UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,

Petitioner

v.

TELCOM VENTURES LLC,

Patent Owner

Case No. IPR2025-01232
U.S. Patent No. 9,462,411

PATENT OWNER'S PRELIMINARY RESPONSE

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Exhibit Number	Description
2001	Interim Processes for PTAB Workload Management, Acting Director Memorandum (March 26, 2025) (https://www.uspto.gov/sites/de-fault/files/documents/InterimProcesses-PTABWorkloadMgmt-20250326.pdf)
2002	Order Granting Joint Stipulation to Dismiss With Prejudice Counts I, II, V, and VIII of Telcom Ventures' Complaint
2003	Third Amended Docket Control Order
2004	Standing Order for Civil Cases Before Judge Rita F. Lin
2005	Telcom Ventures' Proposed Case Schedule for the Apple Litigation
2006	Declaration of Chuck Easttom
2007	*Curriculum Vitae* of Chuck Easttom
2008	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/
2009	Liu et al., "Near-Field Communications: A Comprehensive Survey," IEEE (June 2025)
2010	"The Creation of the NFC Forum and its Vision" (2011) https://cs.stanford.edu/people/eroberts/courses/cs181/projects/2010-11/NFCChips/nfcforum.html
2011	McHugh & Yarmey, "Near Field Communication: Introduction and Implication," ERIC (2012)
2012	Coskun et al., "The Survey on Near Field Communication," Sensors (June 5, 2015)

TABLE OF CLAIMS

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 Director deny institution of the Petition for *inter partes* review (Paper 1, "Petition," or "Pet.") filed by Petitioner Apple Inc. ("Apple" 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. Pet.,19. In both, Petitioner relies on U.S. Patent No. 8,229,852 to *Carlson* ("*Carlson*," Ex. 1005) in combination with three secondary references. The Petition relies exclusively on multi-reference combinations in an attempt to cobble together a system that allegedly meets the claimed inventions of the '411 Patent.

Petitioner's combinations fail for several reasons. First, with respect to both Grounds, the Petition fails to show that "refraining from communicating [by the smartphone] using the first air interface absent said value of the physiological data . . . satisfying a criterion" is taught or would have been rendered obvious by the prior art. In Ground 1, Petitioner relies on a four-reference combination of *Carlson* with secondary references WIPO International Patent Application Publication No. WO 02/49322 to *Holloway* ("*Holloway*," Ex. 1032), U.S. Patent. App. Pub. No. 2008/0155268 to *Jazayeri* ("*Jazayeri*," Ex. 1007), and *ISO-14443* ("*ISO-14443*,"

Ex. 1016) for this limitation. Pet., 41. However, Petitioner fails to establish that this combination "refrain[s] from communicating . . . using the first air interface," because Petitioner can only identify protecting classes of data in the cited combination, not preventing communication using a particular air interface. Indeed, Petitioner identifies the first air interface as NFC (Pet., 41) and never identifies any disclosure related to refraining from communicating via NFC. Ground 2, which relies on *Carlson* in combination with *Jazayeri*, *ISO-14443*, and WIPO International Patent Application Publication No. WO 01/95246 to *Murakami* ("*Murakami*," Ex. 1009), relies on the same disclosures, and fails for the same reasons.

Second, with respect to both Grounds, Petitioner fails to show that "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 . . . satisfying the criterion" would have been rendered obvious by the proposed combinations.

In both Grounds, Petitioner fails to render "selectively sending and receiving information" obvious (Pet. at 45-50). In the first mapping applicable to both Grounds, Petitioner relies on *Carlson's* alleged request for a pseudo primary account identifier ("PPAI") to meet this claim limitation. Pet., 45-46. However, Petitioner fails to show that sending and receiving the PPAI, which in *Carlson* is performed over a long-range network such as cellular (*Carlson*, 3:64-66), is responsive to

satisfying any physiological data criterion.

In Ground 1, Petitioner provides a second mapping. With respect to the second mapping, Petitioner relies on the combination of *Carlson* and *Jazayeri* to create a system in which the device receives information "in the form of a digital receipt from the contactless reader using NFC." Pet. at. 47. However, a POSITA would not have been motivated to modify *Carlson* to accept a digital receipt, as *Carlson* teaches away from any system that would require modification to existing merchant terminals. *Carlson*, 2:32-35, 2:49-50, 5:44-46.

