient motivation to combine or reasonable expectation of success.

Petitioner's Dua ground fails for multiple reasons. First, Petitioner alleges that Dua discloses communicating using the first air interface and second air interface concurrently. Pet. at 50-51. But this theory completely ignores Dua's express disclosure of ceasing all "external connections" while two devices are communicating using its disclosed embodiments. Dua ¶[0478]; Ex. 2009 ¶122. Dua discloses single-interface communication and teaches away from the claimed concurrent communication.

Second, Petitioner hand-waves away Dua's lack of disclosure of the claimed "communicating between the smartphone and an entity using a first air interface responsive to a proximity criterion having been satisfied between the smartphone and the entity" by asserting that NFC meets the limitations of the claims. *E.g.*, Pet. at 43-45. That is, the Petition relies on NFC to address detecting that a proximity criterion is satisfied. *Id.* at 44. But Petitioner fails to recognize that Dua mentions NFC only in passing in its background and never discloses or suggests using NFC for its disclosed embodiments. *See* Ex. 2009 ¶130. Dua thus makes clear that it specifically chose not to rely on NFC in its innovation. Without disclosure in Dua, Petitioner is left to rely on impermissible gap filling by its expert. *E.g.*, Pet. at 45-46.

Accordingly, the Petition fails to establish that either ground would have rendered the Challenged Claims obvious. Petitioner has failed to meet its burden to show a reasonable likelihood of unpatentability of any of the Challenged Claims. *See* 37 C.F.R. § 42.108(c). Accordingly, Patent Owner requests that the Board deny institution of *inter partes* review.

II. LEGAL STANDARD

It is Petitioner's burden to demonstrate unpatentability by a preponderance of the evidence. The Petition must establish, with particularity, the grounds and evidence that support invalidating the patented claims. 35 U.S.C. § 312(a)(3). Petitioner "must 'specify where each element of the claim is found in the [relied upon] prior art patents.'" *In-Depth Geophysical, Inc. v. ConocoPhillips Co.*, IPR2019-00850, Paper 56 at 27 (P.T.A.B. Sept. 3, 2020) (quoting 37 C.F.R. § 42.104(b)(4)). The Petition must both "clearly point out the differences between the claimed invention and [the prior art]" and "explain why a person of ordinary skill in the art would have found the claimed subject matter obvious in spite of those differences." *Synopsys, Inc. v. Mentor Graphics Corp.*, IPR2012-00041, Paper 16 at 14 (P.T.A.B. Feb. 22, 2013). Petitioner must recite where each challenged limitation is found in the reference(s) and explain why a person of ordinary skill in the art ("POSITA") would have modified the primary reference. *Microsoft Corp. v. Secure Web Conf. Corp.*, IPR2014-00745, Paper 12, 11-13 (P.T.A.B. Sept. 29, 2014).

In addition, the Board may institute based only on what the Petition actually presents and not what the Petition could have reasonably contained. *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1381 (Fed. Cir. 2016). The Board cannot “deviate from the grounds in the petition and raise its own” theories of invalidity. *Sirona Dental Sys. GmbH v. Institut Straumann AH*, 892 F.3d 1349, 1356 (Fed. Cir. 2018).

III. BACKGROUND

A. The ’708 Patent

Applicants filed U.S. Patent Application No. 15/251,882 on August 30, 2016, which issued as U.S. Patent No. 9,832,708 on November 28, 2017. ’708 Patent at 1. The ’708 Patent claims the benefit of U.S. Patent Application No. 12/264,711—later issued as U.S. Patent No. 9,462,411—which has a filing date of November 4, 2008. *Id.* at 1.

The ’708 Patent describes mobile wireless devices and methods of using a mobile wireless device to engage in one or more communications modes, but only when certain conditions or criteria are met, such as the satisfaction of a proximity condition and a value of a parameter, e.g., a physiological parameter, satisfying a criterion. Ex. 1001, 1:17-22; 6:9-29; *see also* Ex. 2009 ¶58. In the prior art, mobile wireless devices were rigidly configured to perform a predetermined number of functions. Ex. 1001, 1:31-39; Ex. 2009 ¶58. To overcome this rigidity, the ’708

Patent provides devices and methods that “may be used to enable adaptively one or more modes/functions of a device” based upon satisfying certain criteria. *Id.*, 1:43-45; *see also* Ex. 2009 ¶58. The ’708 Patent explains that the invention advantageously allows “a mobile wireless device [to] act as a ‘wallet’ (over and above other functions) only when it is time to pay for an item and not act as a wallet when there is no need to do so.” *Id.*, 1:36-39; *see also* Ex. 2009 ¶58.

During prosecution, the Examiner issued a non-final rejection of initial proposed claims 1-8 for double patenting in light of claims 1-4 of U.S. Patent No. 9,462,411 and as obvious in light of U.S. Patent Application 2003/0220105 to Daigremont et al, and U.S. Patent Application 2007/0243872 to Gallagher et al. Ex. 1006 at 59-60; *see also* Ex. 2009 ¶61.

In response, Applicants filed a terminal disclaimer over the ’411 Patent. Ex. 1006 at 129, 131. Applicants traversed the Examiner’s obviousness rejection with respect to initial proposed claims 1-3 and 5-7, amended initial proposed claims 4 and 8, and proposed new claims 9-28. Ex. 1006 at 98-107; *see also* Ex. 2009 ¶62.

Petitioner alleges that Applicants “did not substantively challenge the Examiner’s conclusion that collectively and individually there was no novelty” in “(i) communicating between a smartphone and an entity using a first air interface responsive to a proximity criterion having been satisfied, (ii) refraining from communicating between the smartphone and the entity using the first air interface

absent the proximity criterion having been satisfied, and (iii) communicating using a second air interface to receive a communications service by the smartphone, but not receive communications service from the entity via the first air interface.” Pet. at 6-7 (quoting Ex. 1006 at 108-109). To be clear, Applicants did not concede that these limitations “have no novelty” but for expediency focused on the “wherein” recitation of the proposed independent claims by which the recitations of the above “(i) and (iii) are performed concurrently.” Ex. 1006 at 109; *see also* Ex. 2009 ¶63.

After an interview and Examiner’s Amendment (Ex. 1006 at 144; *see also* Ex. 2009 ¶64), the Examiner issued a Notice of Allowance on October 18, 2017. Ex. 1006 at 135, 140; *see also* Ex. 2009 ¶65.

