

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. IPR2025-00972

U.S. Patent 10,219,199

PATENT OWNER'S PRELIMINARY RESPONSE

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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 199-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)
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2020	Kurose et al., Computer Networking: A Top Down Approach, Chapter 7.4 (March 2012, 6th ed.) https://gaia.cs.umass.edu/kurose_ross/retired/protocols_real_time_interactive.pdf
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
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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

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Reference	Claim Limitation
Claim 1	
1[pre]	A method of operating a smartphone to wirelessly provide information to an entity using a first air interface, to wirelessly receive information from the entity using the first air interface; and to wirelessly receive a communications service from a wireless network using a second air interface that differs from the first air interface, wherein the communications service is received by the smartphone from the wireless network absent involving the entity and wherein the entity functions independently of the communications service, the method comprising:
1[a]	detecting by the smartphone that a proximity condition is satisfied between the smartphone and the entity;
1[b]	in response to at least the proximity condition having been satisfied between the smartphone and the entity, establishing a wireless short-range communications link between the smartphone and the entity to provide by the smartphone, using the first air interface, information to the entity and to receive by the smartphone information from the entity;
1[c]	in response to at least the proximity condition having been satisfied between the smartphone and the entity and in response to a physiological parameter, wirelessly providing by the smartphone, using the first air interface, information to the entity and wirelessly receiving by the smartphone, using the first air interface, information from the entity independently of, and absent involving the entity in, receiving by the smartphone the communications service from the wireless network using the second air interface; and
1[d]	wirelessly receiving by the smartphone, using the second air interface, the communications service from the wireless network absent involving the entity, absent providing by the smartphone information to the entity, and absent receiving by the smartphone information from the entity,
1[e]	wherein the wireless short-range communications link used by the first air interface is based upon unlicensed frequencies,
1[f]	wherein the second air interface uses a wireless communications link that is based upon licensed frequencies, and

Reference	Claim Limitation
1[g]	wherein the first air interface is not involved in providing the communications service to the smartphone.
Claim 2	
2[pre]	The method of claim 1,
2[a]	wherein said wirelessly providing by the smartphone, using the first air interface, information to the entity and wirelessly receiving by the smartphone, using the first air interface, information from the entity independently of, and absent involving the entity in, receiving by the smartphone the communications service from the wireless network using the second air interface is performed over a first time interval;
2[b]	wherein said wirelessly receiving by the smartphone, using the second air interface, the communications service from the wireless network absent involving the entity, absent providing by the smartphone information to the entity, and absent receiving by the smartphone information from the entity is performed over a second time interval; and
2[c]	wherein the first and second time intervals are non-overlapping with one another.
Claim 3	
3[pre]	The method of claim 1,
3[a]	wherein the wireless short-range communications link that is based upon unlicensed frequencies is further based upon a Time Division Duplex (TDD) protocol, and
3[b]	wherein the second air interface that uses a wireless communications link that is based upon licensed frequencies is further based upon an Orthogonal Frequency Division Multiplexed (OFDM) and/or Orthogonal Frequency Division Multiple Access (OFDMA) protocol.
Claim 4	
4[pre]	The method of claim 1,
4[a]	wherein said detecting by the smartphone that a proximity condition is satisfied between the smartphone and the entity is based, at least in part, on receiving a short-range signal from the entity over the first air interface.
Claim 5	
5[pre]	The method of claim 4,
5[a]	wherein said detecting by the smartphone that a proximity condition is satisfied between the smartphone and the entity is based, at least in part, on a measurement of signal strength of the short-range signal.

Reference	Claim Limitation
Claim 6	
6[pre]	The method of claim 1,
6[a]	wherein a value of the physiological parameter is provided by using a sensor of the smartphone.
Claim 7	
7[pre]	The method of claim 1, wherein said wirelessly providing by the smartphone, using the first air interface, information to the entity comprises:
7[a]	being proximate to a specific location within a store, then detecting a short-range signal being transmitted from said specific location within the store, and then performing a transaction to pay for one or more items
Claim 8	
8[pre]	The method of claim 1,
8[a]	wherein the entity comprises a check-out counter in a store, and
8[b]	wherein said wirelessly providing by the smartphone, using the first air interface, information to the entity comprises:
8[c]	performing a financial transaction to pay for one or more items.
Claim 9	
9[pre]	The method of claim 1,
9[a]	wherein establishing the wireless short-range communications link between the smartphone and the entity is performed in response to the physiological parameter.
Claim 10	
10[pre]	A system comprising:
10[a]	a smartphone that is configured to perform operations comprising:
10[b]	detecting by the smartphone that a proximity condition is satisfied between the smartphone and an entity;
10[c]	in response to at least the proximity condition having been satisfied between the smartphone and the entity, establishing a wireless short-range communications link between the smartphone and the entity to provide by the smartphone, using a first air interface, information to the entity and to receive by the smartphone information from the entity;

