UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF WASHINGTON
AT SEATTLE

NXP USA, INC., and NXP B.V., Plaintiffs, v. IMPINJ, INC., Defendant.	CASE NO. 2:20-cv-01503-JHC ORDER RE: RENEWED MOTION FOR SUMMARY JUDGMENT AS TO THE '092 PATENT

Before the Court is Impinj's motion for summary judgment of non-infringement as to U.S. Patent No. 7,257,092 (the '092 Patent). Dkt. # 421 (redacted motion); Dkt # 430 (sealed motion). NXP opposes the motion. Dkt. # 433.

For the reasons below, the Court DENIES the motion.

I

BACKGROUND

A. The '092 Patent

The '092 Patent describes techniques for communicating between a "communication station" (reader) and an RFID "data carrier" (tag). '092 Patent at 1:5–8. Prior art methods used a two-step process for communication between a data carrier and a communication station. The communication station would first conduct an "inventorization procedure" during which the

communication station would identify all the data carriers within its range. *Id.* at 1:10–38. After the inventorization procedure, the data carrier would transmit "useful data" to the communication station upon request. *Id.* at 1:38–47. The "disadvantage" of this two-step method was that "it [took] a relatively long time" for the "useful data" to become usable by the communication station. *Id.* at 1:42–44.

The '092 Patent purports to improve upon the prior art by using a communication procedure in which the "identification data block" and "useful data" are transmitted simultaneously. *Id.* at 11:7–17 ("[T]he invention is distinguished in that not only are parts of the identification data blocks IDB transmitted into the communication station 1 in the course of carrying out an inventorization procedure, but that during the inventorization procedure the specific useful data n×UDB desired and/or required in the communication station 1 are also simultaneously transmitted."); Dkt. # 135 at 14. This simultaneous transmission shortens the time it takes for the communication station to obtain the "useful data" stored in the data carriers. '092 Patent, 3:51–59.

Claim 1 of the '092 Patent is representative. It states:

> A method of communicating between a communication station (1) and at least one data carrier (2 (DC)), which data carrier (2 (DC)) comprises a characteristic identification data block (IDB) and useful data (UD), by said method an inventorization procedure is carried out, the inventorization procedure may consist of successive procedure runs and consists of at least one procedure run, and after the inventorization procedure terminates, at least one part of the identification data block (IDB) of the at least one data carrier (2 (DC)) is known in the communication station (1), and by which method a transmission of specific useful data (n×UDB) is carried out from the at least one data carrier (2 (DC)) to the communication station (1) such that during the implementation of the inventorization procedure at least one part of a block region (NKP-IDB) of the identification data block (IDB) not yet known in the communication station (1) and, in addition, said specific useful data (n×UDB) are transmitted from the at least one data carrier (2 (DC)) to the communication station (1).

Id. at 17:47–65. For present purposes, it is important to observe that claim 1 requires that the tag return two types of data to the reader: (1) an "identification data block (IDB)" and (2) "specific useful data (n×UDB)." This data must be transmitted to the data carrier "during the implementation of the inventorization procedure," such that at least one part of each data type is "known" to the reader by the time the "inventorization procedure terminates." *Id.* at 17:53–65.

B. The Accused Products

The accused products implement the "Gen2 protocol," an industry standard protocol for RFID communications. Dkt. # 283-4 at 6–7, 11–21. The Gen2 protocol requires that a tag's memory be separated into distinct memory blocks: "EPC" (Electronic Product Code) memory, "TID" memory, Reserved memory, and User memory. Dkt. # 283-4 at 14. "TID" is defined as "Tag-identification or Tag identifier, depending on context." Dkt. # 285-1 at 21. TID memory must contain "sufficient information for an Interrogator to uniquely identify the custom commands and/or optional features that a Tag supports." *Id.* at 52. TID memory "may also contain Tag- and manufacturer-specific data (for example, a Tag serial number)." *Id*.

The accused tag chips are Gen2 compliant. Dkt. # 283-4 at 6. But the accused products also contain what Impinj labels its "FastID" feature. Under the default Gen2 protocol, once a tag has been identified through inventorization, the tag "still requires a couple of commands to get the TID." Dkt. # 283-8 at 2. According to Impinj's own materials, FastID "short-cycle[s] the process of getting the TID." *Id.* With FastID, the tags "backscatter both their EPC and TID as part of their response to an ACK command from the reader." *Id.* In other words, the FastID system transmits both the EPC and TID data simultaneously. *See* Dkt. # 283-1 at 4 (Dr. Kenney stating that "[u]nder the Gen2 Specification, the sequence for accessing a TID requires a sequence of commands [], and FastID allows the TID to be read with fewer commands than that

provided by the standard"). Impinj touted the "EPC+TID" feature of FastID as "2-3 times faster than previous methods." Dkt. # 281-13 at 6.

