

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Apple Inc.,
Petitioner,

v.

Varia Holdings LLC,
Patent Owner.

U.S. Patent No. 9,405,947

Inter Partes Review Case No. 2024-01363

PATENT OWNER'S SUR-REPLY TO PETITIONER'S REPLY

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PATENT OWNER’S EXHIBIT LIST

Exhibit No.	Patent Owner’s Exhibits
Ex. 2001	U.S. Patent No. 6,771,981 to Zalewski <i>et al.</i>
Ex. 2002	Declaration of Timothy K. Gilman in Support of Motion for Pro Hac Vice Admission
Ex. 2003	Declaration of Natalie D. Lieber in Support of Motion for Pro Hac Vice Admission
Ex. 2004	Declaration of Dr. Michael I. Shamos, Ph.D., dated June 4, 2025
Ex. 2005	Resume of Dr. Michael I. Shamos, Ph.D.
Ex. 2006	U.S. Provisional Patent Application No. 60/478,245
Ex. 2007	U.S. Patent Publication No. US2002/0123325 to Cooper
Ex. 2008	Deposition Transcript of Dr. Ding, dated May 22, 2025
Ex. 2009	Excerpts of Prosecution History of '947 Patent
Ex. 2010	Deposition Transcript of Dr. Ding, dated Oct. 7, 2025

The '947 patent addresses emulated radio-frequency identification (RFID)—mimicking an RFID transponder signal without using a physical RFID transponder. This emphasis on emulating RFID is confirmed throughout the intrinsic record. The Title of the patent is “Emulated Radio Frequency Identification.” Ex. 1001 at 1. The Abstract touts “the device to output a data in a form of a radio frequency signal, emulating outputting of the data by [a] RFID transponder.” *Id.* The first sentence of the Detailed Description of the Invention states that “the present invention includes an emulated RFID method,” (*id.* at 2:24-25) and proceeds to recite emulation more than 20 times in the ensuing discussion, with the Patentee then referencing “emulation” as a distinguishing feature in the patent family’s prosecution history. The claims must be interpreted consistent with this intrinsic record—the claimed “RFID **signal[s]**” are signals that emulate an RFID transponder. This is not a question of disclaimer or prosecution history estoppel—it is the plain and ordinary meaning of the term to a person of skill in the art having read this intrinsic record—and it disposes of Petitioner’s challenges.

Petitioner appears to recognize that emulation is the heart of the invention by pivoting to a new “functional emulation” argument in its Reply. But this theory was not raised in the Petition and, in any event, lacks any support other than the *ipse dixit* of their expert’s Reply declaration. Nothing in the intrinsic record nor the art at issue uses the term “functional emulation,” and at its core is the untenable foundation that

a RFID transponder is itself an emulation of an RFID transponder. This new argument fails to save Petitioner.

Patent Owner interprets the claim terms at issue pursuant to their ordinary and customary meaning as understood by a person of ordinary skill in the art *when read in the context of the specification and prosecution history*. See *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed.Cir.2005) (*en banc*). Petitioner ignores the context of the claims, the patent specification, and the prosecution history in avoiding the proper construction of the terms at issue in this proceeding, including the RFID signal terms and “voice call signal.”

Petitioner’s error is made plain by Petitioner’s argument that Patent Owner’s expert, Dr. Shamos, somehow failed to construe terms “under the claims’ plain meaning.” See Paper 17 at 2 (hereinafter, “Reply”). Dr. Shamos testified as to “the plain and ordinary meaning *in the context of the subject patents*,” but not the meaning “*outside the context of the subject patents*.” See Ex. 1064 at 69:9-70:5 (cited by Petitioner) (emphasis added). Petitioner admits in its argument that it construes the terms of the challenged claims divorced from the context of the patent specification and prosecution history, contrary to the controlling *Phillips* claim construction standard. The Board should see past this and construe the terms properly, in accordance with Patent Owner’s proposed claim constructions.