Reference	Claim Limitation
10[d]	in response to at least the proximity condition having been satisfied between the smartphone and the entity and in response to a physiological parameter, wirelessly providing, using the first air interface, information to the entity and wirelessly receiving, using the first air interface, information from the entity independently of, and absent involving the entity in, receiving a communications service from a wireless network using a second air interface that differs from the first air interface; and
10[e]	wirelessly receiving, using the second air interface, the communications service from the wireless network absent involving the entity, absent providing information to the entity, and absent receiving information from the entity,
10[f]	wherein the wireless short-range communications link used by the first air interface is based upon unlicensed frequencies,
10[g]	wherein the second air interface uses a wireless communications link that is based upon licensed frequencies, and
10[h]	wherein the first air interface is not involved in providing the communications service to the smartphone.
Claim 11	
11[pre]	The system according to claim 10
11[a]	further comprising the entity.
Claim 12	
12[pre]	The system of claim 10,
12[a]	wherein said wirelessly providing, using a first air interface, information to an entity and wirelessly receiving, using the first air interface, information from the entity independently of, and absent involving the entity in, receiving a communications service from a wireless network using a second air interface that differs from the first air interface is performed over a first time interval;
12[b]	wherein said wirelessly receiving, using the second air interface, the communications service from the wireless network absent involving the entity, absent providing information to the entity, and absent receiving information from the entity is performed over a second time interval; and
12[c]	wherein the first and second time intervals are non-overlapping with one another.
Claim 13	
13[pre]	The system of claim 10,

Reference	Claim Limitation
13[a]	wherein the second air interface is based upon an Orthogonal Frequency Division Multiplexed (OFDM) and/or Orthogonal Frequency Division Multiple Access (OFDMA) protocol.
Claim 14	
14[pre]	The system of claim 10,
14[a]	wherein said detecting by the smartphone that a proximity condition is satisfied between the smartphone and an entity is based, at least in part, on receiving a short-range signal from the entity over the first air interface.
Claim 15	
15[pre]	The system of claim 14,
15[a]	wherein said detecting by the smartphone that a proximity condition is satisfied between the smartphone and an entity is based, at least in part, on a measurement of signal strength of the short-range signal.
Claim 16	
16[pre]	The system of claim 10,
16[a]	wherein a value of the physiological parameter is provided by using a sensor of the smartphone.
Claim 17	
17[pre]	The system of claim 10,
17[a]	wherein said wirelessly providing, using the first air interface, information to the entity comprises:
17[b]	being proximate to a specific location within a store, then detecting a short-range signal being transmitted from said specific location within the store, and then performing a transaction to pay for one or more items.
Claim 18	
18[pre]	The system of claim 10,
18[a]	wherein the entity comprises a check-out counter in a store, and
18[b]	wherein said wirelessly providing, using the first air interface, information to the entity comprises:
18[c]	performing a financial transaction to pay for one or more items.
Claim 19	
19[pre]	The system of claim 10,
19[a]	wherein establishing the wireless short-range communications link between the smartphone and the entity is performed in response to the physiological parameter.

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 3, “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. 10,219,199 (the “’199 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 ’199 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 detects that a proximity condition is satisfied between the smartphone and the entity (*see* Pet. at 16) 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 "in response to at least the proximity condition having been satisfied . . . and in response to a physiological parameter, wirelessly providing by the smartphone . . . information to the entity and wirelessly receiving by the smartphone . . . information from the entity." Pet. at 23-26. Jain does not disclose providing or receiving information "in response to a physiological parameter" and "in response to at least the proximity condition having been satisfied." 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 cannot demonstrate that Dua's mobile device "in response to at least the proximity condition having been satisfied . . . and in response to a physiological parameter, wirelessly providing by the smartphone . . . information to the entity and wirelessly receiving by the smartphone . . . information from the entity." Pet. at 53-55. Petitioner fails to ever connect any use of alleged physiological parameters in Dua with "wirelessly providing by the smartphone, using the first air interface, information to the entity" of limitation 1[c][iii]. Pet. at. 54-55; *see also* Ex. 2009 ¶¶111-114.

Second, Petitioner hand-waves away Dua's lack of disclosure of the claimed "detecting by the smartphone that a proximity condition is satisfied" by asserting that NFC meets the limitations of the claims. *E.g.*, Pet. at 47-50. That is, the Petition relies on NFC to address "detecting by the smartphone that a proximity condition is satisfied." *Id.* at 47. 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 ¶122. 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 47-50.

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 ’199 Patent

Applicants filed U.S. Patent Application No. 15/800,885 on November 1, 2017, which issued as U.S. Patent No. 10,219,199 on February 26, 2019. ’199 Patent at 1.

The ’199 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, 1:18-22; 6:10-27; *see also* Ex. 2009 ¶58. In the prior art, mobile wireless devices were rigidly configured to perform a predetermined number of functions. Ex. 1001, 1:32-37; Ex. 2009 ¶58. To overcome this rigidity, the ’199 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.*, 1:44-

46; *see also* Ex. 2009 ¶58. The '199 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.*, 1:37-40; *see also* Ex. 2009 ¶58.

The '199 Patent also describes estimating “a value of at least one other parameter that may be associated with the wireless communications device . . . and/or an entity (living or otherwise) that is associated with and/or is proximate to the wireless communications device.” *Id.*, 6:12-17; *see also* Ex. 2009 ¶59. Such parameters include “velocity, acceleration, ToD, ToM, ToY, humidity, temperature, height, level of brightness, level of darkness, a blood pressure, a heart rate, a blood content, a physiological state, a psychological state, etc.” *Id.*, 6:16-21. These parameters can be estimated using “sensors that may, according to some embodiments, be device-based.” *Id.*, 6:22-27. The disclosed wireless communications devices may be “configured to selectively enable a first communications mode/function” responsive to a value of such a parameter. *Id.*, 6:37-46.

