

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. IPR2025-00973

U.S. Patent No. 9,462,411

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 411-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/
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2014	McHugh & Yarmey, "Near Field Communication: Introduction and Implication," ERIC (2012)
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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 comprising:
1[a]	sensing by a smartphone, using a smartphone-based sensor, physiological data associated with a living organism;
1[b]	detecting that a proximity criterion is satisfied between the smartphone and an entity, wherein the entity is not the living organism;
1[c]	selectively communicating by the smartphone using a first air interface of a plurality of air interfaces with which the smartphone is capable of communicating, responsive to the proximity criterion having been detected as being satisfied and responsive to a value of the physiological data associated with a living organism that was sensed by the smartphone using the smartphone-based sensor;
1[d]	refraining from communicating by the smartphone using the first air interface absent said value of the physiological data associated with a living organism that was sensed by the smartphone using the smartphone-based sensor satisfying a criterion, even though the proximity criterion is detected as being satisfied;
1[e]	selectively sending information by the smartphone to one or more other devices and receiving information by the smartphone from the one or more other devices responsive to said value of the physiological data associated with a living organism that was sensed by the smartphone using the smartphone-based sensor satisfying the criterion; and
1[f]	communicating by the smartphone using a second air interface of the plurality of air interfaces with which the smartphone is capable of communicating that differs from the first air interface.
Claim 2	
2[pre]	The method according to claim 1, wherein said detecting that a proximity criterion is satisfied between the smartphone and an entity comprises:
2[a]	detecting that a proximity criterion of less than 10 meters in distance is satisfied between the smartphone and the entity;
2[b]	wherein the detecting is performed by the smartphone, by a device that is associated with the entity, by a system that is associated with the smartphone, or a combination thereof.

Reference	Claim Limitation
Claim 3	
3[pre]	A smartphone comprising:
3[a]	a processor that is configured to control the smartphone to perform operations comprising:
3[b]	sensing, using a smartphone-based sensor, physiological data associated with a living organism;
3[c]	detecting that a proximity criterion is satisfied between the smartphone and an entity, wherein the entity is not the living organism;
3[d]	selectively communicating using a first air interface of a plurality of air interfaces with which the smartphone is capable of communicating, responsive to the proximity criterion having been detected as being satisfied and responsive to a value of the physiological data associated with a living organism that was sensed by the smartphone using the smartphone-based sensor;
3[e]	refraining from communicating using the first air interface absent said value of the physiological data associated with a living organism that was sensed by the smartphone using the smartphone-based sensor satisfying a criterion, even though the proximity criterion is detected as being satisfied;
3[f]	selectively sending information to one or more other devices and receiving information from the one or more other devices responsive to said value of the physiological data associated with a living organism that was sensed by the smartphone using the smartphone-based sensor satisfying the criterion; and
3[g]	communicating using a second air interface of the plurality of air interfaces with which the smartphone is capable of communicating that differs from the first air interface.
Claim 4	
4[pre]	The smartphone according to claim 3, wherein said detecting that a proximity criterion is satisfied between the smartphone and an entity comprises:
4[a]	detecting that a proximity criterion of less than 10 meters in distance is satisfied between the smartphone and the entity.

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 1-4 (the “Challenged Claims”) of U.S. Patent No. 9,462,411 (the “’411 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 ’411 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 13-14. Worse, Petitioner’s combination of Jain’s distinct transaction card and mobile device, *see* Pet. at 13-14, 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 performs “detecting that a proximity criterion is satisfied between the smartphone and an entity”, *see* Pet. at 18, 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 discloses or would have rendered obvious “selectively communicating by the smartphone . . . responsive to the proximity criterion having been detected as being satisfied and responsive to a value of the physiological data associated with a living organism that was sensed by the smartphone using the smartphone-based sensor.” Pet. at 27-28. Jain does not disclose selectively communicating “responsive to a value of the physiological data . . . sensed by the smartphone.” 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 performs “selectively communicating by the smartphone . . . responsive to the proximity criterion having been detected as being satisfied and responsive to a value of the physiological data associated with a living organism that was sensed by the smartphone using the smartphone-based sensor.” Pet. at 56.

