

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MICROSOFT CORPORATION and APPLE INC,
Petitioner,

v.

PROXENSE, LLC,
Patent Owner.

Case IPR2024-00573¹
Patent 8,646,042

PETITIONER’S REPLY TO PATENT OWNER’S RESPONSE

¹ IPR2024-01398 has been joined with this proceeding.

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LIST OF EXHIBITS

MS-1001	U.S. Patent No. 8,646,042 to David L. Brown (“the ’042 Patent”)
MS-1002	Excerpts from the Prosecution History of the ’042 Patent (“the Prosecution History”)
MS-1003	Declaration and Curriculum Vitae of Dr. Patrick Traynor
MS-1004	Complaint, Proxense, LLC v Microsoft Corporation, 6:23-cv-00319, W.D. Tex., filed April 28, 2023
MS-1005	U.S. Patent Publication No. 2007/0245157 A1 (“Giobbi-157”)
MS-1006	U.S. Patent Publication No. 2004/0255139 A1 (“Giobbi-139”)
MS-1007	U.S. Patent No. 9,042,819 (“Dua”)
MS-1008	European Patent No. EP 1 536 306 A1 (“Broadcom”)
MS-1009	Claim Construction Order, Proxense, LLC v Samsung Electronics Co., Ltd, 6:21-CV-00210-ADA, W.D. Tex., filed January 18, 2022
MS-1010	Provisional Application No. 60/798,843
MS-1011	RESERVED
MS-1012	Memorandum, Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation (USPTO June 21, 2022) (“Director’s Guidance”)
MS-1013	Microsoft’s Opening Claim Construction Brief, 6:23-cv-00319, W.D. Tex., filed November 6, 2023
MS-1014	Microsoft’s Opening Brief in support of its Motion to Dismiss for Failure to State a Claim, 6:23-cv-00319, W.D. Tex., filed July 10, 2023
MS-1015	Microsoft’s Reply in support of its Motion to Dismiss for Failure to State a Claim, 6:23-cv-00319, W.D. Tex., filed August 10, 2023

- MS-1016 Order Cancelling Markman Hearing, 6:23-cv-00319, W.D. Tex., filed January 9, 2024
- MS-1017 Scheduling Order, *Proxense LLC v. Microsoft Corporation*, 6:23-cv-00319, W.D. Tex., filed May 3, 2024
- MS-1018 Microsoft Stipulation dated June 21, 2024
- MS-1019 Apple’s Opening Claim Construction Brief, 6:24-cv-00143, W.D. Tex., filed November 5, 2024
- MS-1020 *Tech Terms: What Every Telecommunications and Digital Media Professional Should Know*, Jeff Rutenbeck, Ph.D, 2006
- MS-1021 *Wiley Electrical and Electronics Engineering Dictionary*, Steven Kaplan, 2004
- MS-1022 *Modern Dictionary of Electronics*, Rudolf Graf, 1999
- MS-1023 *Newton’s Telecom Dictionary*, Harry Newton, 2007
- MS-1024 *IEEE 100 The Authoritative Dictionary of IEEE Standards Terms, Seventh Edition*, 2000
- MS-1025 *Microsoft Computer Dictionary, Fifth Edition*, 2002
- MS-1026 *Dictionary of Science and Technology*, Simon Collin, 2003
- MS-1027 *McGraw-Hill Dictionary of Scientific and Technical Terms, Sixth Edition*, 2003
- MS-1028 *Dictionary of Computing, Fifth Edition*, 2004
- MS-1029 Payments System Research Briefing, Federal Reserve Bank of Kansas, December 2005
- MS-1030 Deposition of Dr. Jakobsson, December 20, 2024
- MS-1031 Dr. Jakobsson’s Declaration for IPR2025-00070
- MS-1032 Supplemental Declaration of Dr. Traynor

- MS-1033 Proxense's reply to Apple's Opening Claim Construction Brief, 6:24-cv-00143, W.D. Tex., filed November 27, 2024
- MS-1034 Institution Decision for Parallel Proceeding with Google IPR2024-00782 ('042 Patent)
- MS-1035 Final Infringement Contentions, served July 31, 2024
- MS-1036 Final Infringement Contentions, served December 17, 2024
- MS-1037 Joint Claim Construction Brief, Proxense v. Apple, December 30, 2024
- MS-1038 Nova Southeastern completes implementation of new Shark Card. November 5, 2007 (<https://www.secureidnews.com/news-item/nova-southeastern-completes-implementation-of-new-shark-card/>)

I. INTRODUCTION

Microsoft Corporation (“**Petitioner**” or “**Microsoft**”) submits this Petitioner Reply in response to the Patent Owner’s Response (“**POR**”) in IPR2024-00573, which challenges the validity of U.S. Patent No. 8,646,042 (“the ’042 patent”). In its POR, Proxense, LLC (“**Proxense**” or “**Patent Owner**”) does not dispute the prior art, or the combinations advanced in the Petition against claims 1, 5-6, 8-11, 13-14 (“**the Challenged Claims**”). Instead, Proxense advances and relies on very narrow constructions of various limitations of the Challenged Claims based on a legally unsupported belief that these limitations trigger 35 U.S.C. § 112(f) (“means-plus-function,” “112(f),” “112(6),” or “MPF”). Having narrowly construed the claims, Proxense argues that the Petition’s invalidity challenge fails to meet these claim limitations. In doing so, Proxense sidesteps the substance of the invalidity challenge in the Petition and rests its arguments on narrow constructions, asserting that the now-narrowed limitations fail to be met by Gobbi-157, Giobbi-139, or any combination thereof.