During prosecution, the Examiner issued a non-final rejection of initial proposed claims 1-8 and 24 for double patenting in light of claims 1, 11, 16, and 18 of U.S. Patent No. 9,832,708 and as obvious in light of U.S. Patent Application No. 2007/0260710 to Dowling, and U.S. Patent Application No. 2007/0129077 to Iguchi

et al. Ex. 1007 at 108-110. Applicants filed a terminal disclaimer over the '708 Patent. Ex. 1007 at 157, 161.

Applicants argued that the identified prior art did not “disclose or suggest detecting by a smartphone that a proximity condition is satisfied between the smartphone and an entity.” Ex. 1007 at 185. Applicants also argued that the identified prior art did not disclose “wirelessly providing by the smartphone information to the entity in response to . . . a **physiological parameter**.” Ex. 1007 at 185 (emphasis in original).

In the notice of allowance, the Examiner stated that:

Dowling alone or in combination fails [to] teach[] or fairly suggest[:]

in response to at least the proximity condition having been satisfied between the smartphone and the entity, establishing a wireless short-range communications link between the smartphone and the entity to provide by the smartphone, using the first air interface, information to the entity and to receive by the smartphone information from the entity; in response to at least the proximity condition having been satisfied between the smartphone and the entity and in response to a physiological parameter, wirelessly providing by the smartphone, using the first air interface, information to the entity and wirelessly receiving by the smartphone, using the first air interface, information from the entity independently of, and absent involving the entity in, receiving by the smartphone the communications service from the wireless network using the second air interface; and wirelessly receiving by the smartphone, using the second air interface, the communications service from the wireless network absent involving the entity, absent providing by the smartphone information to the entity, and absent receiving by the smartphone information from the entity, wherein the wireless short-range communications link used by the first air interface is based upon unlicensed frequencies,

wherein the second air interface uses a wireless communications link that is based upon licensed frequencies, and wherein the first air interface is not involved in providing the communications service to the smartphone.

Ex. 1007 at 203-204 (emphasis in original).

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 ¶¶71, 76. 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 ¶65.

Figure 3 of Jain shows an exemplary transaction card.

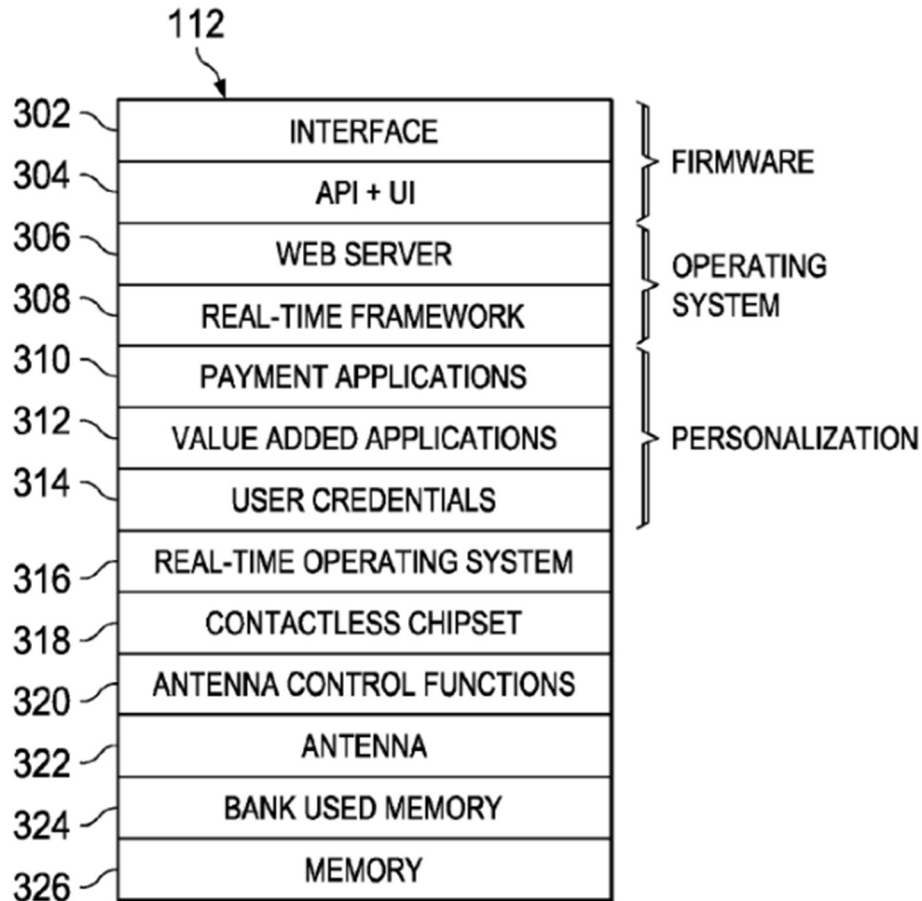


FIG. 3

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:

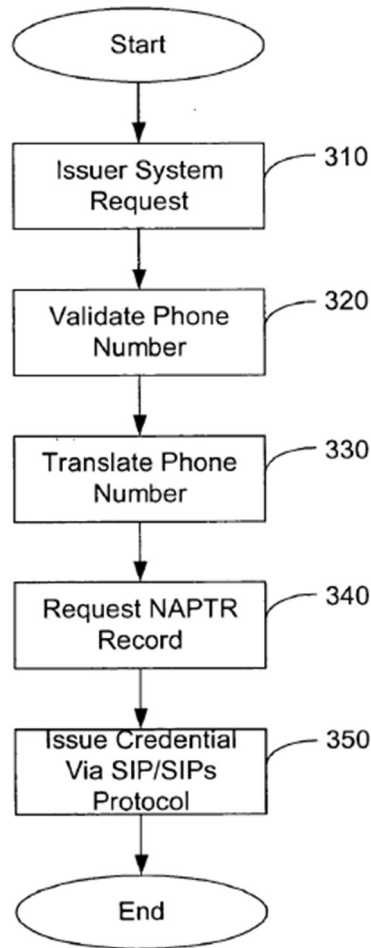


FIG. 2

Dua, Fig. 2.