C. Procedural History

During claim construction, the Court construed two terms in the '092 Patent that relate to the issues at hand. First, the Court construed "characteristic identification data block (IDB)" to mean "identification data stored in memory." Dkt. # 247 at 12–16. The Court noted that "[w]hen broken down, the term refers to (1) a block (2) of data (3) used for identification." *Id.* at 13. Second, the Court construed "specific useful data (n×UDB)" to mean "some, but not all, useful data (UD)." *Id.* at 16–20. The parties stipulated early in this litigation that "useful data (UD)" means "data stored in memory, not including the characteristic identification data block (IDB)," and that the two categories are mutually exclusive. Dkt. # 128 at 1; *see also* Dkt. ## 283-1 at 8, 319 at 7, 332 at 10.

Impinj then moved for summary judgment. Dkt. ## 284, 294. In that motion, Impinj argued that the accused products do not infringe because they do not return "useful data" during an inventorization procedure, and instead return only data within the "identification data block." *See* Dkt. # 294 at 5–10. The Court denied that motion. Dkt. # 380 at 17–25. In doing so, the Court at least implied that "identification data block" means something more than just "identification data stored in memory." The Court reasoned that "'identification data block' refers to identifying data used to uniquely identify the tag to the reader during an inventorization-like procedure." Dkt. # 414 at 22.

In light of the Court's implicit modification to it construction, the Court granted Impinj an opportunity to file a renewed motion for summary judgment with additional non-infringement arguments. Dkt. # 416.

II

LEGAL STANDARDS

"Summary judgment is appropriate when the moving party demonstrates that 'there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.'" *Spigen Korea Co. v. Ultraproof, Inc.*, 955 F.3d 1379, 1383 (Fed. Cir. 2020) (quoting Fed. R. Civ. P. 56(a)). A genuine dispute exists "if the evidence is such that a reasonable jury could return a verdict for the nonmoving party." *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986). In evaluating a motion for summary judgment, "[t]he court must afford all reasonable inferences and construe the evidence in the light most favorable to the non-moving party." *Vita-Mix Corp. v. Basic Holding, Inc.*, 581 F.3d 1317, 1323 (Fed. Cir. 2009) (citing *Anderson*, 477 U.S. at 255).

Infringement (or non-infringement) can be decided at summary judgment when there are no genuine disputes of fact. To prove infringement, the patentee "must establish by a preponderance of the evidence that one or more claims . . . read on the accused device[s]." *Cross Med. Prod., Inc. v. Medtronic Sofamore Danek*, *Inc.*, 424 F.3d 1293, 1310 (Fed. Cir. 2005). "Where the parties do not dispute any relevant facts regarding the accused product . . ., but disagree over possible claim interpretations, the question of literal infringement collapses into claim construction and is amenable to summary judgment." *Gen. Mills, Inc. v. Hunt-Wesson, Inc.*, 103 F.3d 978, 983 (Fed. Cir. 1997). Infringement is "properly decided upon summary judgment when no reasonable jury could find that every limitation recited in the properly construed claim either is or is not found in the accused device either literally or under the doctrine of equivalents." *Gart v. Logitech, Inc.*, 254 F.3d 1334, 1339 (Fed. Cir. 2001). But if a reasonable jury could conclude that the accused device does not practice every limitation of a claim, summary judgment is inappropriate.

III

DISCUSSION

Impinj renews its motion for summary judgment of non-infringement of the '092 Patent given the Court's implicit modification to its construction of the "identification data block" term. Dkt. # 421. Impinj says that in the accused products (which comply with the Gen2 protocol), the reader does not rely on the "EPC"—as NXP posits—to uniquely identify the tag during an inventorization-like procedure, and thus cannot be the claimed "identification data block." *Id.* at 5. Rather, Impinj says that the reader relies on a random, 16-digit number—known as a "RN16"—to uniquely identify the tag. *Id.* In the Gen2 inventorization protocol, the reader first sends a "Query" command. *Id.* The tag responds with an RN16. *Id.* The reader then sends an "ACK (RN16)" command, parroting back the RN16 provided by the tag. *Id.* The tag then confirms whether it is the specified tag by checking the RN16 with the RN16 parroted back in the ACK(RN16) command. *Id.* Only then does the tag transmit its EPC to the reader. *Id.* Impinj says that the "proof is in the pudding" that the reader does not *use* the EPC to uniquely identify a tag: A Gen2-compliant inventory process can be performed even if there is no data in EPC memory or each tag has the same EPC value, suggesting that the reader is relying on something else (the RN16) to uniquely identify a tag. *Id.* at 6.[1]