Petitioner argues that Patent Owner is attempting to limit claim scope to specific embodiments disclosed in the specification. Reply at 1. This is untrue. As argued in the Patent Owner Response (Paper 14) (hereinafter, “POR”), and as further argued herein, *all embodiments* disclosed in the ’947 patent relating to a mobile device sending RFID data require RFID emulation without the use of a physical RFID transponder.¹ Patent Owner is construing the claims in light of the disclosure of the ’947 patent.

This akin to the case of the *Trustees of Columbia University in City of New York v. Symantec Corp.*, where the Federal Circuit upheld a district court’s claim construction based on the consistent usage in the specification, using only “attack-free data,” *i.e.*, normal non-malicious-attack data, to build a model. 811 F.3d 1359, 1367-69 (Fed. Cir. 2016). The specification in that case “consistently describe[d] an implementation where the inventors ran ordinary programs to ‘generate normal data for building an accurate and complete training model’” and “[n]othing in the specification describe[d] any embodiment which use[d] attack data to build the model.” *Id.* at 1368. This was also supported in the prosecution history, where the

¹ There are separate disclosures of, *e.g.*, RFID readers and aspects of selecting an ID for use in RFID signaling.

applicant distinguished the prior art as failing to suggest a method for predicting events during normal training. *Id.*

As discussed below, here, the specification consistently discloses RFID emulation without the use of a physical transponder, and no disclosed embodiments in the specification use a physical transponder. Patent Owner, in related prosecution, further distinguished prior art, the Zalewski reference, based on its use of a physical RFID transponder. As the Federal Circuit affirmed in the *Columbia* case, the Board should construe the RFID terms in accordance with their consistent usage in the specification and prosecution history.

On “Voice Call Signal,” Petitioner’s construction is overbroad and unbounded in scope and time. Further, Petitioner’s expert testified that the term should be construed in-line with Patent Owner’s proposed construction.

I. Claim Construction

A. RFID Signal

As laid out in the POR, RFID signal should be construed to require emulation without use of a physical RFID transponder. This is in-line with the claim language and the specification of the ’947 patent, as well as the prosecution history of the patent family.

Petitioner attempts to construe the RFID Limitations broadly, to encompass “a potential “used to convey information” using radio waves to achieve automatic

identification of objects and people from one point to another.” Reply at 5. Petitioner reaches this construction by construing “signal,” and separately “RFID,” and then putting these together. See Reply at 4-5. Notably, to arrive at this alleged plain meaning, Petitioner relies on no support from the ’947 patent itself, but on Dr. Ding’s supplemental declaration, which in turn cites to a dictionary. See *id.* (citing Exs. 1063, 1065)².

After looking to extrinsic evidence for its proposed plain meaning, Petitioner then proceeds to argue that there is no justification to depart therefrom. Reply at 5-13. This is precisely the incorrect way to proceed with claim construction, as detailed by the Federal Circuit:

Specifically, *Phillips* rejected an approach “in which the specification should be consulted only after a determination is made, whether based on a dictionary, treatise, or other source, as to the ordinary meaning or meanings of the claim term in dispute.” 415 F.3d at 1320. As *Phillips* carefully explained, such an approach “improperly restricts the role of the specification in claim construction” to determining “whether the presumption in favor of the dictionary definition of the claim term has

² Patent Owner notes that Dr. Ding’s CV is nowhere in the record. Exhibit 1003 purports to attach Dr. Ding’s curriculum vitae as “Exhibit A” thereto (Ex. 1003 ¶ 17), but there is no Exhibit A to Exhibit 1003. Despite communications regarding this error, Petitioner has not submitted Dr. Ding’s CV in the record.

been overcome by an explicit definition of the term different from its ordinary meaning, or whether the inventor has disavowed or disclaimed scope of coverage.” *Id.* (citations and quotation marks omitted). “[T]he specification is *always* highly relevant to the claim construction analysis” and is, in fact “the single best guide to the meaning of a disputed term.” *Id.* (emphasis added) (citation and quotation marks omitted).