Dua depends on SIP (Session Initiation Protocol). Ex. 2009 ¶81. 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 ’199 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 '199 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 ¶48. Patent Owner disagrees that a POSITA should be required to have any experience in secure wireless communications. The claims of the '199 Patent do not have any requirement that the communications be "secure," such as encryption or encoding of the wireless communications. *E.g.*, '199 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 ’199 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 the Claimed “smartphone.”

Independent claim 1 requires a “method of operating a smartphone.” Independent claim 10 is a system comprising “a smartphone that is configured to perform operations.” All dependent claims of the ’199 Patent depend from these two independent claims and thus require a smartphone. It is this claimed smartphone that

performs the claim requirements of (1) “in response to at least the proximity condition having been satisfied between the smartphone and the entity and in response to a physiological parameter, wirelessly providing [by the smartphone], using the first air interface, information to the entity”; (’199 Patent, cls. 1[c], 10[d]) and (2) “wirelessly receiving [by the smartphone], using the second air interface, the communications service from the wireless network absent involving the entity.” ’199 Patent, cls. 1[d], 10[e]. With respect to claim 1, the “method of operating a smartphone” appears in the preamble of the claims. ’199 Patent, cls. 1. This preamble is limiting, as demonstrated by the subsequent references to “the smartphone” throughout the claims. *E.g.*, ’199 Patent cl. 1; *see also* Ex. 2009 ¶86; *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 ’199 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 system comprising

a “smartphone”) can be met by the functionality provided by Jain’s “mobile device” in some instances, and by the functionality of Jain’s separate and distinct “transaction card” in other instances. *See* Pet. at 10. For example, Petitioner alleges that “[t]he exchange between the mobile device 110 and POS device 114 uses short range signals such as NFC or Bluetooth (first air interface).” Pet. at 11 (quoting Jain ¶[0023]). But this first air interface capability is available with “special NFC hardware with reader mode capability as part of the transaction card 112.” Jain ¶[0030]; Ex. 2009 ¶91. Petitioner in fact misstates Jain on this issue, stating that the “[t]he POS device 114 transmits transaction request 117 to mobile device 110.” Pet. at 10 (citing Jain ¶[0027]). Jain ¶[0027] actually states that “POS 114 may transmit a transaction request 117 *to the transaction card 112* for information to generate an authorization request 118.” (Emphasis added). Similarly, Jain ¶[0027] states that “the POS device 114 may transmit the response 120 *to the transaction card 112*.” (Emphasis added); *see also* Ex. 2009 ¶94. The “mobile device 110” and the “transaction card 112” of Jain are separate and distinct pieces of hardware. Ex. 2009 ¶¶91, 93. Petitioner admits as much when it states that “Jain describes operating a ‘mobile device 110,’ which can be a ‘smartphone’ with a ‘transaction card 112’ attached thereto or incorporated to ‘wirelessly execut[e] transactions’” Pet. at 9.

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 ’199 Patent contemplates a **single** device capable of communicating using a first and a second air interface. Ex. 2009 ¶87. But Petitioner points to two separate pieces of hardware that purportedly meets these limitations. Pet. at 10-12 (discussing the smartphone and the first air interface), 12-13 (discussing the second air interface); *see also* Ex. 2009 ¶87.

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 ¶[0023]; *see also id.* ¶[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 ¶91. 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 ¶91. For example, the Jain transaction card itself includes hardware to transmit short range signals, such as NFC. Jain ¶[0023]; *see also* Ex. 2009 ¶91. 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 ¶91.

Petitioner asserts that Jain “interfaces the mobile device 110 . . . with a transaction card 112 that ‘convert[s] the mobile device 110 to a contactless payment device’” Pet. at 11 (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. Petitioner also alleges that Figure 1 of Jain shows that mobile device 110a includes transaction card 112a. Pet. at 10-11. But Figure 1 describes a system where the transaction card is connected to—not subsumed within—the mobile

device. Ex. 2009 ¶92. Furthermore, Petitioner’s logic fails when applied elsewhere within Figure 1. This retained independence is clear in the full context of Figure 1, which shows both the transaction card within the mobile device and the mobile device within the store 102. *Id.* Applying Petitioner’s logic, the mobile device located within the store would itself become a part of the store—a result not contemplated by Jain. The transaction card remains independent. *Id.* ¶¶91-92.

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 ¶93. 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 an intelligent card, the system 100 may wirelessly execute transactions”) (emphasis added); *see also* Ex. 2009 ¶93. 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 ¶93.