But Proxense’s attempt to distinguish the prior art through invocation of 112(f) for limitations that do not recite “means for” or “step for” places on Proxense a burden to produce evidence to overcome the rebuttable presumption that these limitations are not 112(f) limitations. *Williamson v. Citrix Online, LLC*, 792 F.3d 1339 (Fed. Cir. 2015). Proxense has failed to meet its burden.

In particular, Proxense asserts that various limitations lack sufficient structure, and therefore require constructions under 112(f). In support of this assertion, Proxense provides evidence in the form of simple, conclusory statements by its expert, Dr. Jakobsson, coupled with a flawed characterization of a transcript of *Markman* analysis from previous litigation against Samsung of which the ultimate *Markman* order contained no 112(f) limitations. EX-2001. These arguments should be given little weight, not only because of their largely conclusory nature but also because the language of the claims would have been recognized as implicating structure to a POSITA, as explained in more detail below.

Indeed, the Board has already reviewed these thin arguments in the parallel proceeding finding Proxense's arguments unpersuasive. MS-1034, 11-19. Specifically, the Board agreed that the terms are "not used as 'generic terms or black box recitations of structure or abstractions.'" MS-1034, 13-15 (citing *Dyfan, LLC v. Target Corp.*, 28 F.4th 1360, 1367 (Fed. Cir. 2022)). Additionally, the Federal Circuit caselaw is replete with examples where similar claim language was deemed to implicate structure and not invoke 112(f).

Proxense's desperation in advancing its 112(f) constructions is starkly evident in the fact that such constructions were never raised during the prosecution history of the '042 patent. *See generally* MS-1002. Nor were such constructions

raised in any previous proceeding for the same or similar terms supported by the same or largely the same specification as the '042 patent, including the Samsung litigation (EX-2001), the co-pending Microsoft litigation (EX-2012), the co-pending Google litigation (EX-2004), and the co-pending Apple litigation (MS-1019; MS-1033). In fact, filed with the POR, Proxense provides its very own claim construction contradicting its position at the PTAB. EX-2014.

Proxense LLC v. Apple, Inc., 6:24-cv-00143-ADA

Proxense's Proposed Constructions

Patent Claims	Apple's Proposed Terms, Phrases or Clauses	Proxense's Proposed Construction
'042 patent claim 1 '188 patent claim 1	"A hybrid device comprising"	Plain and ordinary meaning. No construction necessary beyond adopting the Court's prior construction of "hybrid device" in <i>Proxense v. Samsung</i> .
'042 patent claims 1, 6 '188 patent claim 1	"personal digital key (PDK)"	Adopt the Court's prior construction in <i>Proxense v. Samsung</i> : An operably connected collection of elements including an antenna and a transceiver for communicating with a RDC and a controller and memory for storing information particular to a user
'042 patent claims 1, 6 '188 patent claims 1, 3	"receiver-decoder circuit (RDC)"	Adopt the Court's prior construction in <i>Proxense v. Samsung</i> : A component or collection of components, capable of wirelessly receiving data in an encrypted format and decoding the encrypted data for processing

EX-2014 (annotated)

Nowhere in EX-2014—"Proxense's Proposed Constructions" (emphasis added) for the Apple litigation—does Proxense propose that *any* term of the '042 patent should be construed under 112(f).

Indeed, in failing to raise 112(f), the District Courts overseeing these

litigations saw sufficient structure in the same or similar claim language to adopt non-112(f) constructions. EX-2001, EX-2004, EX-2012, MS-1019. Similarly, in failing to raise 112(f) to distinguish prior art during prosecution of the '042 patent, neither Proxense nor the Examiner deemed the limitations so lacking in structure as to necessitate 112(f).

Proxense's proposed constructions for the following limitations, which lack "means for" language, should be denied because Proxense has failed to overcome the rebuttable presumption against 112(f) treatment:

- (1) **"Integrated PDK"** - claims [1 and 10].
- (2) **"Integrated RDC"** - claim [1 and 10].
- (3) **"Enablement signal"** - claim [10].

II. A §112(F) CONSTRUCTION IS INCONSISTENT WITH THE CO-PENDING LITIGATION, AND PAST PROCEEDINGS INVOLVING FAMILY MEMBERS OF THE '042 PATENT

A. Proxense's proposed 112(f) construction is inconsistent with the District Court construction order, and Proxense's own construction arguments in the co-pending litigation

Demonstrated by its own evidence, Proxense's position at the PTAB deviates substantially from the position it adopted in the co-pending Microsoft and Apple litigation. EX-2005-2008; EX-2012, EX-2014. Nowhere in its briefing for the Microsoft litigation did Proxense ever assert that any of the terms of the '042 patent—or for that matter, any other of the asserted patents—were subject to