Accordingly, the Petition fails to establish that any 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 CFR § 42.108(c). Accordingly, Patent Owner requests that the Director deny institution of *inter partes* review.

II. LEGAL STANDARD

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). The Petition must recite where the challenged limitation is found in the reference(s) and explain why a POSITA would have modified the primary

reference with the recited limitation from the secondary reference(s). *Microsoft Corp. v. Secure Web Conf. Corp.*, IPR2014-00745, Paper 12 at 11-13 (P.T.A.B. Sept. 29, 2014).

The Petition must establish, ***with particularity***, the grounds and evidence that support invalidating the patented claims. 35 U.S.C. § 312(a)(3). In addition, the Director institutes based on what the Petition *actually presents* and not what it could have reasonably contained. *In re Magnum Oil Tools Int'l, Ltd.*, 829 F.3d 1364, 1381 (Fed. Cir. 2016). The Director 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. 2006 ¶61. In the prior art, mobile

wireless devices were rigidly configured to perform a predetermined number of functions. Ex. 1001, 1:20-37; Ex. 2006 ¶61. 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. 2006 ¶61. 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. 2006 ¶61.

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. 2006 ¶62. 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. 1002 at 73, 126, 195, 239, 294, 329, 381, 419, 452. Applicant amended the claims in response to the first eight rejections, but did not make an amendment and traversed the ninth rejection. Ex. 1002 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, Applicant stated that the identified prior art did not disclose "refraining from communicating." Ex. 1002 at 482. Applicants also noted that the identified prior art stated that "mobile phones with Near Field Communication (NFC) transceivers and biometric authentification [sic] with a fingerprint sensor did not exist yet." Ex. 1002 at 483 (emphasis in original). Applicant 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. 1002 at 483.

The Examiner entered an Examiner's Amendment coinciding with the Notice of Allowability. Ex. 1002 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 Applicant's remarks in its final argument for allowability, and the Examiner's Amendment, with placing the application in position for allowance. Ex. 1002 at 500.

B. *Carlson* (Ex. 1005)

U.S. Patent No. 8,229,852 to *Carlson* is titled "Secure Mobile Payment System." Carlson describes portable wireless devices that are used to conduct contactless payment transactions in a "secure manner." *Carlson*, 1:16-20.

Carlson explains that "[d]ue to the wireless nature of the contactless reader, it is possible that the contactless reader may be used for surreptitious interrogation of the portable wireless device by intercepting the portable wireless device's communication." *Carlson*, 1:64-2:1. *Carlson* further explains that "it is conceivable that a contactless reader may be developed or modified to enhance its power and sensitivity and thereby increase its ability to interrogate with and intercept signals from the portable wireless device from a greater distance than specified in standards used for contactless readers." *Carlson*, 2:1-6.

Carlson describes "[t]heft of sensitive information, such as an account number, using wireless interrogation or interception of communications from [a] portable wireless device" as a "major concern for consumers and businesses alike."

Carlson, 2:7-10. Carlson notes that wireless interrogation can "occur at virtually any time and place," and "[o]nce the victim of the wireless interrogation discovers that they had sensitive information stolen, it is often too late to discover where the theft took place." *Carlson*, 2:10-16. As a result, "[t]he victim must then deal with the consequences and hassle of correcting the unauthorized access and possible uses of the information." *Carlson*, 2:16-18.

Carlson describes other "safeguards for protecting purchase from fraudulent attacks," including employing encryption technologies to encrypt the payment account number and other data associated with account transactions. *Carlson*, 2:19-23. *Carlson* explains that many merchants avoid implementing or upgrading to the latest encryption technology "[d]ue to the cost, time, and risk of potential business interruption (e.g., loss of sales)." *Carlson*, 2:27-35.

Carlson's solution describes the use of "pseudo primary account identifiers" or "PPAI." *Carlson*, 2:62-63. According to *Carlson*, "[p]suedo primary account identifiers may include identifiers that are similar in format to a consumer's real account identifier." *Carlson*, 5:30-32. "These account identifiers may include account numbers or any other alphanumeric sequence." *Carlson*, 2:66-3:1. *Carlson* also describes the pseudo account identifier as "bogus, fake, decoy, substitute, or the like." *Carlson*, 5:42-43.