B. Jain (Ex. 1017)

U.S. Patent Application No. 2009/0069049 to Jain is titled “Interfacing Transaction Cards with Host Devices.” Ex. 1017 at 1. Jain has a filing date of September 5, 2008, and was published on March 12, 2009. Jain describes a transaction card that interacts with a separate and distinct mobile device to perform financial transactions. Jain’s transaction card independently performs financial transactions because it is the only device in Jain that includes the short-range communication functionality required to conduct financial transactions. Ex. 2009 ¶¶68-72. According to Jain: “For example, the transaction card 112 may execute a

contactless transaction with the POS [point of sale] device 114 *independent of* the mobile device 110a.” Jain ¶[0023] (emphasis added); *see also* Ex. 2009 ¶77.

Figure 3 of Jain shows an exemplary transaction card.

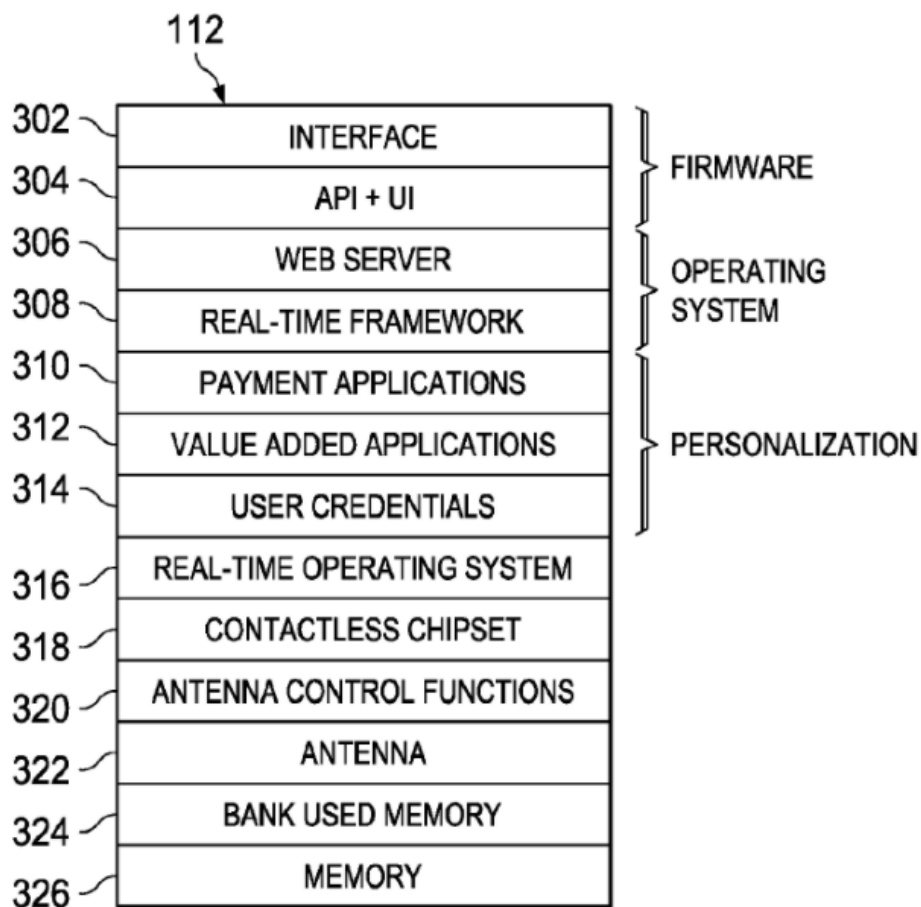


FIG. 3

Jain, Fig. 3; ¶¶[0009], [0049].

C. Dua (Ex. 1018)

U.S. Patent Application No. 2006/0165060 to Dua is titled “Method and Apparatus for Managing Credentials Through a Wireless Network.” Dua has a filing date of January 21, 2005, and was published on July 27, 2006. Dua at 1. Dua

discloses that “[t]he ultimate goal of the present invention is to securely, accurately and rapidly distribute credentials to the proper wireless devices based upon the actions of credential issuers.” Dua ¶[0038]. Figure 2 of Dua illustrates the steps in the process for issuing a credential according to a preferred embodiment:

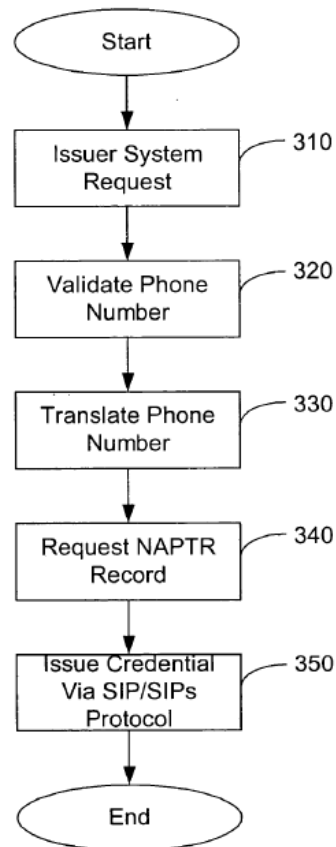


FIG. 2

Dua, Fig. 2.

Dua depends on SIP (Session Initiation Protocol). Ex. 2009 ¶82. SIP is configured to establish a communication session. *Id.* Once the communication session is established, Dua discloses another protocol, such as Real Time Protocol

(“RTP”) or Secure Real Time Protocol (“sRTP”), to transmit any data. *Id.* According to Dua:

Associated with SIP is the SDP, defined in RFC 2327. SIP is used to invite one or more participants to a session, while the SDP-encoded body of the SIP message contains information about what media encodings (for example, voice, video) the parties can and will use. After this information is exchanged and acknowledged, all participants are aware of the participants’ IP addresses, available transmission capacity, and media type. Then, data transmission begins, using an appropriate transport protocol. Typically, the RTP is used.

Dua ¶[0110].

In Dua, the issuer’s system issues the credentials and transmits the credentials to the wireless device via the Wireless Credential Manager. Dua ¶¶[0040], [0043].

IV. CLAIM CONSTRUCTION

Claim terms should be given their plain and ordinary meaning to a POSITA as of the earliest effective filing date. *See, e.g., Eon Corp. IP Holdings LLC v. Silver Spring Networks, Inc.*, 815 F.3d 1314, 1320 (Fed. Cir. 2016). “The ordinary meaning of a claim term is not ‘the meaning of the term in the abstract.’ Instead, ‘the “ordinary meaning” of a claim term is its meaning to the ordinary artisan after reading the entire patent.’” *Id.* (quoting *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc)).