Trs. of Columbia Univ., 811 F.3d at 1363.

Ignoring emulation would ignore every embodiment disclosed in the ’947 patent. A POSITA reading the claims of the ’947 patent in light of the specification would understand that the entire purpose of the ’947 patent in relation to RFID is emulation of RFID without the use of a physical transponder. Ex. 2004 ¶¶49-53. The ’947 patent is directed to a mobile communication device “equipped with hardware and/or software components to enable the device to output a data in a form of a radio frequency signal, emulating outputting of the data by either an active or a passive RFID transponder.” Ex. 1001 (Abstract). The ’947 patent discloses a mobile communication device equipped “to provide a RFID, emulating a RFID transponder, as well as facilitating user communication.” Ex. 1001 (col. 3:61-63).

1. Lack of Transponder

Of course, none of the challenged claims recite an “RFID transponder.”

The recited RFID signals are not signals or data *emanating from* physical RFID transponders, but rather signals *emulating* those that would emanate from physical RFID transponders. Emulation is a signal or data that mimics a given source (a transponder) but delivered from other hardware. This is the entire point of the '947 patent. The very title of the patent is “Emulated Radio Frequency Identification.” Ex. 1001 at 1. The challenged claims specifically relate to emulating signals or data that would otherwise be sent by an RFID transponder.

This is made clear by the fact that every single instance of the phrase “RFID transponder” or “transponder” in the specification of the '947 patent is preceded by the word “emulate,” “emulating,” or “emulation.” See Ex. 1001 Abstract (“emulating outputting of the data by either an active or a passive RFID transponder. . . . Emulation of an active RFID transponder includes . . . Emulation of a passive RFID transponder includes . . .”); 3:62-63 (“emulating a RFID transponder”); 3:66-67 (“emulating an active and/or a passive RFID transponder”); 4:66-67 (“emulating an active RFID transponder”); 5:12-13 (“emulating a passive RFID transponder”); 7:26-27 (“the output signal of a RFID to emulate either an active or a passive transponder”); 7:55-56 (“emulating provision of the RFID by an active RFID transponder, using e.g. a ‘send/call’ key of device 102”); 8:26-28 (“confirm whether a RFID is to be selected or designated as the default RFID to be used for emulation of passive transponders”); 8:39-40 (“designating a RFID as the default RFID for

emulating passive transponders”); 8:56-58 (“emulating output of the RFID by an active RFID transponder”).

There is no disclosure in the ’947 patent of an RFID transponder device. Petitioner argues about the word “physical” related to RFID transponder (Reply at 8-9), but that is the essence of the emulation in the ’947 patent specification and claims, the lack of a transponder, *i.e.*, physical transponder. *See* Ex. 2004 ¶¶49-53.

The entire disclosure concerning sending RFID signals pertains to emulating an RFID transponder. This is not a case of an “exemplary embodiment” as argued by Petitioner. Reply at 17. It is every embodiment. Petitioner attempts to parse the language of the specification (Reply at 17-18), but the specification makes clear that the “present invention is related to an emulated radio frequency input method.” Ex. 1001 at 1:21-24. This characterizes the “present invention.” *Poly-Am., L.P. v. API Indus., Inc.*, 839 F.3d 1131, 1136 (Fed. Cir. 2016). There are words used elsewhere about preferred embodiments and various embodiments as argued by Petitioner (Reply at 17-18), but as made clear in the Patent Owner Response, Dr. Shamos’s declaration submitted therewith, and herein, every embodiment in the specification requires RFID emulation without a physical transponder. Petitioner attempts to distinguish *On Demand* (Reply at 18), but that case was based on the statement of the invention and repeated reinforcing use of the term “customer” in the specification as a retail customer. *On Demand Mach. Corp. v. Ingram Indus., Inc.*, 442 F.3d 1331,

1339-40 (Fed. Cir. 2006). That is the case here, with RFID output being emulated without a transponder consistently throughout the specification, along with the statement of the invention being related to RFID emulation. The word “emulation,” in some form, is repeated 22 times throughout the specification, and is used to modify every instance of “transponder.”