Petitioner alleges that it would have been obvious to combine Jain’s mobile device and the transaction card to create the claimed smartphone. Pet. at 11-12. Petitioner alleges a POSITA would have made this change because “separability of the transaction card is not always advantageous.” Pet. at 12. Petitioner alleges that integrating the two allows the “host device to achieve the benefits . . . without incurring the cost of implementing an independent transaction card” and “protects against inadvertent loss of the transaction card 112.” *Id.* But Jain does not support this argument. Ex. 2009 ¶¶95, 96.

Jain emphasizes that the modularity of the transaction card is a ***benefit*** rather than a detriment. *See* Jain ¶[0037]; *see also* Ex. 2009 ¶96. Under Petitioner’s theory, the inadvertent loss of a transaction card is simply replaced by the inadvertent loss of a smartphone which provides no added benefit. Ex. 2009 ¶95.

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 ¶96. 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 ¶96. 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 ¶96. 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 or would have rendered obvious the claimed “method of operating a smartphone” of claim 1 or the claimed system comprising “a smartphone that is configured to perform operations” of claim 10.

2. Jain Does Not Disclose or Render Obvious “detecting by the smartphone that a proximity condition is satisfied between the smartphone and an entity.”

Independent claims 1 and 10 require “detecting by the smartphone that a proximity condition is satisfied between the smartphone and [the/an] entity.” All dependent claims depend from one of these claims, and thus incorporate this limitation. Petitioner points to Jain’s transaction card as performing the claimed “detecting” step. Pet. at 16 (citing Jain ¶[0023] and discussing “short range signals, such as NFC or ‘proximity signals’”); *see also* Jain ¶[0023] (“transaction card 112 may execute transactions with the POS device 114 using short range signals such as

NFC”). 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 misstating Jain. Petitioner alleges that “Jain’s smartphone executes contactless payment transactions with a nearby POS device (entity) using short range signals, such as NFC or ‘proximity signals.’” Pet. at. 16 (citing Jain ¶[0023]). Ex. 2009 ¶99. 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 ¶99. 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 ¶99. 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 ¶99. As claimed, the “detecting” step is performed by the smartphone rather than a different piece of hardware, such as the Jain transaction card. Ex. 2009 ¶99. For the same reasons as above with respect to Section VI.A.1, Jain similarly does not disclose the claimed

“detecting by the smartphone that a proximity condition is 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 19-20. However, Petitioner does not explain why a POSITA would have disregarded Jain’s explicit teachings as discussed above and added NFC capability to the mobile device. *See* Jain ¶[0023]; *see also* Ex. 2009 ¶100. Therefore, Jain fails to disclose or render obvious “detecting by the smartphone that a proximity condition is satisfied between the smartphone and the entity” of the independent claims.

3. Jain Does Not Disclose or Render Obvious “in response to at least the proximity condition having been satisfied . . . and in response to a physiological parameter, wirelessly providing by the smartphone . . . information to the entity.”

Jain does not disclose and would not have rendered obvious limitation 1[c], which claims “in response to at least the proximity condition having been satisfied . . . and in response to a physiological parameter, wirelessly providing by the smartphone . . . information to the entity and wirelessly receiving by the smartphone . . . information from the entity” or 10[d] which claims “in response to at least the proximity condition having been satisfied . . . and in response to a physiological parameter, wirelessly providing . . . information to the entity and wirelessly receiving, using the first air interface, information from the entity.” Petitioner asserts that “before performing a financial transaction, the Jain smartphone must be

sufficiently close to the POS device” and that “Jain also requires an authentication process . . . which includes authenticating a user using biometrics.” Pet. at. 23. However, this allegation relies on impermissibly mixing and matching various processes disclosed in Jain, none of which actually disclose “in response to at least the proximity condition having been satisfied . . . and in response to a physiological parameter, wirelessly providing by the smartphone . . . information to the entity.”

Petitioner first points to the “authentication” or “automatically bootstrapping” process of Figure 7B as disclosing “authenticating a user using biometrics.” Pet. at 23 (citing Jain ¶¶[0072], [0075], Fig. 7B). But this process does not render obvious the limitations of the ’199 Patent, which claim providing and receiving information by the smartphone *in response to both* a proximity criterion *and* a physiological parameter. Ex. 2009 ¶102.

Petitioner alleges that Jain discloses utilizing biometric information for authentication during the bootstrapping process. Pet. at 25 (citing Jain ¶[0075], Fig. B). However, the entire process disclosed in Figure 7B still fails to disclose or render obvious the limitations of the ’199 Patent, which require providing information by the smartphone *in response to both* a proximity criterion *and* a value of the physiological data associated with a living organism. Ex. 2009 ¶103. The process described in Figure 7B is the process of “automatically bootstrapping an intelligent card in response to at least insertion into a host device.” Jain ¶[0072]; Ex. 2009 ¶103.

This bootstrapping is the process whereby the phone and card are linked, and it is independent of any process regarding a proximity criterion. Ex. 2009 ¶103. Instead, the PIN and/or “biometric information” of Jain is input through GUI 111 and is checked against “a locally-stored PIN” on the “intelligent card.” Jain ¶[0075]. This authentication process does not trigger any connection using the first air interface. Jain ¶[0072]. Because the bootstrapping is completely separate from the process to provide information by the smartphone responsive to the parameter and the proximity criterion, the initial bootstrapping process of Jain does not disclose and would not have rendered obvious this limitation.