Second, Petitioner hand-waves away Dua’s lack of disclosure of the claimed “detecting that a proximity criterion is satisfied between the smartphone and an entity” by asserting that NFC meets the limitations of the claims. *E.g.*, Pet. at 46-51. That is, the Petition relies on NFC to address “detecting that a proximity criterion is satisfied between the smartphone and an entity.” *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 ¶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 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 ’411 Patent

Applicants filed U.S. Patent Application No. 12/264,711, on November 4, 2008, which issued as U.S. Patent No. 9,462,411 on October 4, 2016. ’411 Patent at 1.

The ’411 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, 1:7-12; 5:65-6:16; *see also* Ex. 2009 ¶58. In the prior art, mobile wireless devices were rigidly configured to perform a predetermined number of functions. Ex. 1001, 1:20-37; Ex. 2009 ¶58. To overcome this rigidity, the ’411 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.*, 1:32-

35; *see also* Ex. 2009 ¶58. The '411 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.*, 1:26-29; *see also* Ex. 2009 ¶58.

The '411 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.*, 5:67-6:4; *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.*, 6:5-9. These parameters can be estimated using “sensors that may, according to some embodiments, be device-based.” *Id.*, 6:13-15. 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.*, 6:22-35.

During prosecution, the Examiner issued a total of nine rejections. Ex. 1005 at 73, 126, 195, 239, 294, 329, 381, 419, 452. Applicants amended the claims in response to the first eight rejections, but did not make an amendment and traversed the ninth rejection. Ex. 1005 at 115-123 (amendments in response to first Office

Action); 157-165 (amendments in response to second Office Action); 220-224 (amendments in response to third Office Action); 266-269 (amendments in response to fourth Office Action); 316-320 (amendments in response to fifth Office Action); 346-350 (amendments in response to sixth Office Action); 407-409 (amendments in response to seventh Office Action); 431-433 (amendments in response to eighth Office Action); 478-485 (remarks in response to ninth Office Action).

In traversing the ninth and final Office Action, Applicants stated that the identified prior art did not disclose “refraining from communicating.” Ex. 1005 at 482. Applicants also noted that the identified prior art stated that “mobile phones with Near Field Communication (NFC) transceivers and biometric authentication [sic] with a fingerprint sensor did not exist yet.” Ex. 1005 at 483 (emphasis in original). Applicants noted that proposed Claim 1 assumes a smartphone with a first air interface and a sensor for physiological data that can sense a value of physiological data. Ex. 1005 at 483.

The Examiner entered an Examiner’s Amendment coinciding with the Notice of Allowability. Ex. 1005 at 496-500. The Examiner’s Amendment introduced the final two limitations of the issued independent claims (“selectively sending . . .” and “communicating by the smartphone using a second air interface . . .”). *Id.* The Examiner credited Applicants’ remarks in its final argument for allowability, and the

Examiner's Amendment, with placing the application in position for allowance. Ex. 1005 at 500.

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 ¶76.

Figure 3 of Jain shows an exemplary transaction card.