Carlson describes "a method for conducting a transaction that includes

receiving a pseudo account identifier that corresponds to a consumer's account identifier." *Carlson*, 3:3-6. In some embodiments of *Carlson*, "the pseudo primary account identifier may not be requested at all, but rather is pushed to the portable wireless device at any time, such as when the device is turned on, when the device is idle, periodically, or through any other such criteria." *Carlson*, 7:4-7, *see also* 12:67-13:3. Carlson also explains that "the pseudo primary account identifier may not be requested by the portable wireless device at all" and "[t]he portable wireless device may generate the pseudo primary account identifier." *Carlson*, 7:15-19.

C. *Holloway* (Ex. 1032)

International Patent Application Publication No. WO 02/49322 to Holloway is directed to a mobile telephone that "includes a device (15) for checking the identity of a user in connection with various transactions." *Holloway*, Abstract. *Holloway* describes "fingerprint scanning means, voice or password recognition means (e.g. using a microphone of the telephone), photograph display means (e.g. using a display (12) of the telephone) or retina recognition means." *Id.*

Holloway proposes using a "means for checking the identity of a user of the unit" to solve the problem of identity verification. *Holloway*, 2:1-5. *Holloway* explains that "the means for telephonic communication includes a display, a microphone and a keypad and said means for checking identity is arranged to show a photograph of the user on said display, and/or means for recognizing the voice of

the user and/or a password spoken by the user when the user speaks into said microphone, and/or incorporates means for identifying a PIN number entered by a user on said keypad." *Holloway*, 2:14-18.

D. *Jazayeri* (Ex. 1007)

U.S. Patent Application Publication No. 2008/0155268 to *Jazayeri* is directed to "[a]n architecture . . . that controls access to secure data via biometric verification." *Jazayeri*, Abstract. *Jazayeri* discloses a "memory module that communicates with biometric data to establish a heightened level of security for controlling access to data stored in the non-volatile memory." *Id.* "Specifically, biometric data is input and communicated to the security processor, then compared against the existing biometric templates stored in the non-volatile memory. If the data matches, verification is sent to the external processor and the user is granted access to the secure assets." *Id.*

Jazayeri requires a security processor. *Jazayeri*, ¶[0006] ("As the security processor controls access to the entire non-volatile memory space and monitors all traffic to and from the non-volatile memory components, the security processor is able to manage access to the secure assets stored in the non-volatile memory."); *see also Jazayeri*, ¶¶[0024], [0025], [0027], [0028], [0030], Figs. 1, 2. Jazayeri explains that "[o]nly the security processor 104 accesses the security software from the nonvolatile memory 102 and performs security functions based on the specific

security software being executed." *Jazayeri*, ¶[0027].

E. *ISO-14443* (Ex. 1016)

Petitioner relies on the first edition of ISO-14443 that Petitioner alleges was published in 2000 and 2001. Pet., 16 (citing Ex. 1033, Munford Declaration). The ISO/IEC 14443 standard has four parts. *ISO-14443* "is one of a series of International Standards describing the parameters for identification cards as defined in ISO/IEC 7810 and the use of such cards for international interchange." *ISO-14443*, 4.

F. *Murakami* (Ex. 1009)

International Patent Application Publication No. WO 01/95246 to *Murakami* is directed to "a method and device for biometric authentication using a signal transmitter (20), a signal receiver (22), a memory module, and a processing module." *Murakami*, Abstract. Specifically, *Murakami* "employ[s] histological and physiological biometric markers that are substantially unique to an individual in order to permit an individual to activate a device, participate in a transaction, or identify him or herself." *Murakami*, 1:10-13.

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 *Philips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc)). With the sole exception described below, Petitioner contends that "no constructions are necessary to resolve the proposed grounds." Pet., 6-7. 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 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.

In Ground 1, the Petition relies on a fingerprint to satisfy the claimed "physiological parameter" limitation. Pet., 8. The Petition then relies on *Murakami's* biometric sensor for the "physiological parameter" limitation in Ground 2. Pet., 8-9. Because the Grounds fail regardless of the physiological parameter that the Petition relies on a construction is not necessary for the purposes of institution. *Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) ("The Board is required to construe 'only those terms that . . . are in controversy only, and only to the extent necessary to resolve the controversy." (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))). Patent Owner reserves the right to

address "physiological parameter" if this case is instituted.