Even if the Court were to agree with Impinj that the RN16 is, in fact, the unique identifier relied on by the reader (and thus the only element that can serve as the "identification data block"), Impinj's theory still has a fatal flaw. If the RN16 is the "identification data block," it

[1] Indeed, it seems that Gen2 does not require the transmission of the entire EPC, further suggesting that inventorization can successfully occur even without a full EPC. *See* Dkt. # 285-1 at 47 ("Under certain circumstances a Tag may truncate its backscattered EPC. . . . An Interrogator may issue a *Read* to read all or part of the EPC.").

follows that both the EPC and TID data could be "useful data" (or a subset of it—"specific useful data"). This would satisfy both of the disputed claim elements.

The parties agree that a given data block is either part of the "identification data block" or is "useful data," and that the two categories are mutually exclusive. *See, e.g.*, Dkt. ## 283-1 at 8, 319 at 7, 332 at 10, 128 at 1. The parties stipulated early in this litigation that "useful data (UD)" means "data stored in memory, not including the characteristic identification data block (IDB)." Dkt. # 128 at 1. And the Court construed "specific useful data (n×UDB)" to mean "some, but not all, useful data (UD)." Dkt. # 247 at 16–20. Under this construction, it follows that if the EPC and TID are not part of the "identification data block" (because under Impinj's theory, only the RN16 is the "identification data block"), then the EPC and TID data could qualify as "useful data."

Impinj asks the Court to revisit that agreed construction of "useful data" in its motion. Dkt. # 421 at 11–12. Impinj argues that "useful data" should be defined in reference to the ISO/IEC 15693-3 standard because the '092 Patent "adopt[ed]" the ISO/IEC 15693-3 standard. *Id.* In the ISO/IEC 15693-3 standard, there is both a "unique identifier" (UID) and "VICC memory." *Id.*; *see generally* Dkt. # 285-9. Because the '092 Patent "adopt[ed]" the ISO/IEC 15693-3 standard, Impinj says, the '092 Patent's "identification data block" term refers to the ISO/IEC 15693-3 standard's "unique identifier," and the '092 Patent's "useful data" refers to the ISO/IEC 15693-3 standard's "VICC memory." Applying such a construction to the accused Gen2-compliant products, Impinj says that it is the "user memory" block—not the "TID memory" block or EPC memory block—that is analogous to the ISO/IEC 15693-3 standard's "VICC memory."

But even if the '092 Protocol adopted the framework of the ISO/IEC 15693-3 standard, the Court does not see why *only* the "user memory" block in the Gen2 protocol would be

analogous to the ISO/IEC 15693-3 standard's "VICC memory." As the Court understands it, "VICC memory" can contain a wide variety of data. *See, e.g.*, Dkt. # 285-9 at 13 (the ISO/IEC 15693-3 standard, which does not specify the type of data stored in VICC memory, but only specifies the size and structure of the memory). Impinj has not explained why VICC memory could not contain data like the TID data (*i.e.*, tag-identification information and data about particular commands) or the EPC. To the extent that the proper inquiry is whether a given Gen2 data block is more analogous to the ISO/IEC 15693-3 standard's UID or its VICC memory, there is at least a dispute of fact.

However, the arguments raised in the parties' briefing gave the Court another opportunity to consider its construction of the term "identification data block." While the Court did not expressly modify its initial construction in its summary judgment order, the Court did still at least imply that "identification data block" means something more than just "identification data in memory": that to qualify as part of the "identification data block," the data had to be *used by the reader* during an inventorization procedure. Upon further reflection, the Court finds its implicitly modified construction went too far: Based in part on a misunderstanding of the term "inventorization," the Court implicitly construed the claims to require that the "identification data block" refer to identification data stored in memory *used by the reader* during inventorization. But the Court does not believe the claim language requires such a limitation. Accordingly, the Court reverts to its initial construction of the term: "identification data stored in memory."