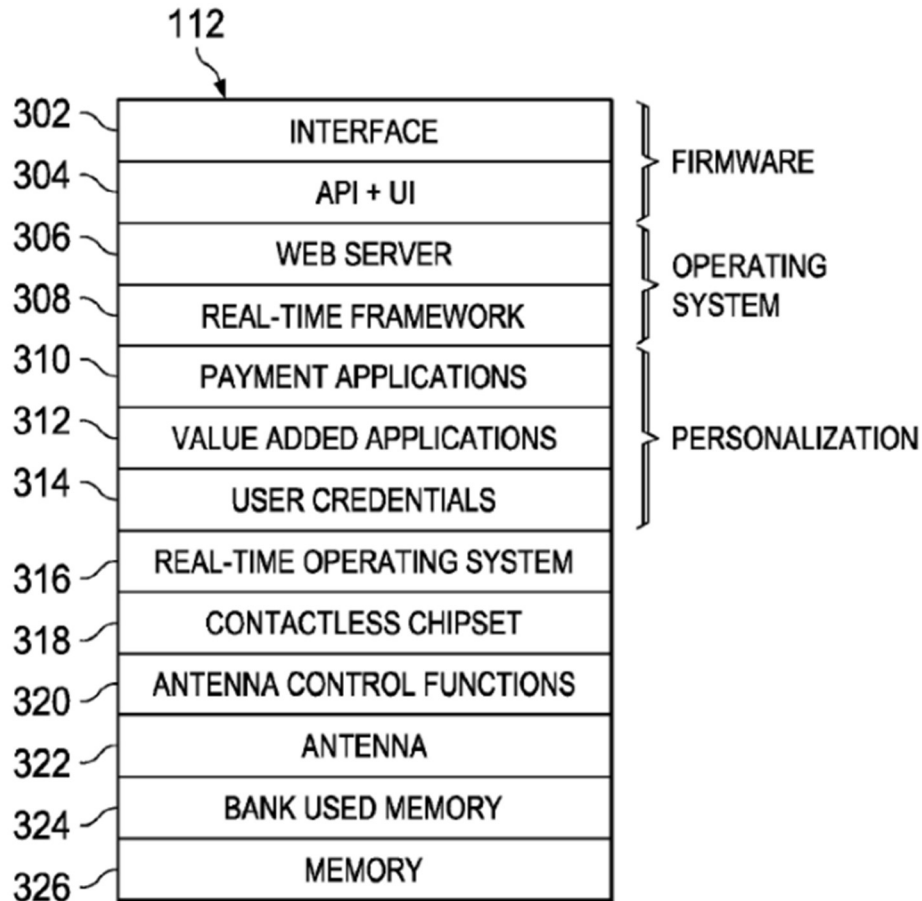


FIG. 3

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:

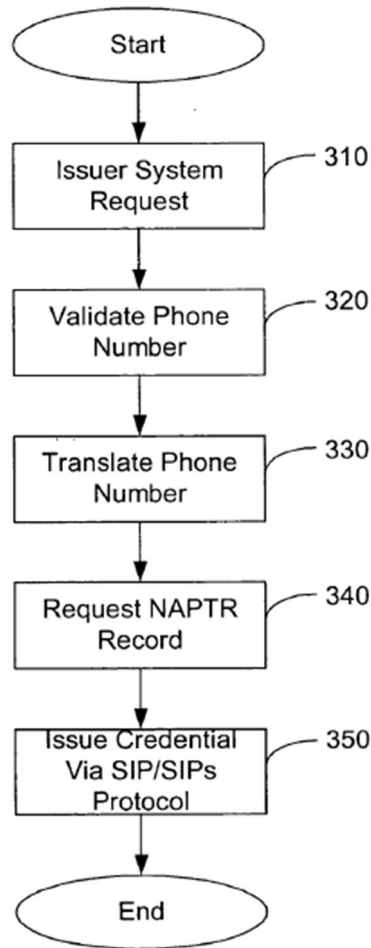


FIG. 2

Dua, Fig. 2.

Dua depends on SIP (Session Initiation Protocol). Ex. 2009 ¶86. 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 ’411 patent claims invalid.” Pet. at 9. 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 '411 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 ¶75. Patent Owner disagrees that a POSITA should be required to have any experience in secure wireless communications. The claims of the '411 Patent do not have any requirement that the communications be "secure," such as encryption or encoding of the wireless communications. *E.g.*, '411 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 ’411 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 “communicating [by the smartphone] using a first air interface of a plurality of air interfaces with which the smartphone is capable of communicating.”

Jain fails to disclose or render obvious at least “communicating by the smartphone using a first air interface of a plurality of air interfaces” of independent claim 1[c], or the claimed “smartphone” capable of “communicating using a first air

interface of a plurality of interfaces” of independent claim 3[d]. Ex. 2009 ¶86. Both dependent claims of the ’411 Patent depend from one of these independent claims, and therefore all claims of the ’411 Patent require a “smartphone.”

Petitioner inconsistently points to distinctly described elements as comprising the claimed “smartphone” of the ’411 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 23-24. For example, Petitioner alleges that “Jain discloses that its *first air interface* may utilize ‘NFC (e.g., ISO 18092/ECMA 340), ISO 14443 type A/B, ISO 15693, Felica, MiFARE, Bluetooth, Ultra-wideband (UWB), Radio Frequency Identifier (RFID), contactless signals, proximity signals, and/or other signals compatible with retail payment terminals.’” Pet. at 23 (quoting Jain ¶[0022]) (emphasis in original). 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. The “mobile device 110” and the “transaction card 112” of Jain are separate and distinct

pieces of hardware. Ex. 2009 ¶92. Petitioner admits as much when it states that “Jain’s mobile device 110 (e.g., ‘a smartphone’ (¶[0018])) . . . must interface with transaction card 112.” Pet. at 13.