Petitioner contends that “[n]o express constructions are required to find the ’708 patent claims invalid.” Pet. at 8. Patent Owner agrees that the Board should apply the plain and ordinary meaning of the terms in the Challenged Claims. Patent

Owner does not waive its right to raise additional issues of claim construction in any litigation, nor does it waive any argument in any litigation that claim terms are not indefinite or are otherwise valid. The failure of the Petition to render obvious the Challenged Claims is clear in view of the arguments below without construing any specific claim term.

V. LEVEL OF ORDINARY SKILL IN THE ART

Each of the arguments below are considered from the standpoint of a POSITA in the field of the '708 Patent at the time of the invention. For purposes of this POPR, Patent Owner disputes the definition of a POSITA proposed by Petitioner. Patent Owner contends that a POSITA would have had at least a bachelor's degree in electrical engineering, computer engineering, or a related field, with about two years of experience in wireless communications. Ex. 2009 ¶41. This contrasts with Petitioner's proposal, which calls for "at least a Bachelor of Science in electrical engineering, computer engineering, or similar fields and at least two years of practical experience in the field of secure wireless communication applications." Ex. 1002 ¶51. Patent Owner disagrees that a POSITA should be required to have any experience in secure wireless communications. The claims of the '708 Patent do not have any requirement that the communications be "secure," such as encryption or encoding of the wireless communications. *E.g.*, '708 Patent at cl. 1; *see also* Ex.

2009 ¶42. Regardless, Petitioner fails to meet its burden under either POSITA definition.

VI. THE BOARD SHOULD NOT INSTITUTE *INTER PARTES* REVIEW

Both of Petitioner’s grounds fail. As described below, neither Jain alone nor Dua alone—whether considered based solely on the reference’s disclosures or based on the disclosures in view of a POSITA’s knowledge—would have rendered obvious all elements of any of the Challenged Claims.

A. Petitioner Has Failed to Establish a Reasonable Likelihood That Jain Would Have Rendered Any of the Challenged Claims Obvious (Ground 1).

Petitioner’s first ground asserts that the Challenged Claims would have been obvious over Jain (Ex. 1017). Pet. at 9. In this ground, Petitioner haphazardly combines disparate components and processes within Jain and draws flawed obviousness conclusions contrary to the reference’s teachings to try to reach the claimed inventions of the ’708 Patent. In view of the deficiencies discussed below, Petitioner failed to demonstrate a reasonable likelihood of prevailing based on Jain.

1. Jain Does Not Disclose or Render Obvious “operating a smartphone using a first air interface and a second air interface that differs from the first air interface” nor a “smartphone” Communicating “using a first air interface” and “a second air interface.”

Jain does not disclose and would not have rendered obvious a “method of operating a smartphone using a first air interface and a second air interface that differs from the first air interface” of independent claims 1[pre] and 16[pre], or the

smartphone “using a first air interface” and “a second air interface” of independent claims 11 and 18. All dependent claims of the ’708 Patent depend from one of these independent claims and thus include these same requirements. To the extent these limitations appear in the preamble of the claims, they are limiting, as demonstrated by the subsequent references to “the smartphone” and “the first air interface” and “the second air interface” throughout the claims. *E.g.*, ’708 Patent Cl. 1[a], 1[c], 16[a], 16[c]; *see also* Ex. 2009 ¶87; *see also* *C.W. Zumbiel Co. v. Kappos*, 702 F.3d 1371, 1385 (Fed. Cir. 2012) (“[T]he preamble constitutes a limitation when the claim(s) depend on it for antecedent basis.” (citing *Catalina Mktg. Int’l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 8089 (Fed. Cir. 2002))).

Petitioner inconsistently points to distinctly described elements as comprising the claimed “smartphone” of the ’708 Patent. *See, e.g., Google LLC v. Uniloc USA, Inc.*, IPR2017-02082, Paper 10 at 13 (P.T.A.B. Mar. 29, 2018) (denying institution because “Petitioner inconsistently maps the recited ‘instant voice message’ to different elements of Zydney without sufficient explanation for this incongruity”). Petitioner incorrectly asserts that the claimed “smartphone” (and method of operating a “smartphone”) can be met by the functionality provided by Jain’s “mobile device” in some instances, and the functionality of Jain’s separate and distinct “transaction card” in other instances. *See* Pet. at 9-11. For example, Petitioner alleges that “Jain describes operating a ‘mobile device 110’ to ‘wirelessly

execut[e] transactions’ with retail point-of-sale terminal 114.” Pet. at 9 (quoting Jain ¶[0005]). But this conclusory sentence misstates Jain ¶[0005], which states that “the card wirelessly executes financial transactions with a retail terminal independent of the mobile host device.” *Id.*; *see also* Ex. 2009 ¶93.

Petitioner’s misrepresentations, or at least lack of clarity, regarding Jain’s disclosures violates 35 U.S.C. § 312(a)(3) and 37 C.F.R. § 42.104(b)(4). *See* 35 U.S.C. § 312(a)(3) (a petition “may be considered only if . . . the petition identif[ies], in writing and ***with particularity***, . . . the grounds on which the challenge to each claim is based, and the evidence that supports the grounds for the challenge to each claim”) (emphasis added); 37 C.F.R. § 42.104(b)(4) (the petition must “specify where each element of the claim is found in” the prior art); *see also, e.g., Google LLC*, IPR No. 2017-02082, Paper 10 at 14; *Netflix, Inc. v. DivX, LLC*, 84 F.4th 1371, 1377 (Fed. Cir. 2023) (“Ultimately, it is the petitioner’s burden to present a clear argument.”). Petitioner’s reliance on two separate structures in Jain must fail.

The ’708 Patent contemplates a ***single*** device capable of communicating using a first and a second air interface. Ex. 2009 ¶88. But Petitioner points to two separate pieces of hardware that purportedly meets these limitations. Pet. at 10-11; *see also* Ex. 2009 ¶88.

Petitioner asserts that Jain “interfaces mobile device 110 . . . with a transaction card 112 that ‘convert[s] the mobile device 110 to a contactless payment device

. . . .” Pet. at 9-10 (quoting Jain ¶¶0029]). This misstates Jain, which states that upon implementing such an “active-card-emulation-mode” the “transaction card 112 may execute payment transactions at any capable retail payment terminal” and that “the POS 114 may perceive the transaction card 112 as a contactless plastic payment card and may communicate with the transaction card 112.” Jain ¶¶0029]; *see also* Ex. 2009 ¶93. At all times in Petitioner’s identified disclosures, it is the transaction card 112 that is identified as communicating with POS device 114. Ex. 2009 ¶¶92-96.