112(f). *Id.* In fact, Proxense fights against Apple’s assertion of 112(f) for the term “verification unit.” EX-2014, EX-2015. Nor did Proxense apply any interpretation of claim terms under 112(f) in its infringement claim charts. MS-1035, MS-1036. Further, none of the District Court’s constructions advanced by Proxense included the “service blocks” or “access keys” that Proxense now alleges form the necessary structure for these features. *Id.*; POPR, 19-30; POR, 4-9, 18-9, 20-21. Additionally, the *Markman* orders from the co-pending Microsoft and Google litigations are absent of 112(f) treatment, as well as the *Markman* order from the prior litigation (Samsung). EX-2001, EX-2004, EX-2012. Even more, in the co-pending Apple litigation, Proxense *agreed* that the terms “personal digital key (PDK)” and “receiver-decoder circuit (RDC)” are *not* subject to 112(f). MS-1037. If the Board were to endorse constructions requiring 112(f), this IPR challenge would be proceeding in a different direction than that of its co-pending litigation.

Samsung Markman Order: Court's Final Construction

6	"hybrid device" (Claims 1-12,15, 20).	A device comprising an integrated personal digital key (PDK) and an integrated receiver-decoder circuit.
7	"Personal digital key" (Claims 1, 10).	An operably connected collection of elements including an antenna and a transceiver for communicating with a RDC and a controller and memory for
10	"receiver-decoder circuit" (Claims 1, 10).	A component or collection of components, capable of wirelessly receiving data in an encrypted format and decoding the encrypted data for processing.
12	"enablement signal" (Claims 10-12, 17)	No construction needed.

Microsoft Markman Order: Court's Final Construction

"receiver-decoder circuit" ('042 Patent, claim 10; '289 Patent, claim 14)	A component or collection of components, capable of wirelessly receiving data in an encrypted format and decoding the encrypted data for processing
"personal digital key" ('042 Patent, claim 10)	An operably connected collection of elements including an antenna and a transceiver for communicating with a RDC and a controller and memory for storing information particular to a user

EX-2001, EX-2021

8,646,042; 9,679,289 Patents		
Patent Claims	Claim Term / Phrase	Agreed Construction
'042 patent claims 1, 6 '289 patent claims 1, 11	"personal digital key (PDK)"	an operably connected collection of elements including an antenna and a transceiver for communicating with a RDC and a controller and memory for storing information particular to a user
'042 patent claims 1, 6 '289 patent claims 1, 11	"receiver-decoder circuit (RDC)" "reader-decoder circuit (RDC)"	a component or collection of components, capable of wirelessly receiving data in an encrypted format and decoding the encrypted data for processing

MS-1037, 3.

B. Proxense's interpretation that the Samsung court's claim construction analysis endorses Proxense's proposed claim construction is incorrect

With no 112(f) invocation across any of the current proceedings, Proxense uses prior Samsung litigation to support its arguments. The Institution Decision correctly noted that the Samsung court's claim construction memo contained "a determination of whether a term is indefinite [which] is not the same thing as construing a claim term." Inst. Decision, 9. Additionally, the Institution Decision correctly applied the plain meaning of "local, secured information" and "enabling one or more of an application, a function and a service," noting that nothing in the specification of the '042 patent limits or redefines these terms. Inst. Decision, 9-10, 12-13.

Although Proxense claims consistency with other proceedings, these arguments are unsupported by the decisions in those cases. For example, Proxense states that the Samsung court "construed the claims of the 188 and 700 Patents to include the algorithm implemented by control logic 250, which defines local, secured information." POR, 27-28. But this purported construction is indisputably distinct from what the Samsung court's *Markman* order actually defined as the correct construction:

- (1) PDK as "An operably connected collection of elements including an antenna and a transceiver for communicating with a RDC and a

controller and memory for storing information particular to a user”;

- (2) RDC as “A component or collection of components, capable of wirelessly receiving data in an encrypted format and decoding the encrypted data for processing”; and
- (3) “enablement signal” required no construction. EX-2001.

Despite being tasked with characterizing similar limitations, neither the District Court nor any of the two parties asserted that these similar limitations invoke 112(f) treatment, much less demand implementation details of the described algorithm implemented by control logic 250. Proxense’s attempt to burden the claims with this narrow requirement should be rejected as it is nothing more than a thinly veiled attempt to improperly import specification details into the claims to avoid addressing the teachings of the prior art.

III. NONE OF THE CLAIMS IN THE ’042 PATENT INVOKE §112(F)

A. Overview

The courts have established that the absence of “means” creates a rebuttable presumption that 112(f) does not apply. *Id.* The parties agree that the term “means” does not appear in the claims, and thus, the presumption is that 112(f) does not apply. POR, 4-5. Notably the Federal circuit has stated that:

The standard is whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure. When a claim term lacks the word

“means,” the presumption can be overcome and § 112, para. 6 will apply if the challenger demonstrates that the claim term fails to “recite sufficiently definite structure” or else recites “function without reciting sufficient structure for performing that function.” *Williamson*, 1349 (citations omitted).

As shown below, Proxense fails to overcome this presumption that 112(f) does not apply because the “words of the claim are understood by [POSITAs] to have a sufficiently definite meaning as the name for structure.” *Williamson*, 1349. Nor are the claim terms “black box recitations of structure or abstractions.” *Dyfan*, 1368; MS-1032, ¶¶4-7.