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 ’411 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 23-24; *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* ¶[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 a first air interface between a smartphone and an entity. Pet. at 23-24. But Figure 1 describes a system where the transaction card is connected to—not subsumed within—the mobile device. Ex. 2009 ¶94. 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 placed 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.* Petitioner’s expert Dr. Almeroth admits as much when he states that “[t]he transaction card works together with a smartphone to provide a user with the ability to wirelessly execute transactions with financial institutions and point-of-sale (POS) retail terminals to enable users to use the smartphone for mobile payments.” Ex. 1002 ¶86 (citing Jain ¶[0019]); *see also* Ex. 2009 ¶95.

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 the 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. This is even more true because the mobile device, on its own, does not have the capability to perform short range communications. *Id.*

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 23-24. Nor does Petitioner ever provide any motivation to combine these two components, nor a discussion of 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 ¶96.

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, to devices that are not phones, and using the transaction cards independently, are benefits that would be lost if Jain's mobile device and transaction card were one.

Petitioner has failed to demonstrate that Jain discloses "communicating [by the smartphone] using a first air interface of a plurality of air interfaces with which the smartphone is capable of communicating" of independent claims 1 and 3.

2. Jain Does Not Disclose or Render Obvious "detecting that a proximity criterion is satisfied between the smartphone and an entity."

Independent claims 1 and 3 require "detecting that a proximity criterion is satisfied between the smartphone and an entity." All dependent claims depend from one of these claims and thus incorporate this limitation. But Petitioner points to Jain's transaction card as performing the claimed "detecting" step. Pet. at. 18 (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"). 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 mobile device 110 (*the smartphone*) may execute contactless payment transactions with a nearby merchant . . . using short range signals” Pet. at. 18 (citing Jain [0023], [0029]); *see also* Ex. 2009 ¶100. 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 ¶100. 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 ¶100. 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 ¶100. The claimed “detecting that a proximity criterion is satisfied” step must be met between the smartphone and the entity. Ex. 2009 ¶100. Jain discloses the proximity criterion being met by the transaction card 112, not the mobile device 110. Ex. 2009 ¶100. For the same reasons as above with respect to Section VI.A.1, Jain similarly does not disclose the claimed “detecting 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 22. However, Petitioner does not explain why a POSITA would have

disregarded Jain's teachings and added NFC capability to the mobile device. *See* Jain ¶[0023]; *see also* Ex. 2009 ¶101. Therefore, Jain fails to disclose or render obvious "detecting that a proximity criterion is satisfied between the smartphone and an entity" in independent claims 1 and 3.

3. Jain Does Not Disclose or Render Obvious "selectively communicating by the smartphone . . . responsive to the proximity criterion having been detected as being satisfied and responsive to a value of the physiological data associated with a living organism that was sensed by the smartphone using the smartphone-based sensor."

Jain does not disclose and would not have rendered obvious limitation 1[c], which claims "selectively communicating by the smartphone . . . responsive to the proximity criterion having been detected as being satisfied *and responsive* to a value of the *physiological data* associated with a living organism that was *sensed by the smartphone using the smartphone-based sensor*" (emphasis added), nor the similar limitation 3[d], which claims "selectively communicating using a first air interface of a plurality of air interfaces with which the smartphone is capable of communicating, responsive to the proximity criterion having been detected as being satisfied *and responsive* to a value of the *physiological data* associated with a living organism that was *sensed by the smartphone using the smartphone-based sensor*" (emphasis added). Petitioner alleges that "mobile device 110 also does not communicate with POS device 114 unless its user has been authenticated." Pet. at 27. However, this allegation relies on impermissibly mixing and matching various

processes disclosed in Jain, none of which actually disclose “selectively communicating . . . responsive to the proximity criterion having been detected as being satisfied *and responsive* to a value of the *physiological data* associated with a living organism that was *sensed by the smartphone using the smartphone-based sensor*.” Ex. 2009 ¶102.

Petitioner sets forth much of its analysis of this limitation in limitation 1[a], which claims “sensing by a smartphone, using a smartphone-based sensors, physiological data associated with a living organism.” Pet. at 27-28. However, Petitioner’s analysis of limitations 1[a] and 1[c] both fail to establish that Jain discloses or would have rendered obvious “selectively communicating . . . responsive to a value of the physiological data associated with a living organism that was sensed by the smartphone using the smartphone-based sensor.”