Jain touts that the “mobile device 110 does not require additional hardware, software, and/or firmware” as an advantage because the transaction card itself already has the required functionalities, such as NFC. Jain ¶¶0018] (“An intelligent card is a device configured to . . . access or otherwise execute services (e.g., transactions) independent of the host device.”); *see also* Ex. 2009 ¶92. In fact, Jain discloses a transaction card that “include[s] any software, hardware, and/or firmware configured to wirelessly execute transactions with the POS device 114” independent of the mobile device. Jain ¶¶0023] (explaining that “the transaction card 112 may include one or more chipsets that execute an operating system and security processes to independently execute the transaction”); Ex. 2009 ¶92. For example, the Jain transaction card itself includes hardware to transmit short range signals, such as NFC. Jain ¶¶0023]; *see also* Ex. 2009 ¶92. Jain repeatedly uses the phrase “independent of the mobile device” or “independent of the host device” when

describing the transaction card. Jain Abstract, ¶¶[0005], [0018], [0023], [0049], [0076], cls. 1, 16; *see also* Ex. 2009 ¶92.

Petitioner also asserts that Figure 1 of Jain shows that mobile device 110a includes transaction card 112a. Pet. at 10. But Figure 1 describes a system where the transaction card is connected to—not incorporated within—the mobile device. Ex. 2009 ¶94. Furthermore, Petitioner’s logic fails when applied elsewhere within Figure 1. Using Petitioner’s logic, because the transaction card is “incorporated within” the mobile device, the mobile device must also be incorporated within the offline store, as it appears within the offline store in the depiction. *Id.* Under Petitioner’s logic, the mobile device within the store would itself become a part of the store—a result not contemplated by Jain. *Id.*

Contrary to Petitioner’s assertion regarding a block diagram, Jain specifically requires a *distinct* transaction card that is “*independent*” of the mobile device. Jain ¶[0076] (“The intelligent card 806 is configured to . . . execute transactions *independent of the host device 810.*”) (emphasis added); *see also id.* ¶[0023] (“[T]he transaction card 112 may wirelessly execute transactions *without aspects of the transaction being executed by the mobile device 110.*”) (emphasis added); *see also* Ex. 2009 ¶96. The transaction card alone, rather than the combination of the transaction card and mobile device, is essential to executing transactions in Jain. *See* Jain ¶[0018] (“By providing the intelligent card, the system 100 may wirelessly

execute transactions”) (emphasis added); *see also* Ex. 2009 ¶96. Because Jain describes a separate and distinct transaction card, the transaction card cannot be considered part of the mobile device; thus, Petitioner’s combination does not disclose the claimed “smartphone” which communicates using two air interfaces *See* Ex. 2009 ¶98.

Petitioner never alleges that it would have been obvious to combine Jain’s mobile device and the transaction card to create a smartphone which communicates using two air interfaces. Pet. at 9 (“Jain describes”). Nor does Petitioner ever provide any motivation to combine these two components, nor discuss any likelihood of success in making such a combination. Jain in fact discloses benefits associated with not integrating its transaction card with the mobile device. Ex. 2009 ¶97.

Jain emphasizes, as a stated benefit of the invention, using a separate and distinct transaction card capable of executing transactions independently of the mobile device. Ex. 2009 ¶97. An independent transaction card that can perform financial transactions offers increased versatility regarding compatible host mobile devices, which is a benefit that would be diminished if the transaction card were integrated within the mobile device. *See* Jain ¶[0021] (identifying digital cameras, pagers, MP3 players, camcorders and portable computers as possible mobile devices); *see also id.* ¶[0035] (“For example, the user may want to re-personalize

the transaction card 112 *to change host devices, to have multiple host devices, and/or other reasons.*”) (emphasis added); *see also* Ex. 2009 ¶97. Jain also discloses that the “financial institutions 106 may assign one or more mobile host devices 110 to a transaction card 112.” Jain ¶[0041]; *see also* Ex. 2009 ¶97. Assigning a transaction card to multiple host devices, assigning transaction cards to devices that are not phones, and using the transaction cards independently, are all benefits that would be lost if Jain’s mobile device and transaction card were one.

Petitioner has failed to demonstrate that Jain discloses a “method of operating a smartphone using a first air interface and a second air interface that differs from the first air interface” of independent claims 1[pre] and 16[pre], nor the smartphone “using a first air interface” and “a second air interface” of independent claims 11 and 18.

2. Jain Does Not Disclose or Render Obvious “responsive to a proximity criterion having been satisfied between the smartphone and the entity.”

Independent method claims 1[a] and 16[a] require “communicating between the smartphone and an entity using the first air interface responsive to a proximity criterion having been satisfied between the smartphone and the entity.” Independent “smartphone” claims 11[b] and 18[b] similarly require “communicating between the smartphone and an entity using a first air interface responsive to a proximity criterion having been satisfied between the smartphone and the entity.” But Petitioner points

to Jain’s transaction card as performing the claimed “responsive to a proximity criterion having been satisfied between the smartphone and the entity.” Pet. at. 15 (“transaction card 112 ‘may execute transactions with the POS device 114 using short range signals such as NFC’”) (quoting Jain ¶[0023]). And as stated above in Section VI.A.1, the transaction card cannot be considered part of the mobile device. Because the Petition is inconsistent about which aspect of Jain performs the function required of the smartphone, institution should be denied. *See Google LLC*, IPR No. 2017-02082, Paper 10 at 14.

Petitioner begins by misquoting Jain. Petitioner alleges that “[*t*he *mobile device* first ‘wirelessly receive[s] a request from the POS device 114 to execute a transaction and/or provide a response.’ Jain ¶[0023].” Pet. at 15; *see also* Ex. 2009 ¶101. But Jain actually says that “*the transaction card 112* may execute one or more of the following: wirelessly receive a request from the POS device 114 to execute a transaction and/or and [sic] provide a response.” Jain ¶[0023] (emphasis added); *see also* Ex. 2009 ¶101. Furthermore, Jain describes *the transaction card* as capable of “execut[ing] transactions with the POS device 114 using short range signals such as NFC.” Jain ¶[0023]; *see also* Ex. 2009 ¶101. Because the transaction card is equipped with NFC, “the transaction card 112 may wirelessly execute transactions *without aspects of the transaction being executed by the mobile device 110.*” Jain ¶[0023]; *see also* Ex. 2009 ¶101. However, the claimed “proximity criterion” step

must be performed by the smartphone rather than by the transaction card. Ex. 2009 ¶101. For the same reasons as above with respect to Section VI.A.1, Jain similarly does not disclose the claimed “communicating between the smartphone and an entity using a first air interface responsive to a proximity criterion having been satisfied between the smartphone and the entity.” *See supra* Section VI.A.1.