B. The Federal Circuit has held that similar terms to those at issue here have sufficient structure.

Proxense argues that none of the terms “integrated PDK,” “integrated RDC,” and “enablement signal” recite sufficiently definite structure for performing the function of “enab[ling] one or more of an application, a function and a service.” POR, 7-29. Proxense’s argument fails for at least the following reasons.

1. Proxense’s failure to consider the identified terms in the context of the rest of the claim language is legally improper

In asserting a lack of structure, Proxense improperly analyzes structural claim terms in isolation and without regard to the rest of the claim. For example, the supporting elements of “a hybrid device” and the language describing the communicative coupling between these devices and “an integrated personal digital

key (PDK),” and “an integrated RDC [receiver-decoder circuit]” are ignored by Proxense. MS-1001, claims 1 and 10; POR, 7-29. And yet these supporting elements speak to structure with respect to “enabl[ing] one or more of an application, a function, and a service.” MS-1032, ¶¶4-7. Instead, Proxense separates the terms “PDK,” “RDC,” and “enablement signal” from the context of each claim and insists that these are not structures “recognized by those of ordinary skill in the art to provide a sufficiently definite structure for performing the function.” POR, 8-9, 18-19, 20-21.

The claims should be viewed as a whole and Proxense incorrectly isolates each claim term, such as “personal digital key” and “receiver-decoder circuit,” and assesses them out of context with respect to the “enabling” function. *MTD Products Inc. v. Iancu*, 933 F. 3d 1336, 1343-44 (Fed. Cir. 2019). The claim describes that this function is achieved by components expressly recited in the claims in the context of the particular structural arrangement of components set forth in the claim as a whole (e.g., the recited components “integrated PDK” and “integrated receiver-decoder circuit” are structurally coupled to each other). MS-1001, claim 1. The Federal Circuit states that even if the claim terms are “nonce terms” (which Petitioner does not concede), the terms should be viewed in the context of the claim as a POSITA would understand them. *Id.* In *MTD Products, Inc.*, the Federal Circuit stated that claims should be viewed in their entirety and

that “other language in the claim ‘might inform the structural character of the limitation-in-question or otherwise impart structure.’” *MTD Products Inc.* (citing *Williamson*, 1351).

Claim 1 recites multiple elements that clearly impart structure (“A hybrid device comprising: . . . a personal digital key (PDK) for storing information and capable of communicating wirelessly . . .an integrated RDC [receiver-decoder circuit] for communicating wirelessly . . .[and] coupled to the integrated PDK . . . for communication”). MS-1001, Claim 1 (emphasis added).

In identifying the “enabling” function, a POSITA would not only have considered the structure implicated by, for example, the terms “PDK” “for storing information and capable of communicating” and “RDC” “for communicating wirelessly” themselves, but also the structure implicated by the connectivity between these components set forth in the claim. By failing to consider this connectivity in assessing structure to achieve the recited “enabling” function, Proxense’s showing is legally deficient and, therefore, cannot overcome the presumption against 112(f) treatment.

For example, the specification envisions the “enabling” function as implicating multiple distinct components connected to each other, not merely the “PDK” (“memory”) and/or the “RDC” in isolation. The specification describes embodiments where the “PDK” and/or the “RDC” are operating in concert with

other connected device elements/components to enable an application, function, or service by storing and/or communicating access information (e.g., one or more PINs or passwords for an application) to those *other* device elements/components for authentication. MS-1001, 13:41-14:3, 14:24-45, 14:46-15:27, 18:43-19:2. Thus, the “PDK” and/or the “RDC” perform the “enabling” function by simply being one of multiple elements/components implicated in the process to enable an application, function, or service. Indeed, the ultimate decision to enable or disable the application, function, or service is not performed by the “PDK” and/or the “RDC” themselves but rather is performed by one or more distinct, connected elements/components that authenticate the access information received from the “PDK” and/or “RDC.” After all, it would make little sense for the mere storage of information in a “PDK” and/or communication of a PIN or password by the memory of the “PDK” and/or “RDC” to be sufficient to enable an application, function, or service without verifying that the PIN or password is valid. Given this disclosure, a POSITA would recognize that the “PDK” and/or the “RDC” can, for example, perform the “enabling” function by providing structure that stores and/or communicates access information to other connected components for authentication to enable the function, application, or service.

As described in more detail below, each of the claim terms would have been understood by a POSITA to implicate such structure. Unlike *Rain Computing*, in

which the claims invoked the well-known nonce term “module,” there are no such terms in these claims to invoke 112(f). *See also* MS-1033 (Proxense’s reply claiming “verification unit” does not invoke 112(f).). A POSITA, therefore, would not have concluded that the claim terms are so lacking in structure as to require invocation of 112(f). MS-1032, ¶¶4-7.

2. “Integrated personal digital key (PDK) for storing information and capable of communicating wirelessly”

Proxense provides a single paragraph to justify a 112(f) invocation:

The term “integrated PDK” (Personal Digital Key) is not recognized by those of ordinary skill in the art to provide a sufficiently definite structure for performing the function of “enabling one or more of an application, a function and a service”. Jakobsson Decl., ¶ 18. Accordingly, claim 1 invokes § 112, ¶ 6. POR, 8 (emphasis added).