V. LEVEL OF ORDINARY SKILL IN THE ART

Each of the arguments below is considered from the standpoint of a POSITA in the field of the '411 Patent at the time of the invention. 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. 2006 ¶47. This is different from Petitioner's proposal, which calls for "a bachelor's degree in computer science, electrical engineering, computer engineering or equivalent from an accredited academic program with a year of work experience with mobile payment systems or wireless communication systems." Pet., 9; Ex. 1003 ¶51. Petitioner also requires "a working knowledge of short-range communication technologies in portable wireless devices." Pet. 9. Patent Owner disagrees that "a working knowledge of short-range communication technologies" is necessary. Regardless, Petitioner fails to meet its burden under either POSITA definition.

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

Both of Petitioner's Grounds fail. As described below, Petitioner's combinations fail to render obvious all elements of any of the Challenged Claims.

A. Petitioner Has Failed to Establish a Reasonable Likelihood that the Challenged Claims Would Have Been Obvious in View of *Carlson* in Combination with *Holloway*, *Jazayeri*, and/or *Murakami* (Grounds 1–2).

In Ground 1, Petitioner asserts that all four Challenged Claims would have been obvious over *Carlson* in view of *Holloway*, *Jazayeri*, and *ISO-14443*. Pet., 19. In Ground 2, "in place of *Holloway-Jazayeri*, the proposed combination involves modifying Carlson pursuant to *Murakami's* biometric sensor and authentication process." Pet., 55-56. In Ground 2 "*Jazayeri* is maintained . . . for the purposes of alternatively mapping an additional biometric authentication step prior to conducting the financial transaction for Claim 1(e)." *Id.* In view of the deficiencies discussed below, Petitioner has failed to demonstrate a reasonable likelihood of prevailing on either Ground.

1. Grounds 1 and 2 Would Not Have Rendered Obvious "refraining from communicating [by the smartphone] using a 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."

Claim limitation 1[d] claims "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." Claim limitation 3[e] similarly claims "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." Dependent claims 2 and 4 depend from one of these independent claims.

Petitioner alleges that *Carlson-Holloway-Jazayeri-ISO-14443* teaches "that even when the proximity criterion is detected as satisfied, the wireless device will not communicate using NFC unless the value of the physiological data satisfies a criterion." Pet., 41. In its allegation, Petitioner admits that the first air interface is the NFC interface, but fails to establish that the device "refrain[s] from communicating using the first air interface." Ex.2006 ¶91. Instead, Petitioner at most establishes that failure to meet the physiological data criterion of its proposed *Carlson-Holloway-Jazayeri* device results in the communication of a particular type of data, a PPAI.

Petitioner relies on the authentication process of *Jazayeri* for its analysis of claims 1[d] and 3[e]. Pet, 42-43. Petitioner specifically quotes Jazayeri's disclosure that "'if the biometric data does not match, . . . the user of application is denied access to the secure assets stored in the non-volatile memory' of the mobile device." Pet., 43 (quoting *Jazayeri* ¶[0048]). According to Petitioner, combining this disclosure of *Jazayeri* with the *Carlson-Holloway-ISO-14443* device results in a device in which, "absent said authentication . . . [the] device remains locked and/or

prevents access to the virtual card, absent a valid fingerprint, preventing communication of the PPAI over NFC. . . .” Pet., 43. But the ’411 Patent claims “refraining from communicating [] using the first air interface.” Petitioner’s combination does not address refraining from using the first air interface (the NFC interface, according to Petitioner).

Petitioner refers to its discussion of claim limitation 1[c] in support of limitation 1[d]. Pet., 42. Claim limitation 1[c] claims in part “selectively communicating by the smartphone using a first air interface.” Petitioner’s discussion of limitation 1[c] includes no discussion of whether the proposed device will selectively communicate using a particular interface, such as NFC. Instead, Petitioner again alleges that the claim recites the selective communication of data and not the interface itself—“*Carlson-ISO-14443* teaches wirelessly sending the PPAI to a contactless reader within an access device using short-range NFC.” Pet., 31; *see also* Ex. 2006 ¶92. Petitioner admits its error as it states “a POSITA would have understood that the wireless device is ‘selective’ about the *content and destination*. Namely, it selects the PPAI . . . and selects the access device as the target of the transmission.” Pet., 31-32 (emphasis added). Petitioner, thus, erroneously contends that the selective communication limitation is met by the selection of what content to send. Ex. 2006 ¶92.