Starting with limitation 1[a], Petitioner alleges that the “bootstrapping” process between a smartphone and a transaction card, during which a user might input a PIN “via the mobile device’s touch screen,” discloses sensing physiological data. Pet. at 13-15. However, a PIN is not the claimed physiological data. Ex. 2009 ¶105. Even if a PIN is input via a touch screen, thus utilizing a physiological process (touch), the data internalized by the smartphone is the PIN itself, not any data regarding the touch. *See* Jain ¶[0075] (checking a provided PIN against a locally stored PIN); *see also* Ex. 2009 ¶105. The use of a touch screen to provide a PIN thus

does not meet the limitation “sensing by a smartphone, using a smartphone-based sensor, physiological data” of limitation 1[a] nor “communicating . . . responsive to a value of the physiological data . . . sensed by the smartphone using the smartphone-based sensor” of limitation 1[c]. Ex. 2009 ¶105. A capacitive touch screen is not physiological data. Ex. 2009 ¶105.

Petitioner further alleges that Jain discloses utilizing biometric information for authentication during the bootstrapping process. Pet. at 15 (citing Jain ¶[0075], Fig. B). However, the entire process disclosed in Figure 7B still fails to disclose or render obvious the limitations of the ’411 Patent, which claim communicating by the smartphone *in response to both* a proximity criterion *and* a value of the physiological data associated with a living organism. Ex. 2009 ¶106. 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 ¶107. This bootstrapping process is done independently of any process involving the first air interface, alleged to be NFC (Ex. 1002 ¶129), or any process regarding a proximity criterion. Ex. 2009 ¶107. 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 initialize communication 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 authentication during a POS transaction also discloses this limitation. Pet. at 16 (citing Jain ¶[0029]). Not so. First, the disclosure of Jain ¶[0029] only calls for entering a PIN, which could be input through a traditional keypad, not a touchscreen. Ex. 2009 ¶109. Even if the entry of a PIN did contemplate a capacitive touch screen, as discussed above, that does not disclose the sensing of physiological data. *Id.* Finally, it would not have been obvious to replace the disclosed PIN associated with a POS transaction with a "biometric scan" as alleged by Petitioner. Pet. at. 16-17.

Petitioner's obviousness allegation that is based on the embodiment of Jain as disclosed in Jain ¶[0029] fails. 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 but instead contemplate authentication on the POS device itself. Ex. 2009 ¶¶109-110. Jain ¶[0029] discusses an alternative embodiment of the overall intelligent card system, in which the intelligent card of Jain is physically embodied in a periphery device such as a "KeyFOB 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 (or POS device). Ex. 2009 ¶111. Petitioner’s misunderstanding of Jain is made clear in Dr. Almeroth’s declaration, where he states that the authentication process of Jain ¶[0029] “is as opposed to incorporating PIN authorization on the POS device.” Ex. 1002 ¶105. Jain is clear that authentication could include authentication on the POS device such as “***signing on a terminal interface.***” Jain ¶[0029] (emphasis added); Ex. 2009 ¶111. Jain does not teach away from authorization via the POS device, but in fact directly discloses it. This error undercuts Petitioner’s obviousness theory and highlights a fatal flaw in Petitioner’s analysis—Dr. Almeroth misunderstands Jain, and thus does not appreciate that these authentication steps are contemplated as actions between the user and the ***merchant terminal*** via the transaction card and are unrelated to the wireless device itself.

Jain also does not contemplate modifying existing merchant terminals to accept biometric information. Ex. 2009 ¶112. Such modifications would significantly complicate the system and incur material additional costs. Ex. 2009 ¶112. 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 “in this implementation, neither the terminal nor the financial institution may require additional software to execute the transaction.” Jain ¶[0029]. Even if Jain had provided teachings to modify the POS device, those teachings still would not have rendered obvious the required “smartphone-based sensor.” Ex. 2009 ¶112.

Jain does not disclose, and would not have rendered obvious, at least “selectively communicating by the smartphone . . . responsive to the proximity criterion having been detected as being satisfied and responsive to a value of the physiological data associated with a living organism that was sensed by the smartphone using the smartphone-based sensor” of independent claim 1, nor “selectively communicating . . . responsive to the proximity criterion having been detected as being satisfied and responsive to a value of the physiological data associated with a living organism that was sensed by the smartphone using the smartphone-based sensor” of independent claim 3.