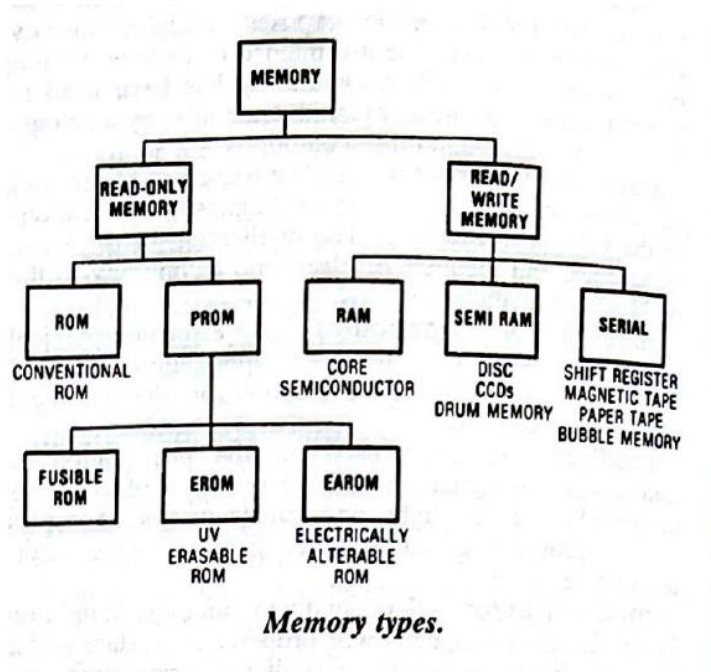
Proxense does not, and cannot, argue that the term “integrated personal digital key (PDK) for storing information and capable of communicating wirelessly” contains a “nonce” word that fails to indicate structure.² POR, 8-9. On the contrary, the term “PDK” alone has a definite structure. MS-1032, ¶¶8-9. For

² The only claim term that Proxense expressly calls a “nonce” word is “enablement signal.” POR, 20-21.

example, the “PDK” is defined in the claim to “stor[e] information,” indicating that it includes a memory structure, and this is supported by the specification’s examples of a PDK. MS-1001 5:41-6:6 (“The PDK 102 comprises a memory. . .”), 3:46-61. In fact, Proxense itself recognized this by expressly construing “PDK” as including a “memory for storing information” without resorting to 112(f) invocation. EX-2014, 2; MS-1032, ¶¶8-9.

Memory is defined as the “capacity of a computer or integrated computer system for short and medium-term retention of digital data” and speaks to a broad class of structures used to retain data for various purposes. MS-1020, 5³; *EnOcean GmbH v. Face Int’l Corp.*, 742 F.3d 955, 960 (Fed. Cir. 2014) (a term is “. . . a corresponding structure, as long as the class of structures is identifiable by a person of ordinary skill in the art.”). For example, “Memory integrated circuit” is defined as “flash-memory chips. . . [a]lso called memory IC [integrated circuit], IC memory, or chip memory.” MS-1021, 6. The below figure further demonstrates examples of memory that would be integrated into, an IC (e.g., Random Access Memory (RAM)). MS-1032, ¶10.

³ Unless otherwise stated, pagination references the PDF page.



MS-1022, 6.

Not only would a POSITA understand that “PDK,” as recited in the claim, includes any of multiple varieties of memory structures for storing information, but a POSITA would have recognized that such memory structures can participate in “enabling one or more of an application, a function, and a service” by storing, for example, access information, necessary to access or otherwise invoke that application, function, or service. MS-1032, ¶¶11-12; *Personalized Media Communications, LLC v. International Trade Commission*, 161 F.3d 696, 703-05, 48 USPQ2d 1880, 1886–87 (Fed. Cir. 1998) (“Even though the term ‘detector’ does not specifically evoke a particular structure, it does convey to one knowledgeable in the art a variety of structures known as ‘detectors.’”).

Additionally, the claim and the specification describe the PDK is “capable of communicating wirelessly.” MS-1001, claim 1, 5:41-6:6, 3:46-61 (“The PDK 102 is a . . . wireless device . . . The PDK 102 stores digital information in a tamper-proof format . . .”). The structure provided by the ability to store information and wirelessly communicate would have been understood by a POSITA as sufficient for “enabling one or more of an application, a function, and a service,” especially in the context of the claims and specification. MS-1032, ¶13. Proxense recognized such structure as being implicated by the recited “PDK” in advancing a construction of “PDK” as including “an antenna and a transceiver for communicating with a RDC” without relying on any 112(f) invocation. EX-2014, 2.

As Dr. Traynor explains, the ’042 patent describes RFID systems, and an RFID tag is a structure such as a microchip that stores information in memory and responds through an antenna when probed—a structure very similar to the structure of a “PDK.” MS-1001, 1:38-61; MS-1032, ¶¶11, 14; MS-1023, 3. The information of the RFID tag is stored in memory and used to enable a function. MS-1032, ¶¶11, 14. Thus, a POSITA would have understood that the “PDK” “for storing information and capable of communicating wirelessly” stores in memory information that once communicated wirelessly, can enable functions similar to the information stored in an RFID tag being transmitted to enable functions. *Id.*