2. Prosecution History

Patent Owner’s construction is supported by the related ’984 patent’s prosecution history, in which Patent Owner distinguished the Zalewski reference by its failure to disclose an RFID signal emulated because it relied on a physical RFID transponder. *See* Ex. 1008 at 236. Patent Owner argued “Zalewski’s RFID transponder is not a component that emulates an output by an active RFID transponder, being itself an RFID transponder.” *Id.* at 277.

3. “Functional Emulation”

Petitioner and Dr. Ding introduce a new concept in reply: “functional emulation.” Reply at 10; APPLE-1063, ¶¶36-41. Dr. Ding introduces and defines this term with no support whatsoever. *See* APPLE-1063 ¶36 (offering a definition of this term with no citations). When asked the difference between “functional emulation” and “emulation,” Dr. Ding did not have an answer. Ex. 2010 at 27:2-12. Dr. Ding suggested that there might be 20 other types of emulation but could not provide a single one. *Id.* at 29:20-30:14. There is no “record evidence” confirming

anything related to “functional emulation.” Reply at 11. It is a term wholly introduced herein by Dr. Ding, and Patent Owner submits that this failure to cite to any support for the term, in combination with Dr. Ding’s lack of answers and contradictory answers in his deposition, means that Board should not afford this phrase (“functional emulation”) and related arguments any weight. This is gap-filling by an expert without any support.

Dr. Ding and Petitioner are simply trying to argue that an RFID transponder can emulate an RFID transponder. But something cannot emulate itself. *See* Ex. 2004 ¶50. Petitioner’s expert, Dr. Ding, agrees. *See* Ex. 2010 at 26:4-9 (“And that’s just a phrase of a -- what we mean by RFID emulation. You’re emulating the functionalities of a passive RFID tag by using a *different device*.”). Even under Dr. Ding’s use of “functional emulation,” he still agrees that something cannot emulate itself. There has to be a difference.

Dr. Ding’s and Petitioner’s argument appears to be that, with “functional emulation,” an integrated RFID transponder can emulate “a stand-alone transponder.” *See* Ex. 1063 ¶40. Distinguishing an integrated RFID transponder from a stand-alone transponder is not emulation. The prior art included integrated transponders in cards. These cards are discussed in the background of the invention: “it is not uncommon to find a person having to carry a number of physical keys and access/identification cards/tags to gain access to secured premises, such as one’s

home, office.” Ex. 1001 at 1:47-50. Smart cards integrate an RFID transponder into a card. But this integration itself of a chip or a transponder into something is not emulation.

In further argument, Petitioner introduces and then argues against a concept of inherency. Reply at 9-10. Of course, the law of inherency is about a prior art reference’s disclosure, not about the definition of a term, like the RFID signal terms at issue here. Patent Owner is not arguing about inherency. Patent Owner is, however, arguing that an RFID transponder cannot emulate itself.

B. Voice Call Signal

Petitioner construes the term “voice call signal” by deconstructing the term into parts – a “voice call” and a “signal” – defining those terms through Dr. Ding’s declaration and a handbook, and then putting these pieces back together. Reply at 14. Petitioner then argues that there is no reason to depart therefrom.³ Petitioner’s construction is overbroad and ignores the specification and the file history of the ’947 patent.

³ As with the RFID signal analysis above, this method of claim construction runs counter to Federal Circuit precedent. *Trs. of Columbia Univ.*, 811 F.3d at 1363.

Petitioner construes voice call as “a telephone call established for the purpose of transmitting voice rather than data communications.” Reply at 13-14. Petitioner then defines signal and proceeds to define the combined “voice call signal” as a signal “relating” to such a voice call. *Id.* The definition proposed by Petitioner is unbounded in scope as to what qualifies as a signal – it is a signal that relates in *any* way to a voice call – and is unbounded in time – it is a signal that relates to a voice call that occurred at any time. This is incredibly broad and improper under a *Phillips* analysis.