First, and most importantly, the Court's modified construction strayed too far from the text of the claim. The Court reasoned that certain "context"—in particular, the prior art method on which the '092 Patent purportedly improved—justified departure from the plain and ordinary meaning of the claim's text. While claims must be read in context, that context did not provide a

sufficiently strong basis to override the plain and ordinary meaning of the claim terms. *See Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996) ("[W]e look to the words of the claims themselves . . . to define the scope of the patented invention."); *Innova/Pure Water, Inc. v. Safari Water Filtration Sys.*, Inc., 381 F.3d 1111, 1116 (Fed. Cir. 2004) ("[C]laim construction analysis must begin and remain centered on the claim language itself, for that is the language the patentee has chosen to particularly point[ ] out and distinctly claim[ ] the subject matter which the patentee regards as his invention." (quotation marks and citation omitted) (second and third alteration in original)); *Renishaw PLC v. Marposs Societa per Azioni*, 158 F.3d 1243, 1248 (Fed. Cir. 1998) ("[T]he claim construction inquiry, therefore, begins and ends in all cases with the actual words of the claim. . . . [T]he resulting claim interpretation must, in the end, accord with the words chosen by the patentee to stake out the boundary of the claimed property."); *White v. Dunbar*, 119 U.S. 47, 52 (1886) (It would be "unjust to the public, as well as an evasion of the law, to construe [the claim] in a manner different from the plain import of its terms."). In adopting its modified construction, the Court allowed context to insert limitations into the claims not present in the language itself.

At bottom, the claim requires two things: that (1) "at least one part of the identification data block" and (2) "specific useful data" are "known" in the communication station "after the inventorization procedure terminates." '092 Patent at 17:51–63. It does not require that the identification data block be "used" in any particular way during (or after) the inventorization procedure. Nor does it require that the *reader* (rather than the system as a whole) use the identification data to uniquely identify a tag.[2] *See also* Dkt. # 247 at 13 (the Court's initial claim

[2] Indeed, claim 1 requires only that "at least one part of the identification data block" be transmitted to the reader during inventorization. '092 Patent at 17:54. If less than all of the

construction order, stating that "[w]hen broken down, the term refers to (1) a block (2) of data (3) used for identification."). The Court's modified construction imported limitations into the claim not found in the text itself. *Cf. McCarty v. Lehigh Valley R.R. Co.*, 160 U.S. 110, 116 (1895) ("[I]f we once begin to include elements not mentioned in the claim, in order to limit such claim . . ., we should never know where to stop.").

The Court's modified construction was premised on an incomplete understanding of inventorization. While the Court has not construed the term (and does not adopt a formal construction now), the Court initially believed that "inventorization" (as the term is used by POSITAs) primarily refers to the transmission of identification data to be *used* and relied on by the reader (say, to enable subsequent communication between the tag and reader). Reasoning from that premise, the Court concluded that data from the "identification data block" had to play a role in that process—that is, by providing identification data to the reader *for use* by the reader. But it appears that "inventorization" is not so narrow a concept. While not particularly well-defined, "inventorization" generally refers to a process through which an RFID system *learns* the identity of the tag. *See, e.g.*, '092 Patent at 9:53–54 ("inventorization, i.e., an exact identification of each data carrier."); Dkt. # 285-1 (Gen2 protocol, defining "Inventory" as "Identifying individual Tags"). But nothing in the patent or in evidence suggests that all data transmitted in an inventorization procedure must be "used" *by the reader*. Rather, inventorization appears to refer more generally to the process of uniquely identifying tags and learning the identities of the tags (that is, allowing the RFID system to form an "inventory" of the tags). It follows that "identification data block" need not be construed to refer only to data used by the reader during

"identification data block" can be sent, it follows that there could be identification data within the "identification data block" that the reader does not strictly rely on to uniquely identify the tag.

reader-tag communication, but to identifying information that helps identify the tag. This understanding also better tracks the claim terms, which require only that part of the "identification data block" be "known"—not used—in the reader following inventorization. '092 Patent at 17:55.

In the default Gen2 protocol, for example, Gen2's "inventory" (as the Gen2 protocol defines the term) includes transmission of identifying information that is both strictly "used" by the reader (the RN16) and the transmission of other identifying information (like the EPC, which serves as the general identifier of the tag). In the Gen2 protocol, the EPC is undoubtedly part of the "inventorization process"; and one would be hard-pressed not to call it "identification data," even if not strictly used by the reader to facilitate subsequent communication. The Court has little doubt that data akin to the EPC is part of the "identification data block" as a POSITA would understand the term—regardless of whether the reader uses that data to enable subsequent communication with tags—because it is identifying data sent during an inventorization procedure that helps identify the tag.