Petitioner’s second argument alleges that it would have been obvious to modify the disclosure of Jain in which a PIN is used during payment, by replacing the “disclosed PIN with user biometrics to authorize the transaction.” Pet. at 25 (citing Jain ¶[0029]). It would not have been obvious to replace the disclosed PIN associated with a POS transaction with a biometric as alleged by Petitioner. Pet. at 25. Petitioner is again conflating two different processes—the “bootstrapping process” that it relies on with respect to Figure 7B and the distinct transaction process that Petitioner alleges is disclosed in Jain ¶[0029]. Ex. 2009 ¶104.

Petitioner’s cited excerpts from Jain regarding POS transactions do not contemplate the use of the GUI 111 of the wireless device for providing user authentication. Ex. 2009 ¶105. Jain ¶[0029] discusses an alternative embodiment of

the overall intelligent card system, in which the intelligent card (or transaction card) of Jain is physically embodied in a periphery device such as a “Key FOB and remains live outside the mobile device 110 as a FOB.” Jain ¶[0029]. In this embodiment, “[a]fter the antenna of the transaction card 112 is activated in this mode, a merchant terminal may detect the presence of a host device with the transaction card 112 and prompt the user to authorize the transaction such as by entering a PIN, signing on a terminal interface, confirm the amount of the transaction, and/or other action.” *Id.* The transaction card 112 acts “as a contactless plastic payment card.” *Id.* The authentication during this exchange takes place using the terminal. Ex. 2009 ¶105. Jain is clear that, the authentication could include “*signing on a terminal interface.*” Jain ¶[0029] (emphasis added).

Jain does not modify existing merchant terminals to accept biometric information. Ex. 2009 ¶106. Such modifications would significantly complicate the system and incur material additional costs. Ex. 2009 ¶106. Jain instead contemplates utilizing more traditional terminals capable of performing “a normal card-present transaction. In other words, the POS 114 may perceive the transaction card 112 as a contactless plastic payment card and may communicate with the transaction card 112 as a contactless plastic payment card to execute payment transactions.” Jain ¶[0029]. Jain expressly discloses that “[i]n this implementation, neither the terminal

nor the financial institution may require additional software to execute the transaction.” Jain ¶[0029].

Finally, Petitioner also fails to allege with specificity that Jain discloses that this bootstrapping process results in “wirelessly providing by the smartphone, using the first air interface, information to the entity.” Ex. 2009 ¶107. In fact, Petitioner alleges that this limitation “adds no additional requirement.” Pet. at. 26. Petitioner is incorrect because this limitation requires that the proximity condition and physiological parameter not just occur, but that “in response” to the physiological parameter the smartphone “wirelessly provide[s]” information. Petitioner identifies “transaction response 119” as the required “information” (Pet. at 26 (citing Jain ¶¶[0027], [0029])) but does not allege that “transaction response 119” is sent “in response” to the physiological parameter. Ex. 2009 ¶107. As set forth above, Jain does not disclose utilizing any physiological parameter in connection with transactions. Ex. 2009 ¶¶104-106.

Jain does not disclose, and would not have rendered obvious, at least “in response to at least the proximity condition having been satisfied . . . and in response to a physiological parameter, wirelessly providing by the smartphone . . . information to the entity and wirelessly receiving by the smartphone . . . information from the entity.”

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. Petitioner Fails to Establish that Dua Discloses or Renders Obvious “in response to at least the proximity condition having been satisfied between the smartphone and the entity and in response to a physiological parameter, wirelessly providing [by the smartphone], using the first air interface, information to the entity.”

The '199 Patent claims require “in response to at least the proximity condition having been satisfied between the smartphone and the entity and in response to a physiological parameter, wirelessly providing [by the smartphone], using the first air interface, information to the entity” in both independent claims 1[c] and 10[d]. Petitioner alleges that “Dua further teaches that using the wallet application requires authentication because “[d]ata in the wallet application is encrypted and protected with a special wallet PIN Code.” Pet. at 53 (citing Dua ¶¶[0366], [0429]). But Petitioner fails to ever connect this wallet application authentication to “wirelessly

providing by the smartphone, using the first air interface, information to the entity” of limitation 1[c][ii] and in fact fails to discuss the physiological parameter at all in that limitation. Pet. at. 54-55; *see also* Ex. 2009 ¶¶111-113.

Dua’s disclosure of “biometric technologies” does not disclose and would not have rendered obvious “in response to at least the proximity condition having been satisfied between the smartphone and the entity and in response to a physiological parameter, wirelessly providing by the smartphone, using the first air interface, information to the entity.” Ex. 2009 ¶113. Petitioner’s discussion of Dua’s alleged disclosure of this limitation is a single paragraph directed to Dua’s wallet application authentication. Pet. at 53-54. Petitioner only identifies decrypting wallet application data in response to a physiological parameter, not providing information to the entity as the claims require. *Id.* at 54. Petitioner’s analysis of limitations 1[c][i] and 1[c][ii] does not establish that the Dua disclosed or would have rendered obvious wirelessly providing by the smartphone, using the first air interface, information to the entity in response to a proximity condition and a physiological parameter. Ex. 2009 ¶114.