Under Petitioner’s definition, a signal conveying any information about a voice call would qualify as a “voice call signal.” A phone bill sent over the internet, a “signal” under Petitioner’s definition, conveying information from a phone bill, such as the length of calls and counterparties’ phone numbers in the prior month’s billing period, would qualify as a “voice call signal” under Petitioner’s broad definition. This makes no sense.

When questioned about this, Petitioner’s expert seemed to change Petitioner’s proposed definition mid-deposition to require that a voice call signal be contemporaneous with the telephone call to which it relates. Ex. 2010 at 58:7-59:6 (“That is one session. The potential use to convey information and the telephone call should be -- should be the same session.”). But nothing in Petitioner’s proposed definition is so limiting.

Petitioner's expert subsequently changed Petitioner's proposed definition to move essentially to Patent Owner's proposed definition – a signal used to *convey* a voice call. Ex. 2010 at 62:16-64:3 (“I was really talking about a potential used to convey information for a telecommunication call . . . my purpose is to say that this potential is for affecting a telecommunication call, *to make it happen, to make it work.*”). This is in-line with Patent Owner's proposed definition of “transmit and receive signal[s] of a voice call over a network of a wireless network service provider.” These are the signals used to convey or affect a voice call.

As argued in the POR, the claims and specification of the '947 patent make clear that “voice call signals” are signals that carry a voice call from one user to another over the network of a wireless network service provider. The “primary communication function” of the wireless mobile phone device of the '947 patent is to transmit and receive “signals of a voice call,” which “facilitate a user in communicating with another user of another communication device.” Ex. 1001 at 7:17-21, 3:52-57.⁴

⁴ This is further informed by the term “wireless mobile phone, which is defined in the specification as “telephony device equipped to facilitate a user in communicating with another user of another communication device,

Each of the claims recites outputting “voice call signals.” Independent claims 1 and 9 recite outputting “voice call signal[s] . . . over a wireless network [and with]in a radio frequency range [that is] different than a radio frequency range [of] the RFID signal.” Independent claim 16 recites outputting voice call signals in a first radio frequency range over a wireless network and outputting RFID signals in a second radio frequency range. Independent claim 26 recites “transmit a voice call signal *to another mobile communication device* via the communication circuitry at least in part over a wireless network.” (emphasis added). As this usage of the term “voice call signals” in the claims makes clear, these are the signals that effect the voice call communication, *i.e.*, the signals that transmit the voice call over the network of a wireless network service provider. This is reinforced by the specification, as discussed above, as well as the recited claim language about transmission over wireless networks, in a range different from that of RFID. It is also reinforced by the usage in claim 26 that recites transmitting these signals to another mobile communication device at least in part over a wireless network.

notwithstanding the user's movement around different geographic areas, so long the wireless mobile phone is in contact with a base/service station of a wireless network service provider. The other user/communication device may be mobile or land line based.” *See* POR at 15-18.

Wireless networks are not any wireless networks, but are rather discussed in the specification of the '947 patent in conjunction with the base/service stations of wireless network service providers. *Id.* at 4:13-20.

“Voice call signals” are thus the signals that transmit voice calls over the wireless network of a mobile service provider, *i.e.*, “transmit and receive signal[s] of a voice call over a network of a wireless network service provider”