Claim limitation 1[c] further claims in part that the “selectively

communicating" be "responsive to the physiological data associated with a living organism that was sensed by the smartphone." To meet this limitation, Petitioner modifies the *Carlson-Holloway* device with *Jazayer*i that Petitioner alleges "teaches a biometric authentication process. . . ." Pet, 34. Petitioner modifies the *Carlson-Holloway* device "to unlock its device pursuant to the biometric authentication process described by *Jazayeri*." Pet., 36. Petitioner concludes that the final combined device of "*Carlson-Holloway-Jazayeri-ISO-14443* teaches that the PPAI is only sent (selectively communicat[ed]) after the wireless device is unlocked following biometric authentication using physiological data." Pet., 38. But Petitioner's discussion of this element again fails to establish anything regarding whether or not the device is engaged in NFC communication. Instead, Petitioner's argument establishes at most that the content sent by the combination device, the PPAI, is restricted. Ex. 2006 ¶93.

Petitioner also addresses a "second biometric authentication step" from *Jazayeri* "immediately prior to exchanging account information to make a purchase." Pet., 38. Petitioner points to *Jazayeri* Fig. 7 as disclosing this second biometric authentication. Pet., 39. But again, Petitioner confuses "accessing financial information" with communicating over the identified first air interface, NFC. Ex. 2006 ¶94. None of this discussion demonstrates that *Jazayeri*, nor *Jazayeri* in combination with *Carlso*n, discloses or would have rendered obvious claim

limitation 1[d], "refraining from communicating." Ex. 2006 ¶94.

Petitioner's discussion of limitation 1[d] never resolves these deficiencies. Petitioner quotes *Jazayeri* Figure 6, ¶¶[0030], and [0048], but these disclosures confirm that *Jazayeri* does not contemplate refraining from NFC communication based on the biometric data, but instead discloses that in the event of a failed biometric match, "the user or application is denied access to the secure assets stored in the non-volatile memory." Jazayeri, ¶[0048]; *see also* Pet. 42-43 (citing Jazayeri Fig. 6, ¶¶[0030], [0048]); Ex.2006 ¶95. Failure to access a particular secured area, such as a virtual card or a PPAI, is unrelated to refraining from communicating via a particular interface.

Petitioner's citation to *Carlson* 14:8-12 is also irrelevant to "refraining from communicating using the first air interface." Pet, 43; *see also* Ex.2006 ¶96. *Carlson* states that "[t]he consumer enters a PIN into his portable wireless device to unlock the device. The consumer then further selects the account he wishes to use to make the purchase by selecting the virtual card that should be sued to perform the transaction." *Carlson*, 14:8-12. Selecting a virtual card does not disclose or even relate to refraining from communicating. Ex. 2006 ¶96.

Petitioner's separate discussion of "even though proximity criterion is satisfied" also fails to established that the proposed device "refrain[s] from communicating by the smartphone." Pet., 43. There, Petitioner relies exclusively on

the declaration of its expert, Mr. Lipoff, for the conclusory statement that "the wireless device will refrain from communicating via NFC unless and until the virtual card has become accessible as the result of biometric authentication, either upon unlocking the phone or upon a second scan." Pet., 44 (citing Ex. 1003, ¶142). However, Petitioner fails to point to any disclosure in *Carlson* or *Jazayeri*, alone or in combination, to support this conclusion.

Worse, Mr. Lipoff's own testimony related to *ISO-14443* undercuts Petitioner's conclusion. Specifically, Mr. Lipoff states that "the process as taught by ISO-14443 for detecting a proximity criterion does not rely on any physiological input." Ex. 1003 ¶142; *see also* Ex.2006 ¶97. As *ISO-14443* itself does not rely on any physiological input, a device that is practicing *ISO-14443* as proposed by Mr. Lipoff would necessarily still "communicat[e]" over NFC regardless of whether physiological input is received. Ex. 2006 ¶97. Petitioner, and Mr. Lipoff, continue to conflate the process for accessing specific data, such as a PPAI or a virtual card, with "refraining from communicating." Ex. 2006 ¶97. Petitioner does not and cannot establish that Petitioner's combination of *Carlson-Holloway-Jazayeri-ISO-14443* device would have rendered obvious "refraining from communicating [by the smartphone] using the first air interface absent said value of the physiological data associated with a living organism" of Claims 1 and 3, and all dependent claims. Ex. 2006 ¶98. For this reason, Ground 1 fails.