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 “selectively communicating by the smartphone . . . responsive to the proximity criterion having been detected as being satisfied and responsive to a value of the physiological data associated with a living organism that was sensed by the smartphone using the smartphone-based sensor.”

Dua does not disclose and would not have rendered obvious limitation 1[c], which claims “selectively communicating by the smartphone . . . responsive to the proximity criterion having been detected as being satisfied *and responsive* to a value of the *physiological data* associated with a living organism that was *sensed by the smartphone using the smartphone-based sensor*” (emphasis added), nor the similar limitation 3[d], which claims “selectively communicating using a first air interface of a plurality of air interfaces with which the smartphone is capable of communicating, responsive to the proximity criterion having been detected as being satisfied *and responsive* to a value of the *physiological data* associated with a living organism that was *sensed by the smartphone using the smartphone-based sensor*” (emphasis added). Petitioner alleges that “Dua’s wireless device also does not communicate with a POS terminal unless its user has been authenticated . . . by entry

of a PIN on the wireless touchscreen or through biometric/fingerprint scan.” Pet. at 56.

Petitioner again sets forth almost the entirety of its analysis of this limitation in limitation 1[a], which claims “sensing by a smartphone, using a smartphone-based sensors, physiological data associated with a living organism.” Pet. at 56, 43-45. However, Petitioner’s analysis of limitations 1[a] and 1[c] both fail to establish that Dua discloses or would have rendered obvious “selectively communicating . . . responsive to a value of the physiological data associated with a living organism that was sensed by the smartphone using the smartphone-based sensor.” As correctly concluded by the Examiner in connection with a continuation of the ’411 Patent, Dua does not disclose or render obvious this limitation. Ex. 2009 ¶117; *see also* Ex. 1009 at 275-276 (“Dua alone or in combination fails teaches or fairly suggest;^[sic] responsive to at least one physiological parameter having been sensed by at least one sensor of the smartphone, enabling a mode to communicate by the smartphone”) (emphasis in original).

Petitioner’s focus on solely the “sensing” requirement of limitation 1[a] is the heart of its failure. Dua’s disclosure of “biometric technologies” does not disclose and would not have rendered obvious “selectively communicating . . . responsive to the value of physiological data that was sensed.” Ex. 2009 ¶¶117-118. In fact, Petitioner’s analysis of limitation 1[a] expressly includes disclosures in Dua in

which there is communication between the smartphone and the entity, such as a POS terminal, in advance of any authentication such as a PIN or other credential check. Pet. at 43-44 (citing Dua ¶¶[0128]-[0129], [0178], [0180], [0250], [0366], [0399], [0429]); *see also* Ex. 2009 ¶¶120-122. That is, Dua allows for RF communication prior to receiving the alleged “value of physiological data that was sensed.” For example, the disclosure in Dua ¶¶[0128]-[0129] explicitly contemplates communication between a Wireless Credential manager (WCM) and a “SIP-enabled mobile device 500 via the Internet” in which the “WCM 510 may initiate communication with a wallet application on Bob’s wireless device 500.” Dua ¶¶[0128]-[0129]; Ex. 2009 ¶121. The Dua ¶[0178] disclosure explains that there is “direct communication between the end-points (WCM and wallet application) for the purpose of transferring confidential information.” Dua ¶[0178]. And most critically in relation to this limitation, Dua ¶[0180] discloses that “[t]he established session may initially be used to exchange encryption keys and/or other security information. ***Subsequent to that***, the issuer’s system will authenticate the mobile user’s identity in real-time to ensure that the person on the receiving end is in fact the person that requested the digital credential.” Dua ¶[0180] (emphasis added); Ex. 2009 ¶121. The connection is established and communication between the wallet application and the WCM has begun prior to any disclosed authentication. Ex. 2009 ¶121.