Further, the claims here recite more than just a “PDK”; rather, they recite an “integrated personal digital key.” MS-1032, ¶12; *Apex Inc. v. Raritan Computer, Inc.*, 325 F.3d 1364, 1374 (Fed. Cir. 2003) (“An adjectival qualification (‘digital’) placed on an otherwise sufficiently definite structure (‘detector’) does not make the sufficiency of that structure any less sufficient for purposes of § 112, P 6. Instead, it further narrows the scope of those structures covered by the claim and makes the term more definite.”)(emphasis added). First, an “integrated” memory would have been understood to represent a subclass of memory structures that store information locally to the device (“integrated”). *Id.*; Pet., 4, 6-12, 27-29, 35; MS-1032, ¶¶12, 14. Second, a “digital” key denotes a particular type of storage device, i.e., one that is digital, rather than analog. *Id.*

Finally, in the context of short-range communication devices used to enable a function, application, or service, (e.g., RFID) as contemplated by the ’042 patent, a POSITA would have understood that information stored in memory can, for example, perform the enabling through an exchange of locally stored information between the memory and another device seeking access to the stored information to authorize the enabling. MS-1001, claims 1 and 10; MS-1032, ¶¶13-14. For example, the definition of “activate” is “[t]o start an operation, usually by application of an appropriate enabling signal” and this signal would either be generated from memory or carry the information stored within the memory that

would then, for example, be sent to and then validated by the other device prior to activating the application, function, or service. MS-1032, ¶¶14; MS-1022, 3. The term “key” itself suggests that the nature of the stored digital information in the “PDK” is related to enabling access, just like a conventional key enables access to a room. As such, a “digital” key implicates a subclass of memory structures that store digital information that can, for example, be communicated to another device for validation prior to enabling use or activation of a function, application, or service. MS-1032, ¶14. The concept of a “key” within digital communication architecture was well understood prior to the Critical Date. *Id.*; MS-1023, 3 (RFID tags can store “reference key[s]”).

The '042 Patent itself cites to extrinsic evidence for more examples of “PDKs” and “RDCs” in addition to the Petition’s utilization of prior art including these terms. MS-1001, 3:47-61; Pet., 2, 6-12.

The clear definitions and demonstrated understanding of these terms by a POSITA contrasts with Proxense’s citation of *MTD Products Inc. v. Iancu*, where the court found that the evidence that demonstrates a “mechanical control assembly” “does not have an established meaning in the art.” 1343-44. Ample evidence, prior art, and testimony show that “an integrated personal digital key (PDK) for storing information and capable of communicating wirelessly” connotes structure. MS-1032, ¶15.

3. “Integrated RDC for communicating wirelessly with at least one external PDK within a proximity zone”

Proxense states that “[t]he term ‘integrated RDC’ is not recognized by those of ordinary skill in the art to provide a sufficiently definite structure for performing the function . . . [a]ccordingly, claim 1 invokes § 112, ¶ 6.” POR, 18-19. But the components recited in this limitation have “sufficiently definite meaning as the name for structure.” *Williamson*, 1349; MS-1032, ¶¶16-17.

A POSITA would have understood that an “integrated RDC” speaks to a class of structures used to connect to wireless networks, because it communicates wirelessly. Dr. Traynor explains that “wireless cards” were known at the time and consisted of hardware enabling a computer to communicate wirelessly. MS-1023, 5. More broadly, “transceivers,” “receivers,” “decoders” and “readers” denote definite structure to a POSITA and were well known examples of wireless communication interfaces. *Id.*; MS-1032, ¶17; MS-1024, 7; MS-1021, 4, 7-8. Based on the definitions of “wireless communication,” “transceiver,” “communications interface equipment,” “decoder,” “receiver,” and “RFID reader” a POSITA would have recognized a “receiver-decoder circuit” implicates a variety of structures used for wireless communication. MS-1025, 3-4; MS-1021, 11-12; MS-1024, 5-7; MS-1001, 1:38-61, 7:4-22 (“The RDC 304 provides the wireless interface . . .”). Proxense recognized such structure as being implicated by the

recited “RDC” in advancing a construction without relying on any 112(f) invocation. EX-2014, 3 (“[a] component or collection of components, capable of wirelessly receiving data in an encrypted format and decoding . . .”).

Based on the above definitions alone, a POSITA would have understood that a “receiver-decoder circuit” denotes structure. In the context of the ’042’s RFID background, Dr. Traynor explains that a POSITA would have understood one such exemplary “interface” to be an RFID system. MS-1032, ¶18. *Wiley’s* defines RFID tag as “a transponder within an RFID system . . . usually in the form of an IC [integrated circuit], [that] responds to interrogating signals arriving from an RFID reader.” MS-1021, 7-8. Like the examples used by Dr. Traynor with the SpeedPass and EZ-Pass systems, this definition uses an example of “a key chain wand which is waved near a reader to effect payments.” *Id.*; MS-1021, 8.