II. Grounds

A. All Grounds Fail to Disclose or Suggest the RFID Signal Terms

1. Holloway does not Disclose or Suggest “Functional Emulation”

As discussed above, Petitioner’s expert, Dr. Ding, has introduced the term “functional emulation” without any citation to intrinsic evidence, or any of the previously asserted or introduced extrinsic evidence or art. This is a term of Petitioner’s expert’s own concoction and definition. From there, Petitioner argues that Holloway meets its definition of this introduced term. *See* Reply at 8 (citing Dr. Ding’s Reply declaration, Ex. 1063; Patent Owner’s expert, Dr. Shamos’s, deposition, Ex. 1064). Importantly, Dr. Shamos did not testify that Holloway disclosed “functional emulation.” Ex. 1064 at 63:4-65:2 Dr. Shamos merely testified that incorporating the RFID smart card chip into a phone allows it to function as a smart card. *Id.* But the RFID smartcard chip in Holloway is an RFID

transponder, as Dr. Shamos testified in his declaration. Ex. 2004 ¶¶89-94. Holloway’s chip when incorporated into a mobile phone does not emulate anything, but merely acts as it would if it were still in the card. Holloway merely inserts a chip into a phone. There is no emulation, and the chip is an RFID transponder.

Holloway is not “functional emulation.” Holloway is an RFID chip inserted into a phone. It functions just the same as an RFID chip in a smartcard for all RFID signaling functionality—a single, physical RFID chip that would need to be replaced in order to output a different RFID signal. Ex. 2004 at ¶91. Petitioner misreads the disclosure in Holloway of “incorporat[ing] the functionality of a number of different cards within the one mobile telephone,” which relies on Holloway’s telephone capabilities. *See* Ex.1006 at 2:20-21; 3:28-30; 10:4-6 (“If only telephonic communications are required, the RFID antenna 15 may be omitted, and the information stored in chip 16 may instead be stored in the memory within the mobile telephone 10.”). This is not about RFID signaling at all, let alone emulation, but using a telephone for transactions. *See* Ex. 2004 at ¶93.

Holloway does not disclose or suggest emulation at all, even “functional emulation” as now argued by Petitioner.

2. Willgert Fails to Discloses or Suggest “Functional Emulation”

Willgert, alone or in combination with Mooney, has no ability to emulate an RFID signal. Willgert’s RFID signal output is exclusively from RFID transponder 2, a physical transponder. Ex. 2004 at ¶80. Willgert explicitly includes an RFID transponder and thus fails to emulate an RFID transponder. As discussed above in relation to Holloway, something cannot emulate itself. This is confirmed even by Petitioner’s expert Dr. Ding. *See* Ex. 2010 at 26:4-9.

Even under Petitioner’s concoction of “functional emulation,” Willgert fails to meet the definition of emulation. The Petition relies on Willgert for its RFID transponder’s functionality for the RFID signal terms throughout all Grounds and claims (see POR at 30-31). The example that Petitioner and Dr. Ding now use for “functional emulation” is Holloway. *See* Reply at 11; Ex. 1063 ¶40. As discussed above, Holloway fails to disclose or suggest “functional emulation.” Further, Holloway is used in the Petition only for Ground 2 (not Ground 1), and therefore is not pertinent *at all* for challenged claims 1, 8-10, 15-16, 25-26, and 32, which are addressed only in Ground 1. Therefore, even if the Board were to agree with Petitioner that Holloway somehow discloses “functional emulation” (which it does not), then at least claims 1, 8-10, 15-16, 25-26, and 32 are patentable over the asserted art. But even for Ground 2, in which Holloway is used in combination with

Willgert, Willgert's transponder is used (see POR at 42), showing that Holloway does not cure the deficiencies of Willgert.

B. All Grounds - No teaching or suggestion of a “instruction[s]” executed on “processing circuitry,” as claimed

As argued in the POR, because Willgert and Mooney, alone or in combination, fail to teach or suggest emulating an RFID signal, they also fail to teach or suggest the claimed “instructions” to be executed on “processing circuitry” to cause the mobile communications device to output an “RFID signal.” POR at 35-36; Ex. 2004 at ¶¶79-80. Grounds 1B and 2 fail to cure these deficiencies. POR at 39; 48-49. Therefore, all challenged claims are patentable for at least this additional reason.