Next, Petitioner argues that Jain would have rendered this limitation obvious. Pet. at 18-19. However, Petitioner does not explain why a POSITA would disregard Jain’s teachings and add NFC capability to the mobile device. *See* Jain ¶[0023]; *see also* Ex. 2009 ¶102. Therefore, Jain fails to disclose or render obvious “communicating . . . responsive to a proximity criterion having been satisfied between the smartphone and the entity” of the ’708 Patent’s independent claims.

3. Jain Does Not Disclose or Render Obvious “communicating between the smartphone and the entity using the first air interface . . . is performed concurrently with the communicating between the smartphone and the base station using the second air interface.”

Claim element 1[d] requires “communicating between the smartphone and the entity using the first air interface . . . concurrently with the communicating between the smartphone and the base station using the second air interface.” The other independent claims of the ’708 Patent have similar limitations. Ex. 2009 ¶103. Petitioner’s theory is based on an allegation that “[t]here is no disclosure in Jain of ceasing cellular communication when engaging in NFC communication, or vice

versa.” Pet. at 24. Petitioner does not point to any explicit disclosure in Jain of communicating via both air interfaces concurrently but instead reasons that “Jain repeatedly discloses turning off the antenna of transaction card 112 in response to a message received over the cellular radio of mobile device 110, meaning that until the antenna is off, both are operating *concurrently*.” Pet. at 25 (emphasis in original). This rationale is incomplete, is based on hindsight, and does not demonstrate obviousness.

In order to render this claim limitation unpatentable, Petitioner must demonstrate that Jain discloses that its device is actively communicating via both air interfaces concurrently and not merely that it *might use* two different air interfaces. Petitioner’s citations to Jain do not make such a showing.

Petitioner alleges that Jain discloses transaction card 112 wirelessly receiving “a request from the POS device 114” and generating and/or transmitting wireless-message alerts “using the mobile device 110 if cellular capable.” Pet. at 24 (quoting Jain ¶[0023]). This portion of Jain does not disclose the transaction card 112 engaging in short-range communications corresponding to the first air interface *while also* instructing the mobile device 110 to communicate with the financial institution over a cellular network. *See* Ex. 2009 ¶105. Jain ¶[0023] instead expressly discloses the option to “selectively switch the antenna of the transaction card 112 on and off” and the ability of the transaction card to “store, at least in part, details of the

transaction executed between place [sic] between the card 112 and the POS device 114.” *Id.* Jain also discloses transmitting “wireless-message alerts to the financial institution 106 using the mobile device 110 if cellular capable.” Jain ¶[0023]; Ex. 2009 ¶¶105, 111. Jain contemplates turning the short-range communications off and on, storing data from those communications, and separately communicating via a cellular connection of the mobile device *only if it is capable of that connection*. Ex. 2009 ¶105. This is not an explicit disclosure of a system with concurrent communication, but instead indicates that Jain’s system did not engage in concurrent transmission, as it is clear that the mobile device was at times incapable of transmitting using the second air interface (cellular). Ex. 2009 ¶105.

Petitioner also points to Jain ¶[0030] as disclosing concurrent communication, stating that “instructing the POS 114 to prepare a transaction authorization request for the financial institution 106” is “via the second air interface.” Pet. at. 24-25 (citing Jain ¶[0030]). Petitioner misunderstands that part of Jain’s disclosure, as it is silent with regard to the mobile device communicating via cellular communications. Ex. 2009 ¶106. Jain ¶[0030] does not disclose any cellular communication by the mobile device. Ex. 2009 ¶106. In Jain, it is “the POS 114” that is instructed to “prepare a transaction authorization request for the financial institution 106 through a cellular core network.” Jain ¶[0030]. The POS device 114 is the point-of-sale device of, for example, a store. Jain ¶[0019]; Ex. 2009 ¶106. The transaction card

112 communicates with the “transmitting terminal (e.g., POS 114)” “when in range.” Jain ¶[0030]. The connection between the transaction card 112 and the POS device 114 is via a short-range connection corresponding to the first air interface. Ex. 2009 ¶106. In Jain ¶[0030] it is the POS device 114 that maintains a connection to a financial institution “through a cellular core network” that Petitioner alleges corresponds to the second air interface. Jain ¶[0030]; Ex. 2009 ¶106. Neither the transaction card 112 nor the mobile device 110 is disclosed as communicating with the cellular core network in Jain ¶[0030]. Ex. 2009 ¶106.

Petitioner also alleges that Jain discloses turning off the antenna of transaction card 112 in response to messages received over cellular. Pet. at 25. But these disclosures do not actually state that there is concurrent transmission using both alleged interfaces. Ex. 2009 ¶107. For example, Jain ¶[0018] states that the “intelligent card can operate as a master with the host device being a slave” and may “selectively activate an antenna for wireless transactions.” Jain ¶[0018]; Ex. 2009 ¶108. Selective activation of the card’s antenna, when the card can also control the mobile device, could indicate that the two antennas are not transmitting at the same time. Ex. 2009 ¶108. Similarly, ¶[0024] discloses switching “the antenna off” upon receipt of a message from a cellular network but does not specify which antenna is turned off. Ex. 2009 ¶108. Even if the antenna being turned off is the antenna capable of short-range communication, this paragraph of Jain does not disclose completing

a transaction or otherwise communicating using that antenna while receiving a message from the cellular network. Ex. 2009 ¶108.

Jain ¶[0052] in fact teaches away from concurrent communication, as it discloses installing a device driver that enables the capability of turning the radio of the device 110 on and off. Jain ¶[0052]; Ex. 2009 ¶109. There is no reason to install software to turn off the radio of the device 110 except to *avoid* concurrent communications. Ex. 2009 ¶109. Jain ¶[0078] and ¶[0068] also fail to disclose sending or receiving messages via a non-short range network while simultaneously communicating utilizing a short range connection. Jain ¶[0068] (“FIG. 5 illustrates an example transaction system 500 for wirelessly communicating transaction information using one of a plurality of interfaces.”); Jain ¶[0078] (“data stored in the memory of the card 806 may be presented through, for example, the host device 804); *see also* Ex. 2009 ¶108.

On top of the disclosure of Jain ¶[0052] regarding turning off the cellular radio, there are numerous other references in Jain to implementing the intelligent card as a “stand alone access device” and/or as an independent device. Jain ¶[0065]; *see also id.* at ¶[0029] (“The transaction card 112 may be implemented as a KeyFOB and remains live outside the mobile device 110 as a FOB.”). Ex. 2009 ¶110. Jain’s disclosure of such concepts, especially those that do not require a mobile device at all, much less the concurrent connection of that mobile device to a cellular base

station, undercuts Petitioner's argument that such concurrent communication is disclosed or would have been rendered obvious by Jain. Ex. 2009 ¶110.