Petitioner at most establishes that Dua discloses authentication serving as a predicate for accessing the wallet application. This does not disclose, and it would not have rendered obvious, utilizing such authentication for wirelessly providing by the smartphone, using the first air interface, information to the entity. Ex. 2009 ¶115. Regardless whether Dua contemplates using a biometric for such authentication,

Petitioner never establishes, in discussing limitations 1[c][i] or 1[c][ii], that any form of authentication is done and that in response the smartphone wirelessly provides or receives, using the first air interface, information to or from the entity. Ex. 2009 ¶115.

2. Petitioner Fails to Establish that Dua Discloses “detecting by the smartphone that a proximity condition is satisfied between the smartphone and an entity.”

The '199 Patent claims require “detecting by the smartphone that a proximity condition is satisfied between the smartphone and [the/an] entity” in both independent claims 1 and 10. Petitioner alleges that “[b]ecause the short range wireless link between the wireless device and POS reader includes NFC, the transaction occurs only if the wireless device is in ‘close proximity’ to the POS device and can thus detect its NFC communications, including the ‘reader key.’” Pet. at 47 (citing Dua Abstract, ¶¶[0016], [0318]. Petitioner makes this assertion without establishing that NFC communications are contemplated by the disclosure of Dua. Ex. 2009 ¶120. Accordingly, Petitioner fails to establish that Dua discloses or would have rendered obvious “detecting by the smartphone that a proximity criterion is satisfied between the smartphone and [the/an] entity.”

Petitioner alleges that “Dua teaches that its short-range communication may be NFC.” Pet. at. 48. Not so. The sole reference to NFC in Dua is in the background of the technology section. 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.”). Even after acknowledging its existence, Dua then omits NFC entirely from the list of network protocols contemplated by the invention of Dua, which include “GSM/GPRS, CDMA2000, W-CDMA, EDGE, HDR, 1xRTT, UMTS, IMT-2000, 802.11a, 802.11b, 802.11g, or BLUETOOTH.” Dua ¶¶0041]; Ex. 2009 ¶120. 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] (listing Internet protocols such as “Transmission Control Protocol (TCP), Transmission Layer Security (TLS), User Datagram Protocol (UDP), Internet Protocol (IP), Domain Name System (DNS), and others.”); *see also id.* ¶¶0103] (“SIP can provide a set of services that is more diverse, compelling and profitable than any of the contemporary wireless protocols including WAP, SMS and MMS.”); *see also id.* ¶¶0263] (“As such, WCM 110 is preferably compatible with IPv4 and IPv6 networks. WCM 110 also supports the following transport protocols: UDP/TCP/TLS/SCTP. WCM 110 also supports multiple domain names.”); *see also*

id. ¶[0429] (“A number of server authentication and data encryption protocols may be employed to secure credentials and other confidential information such as Wireless Transport Layer Security (WTLS), Transport Layer Security (TLS), and Secure Socket Layer (SSL). Wireless Identity Module (WIM) could be used for digital signatures enabling authenticated payments.”); *see also id.* ¶[0494] (“The connection between the wallet application and the storage service could utilize an application protocol such as HTTP, SIP, or others.”); *see also* Ex. 2009 ¶120. Dua does not contemplate using NFC for short-range communications. Ex. 2009 ¶¶120-123.

After incorrectly alleging that Dua discloses using NFC in its environment, Petitioner pivots to an in-depth discussion of third-party materials regarding NFC as actually disclosing the claimed “detecting.” Pet. at. 48-49. Petitioner relies on the ECMA 340 standard as allegedly disclosing “detect[ing] whether *a proximity condition* is satisfied.” Pet. at 48 (emphasis in original); *see also* Ex. 2009 ¶125. 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 ’199 patent claims, but Petitioner presents Dua as an obviousness reference in the event Patent Owner identifies any differences between Dua’s disclosure and the ’199 patent

claims.” Pet. at 41. 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 a mere unsupported allegation 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 17 n.3. Neither Petitioner nor Dr. Almeroth indicate where the ECMA 340 standard was “publicly available” prior to the priority date of the ’199 Patent, such as having been publicly accessible via websites before to the priority date of the ’199 Patent. *See, e.g.*, Ex. 1002 ¶¶76, 151. Neither Petitioner’s Exhibit 1034, which Petitioner alleges is the 2002 version of the standard, nor Petitioner’s Exhibit 1047, 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. 1047 at 1-5. The dates at the top of the face of these 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 not provided any evidence that demonstrates how a member of the interested public could have found the standard before the priority date of the ’199 Patent. Because Petitioner 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 ¶¶124-126. Petitioner alleges that a reference to a separate RF standard, ISO/IEC 14443 would have motivated a POSITA “to also look to the standard for NFC.” Pet. at. 48. But Petitioner fails to explain why a disclosure of one independent standard would have led a POSITA to seek out another. Ex. 2009 ¶¶124-125.

Petitioner’s argument is based entirely on hindsight. And Petitioner does not argue that ISO/IEC 14443 itself discloses or would have rendered obvious “selectively communicating . . . responsive to a proximity condition being met.” *See* Pet. at. 47-49.

Further, Dua’s disclosure contradicts Petitioner’s view because it recites its own concepts for protocols that would be used for connectivity instead of relying on NFC. Ex. 2009 ¶126. 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 ¶126. 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 ¶126 (citing Dua ¶[0383], [0384]). These examples demonstrate that Dua was not relying on NFC. Ex. 2009 ¶126.