With respect to Ground 2, Petitioner states that "in place of *Holloway-Jazayeri*, the proposed combination involves modifying *Carlson* pursuant to *Murakami's* biometric sensor and authentication process. *Jazayeri* is maintained in Ground 2 for the purposes of alternatively mapping an additional biometric authentication step prior to conducting the financial transaction for Claim 1(e)." Pet., 55-56. Petitioner does not provide any element-by-element mapping for the proposed device using *Murakami*. Petitioner's limited discussion of *Murakami's* biometric sensors to "grant or deny access to a device or [provide] authorization for transaction" fails to remedy the failures of the proposed device in Ground 1. Pet, 57-58 (citing *Murakami* 16:35-17:3); *see also* Ex. 2006 ¶99. For these reasons, and those set forth above with regard to Ground 1, Ground 2 fails. Ex. 2006 ¶99.

2. Grounds 1 and 2 Do Not Disclose and Would Not Have Rendered Obvious "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."

Claim limitation 1[e] claims "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." (emphasis

added). Claim limitation 3[f] similarly claims "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." (emphasis added). Both Grounds 1 and 2 would not have rendered obvious selectively sending and receiving information responsive to the value of physiological data. Ex. 2006 ¶100.

With respect to Ground 1, Petitioner proposes two theories for the "selectively sending and receiving information" portions of the claim limitation. Pet., 45-46; Ex. 2006 ¶101. In the first, Petitioner points to sending and receiving information during PPAI authorization. Pet., 45. Petitioner states that the "PPAI request is received and processed by a remote server computer at the payment processing network *(one or more other devices*)." Pet., 45 (citing *Carlson*, 11:9-11) (emphasis in original). Petitioner identifies the PPAI received from the "remote server computer" as the claimed "information [received]." Pet., 45.

With respect to "responsive to said value of the physiological data . . . ," Petitioner again points to the analysis of claim limitation 1[c] as supporting its arguments for 1[e]. Pet., 46. However, Petitioner's discussion of claim limitation 1[c] fails to address the requirements of limitation 1[e] as Petitioner does not establish that *Carlson* would be combined with *Jazayeri* such that the physiological

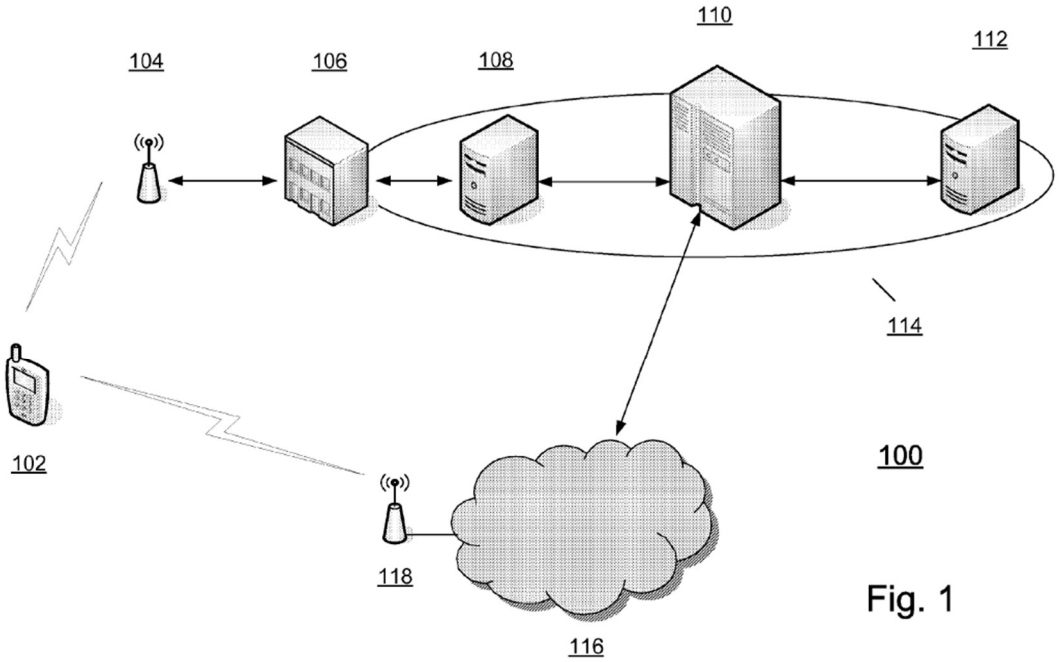
parameter of *Jazayeri* is utilized prior to "communicating" in any form other than sending the received PPAI via NFC to the NFC-enabled reader during a transaction. Ex. 2006 ¶102. In its discussion of limitation 1[c], Petitioner makes clear that "*Carlson* teaches wirelessly sending a PPAI to an access device using short-range NFC." Pet., 32. Petitioner goes on to state that "*Carlson-Holloway-Jazayeri-ISO-14443* teaches that the PPAI is only sent (selectively communicat[ed]) after the wireless device is unlocked following biometric authentication using physiological data." Pet., 38 (emphasis in original). But the transmission between the wireless device and the NFC terminal is not the communication identified by Petitioner for claim limitation 1[e]. The communication of the request for PPAI, and receipt of the PPAI from the remote server computer, is a separate exchange. Ex. 2006 ¶102. As a result, Petitioner's reliance on its disclosures in 1[c] fails.