C. All Grounds - No teaching or suggestion of selection, as claimed

As argued with respect to Ground 1 in the POR, Willgert and Mooney, alone or in combination, fail to teach or suggest selection as required in claims 2, 6, 17, 22, and 23. POR at 36-37. Grounds 1B and 2 fail to cure this deficiency as to claim 2 (Ground 1B), and claims 2-7, 12, 17-24, and 29 (Ground 2). POR at 39; 49-50. Therefore, these claims are patentable for at least this additional reason.

D. Grounds 1A and 2 Fail to Disclose or Suggest Voice Call Signals

Petitioner's Reply confirms that the Petition maps “voice call signal[s]” to the Bluetooth communication signals transmitted between Willgert's phone and a Bluetooth headset paired to that same phone. Reply at 26; Pet. at 28. As argued in

the POR, Bluetooth does not carry “voice call signal[s],” as properly construed. POR at 26-39; Ex. 2004 at ¶¶55-57.

The Bluetooth signals in question are not voice call signals. They are, at most, voice signals, but they are not used to transmit a voice call over the network of a wireless service provider.⁵

The Bluetooth signals mapped to the “voice call signals” are not “transmit and receive signal[s] of a voice call over a network of a wireless network service provider.” These are not such signals any more than a recording of a prior phone call is a “voice call signal.”

E. All Grounds - No teaching or suggestion of determining, as claimed

All challenged claims require three distinct steps: the mobile communication device “output” an RFID signal in response to “determining” the device is in an operational space of the reader based on “receipt” of the RFID probing signal. The

⁵ Even if the Board were to construe voice call signals as proposed by Petitioner, which would be improper, these Bluetooth signals are clearly not “transmit[ed] . . . to another mobile communication device via the communication circuitry at least in part over a wireless network” as recited in claim 26.

“determining” step is separate and distinct from the steps of receiving and outputting.

A POSITA would have understood that a physical RFID transponder does not “determine” that it is in the operational space of an RFID reader, as required by all Challenged Claims. Ex. 2004 at ¶54.

A passive RFID transponder outputs its signal whenever it is activated by a radiated signal from a reader, without performing any “determining” step – it does not determine that it is in the operational space of a reader. Ex. 2004 at ¶¶75-76; *see also* Ex. 1011 at [0006] (discussing activation and hardwired response). Importantly, Willgert does not disclose an active RFID, but even if it did, there is still no teaching or suggestion of “determining” because an active RFID continuously transmits its signal without determining it is within the operational space of a reader. Ex. 2004 at ¶76.

In the prosecution history, Patent Owner successfully distinguished the Zalewski reference because it did not emulate an RFID transponder within a mobile communication device because its physical RFID transponder would respond to a reader without any “determining.” Ex. 2010 at 20-21 (“to emulate the functionality of an RFID transponder, the mobile communication device must determine whether it is in the operational space of an intended RFID reader before communicating therewith.”). In particular, Patent Owner argued that for Zalewski’s physical RFID

transponder, “simply turning on in the presence of a sufficient electric field provided by an RFID reader is not equivalent to making a determination [of] whether or not the device is within an operational space of an RFID reader.” Ex. 2009 at 35. Zalewski’s disclosure of receiving and outputting failed to disclose “the second . . . step[] (determining).” *Id.* at 36.

Willgert suffers the same defect as Zalewski: its passive RFID transponder does not teach or suggest “determining,” because its transponder would respond to a probing signal without first “determining” whether it was in the operational space of a reader. Ex. 2004 at ¶78. This extra step is in-line with Patent Owner’s construction of RFID signals as emulated signals. An RFID transponder does not perform any determining step. It automatically outputs the RFID response, as discussed above and in the POR. There is no determination / determining. Petitioner is absolutely incorrect about any admissions in Patent Owner’s argument. Paper 17 at 23-25. To the extent the Board needs to construe the determining step, Patent Owner requests that the Board do so. Patent Owner submits that this claim language requires more than an automatic RFID response, which is supported by the prosecution history.