Petitioner alleges that “it would be obvious to a POSITA that Dua’s wireless device would first detect it is proximate to the POS terminal based on a signal from the POS terminal.” Pet. at. 49. Petitioner again alleges that “Dua’s wireless device has to establish a peer-to-peer communication session with the POS terminal over

NFC.” *Id.* Petitioner points to claims 33, 36, and 50 as disclosing establishing such “a peer-to-peer communication session with the POS terminal over NFC.” *Id.* (citing Dua, ¶[0016] cls. 33, 36, 50). But none of these claims contemplate a short-range communications protocol, let alone NFC. Ex. 2009 ¶128. Claims 33 and 36 make no mention of a communications protocol. *See* Dua, cl. 33 (“The method of claim 1, wherein said credential corresponds to an account not previously opened by a customer.”); *see also id.*, cl. 36 (“The method of claim 35, wherein said electronic payment transfer is a business-to-business transfer.”). And claim 50 describes the wireless connection between a wireless device and *an issuer*, not a supposed NFC connection between a wireless device and a point-of-sale terminal. *See also id.*, cl. 50 (“A system for transmitting a credential *from an issuer to a wireless device . . .*”) (emphasis added); Ex. 2009 ¶128. Petitioner also points to Dua’s disclosure of a peer-to-peer communication session as suggesting NFC communications. *Id.* (quoting Dua ¶[0359]). But preceding disclosures in Dua confirm that Dua contemplates RF communications and fails to include NFC communications. *See* Dua ¶[0354] (“If a matching key is found within the wallet application, the corresponding loyalty information will be transmitted to the reader from the wireless device *via RF*.”) (emphasis added); Ex. 2009 ¶128.

Petitioner alleges that “[t]o ensure communications will be successful and not just wasted signaling, and further to avoid the security risk of indiscriminately

transmitting sensitive financial information, Dua's wireless device first needs to detect it is near the POS prior to proceeding with a payment transaction with the POS." Pet. at. 49. But Petitioner's supporting citations fail to disclose or render obvious detecting a proximity condition as the claims require. Ex. 2009 ¶129. For example, Dua ¶¶[0382] also does not disclose detecting that a proximity condition is met. 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 this wallet button that "enables communication via the RFID interface," not the proximity condition itself. Dua ¶[0383]; *see also* Ex. 2009 ¶129. Dua notes that "the user is prompted to press and release the 'wallet button' in order to enable RF communication on the device." Dua ¶[0385]. Dua also proposes an embodiment where "RF communication may only be enabled during the period while the button is pressed down." Dua ¶[0386]. Petitioner's argument that other technologies did rely on such a proximity condition (Pet. at. 49-50) fails to explain how a POSITA

would have been motivated to modify Dua to include such a condition, in light of Dua’s already-disclosed alternatives. Ex. 2009 ¶¶129-130.¹

Lastly, Petitioner’s passing argument that a POSITA would have been motivated to use “Dua’s ‘reader-key’” to detect proximity is insufficient to demonstrate that Dua discloses or would have rendered obvious this limitation. Pet. at 50. Petitioner fails to explain whether it contends that the reader key itself discloses this limitation or that a POSITA would have been motivated to modify the reader key. *Id.* Assuming *arguendo* that Petitioner intends for a POSITA to modify the reader key, Petitioner also fails to explain *how* a POSITA would have modified Dua’s reader key, which is used in Dua to “minimize the key strokes a user has to make in searching for, selecting, and transmitting a credential to a reader” to meet the limitations of this claim. Dua ¶[0353]; *see also* Ex. 2009 ¶130. 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]. Modifying Dua’s reader key so that it could be used to “detect a proximity criterion” that is then used to “establish a short-range communication link” as claimed by the ’199 Patent, would

¹ Petitioner’s discussion of a proximity condition in Wi-Fi is particularly inapt, as Petitioner does not otherwise argue that Wi-Fi-related disclosures in Dua disclose or render obvious the claim limitations. *See* Pet. at. 49-50.

be a significant and inappropriate modification. Ex. 2009 ¶130. The disclosed reader key currently provides for “automatic launch of the wallet application resident on the device.” Dua ¶¶[0353]; *see also* Ex. 2009 ¶130. Further, there is no identified motivation for such a modification. 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 ¶130. A POSITA would not have felt the need to go outside of Dua’s disclosure and look to NFC or Wi-Fi, to incorporate the concept of a proximity criterion that is undisclosed in Dua itself. Ex. 2009 ¶130.

At bottom, Petitioner relies entirely on NFC-related documents 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 ¶131; *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) (emphasis in original)). Accordingly, Petitioner has not established that Dua discloses or would have rendered obvious “detecting by the smartphone that a proximity condition is satisfied between the smartphone and [the/an] entity” of independent claims 1 and 10.

VII. CONCLUSION

For the foregoing reasons, institution should be denied.

Date: September 17, 2025

Respectfully Submitted

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

CERTIFICATION UNDER 37 CFR § 42.24(d)

Under the provisions of 37 CFR § 42.24(d), the undersigned hereby certifies that the word count for the foregoing Patent Owner's Response to Petition totals 8,788 which is less than the 14,000 allowed under 37 CFR § 42.24(b)(1).

Date: September 17, 2025

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

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 17, 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:

James M. Glass
jimglass@quinnemanuel.com

Ognjen Zivojnovic
ogizivojnovic@quinnemanuel.com

Benjamin Kleinman
benkleinman@quinnemanuel.com

Date: September 17, 2025

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