Regardless, *Carlson* and *Jazayeri* would not have rendered obvious "selectively sending [the request for PPAI] . . . and receiving [the PPAI] . . . *responsive to said value of the physiological data*." Ex. 2006 ¶103. First, *Carlson* discloses that the *request* for PPAI need not be communicated at all and, thus, because it is not necessarily sent in response to said value of the physiological data, the alleged request for a PPAI fails. Ex. 2006 ¶103. Specifically, *Carlson* states that "[i]n alternative implementations, the pseudo primary account identifier may not be requested at all, but rather is pushed to the portable wireless device at any time, such

as when the device is turned on, when the device is idle, periodically, or through any other such criteria." *Carlson*, 7:4-7. *Carlson* further discloses that "[i]n other alternative embodiments, the pseudo primary account identifier may not be requested but rather may be pushed from the payment processing network to the portable wireless device." *Carlson*, 12:67-13:3. Indeed, *Carlson* allows for the device to generate its own PPAI: "[i]n an alternative embodiment, the pseudo primary account identifier may not be requested by the portable wireless device at all. The portable wireless device may generate the pseudo primary account identifier." *Carlson*, 7:15-19; *see also* Ex. 2006 ¶103.

Even if the request for a PPAI is communicated, it is not communicated using NFC in *Carlson*. Ex. 2006 ¶104. But it is NFC communication that Petitioner alleges is used after *Jazayeri's* biometric authentication process. Pet., 32, 38. Rather than send the request via NFC, *Carlson* discloses that "[t]he pseudo account identifier may then be received by the portable wireless device by using the long range communications element." *Carlson*, 3:64-66. Carlson further states that "[i]n embodiments of the invention, the pseudo primary account identifier may be received by the portable wireless device through the use of any suitable communications network. Examples of such networks may include the cellular telephone network, networks provided by wireless e-mail service providers, and the like." *Carlson*, 5:57-62. *Carlson* Fig. 1, shown below, illustrates that "[t]he payment

processing network 110 may be configured to receive a request for a pseudo primary account identifier that corresponds to a primary account identifier over the communications network 116." C*arlson*, 11:35-38; *see also* Ex. 2006 ¶104.



Carlson, Fig. 1.

Jazayeri also does not disclose, as Petitioner states, that "communication is only enabled once the wireless device has been unlocked by sensing a fingerprint." Pet., 46; *see also* Ex. 2006 ¶105. As discussed extensively above, *Jazayeri* utilizes a biometric identifier to regulate access to secure data, not to enable or disable modes of communication of sending or receiving data. *E.g.*, *Jazayeri*, ¶¶[0030], [0048], Fig. 6. A POSITA would not have been motivated to combine Carlson and Jazayeri such that NFC communication refrained or not based on the use of Jazayeri's

physiological parameters. Ex. 2006 ¶105. And Petitioner fails entirely to allege that a POSITA would have made such a modification to enable or disable the long range cellular communications used by *Carlson* in certain embodiments to make the request for, and receive, the PPAI. Petitioner's first mapping fails.