A POSITA also would have readily recognized that an RDC is a type of wireless communication interface that is used to “enable . . . an application, a function, and a service” by enabling wireless communication of information, such as access information, to access or otherwise invoke that application, function, or service. As explained by Dr. Traynor, use of a RDC and other similar interfaces for “short range communications between wireless devices was common for enabling an application, a function, or a service.” Pet., 4, 6-12, 29-31; MS-1032, ¶19. And the class of structures implicated by the recited RDC and specification

would have been readily recognized by a POSITA. MS-1032, ¶19. Dr. Traynor provides examples of Common Access Cards (CACs) able to wirelessly communicate with card readers to allow access and SpeedPass being able to wirelessly authorize payment. *Id.*

Like *Apex*, where the term “circuit” was determined to not invoke 112(f) in part due to additional adjectival qualifications, the term “integrated RDC for communicating wirelessly with at least one external PDK within a proximity zone” similarly denotes sufficient structure by limiting the interface to “wireless” communications, to communications with a “PDK,” and to communications “within a proximity zone.” *Apex Inc.*, at 1372-73, 1374 (“asserted claims includes additional adjectival qualifications further identifying sufficient structure to . . . to one of ordinary skill in the art”).

In *EnOcean GmbH v. Face Int’l Corp.*, the claim term “receiver” did not invoke 112(f), because, “receiver” was reasonably well understood in the art as a name for structure. at 958-960. Similarly, “receiver,” in “receiver-decoder circuit” was reasonably well understood as structure. The claims at question in *EnOcean* were:

Claim 37: “a signal *receiver for receiving* a first electromagnetic signal . . . ”

Claim 38: “a *receiver for receiving* a first radiofrequency signal . . . ”

Claim 43: “a *receiver adapted to receiving* a radiofrequency
...”

The court relied on expert testimony and cited precedent where terms like “height adjustment mechanism,” “computing unit,” “circuit,” “digital detector,” and “detent mechanism” had been found to connote sufficient structure. *Id.* Similarly, “integrated receiver-decoder circuit” recites sufficient structure because a POSITA would have understood that the components of the device have a “sufficiently definite meaning as the name for structure” for performing its function. *Williamson*, 1349; MS-1032, ¶20. Again, Proxense recognized such structure without relying on 112(f). EX-2014, 3.

As evident from the above cases, the Federal Circuit has repeatedly deemed a party to have failed to rebut the presumption against 112(f) for claim terms like “RDC”. While Proxense cites to *Williamson* in support of its arguments, this case is factually distinguishable because the Federal Circuit held that a “distributed learning control module” triggered 112(f) as it was not a term used in the art. 1339. In the present situation, however, there is ample evidence and testimony that an RDC is a type of wireless communication interface which has an “established meaning in the art.” *MTD Products Inc.*, 1343-44; MS-1032, ¶20.

4. “Enablement signal” [claim 10]
a) This term does not invoke 112(f)

Proxense provides a single sentence, supported only by expert testimony that the term “enablement signal” is a meaningless “nonce” term. POR, 20-21. Based on this, Proxense invokes 112(f) to add limitations related to *when* and *how* an enablement signal is generated or sent, but these are not recited in the claims. POR, 21-22; MS-1001, claim 1 and 10.

Specifically, Proxense proposes a domino-effect of 112(f) invocations starting with enablement signal that would require the Board to read into the claim various limitations, including: 1) multiple wireless links, 2) a construction for RDC, 3) a construction for PDK, and finally 4) a complex algorithm that utilizes service blocks and access keys. POR, 22-29. This is improper—even if invocation of 112(f) were proper, which it is not.

The use of signals to enable functions was well known. MS-1022, 3, (definition: “activate - To start an operation, usually by application of an appropriate enabling signal.” (emphasis added)); MS-1032, ¶¶21-22. Further, the Federal Circuit in *Greenberg* determined that defining an element in functional terms “is not sufficient to convert a claim element containing that term into a ‘means for performing a specified function’ within the meaning of section 112(6).” 1583. In *Greenberg*, the court determined “detent mechanism,” is named for the action it performs. *Id.* (“Many devices take their names from the functions they perform. The examples are innumerable, such as ‘filter,’ ‘brake,’ ‘clamp,’

‘screwdriver,’ or ‘lock.’”). Similarly “enablement signal” derives its name “from the function [it] perform[s]”—in fact the claim itself states this by reciting: “an enablement signal enabling one or more of an application, a function and a service.” MS-1032, ¶22.

Additionally, in *Flo Healthcare Solutions*, where a “height adjustment mechanism” was determined to have sufficient structure, an “enablement signal” also has sufficient structure for the same reasons. In *Flo Healthcare Solutions*, the Federal Circuit observed “that the noun ‘adjustment,’ which modifies “mechanism” here, has a reasonably well-understood meaning as a name for a structure. See *Random House Unabridged Dictionary* 25 (2d ed. 1993) (‘3. a device, as a knob or lever, for adjusting: the adjustments on a television set’).” at 1374. Similarly, “enablement signal” has a reasonably well-understood meaning, as evidenced by the fact that it is used in the field of art to define other words like “activate.” MS-1022, 3 (“activate - To start an operation, usually by application of an appropriate enabling signal.”). Dr. Traynor provides further definitions establishing the well-known nature of the term. MS-1032, ¶22; MS-1026, 3; MS-1027, 3; MS-1028, 3.