Petitioner’s analysis is almost entirely focused on the use of a “PIN to secure the wallet application and data.” Pet. at 44. But Petitioner’s citations to Dua speak to authenticating the user for the transaction, not “selectively communicating by the smartphone . . . responsive to the proximity criterion having been detected as being satisfied and responsive to a value of the physiological data associated with a living organism that was sensed by the smartphone using the smartphone-based sensor.” *E.g.*, Dua ¶[0366] (“[d]ata in the wallet application is encrypted and protected with a special wallet PIN code which is set by the wireless device owner during the setup of the application”); ¶[0414] (“online PIN verification also gives certain credential issuers a stronger means by which to validate a person’s identify during a transaction.”); ¶[0534] (“the user would be required to provide a E.164 number for a wireless device in order to establish the wallet account on a server hosted and managed by the wallet service provider.”); *see also* Ex. 2009 ¶122. Petitioner’s sole citation referring to “RF communication” (Pet. at. 44) discloses “pressing buttons” or “hold[ing] down either button 1 or 2” enable RF communication, which fails to disclose selectively communicating responsive to a proximity criterion and responsive to a value of the physiological data. Dua ¶[0395]; Ex. 2009 ¶122. In fact, these citations again reference the use of a connection to provide authentication, thus requiring selective communication prior to receiving the alleged “value of physiological data that was sensed.” Dua ¶[0050] (“the resolved Internet address is

used to establish secure real-time communication between WCM 110 and the wallet application on wireless device 200 using the Session Initiation Protocol (SIP) . . . to transfer encrypted credentials.”). The *connection* via SIP is used to *exchange credentials*, and thus the communication is not *responsive to* such credentials. Ex. 2009 ¶122.

As an additional matter, Petitioner again alleges that the use of a PIN input via a touchscreen is itself “physiological data.” Pet. at 45. For the reasons set forth above with respect to Ground 1, a numeric PIN entered via a touch screen is not physiological data. Ex. 2009 ¶124; *see supra* Section VI.A.3. And to the extent Dua does disclose the use of data such as a “fingerprint,” Petitioner fails to establish that Dua discloses or would have rendered obvious “selectively communicating by the smartphone using a first air interface” in response to such data. *E.g.*, Pet. at. 45 (arguing that “Dua expressly discloses sensing a PIN but also biometric data such as a fingerprint”); Ex. 1002 ¶207 (addressing this limitation in a single paragraph).

It is not enough for Petitioner to establish that “[e]ngaging in a financial transaction with a POS terminal also requires entry of the PIN” or that “accessing the Dua wallet application may require entry of a PIN.” Pet. at. 44. Petitioner’s analysis fails to establish that these processes disclose or would have rendered obvious “selectively communicating by the smartphone using a first air interface . . . responsive to a value of the physiological data associated with a living organism.”

Ex. 2009 ¶125. Petitioner’s single paragraph of analysis of limitation 1[c] fails to establish that Dua discloses or would have rendered obvious not only the use of physiological data, but also selective communication responsive to sensing a value of such physiological data.

Dua does not disclose or render obvious at least “selectively communicating by the smartphone . . . responsive to the proximity criterion having been detected as being satisfied and responsive to a value of the physiological data associated with a living organism that was sensed by the smartphone using the smartphone-based sensor” of claim limitation 1[c] nor “selectively communicating using a first air interface of a plurality of air interfaces with which the smartphone is capable of communicating, responsive to the proximity criterion having been detected as being satisfied and responsive to a value of the physiological data associated with a living organism that was sensed by the smartphone using the smartphone-based sensor” of limitation 3[d].

2. Petitioner Fails to Establish that Dua Discloses or Would Have Rendered Obvious “detecting that a proximity criterion is satisfied” and “selectively communicating . . . responsive to the proximity criterion having been detected as being satisfied.”

The ’411 Patent claims require “detecting that a proximity criterion is satisfied between the smartphone and an entity” and “selectively communicating . . . responsive to the proximity criterion having been detected as being satisfied” in both independent claims 1 and 3. Petitioner alleges that “short-range RFID/NFC

links are established responsive to detecting that a proximity criterion is satisfied between the smartphone and an entity.” Pet. at 47. Petitioner alleges that “Dua’s RFID and NFC communications are only effective if there is an underlying signal of sufficient strength detected” *Id.* ((citing Ex. 1035 (“NFC Forum News Conference” slides) and Ex. 1037 (“NFC Forum Unveils Technology Architecture and Announces Initial Specifications and Mandatory Tag Format Support”))). But Petitioner points exclusively to NFC with respect to the limitation “proximity criterion.” Pet. at. 49-51. Petitioner does so without establishing that NFC communications are contemplated by the disclosure of Dua. Ex. 2009 ¶¶128-129. Accordingly, Petitioner fails to establish that Dua discloses or would have rendered obvious “detecting that a proximity criterion is satisfied between the smartphone and an entity” and “selectively communicating responsive to a proximity condition being met.”