Petitioner alleges that a POSITA would have "found it advantageous and obvious to maintain such communication and disadvantageous to cease it." Pet. at 25. However, Jain clearly contemplates terminating cellular connectivity by the "master" intelligent card. Jain ¶[0018]. Further, as discussed below with respect to the Dua reference, there are security and operational benefits, such as fewer opportunities for disruption, better preserved battery life, and less opportunity for signal interference, when a device is limited to a single connection. Ex. 2009 ¶¶112, 122-124. As such, it is not necessarily obvious to concurrently communicate on multiple air interfaces.

Petitioner additionally alleges that a POSITA would have had a reasonable expectation of success in implementing concurrent communication. Pet. at 25. Petitioner relies on using a Bluetooth headset when making voice calls as an example of concurrent communication (Pet. at 26) but again does not show any explicit disclosure in Jain of a device operating via two air interfaces concurrently, including any such disclosure utilizing Bluetooth. Ex. 2009 ¶113. Further, while it is true that NFC and cellular communications can utilize different hardware to transmit their respective signals, Jain fails to even disclose a single device with such hardware, much less any device having concurrent use of NFC and cellular communications.

Supra, § VI.A.1; Ex. 2009 ¶¶104, 113. Petitioner has not established that Jain discloses or renders obvious “concurrently” communicating on multiple air interfaces, as required by independent claims 1, 11, 16, and 18.

B. Petitioner Has Failed to Establish a Reasonable Likelihood That Dua Would Have Rendered the Challenged Claims Obvious (Ground 2).

Petitioner’s second ground asserts that the Challenged Claims would have been obvious over Dua (Ex. 1018) alone. But, as stated below, Petitioner’s second ground fails to establish a reasonable likelihood that Dua would have rendered the Challenged Claims obvious. Here, Petitioner hand-waves away claim limitations and gap fills holes in Dua with unsupported assertions by Dr. Almeroth. In view of the below deficiencies, Petitioner has failed to demonstrate a reasonable likelihood of prevailing on its challenge based on Dua.

1. Dua Does Not Disclose or Render Obvious “communicating between the smartphone and the entity using the first air interface . . . is performed concurrently with the communicating between the smartphone and the base station using the second air interface.”

Dua does not disclose and would not have rendered obvious “communicating between the smartphone and the entity using the first air interface . . . concurrently with the communicating between the smartphone and the base station using the second air interface.” Petitioner states: “Dua does not disclose ceasing cellular communication when short-range communication commences, and a POSITA

would find it advantageous to maintain such communication and disadvantageous to cease it.” Pet. at 51. This is false. Dua expressly discloses examples where it terminates external communications during short range transmissions. Dua ¶[0478]; Ex. 2009 ¶¶120-122.

Petitioner relies on the “local environment” and “personal environment” embodiments of Dua as satisfying the proximity criterion of the ’708 Patent. Pet. at 42-43. Petitioner alleges that those short-range communication embodiments support concurrent communication. *Id.* at 51. However, Petitioner omits the relevant details. The “local environment” and “personal environment” embodiments teach away from the claimed concurrent communication. Ex. 2009 ¶122.

Dua discloses the “local environment” and “personal environment” embodiments that Petitioner relies upon at ¶¶[0315]-[0321] and states that “the process for establishing Bluetooth connectivity” between the wireless device via RF “to establish a secure Bluetooth connection with the bank network” is “outlined later in the Wallet Transfer section.” Dua ¶[0321]; Ex. 2009 ¶122. In that section, Dua sets forth “steps before peer-to-peer communication can be established between the two devices.” Dua ¶[0458]; Ex. 2009 ¶122. One such step is that “both wallet applications **will not allow** any external connections while the two devices are communicating.” Dua ¶[0478] (emphasis added); Ex. 2009 ¶122. Dua explicitly discloses shutting down “external connections” during Bluetooth communication

due to the secure or confidential nature of the data being transferred. Ex. 2009 ¶122; *see also* Dua ¶[0457] (“the ability to transfer [] wallet credentials” is “a feature in the wallet application that allows stored credentials and other confidential information to be securely transmitted to another wireless device”). Dua thus teaches away from Petitioner’s identified motivation of maintaining a call during a transaction or avoiding re-establishing a call. Ex. 2009 ¶122. Dua similarly teaches away from Petitioner’s identified motivation of avoiding premature termination of file transfers (Pet. at 51), as Dua states that during such a peer-to-peer transmission, “[i]n the event that the transfer is interrupted for any reason, the process must be started from the beginning.” Dua ¶[0481]. Dua thus contemplates sacrificing download speed for security. Ex. 2009 ¶123. That Dua explicitly calls for using Bluetooth (Dua ¶[0485]) for this exclusive and secure transfer similarly undercuts Petitioner’s argument that the capability of Bluetooth to transmit simultaneously with cellular means that Dua contemplated such simultaneous communication. Ex. 2009 ¶124.

Dua does not disclose or render obvious “concurrently” communicating on multiple air interfaces as required by independent claims 1, 11, 16 and 18.

2. Petitioner Fails to Establish That Dua Discloses “communicating between the smartphone and an entity using [the] first air interface responsive to a proximity criterion having been satisfied between the smartphone and the entity.”

Limitations 1[a], 11[b], 16[a], and 18[b] all require “communicating between the smartphone and an entity using [the] first air interface responsive to a proximity criterion having been satisfied between the smartphone and the entity.” Petitioner alleges that Dua discloses using NFC communications, and that “[a] POSITA would have understood that Dua’s NFC communications can only occur is the reader/POS and the wireless device are sufficiently close.” Pet. at 43. But Petitioner fails to establish that NFC communications are contemplated by the disclosure of Dua. Ex. 2009 ¶¶128-132. Accordingly, Petitioner fails to establish that Dua discloses or would have rendered obvious “communicating between the smartphone and an entity using [the] first air interface responsive to a proximity criterion having been satisfied between the smartphone and the entity.”