Petitioner’s Reply argues that Patent Owner is attempting to “smuggle in extra processing not described in the claim language.” Reply at 23-24. This is completely false. This determining step is express claim language in addition to the receiving

and outputting. It is clear that no determining is performed by Willgert, as discussed above, and therefore Willgert fails to disclose or suggest the recited “determining.”

Petitioner points to the Institution Decision regarding Willgert’s passive nature and disclosure of the ’947 patent related to determining. Reply at 24-25. Respectfully, Patent Owner disagrees with the Institution Decision. The referenced disclosure in column 5 of the ’947 patent discusses determining. Device 102 monitors for probing signals to determine whether it is within the operational space of an RFID reader. Ex. 1001 at 5:8-11. “On so determining, device 102 outputs the designated RFID automatically, **emulating a passive RFID transponder**, block 206.” *Id.* at 5:11-13 (emphasis added). This disclosure is clear that the device emulates a passive RFID transponder, not that it is a passive RFID transponder, as implied in the Institution Decision.

Willgert does not perform any determination. It does not have any of this sort of intelligence. Willgert merely responds to a probing signal, without any determination.

Therefore, the Petition fails to show that Willgert, alone or with Mooney, teaches or suggests “determining the mobile communication device is in an operational space of the RFID reader,” as required by all challenged claims. The same arguments from Willgert are advanced for Grounds 1B and 2 (POR 38; 47-48)

and therefore the art and arguments in those grounds fail to cure the deficiency in Ground 1.

For this reason alone, all challenged claims are patentable over the asserted art.

F. Ground 1B

As argued in the POR, the Petition’s interpretations of “processing circuitry” allegedly arise from Patent Owner’s Litigation Positions. But the Petition uses the terms “transceiver” and “transmitter” even though they are not recited in the claims of the ’947 patent. Patent Owner maintains that Ground 1B is not properly argued and that it would be improper to construe the terms here to resolve the issues raised in the Petition. As argued previously and further herein, Ground 1B fails on the RFID signal term, the instructions to be executed on processing circuitry, selection, and determining. *See* Sections II.A, II.B, II.C, II.E.

Patent Owner submits that Petitioner has not met its burden to show invalidity of the allegedly challenged claims in Ground 1B. There is some brief analysis of some limitations for claim 1 (Pet. at 48-58) and then one sentence about “Claims 2, 6-8.” This is simply insufficient to meet the Petitioner’s burden.

Additionally, Ground 1B pertains only to claims 1, 2, and 6-8⁶. *See* Pet. at 48. Ground 1B therefore does not pertain to challenged claims 3-5, 9-10, 12-32.

III. CONCLUSION

For these additional reasons, as well as the arguments previously presented by Patent Owner, the Petition has failed to carry its burden and the Board should find the challenged claims patentable.

⁶ Patent Owner notes that there is a mismatch between what is actually addressed in the Petition at 48-58 in Ground 1B, which Patent Owner has used herein, and what is in the heading for 1B in the Petition's Table of Contents. Patent Owner submits that this mismatch shows how Petitioner is trying to invalidate claims without meeting its burden.

Dated: October 21, 2025

Respectfully submitted,

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CERTIFICATE OF COMPLIANCE

Pursuant to 37 CFR § 42.24(d), the undersigned certifies that this brief complies with the type-volume limitations of 37 CFR § 42.24(c)(4). This brief contains 5,300 words as calculated by the “Word Count” feature of Microsoft Word, the word processing program used to create it, which is less than the 5,600 word count limit.

Dated: October 21, 2025

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CERTIFICATE OF SERVICE

Pursuant to 37 CFR § 42.205(b), the undersigned hereby certifies that on October 21, 2025, a complete and entire copy of the foregoing **Patent Owner's Sur-Reply to Petitioner's Reply** and Exhibit No. 2010 were served on Petitioner by filing through the Patent Trial and Appeal Case Tracking System (P-TACTS) and via email to IPR50095-0182IP1@fr.com, as authorized in Petitioner's mandatory notices:

Dated: October 21, 2025

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