Petitioner alleges that “Dua teaches that its short-range communications protocol may be NFC.” Pet. at. 49. 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 ¶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] (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 ¶130. Dua does not disclose using NFC for short-range communications. Ex. 2009 ¶¶130-133.

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 that “detecting that a proximity criterion is satisfied between the smartphone and an entity.” Pet. at 51. Petitioner relies on the ECMA-340 standard. Pet. at 49; *see also* Ex. 2009 ¶¶128-129. 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 ’411 patent claims, but Petitioner presents Dua as an obviousness reference in the event Patent Owner argues there are any differences between Dua and the ’411 patent claims.” Pet. at. 41. Petitioner therefore fails to allege that there was 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 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 20 n.2. Neither Petitioner nor Dr. Almeroth indicate where the ECMA-340 standard

was “publicly available” prior to the priority date of the ’411 Patent, such as having been publicly accessible via websites before the priority date of the ’411 Patent. *See, e.g.*, Ex. 1002 ¶121. Neither Petitioner’s Exhibit 1034, which Petitioner alleges is the 2002 version of the standard, nor Exhibit 1047, which Petitioner alleges is the 2004 version of the standard, have any 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 provided no evidence as to how a member of the interested public could have found this standard before the priority date of the ’411 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 ¶¶140-142. 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. 49-50. But Petitioner fails to explain why a disclosure of one independent standard would have led a POSITA to seek out another. Ex. 2009 ¶¶140-141. 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. 49.

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 ¶142. 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 ¶142. 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 ¶142 (citing Dua ¶¶[0383], [0384]). These examples demonstrate that Dua was not relying on NFC.

Petitioner specifically points to Dua ¶[0383] as indicating that Dua “requires the device (*smartphone*) to detect whether it is proximate to the reader of the merchant’s POS terminal (entity)” Pet. at. 48. But Dua ¶¶[0383] and [0384] do not disclose nor render obvious “selectively communicating . . . responsive to a proximity condition 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]; Ex. 2009 ¶137. It is the activation of the wallet button that “enables

communication via the RFID interface,” (Dua ¶[0383]) not the proximity condition 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” is not “responsive to a proximity criterion.” Ex. 2009 ¶137.

With respect to Dua ¶[0321], cited by Petitioner, that paragraph states that “the user may be prompted by a bank employee to bring his wireless device in proximity of an RFID reader, which will send a command to the wallet application signifying that it is going to receive a new credential via Bluetooth.” Dua ¶[0321]. Petitioner alleges that the “RFID reader does not indiscriminately broadcast commands, it sends a command specifically to the wallet application of a proximate wireless device and, as such, must detect proximity with the device.” Pet. at. 49. This is an overstatement. Dua ¶[0321] does not indicate that the proximity condition must be detected as being satisfied before the wireless device begins communicating, as it is entirely possible that the RFID reader discussed is sending “a command” due to an external input such as an instruction from the bank employee. Ex. 2009 ¶138.

There is no indication in this paragraph that the communication is responsive to a proximity condition. Ex. 2009 ¶138.

Petitioner's final argument is that "it would be obvious to a POSITA that Dua's smartphone detects proximity to a POS device of a merchant (or vice versa) before attempting to engage in a transaction or otherwise communicate." Pet. at 51. Petitioner alleges that detecting proximity prior to communicating would have benefits such as avoiding wasted signaling or security risks. *Id.* But Dua has its own processes for addressing those concerns. Ex. 2009 ¶142. Dua discloses its own connectivity set-up. Dua ¶[0318]. Dua proposes limiting transmission using a button. Dua ¶[¶[0383], [0384]. Dua also proposes providing security by establishing exclusive connectivity when utilizing its disclosed wallet. Dua ¶[0478]; Ex. 2009 ¶142. A POSITA would not have felt the need to go outside Dua's disclosure and look to NFC, for example, to incorporate the concept of a proximity criterion that is undisclosed in Dua itself. Ex. 2009 ¶142-143.

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 ¶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 “detecting that a proximity criterion is satisfied between the smartphone and an entity” and “selectively communicating... responsive to the proximity criterion having been detected as being satisfied” of both independent claims 1 and 3.

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 9,300 which is less than the 14,000 allowed under 37 CFR § 42.24(b)(1).

Date: September 17, 2025

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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 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:

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