Accordingly, the Court reverts to its original construction of "identification data block": "identification data stored in memory."[3] Dkt. # 247 at 12–16. The question then becomes whether the TID data is part of the "identification data block" or is instead "specific data." This presents a question for the jury, so the Court denies Impinj's motion.

Under this construction, at least part of the TID data undoubtedly seems to qualify as within the "identification data block." The Gen2 protocol defines TID as "Tag-identification or Tag identifier, depending on context." Dkt. # 285-1 at 21. As the Gen2 protocol explains, "TID memory may also contain Tag- and manufacturer-specific data (for example, a Tag serial

[3] This was the construction that *NXP* requested during claim construction.

number)." *Id.* at 52. In one version of the TID, TID memory contains "an 8-bit manufacturer identifier . . . a 48-bit Tag serial number (assigned by the Tag manufacturer)," and "the composite 64-bit TID . . . is unique among all classes of Tags." *Id*. TID memory contains not only identification data, but *uniquely identifying* identification data.[4]

NXP argues—throughout both its initial briefing and its supplemental briefing—that in the default Gen2 protocol, it is the EPC that is sent during "inventorization" and relied on to identify the tags. NXP says that TID memory, by contrast, is but another form of data that can be transmitted after inventorization. But how the Gen2 protocol defines the scope of *its* "inventorization" is not particularly relevant. Nor is it relevant, given the Court's construction, whether a reader *relies* on the EPC (and as suggested above, the Court does not believe that the EPC is actually *used* by the reader as the Court intended the term). Impinj's FastID system modifies the default Gen2 inventorization procedure. In Impinj's FastID inventorization system, the EPC *and* TID are backscattered to readers, rather than just the EPC. In other words: Impinj's products transmit both forms of identifying data—the EPC and TID—to the readers during an inventorization process. Because both the EPC and (at least most of) the TID data provide identifying data during inventorization, they are part of the "identification data block" and do not constitute "useful data." The reader may "know" the identity of the tag once it learns the tag's EPC; that does not preclude the reader from *also* knowing more about the identity of the tag once it learns the serial number embedded within TID memory.

However, NXP points out that portions of the TID could plausibly constitute "useful data." Dkt. # 332 at 11–12. The Gen2 protocol explains that TID memory "shall contain, at a minimum, sufficient information for an Interrogator to uniquely identify the custom commands

[4] TID memory—which includes a serial number—is arguably at least as analogous to the ISO/IEC 15693-3 standard's UID as is the EPC.

and/or optional features that a Tag supports." Dkt. # 285-1 at 52. NXP points to two bits of TID memory. First, TID memory contains a "Security (S) indicator," which indicates "whether a Tag supports the *Authenticate* and/or *Challenge* commands." *Id.* Second, TID memory contains a "File (F) indicator," which indicates "whether a Tag supports the *FileOpen* command." *Id.*

Impinj says that these bits are "identification data stored in memory" because they still "uniquely identify the custom commands and/or optional features that a tag supports," and thus that summary judgment is nevertheless appropriate. Dkt. # 294 at 9 (quoting Dkt. # 285-1 at 52 (Gen2 Protocol)), But the Court believes that this presents a factual question for resolution by a jury. A jury will have to decide whether the TID data—as a whole, or a subset of it—more closely resembles "identification data stored in memory" or "useful data."[5] *See Gart*, 254 F.3d at 1343 ("This comparison [between the claims and the accused products] is a question of fact."); *Beckson Marine, Inc. v. NFM, Inc.*, 292 F.3d 718, 724 (Fed. Cir. 2002). The Court lacks sufficient information about the Security (S) and File (F) bits to confidently say at this stage, as a matter of law, that they do not constitute "useful data."

IV

CONCLUSION

For the reasons above, the Court DENIES Impinj's renewed motion for summary judgment as to the '092 Patent. Dkt. ## 421, 430.[6]

[5] Impinj also says that the Court should not consider any theory that relies on a subset—rather than the whole—of the TID data. Dkt. # 294 at 8–9. But for the reasons the Court will outline in its forthcoming order addressing Impinj's motion to exclude certain opinions of Dr. Madisetti, the Court does not believe that exclusion is appropriate.

[6] Based on the parties' proposed redactions to the Court's order on cross-motions for summary judgment (Dkt. ## 407, 414), the Court does not believe that any material in this order requires redaction. If either party disagrees and would like the order to be provisionally sealed pending proposed redactions, they may email the Court's courtroom deputy.

Dated this 19th day of May, 2023.

John H. Chun
United States District Judge