Dr. Traynor’s examples of the signals sent to enable a function further demonstrate that an “enablement signal” was understood by a POSITA and that a POSITA would know how to design such a signal. For example, the SpeedPass

and EZ-Pass systems operating two years before the Critical Date communicated wirelessly to enable the function of paying for service. MS-1032, ¶¶23-24; MS-1029, 2 (“SpeedPass **enabled** ExxonMobile’s customers to pay . . . with the wave of a key fob”) (emphasis added).

b) If 112(f) is applied at all, the correct analysis of claim 10 should be Step Plus Function

While means-plus-function analysis may, in rare and exceptional circumstances, be relevant to method claims, this is not the default approach and does not apply here. By focusing exclusively on means-plus-function, Proxense has failed to properly analyze the functional language of the method claim within its appropriate legal framework, rendering its argument both inapplicable and incorrect.

In a method claim, the mere use of “-ing” verbs does not invoke 112(f), as decided in *O.I. Corp. v. Tekmar Co.*, 115 F.3d 1576, 1583 (Fed. Cir. 1997) (addressing the application of 112(f), including step-plus-function). Similarly, in *Seal-Flex, Inc. v. Athletic Track & Court Constr.*, the court considered whether 112(f) applied to process claims. 172 F.3d 836 (Fed. Cir. 1999). It established two key principles: (1) the absence of “steps for” in a method claim creates a presumption that 112(f) does not apply; and (2) if a claim limitation expresses both a function and an act, 112(f) is not invoked. *Id.*

Applying these principles, the '042 Patent claim—"generating an enablement signal enabling one or more of an application, a function, and a service"—describes both the function ("enabling one or more of...") and the act ("generating an enablement signal"). This aligns with *Masco Corp. v. United States*, where the court held that method claims do not invoke 112(f) when a function is performed by an act (e.g., "driving a lever" by "transmitting a force"). 303 F.3d 1316, 1327 (Fed. Cir. 2002).

Thus, under *Seal-Flex* and *Masco*, the '042 claims maintain the presumption that 112(f) does not apply.

The holding in *Media Rights Technologies v. Capital One Financial* is inapplicable here because, unlike this case, the claim term at issue in *Media Rights* lacked any commonly understood meaning. 800 F. 3d 1366 (Fed. Cir. 2015). In *Media Rights*, the term "compliance mechanism" referred to a method for "controlling a data output pathway . . . by diverting a commonly used data pathway." *Id.* at 1368-69. However, both parties in that case agreed that "compliance mechanism" had no commonly understood meaning, and the court ultimately found that nothing in the patent specification or otherwise would have connoted structure to a POSITA. By contrast, the claim terms in this case are tied to established meanings and supported by the specification.

Petitioner puts forth ample evidence, testimony, and case law supporting a

finding that (1) “enablement signal” does connote structure to a POSITA and (2) that the “act” and “function” are apparent such that step-plus-function is not invoked.

IV. DR. JAKOBSSON’S DECLARATION SHOULD BE GIVEN LITTLE WEIGHT

Dr. Jakobsson’s declaration should be given little weight as his opinions are conclusory and he is unfamiliar with claim features that form the basis of his own written opinions. MS-1030, 30:11-47:10, 59:18-63:23, 63:24-84:17, 90:16-93:4; *Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 at 15 (PTAB Aug. 24, 2022) (precedential). Further, when asked to clarify his understanding of these features during deposition, his responses were evasive. *Id.*

For example, the term “hybrid device” (1) appears roughly 140 different times in the ’042 patent, including the title, (2) appears in the independent claims, and (3) is the subject of a formal construction in past litigation that Proxense heavily relies upon in its POR arguments. *See generally*, MS-1001; IPR2024-00407; IPR2024-00405; EX-2001. However, when asked very basic questions about his understanding of this feature, Dr. Jakobsson’s responses were evasive (alleging that he “did not need to know the boundaries of the meaning of ‘hybrid device’” to render an opinion). MS-1030, 30:11-47:10. Simply put, if Dr. Jakobsson honestly did not understand a “hybrid device” when offering the

opinions in his declaration, his testimony is not credible due to the relevance of that feature to his testimony. *Id.* Accordingly, Dr. Jakobsson's declaration amounts to conclusory statements that cherry-pick select features of the '042 patent and examine them out of context. *Xerox Corp.*, Paper 9 at 15.

Dr. Jakobsson's evasiveness also appeared when answering similar questions about claim features relevant to his testimony. MS-1030 59:18-63:23 (discussing an "integrated RDC"); 63:24-84:17 (discussing a "general purpose computer"); 90:16-93:4 (discussing a "function"); MS-1031, 48.

V. CONCLUSION

Proxense's proposed constructions for the claims which lack "means for" language, should be denied because Proxense has failed to overcome the rebuttable presumption against 112(f) treatment. Because Proxense's proposed constructions are the basis for its entire argument in the POR, the instituted grounds have not been rebutted and the Challenged Claims are unpatentable over the prior art.

Respectfully submitted,

Dated: 1-28-25

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CERTIFICATION UNDER 37 CFR § 42.24

Under the provisions of 37 CFR § 42.24(d), the undersigned hereby certifies that the word count for the foregoing Petitioner's Reply to Patent Owner's Response totals 5,572 words, which is less than the 5,600 allowed under 37 CFR § 42.24(c)(1).

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CERTIFICATE OF SERVICE

Pursuant to 37 CFR § 42.6(e), the undersigned certifies that on January 28, 2025, a complete and entire copy of this Petitioner's Reply to Patent Owner's Response and accompanying exhibits were provided by email, to the Patent Owner, by serving the correspondence addresses of record as follows:

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