Petitioner begins by noting that Dua discloses a “local environment” and a “personal environment” in which the wireless device “may communicate using RF protocols.” Pet. at 42-43. Petitioner then alleges that “Dua discloses that NFC is one such protocol.” *Id.* at 43. This is incorrect. Dua only refers to NFC in the background of the technology section and never discloses that its disclosed device has such functionality. Dua ¶[0016] (“Wireless devices with integrated RFID proximity chips or Near Field Communication (NFC) technology may also provide users the ability to transfer information to a reader device.”); *see also* Ex. 2009 ¶130. Even after acknowledging its existence, Dua then omits NFC entirely from the list of network

protocols contemplated by the invention. Dua ¶[0041]; *see also* Ex. 2009 ¶130. In fact, in every example where Dua discusses available “wireless” protocols, Dua omits any discussion or even mention of NFC. *See* Dua ¶[0318] (“Connectivity between the wireless device and the reader/POS terminal could be made via 802.11a/b/g, Bluetooth, or other RF protocols.”); *see also id.* ¶[0457] (“The user may accomplish [transferring credentials between devices] using . . . the short-range transmission capability of both devices (e.g. Bluetooth, infra-red, etc.)”); *see also id.* ¶¶[0101], [0103], [0263], [0429], [0494]; *see also* Ex. 2009 ¶130. Notably, although Dua references NFC only briefly in the background section, Dua consistently emphasizes the application of Bluetooth. *See, e.g.,* Dua ¶¶[0321], [0458], [0463]-[0465], [0468], [0485]; *see also* Ex. 2009 ¶¶131-133. Petitioner does not allege that Bluetooth meets the claim limitations of 1[a]. Pet. at 42-46.

In fact, Dua’s “local environment,” also described as the “proximity environment,” does not consider, much less use, NFC technology. *See* Dua ¶¶[0314]-[0315]; *see also* Ex. 2009 ¶134. Dua discloses the “proximity environment” as “serv[ing] as a replacement for single-purpose cards and tokens” during which the device “can transmit . . . information to a reader using the short range transmission capability of the wireless device (e.g. RF).” Dua ¶[0315]; *see also* Ex. 2009 ¶134. Dua explains that in this proximity environment, “a wireless device loaded with a wallet application, *that also has an integrated RFID chip* can

simply be waved slowly in close proximity to a reader device to facilitate a transaction.” *Id.* (emphasis added); *see also* Ex. 2009 ¶134. Here, a POSITA would have understood that Dua was specifically relying on RFID.¹ *See* Dua ¶[0001] (“RFID technology is typically used for POS payments, electronic toll collection, access control, and numerous other applications.”). Ignoring the specific disclosure of RFID, Petitioner summarily states that “Dua discloses that NFC is one such protocol” (Pet. at. 43); however, Dua does not include NFC in this embodiment, and Petitioner does not provide any reason to do so. Petitioner also cites to Dua’s “personal environment.” Pet. at. 42-43. However, Dua’s “personal environment” also does not disclose NFC. Ex. 2009 ¶135. That environment discloses peer-to-peer connectivity and identifies “802.11a/b/g, Bluetooth, or other RF protocols” for providing that connectivity. Dua ¶[0318]. It does not mention NFC. Ex. 2009 ¶135. In fact, the only use of RFID references in the “personal environment” is an initial step in setting up a two-way communication exchange like Bluetooth. Dua ¶[0321].

¹ Petitioner does not rely on RFID or Bluetooth as meeting Limitations 1[a], 11[b], 16[a], and 18[b]. Pet. at. 43 (“A POSITA would have understood that Dua’s NFC communications can only occur if the reader/POS and the wireless device are sufficiently close (*a proximity criterion has been satisfied between the smartphone and an entity*).”) (emphasis in original).

After incorrectly alleging that Dua discloses using NFC in its environments, Petitioner pivots to an in-depth discussion of third-party materials regarding NFC as actually disclosing that “a proximity criterion has been satisfied between the smartphone and an entity.” Pet. at 43-44. Petitioner relies on the ECMA-340 standard as allegedly disclosing “that a proximity criterion has been satisfied.” Pet. at 44-45; *see also* Ex. 2009 ¶128. Petitioner is incorrect for multiple reasons.

First, Petitioner does not allege that Dua in combination with ECMA-340 would have rendered obvious this limitation. Petitioner is clear that it relies on Dua alone. Petitioner contends that “Dua discloses all limitations of the ’708 patent claims, but Petitioner presents Dua as an obviousness reference in the event Patent Owner argues there are differences between Dua and the ’708 patent claims.” Pet. at 38. Petitioner therefore fails to allege any combination, much less that there would have been any motivation to combine Dua with the ECMA-340 standard. Petitioner also relies on mere unsupported allegations, and thus fails to establish, that the first or second editions of the ECMA-340 Interface and Protocol Standard for NFC (on which Petitioner relies) were publicly accessible. Pet. at 44, n.4. Neither Petitioner nor Dr. Almeroth indicates where the ECMA-340 standard was publicly available prior to the priority date of the ’708 Patent, such as having been publicly accessible via websites before the priority date of the ’708 Patent. *See, e.g.*, Ex. 1002 ¶150. Neither Petitioner’s Exhibit 1034, which Petitioner alleges is the 2002 version of the

standard, nor Petitioner’s Exhibit 1045, which Petitioner alleges is the 2004 version of the standard, have an ISBN number or any copyright information bearing a date. Ex. 1034 at 1-5; Ex. 1045 at 1-5. The dates at the top of the face of documents, and on page 5, are mere hearsay and cannot be relied on to establish the purported publication date. *See Apple Inc. v. DSS Tech. Mgmt., Inc.*, IPR2015-00369, Paper 14 at 6 (PTAB Aug. 12, 2015) (“[T]he stamped date on the face of [the reference] is a hearsay statement [and] the archive date cannot establish when, if ever, [it] became publicly available.”); *see also Laird Techs. Inc. v. A.K. Stamping Co. Inc.*, IPR2017-02038, Paper 6 at 10 (PTAB Mar. 14, 2018) (“We acknowledge that the cover page of Laird includes a date reading ‘April 1, 2010.’ . . . However, the date, is a hearsay statement”) (citation omitted); *ServiceNow, Inc. v. Hewlett-Packard Co.*, IPR2015-00716, Paper 13 at 16-17 (PTAB Aug. 26, 2015) (“To the extent that Petitioner relies on the date on the face of each exhibit and the indications of availability of these references for download . . . for the truth of that information, and considering that Petitioner has not established that any hearsay exception or exclusion applies, we agree [that the statements are inadmissible hearsay]” “We are not persuaded that the presence of a copyright notice, without more, is sufficient evidence of public accessibility as of a particular date.”) (citing *LG Electronics, Inc. v. Advanced Micro Devices, Inc.*, IPR2015-00329, Paper 13 at 10–13 (PTAB July 10, 2015)). Petitioner has provided no evidence as to how a member of the interested

public could have found this standard before the priority date of the '708 Patent. Because Petitioner has failed to meet its burden to show that members of the interested public would have had access to the ECMA-340 standard, Petitioner's efforts to indirectly rely on that standard to support Dua must fail.