Petitioner's second, alternative mapping alleges that "the information exchanged during the NFC transaction is *responsive to said value of the physiological data [sensed by the smartphone]*." Pet., 46 (emphasis and alteration in original). With respect to the receiving limitation, Petitioner alleges that "*Carlson-Holloway-Jazayeri-ISO-14443* teaches the wireless device *receiving* information by the wireless device in the form of a digital receipt from the contactless reader using NFC." Pet., 47 (emphasis in original). But *Carlson* discloses providing the user with a receipt displayed by the merchant or printed. Carlson, 9:26-30, 13:38-43; *see also* Ex. 2006 ¶¶107-108. Petitioner alleges that a POSITA would have been motivated to combine *Carlson's* system with *Jazayeri* and would have had a reasonable expectation of doing so, to incorporate the transmission of a receipt to the mobile device. Pet., 50. This misstates *Carlson*.

Carlson in fact teaches away from receiving data on the mobile device, because sending such data to the mobile device would require modification not just of *Carlson's* device, but of the equipment at the merchant such that the equipment can send such a receipt. Ex. 2006 ¶109. *Carlson* is clear that its system is meant to

be a "cost effective device and method that integrates easily with ***existing payment processing*** networks" (2:49-50 (emphasis added)) because "many merchants, for example, resist making necessary upgrades to their procedures and systems." *Id.* at. 2:32-35 (emphasis added). *Carlson* emphasizes that "[f]rom a merchant's perspective, transaction processing using a pseudo primary account identifier is completely transparent. That is to say that a merchant processing a transaction using a pseudo primary account identifier can process the transaction in exactly the same manner as if the transaction was occurring with a real primary account identifier. . . . As such, a merchant can continue to process transactions ***with currently installed equipment*** and no change is required at the merchant in order to process transactions using pseudo primary account identifiers." *Carlson*, 5:44-56 (emphasis added). The disclosure of *Carlson* is meant to work with existing payment processing networks and merchant equipment, and a POSITA would not have been motivated to combine and would not have had a reasonable expectation of success in combining *Carlson* with *Jazayeri* such that a receipt was received via NFC by the device in *Carlson*. Ex. 2006 ¶109.

Petitioner has therefore failed to establish that its proposed device in Ground 1 disclosed or would have rendered obvious claim limitations 1[e] and 3[f], and thus all dependent claims as well. Ex. 2006 ¶110. Ground 1 fails.

With respect to Ground 2, as noted above, Petitioner did not provide any

element-by-element mapping of its proposed combination with *Murakami*. With respect to both mappings for this claim limitation, Petitioner's discussion of using *Murakami* "to unlock its device" (Pet., 58) fails to disclose nor would it render obvious claim limitations 1[e] and 3[f]. Ex. 2006 ¶111.

Petitioner further stated that "*Jazayeri* is maintained in Ground 2 for the purposes of alternatively mapping an additional biometric authentication step prior to conducting the financial transaction for Claim 1(e)." Pet., 56. *Jazayeri* was therefore not maintained for the purpose of disclosing the return of a digital receipt, and Petitioner's second mapping for this limitation has been abandoned. Ex. 2006 ¶112. This lack of clarity warrants the Director denying institution, as sorting out the vagaries of Petitioner's theories for Grounds 5-7 would not be "an efficient use of Office resources." *See Zhuhai Cosmx Battery Co., Ltd., v. Ningde Amperex Tech. Ltd.*, IPR2025-00405, Paper 24 at 2 (P.T.A.B. Oct. 15, 2025) (vacating decision granting institution and denying institution of *inter partes* review). To the extent Petitioner contends that the combination of Jazayeri's digital receipt is maintained, Patent Owner's arguments with respect to Ground 2 remain the same. For these reasons, and those set forth above with respect to Ground 1, Ground 2 fails to disclose and would not have rendered obvious claim limitations 1[e] and 3[f] and thus all dependent claims as well. Ex. 2006 ¶112. Ground 2 fails.

VII. CONCLUSION

For the foregoing reasons, institution should be denied.

Dated: November 6, 2025

Respectfully submitted,

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CERTIFICATION UNDER 37 C.F.R. §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 Preliminary Response to Petition totals 6,075 which is less than the 14,000 allowed under 37 CFR § 42.24(b)(1).

Dated: November 6, 2025

By: / Christopher TL Douglas /
Christopher TL Douglas

CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. §42.6(e), the undersigned hereby certifies that true and correct copies of the above-captioned **PATENT OWNER'S PRELIMINARY RESPONSE and Exhibits 2006 – 2012** were served in their entirety on November 6, 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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