Second, even if the Board permits Petitioner to smuggle the disclosures of the ECMA-340 standard into its allegedly single-reference obviousness ground of Dua, a POSITA would have had no motivation to combine Dua with the standard for NFC. Ex. 2009 ¶¶139-141. Petitioner alleges that a reference to a separate RF proximity standard, ISO/IEC 14443, would have motivated a POSITA “to also look to the standard for NFC.” Pet. at. 45-46. But Petitioner fails to explain why a disclosure of one independent standard would have led a POSITA to seek out another. Ex. 2009 ¶¶139-140. Petitioner's argument is based entirely on hindsight.

Further, Dua's disclosure contradicts Petitioner's view because Dua recites its own concepts for protocols that could be used for connectivity instead of relying on NFC. Ex. 2009 ¶141. For example, Dua discloses that for short-range communications, “[c]onnectivity could initially be established by exchanging encryption keys via RFID that allow the devices to establish connectivity via an alternate channel securely so no other device can listen in to the communication. Keys could also initially be exchanged via infra-red technology.” Dua ¶[0318]; Ex. 2009 ¶141. Dua also identifies a 30-second connectivity time-out period—the type

of independent connectivity requirement that would not have motivated a POSITA, reading Dua, to implement un contemplated technologies like NFC. Ex. 2009 ¶141 (citing Dua ¶¶[0383], [0384]). These examples demonstrate that Dua was not relying on NFC.

Petitioner specifically points to Dua ¶[0383] as indicating that Dua’s device “requires not only that a proximity criterion be satisfied, but also that the wireless device detect that satisfaction so that it can respond appropriately.” Pet. at. 43-44. But Dua ¶¶[0383] and [0384] do not disclose or render obvious selectively communicating responsive to a proximity criterion being met. Ex. 2009 ¶137. Dua considers the security concerns of constant transmission by a device with an RFID chip (Dua ¶[0382]) and proposes a solution in which the transmission-capable device has “a single button embedded on the wireless device that can be used to activate the wallet application and to control the transmission of information to an external device via RFID.” Dua ¶[0383]. It is the activation of the wallet button that “enables communication via the RFID interface,” not the proximity criterion itself. Ex. 2009 ¶137. Dua also discloses that in this wallet button environment, “the user is prompted to press and release the ‘wallet button’ in order to enable RF communication on the device.” Dua ¶[0385]; Ex. 2009 ¶137. Dua also proposes an embodiment where “RF communication *may only be enabled* during the period while the button is pressed down.” Dua ¶[0386] (emphasis added); Ex. 2009 ¶137. In other words, it is the wallet

button that initiates RF communication in Dua. In Dua, “communicating . . . using the first air interface” is not “responsive to a proximity criterion having been satisfied.” Ex. 2009 ¶137. Petitioner’s other discussion of proximity, such as in Dua ¶[0009], also fails to disclose a proximity criterion and would not have rendered such a criterion obvious. Ex. 2009 ¶138.

Lastly, Petitioner’s passing argument that a POSITA would have been motivated to use “Dua’s transmission of a reader-key” to detect proximity is also insufficient to demonstrate obviousness of this limitation. Pet. at. 46. Dua’s reader key is used to “minimize the key strokes a user has to make in searching for, selecting, and transmitting a credential to a reader.” Dua ¶[0353]. Dua’s reader key is not a sign of proximity, but a way for a reader to “automatically capture specific credential information from a wireless device.” *Id.* ¶[0355]. Applying Dua’s reader key as a prerequisite to the communication, such that communication would be “responsive to a proximity criterion” associated with the reader key, would be a significant and inappropriate modification of the disclosed reader key, which currently provides for “automatic launch of the wallet application resident on the device.” Ex. 2009 ¶142. Further, there is no identified motivation for such a modification. Ex. 2009 ¶142. Dua already discloses ways to avoid indiscriminate transfer of secure data over a short-range connection, such as the “wallet button” (Dua ¶¶[0382]-[0386]) and provides for security through exclusive connectivity to

enhance transmissions (Dua ¶[0478]). Ex. 2009 ¶142. Petitioner fails to explain why a POSITA would have felt the need to go outside Dua’s disclosure for such a solution. *Id.* Dua was aware of issues surrounding constant transmission and security, and proposed its own solutions. A POSITA would not have felt the need to go outside Dua’s disclosure and look to NFC or Wi-Fi, for example, to incorporate the concept of a proximity criterion that is undisclosed in Dua itself. Ex. 2009 ¶¶141-142.

At bottom, Petitioner relies entirely on NFC-related documents that are not part of Ground 2 to meet this limitation, tacitly admitting that Dua itself does not provide any such disclosure. Petitioner’s attempt to integrate the Dua system with NFC rests solely on a single reference to NFC in Dua’s background, which Petitioner alleges would have motivated a POSITA to disregard Dua’s explicit disclosures of separate and secure peer-to-peer communication protocols (i.e., not NFC) and instead use an NFC standard. Such a leap is not supported by Dua. Ex. 2009 ¶143; *see Personal Web Techs., LLC v. Apple, Inc.*, 848 F.3d 987, 993 (Fed. Cir. 2017) (“[O]bviousness concerns whether a skilled artisan not only ***could have made*** but ***would have been motivated to make*** the combinations or modifications of prior art to arrive at the claimed invention.” (quoting *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015) (italics in original))). Accordingly, Petitioner has not established that Dua discloses or would have rendered obvious “communicating

between the smartphone and an entity using [the] first air interface responsive to a proximity criterion having been satisfied between the smartphone and the entity” as required by claim limitations 1[a], 11[b], 16[a], and 18[b].

VII. CONCLUSION

For the foregoing reasons, institution should be denied.

Date: September 16, 2025

Respectfully Submitted

By: / Christopher TL Douglas /
Christopher TL Douglas, Reg. No. 56,950

CERTIFICATION UNDER 37 C.F.R § 42.24(d)

Under the provisions of 37 C.F.R § 42.24(d), the undersigned hereby certifies that the word count for the foregoing Patent Owner's Response to Petition totals 8,605 which is less than the 14,000 allowed under 37 C.F.R § 42.24(b)(1).

Date: September 16, 2025

By: / Christopher TL Douglas /
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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6(e)(4), the undersigned certifies that true and correct copies of the above-captioned PATENT OWNER'S PRELIMINARY RESPONSE and Exhibits 2009-2024 were served in its entirety on September 16, 2025 via filing through the Patent Trial and Appeal Case Tracking System (P-TACTS) and electronic mail on the following counsel of record for Petitioner:

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