

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

UBER TECHNOLOGIES, INC.,
Petitioner,

v.

LBT IP II LLC,
Patent Owner.

IPR2022-00926
Patent 8,531,289 B2

Before CHARLES J. BOUDREAU, JOHN A. HUDALLA, and
STEPHEN E. BELISLE, *Administrative Patent Judges*.

HUDALLA, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)

Uber Technologies, Inc. (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting an *inter partes* review of claims 8–10 and 13–15 (“the challenged claims”) of U.S. Patent No. 8,531,289 B2 (Ex. 1001, “the

'289 patent"). LBT IP II LLC ("Patent Owner") filed a Preliminary Response (Paper 8, "Prelim. Resp."). We determined that the information presented in the Petition established that there was a reasonable likelihood that Petitioner would prevail with respect to its unpatentability challenges. Pursuant to 35 U.S.C. § 314, we instituted this proceeding on December 7, 2022, as to all challenged claims and all grounds of unpatentability presented in the Petition. Paper 9 ("Dec. on Inst.").

During the course of trial, Patent Owner filed a Patent Owner Response (Paper 13, "PO Resp."), and Petitioner filed a Reply to the Patent Owner Response (Paper 17, "Pet. Reply"). Patent Owner also filed a Sur-reply (Paper 24, "PO Sur-reply"). A consolidated oral hearing with IPR2022-00880 was held on September 14, 2023, and a transcript of the hearing is included in the record. Paper 29 ("Tr.").

Petitioner filed declarations of Scott Andrews with its Petition (Ex. 1003) and its Reply (Ex. 1043). Patent Owner filed declarations of Eric Koskinen, Ph.D., with its Preliminary Response (Ex. 2001) and its Response (Ex. 2005). The parties also filed transcripts of the depositions of Mr. Andrews (Exs. 2006, 2013) and Dr. Koskinen (Exs. 1041, 1042).

We have jurisdiction under 35 U.S.C. § 6. This decision is a Final Written Decision under 35 U.S.C. § 318(a) as to the patentability of claims 8–10 and 13–15 of the '289 patent. For the reasons discussed below, Petitioner has demonstrated by a preponderance of the evidence that claims 8–10 and 13–15 of the '289 patent are unpatentable.

I. BACKGROUND

A. *Real Parties-in-Interest*

Petitioner identifies Uber Technologies, Inc., as the real party-in-interest. Pet. 2; Paper 6, 1; Paper 21, 2. Patent Owner identifies LBT IP II LLC as the real party-in-interest. Paper 4, 1.

B. *Related Proceedings*

The parties identify the following proceedings related to the '289 patent (Pet. 2; Paper 4, 1; Paper 6, 1):

LBT IP II LLC v. Uber Techs., Inc., No. 6:21-cv-01210 (W.D. Tex. Nov. 19, 2021), which was transferred to the Northern District of California as *LBT IP II LLC v. Uber Techs., Inc.*, No. 3:22-cv-03985 (N.D. Cal. July 7, 2022) (collectively, “the underlying litigation”);

IPR2022-00806 (challenging the '289 patent; terminated after institution);

IPR2022-00879 (challenging U.S. Patent No. 7,728,724 B1; institution denied);

IPR2022-00880 (challenging U.S. Patent No. 7,598,855 B2; Final Written Decision issued concurrently herewith); and

IPR2022-00927 (challenging U.S. Patent No. 8,224,355 B2; institution denied).

C. *The '289 patent*

The '289 patent is directed to “monitoring location information of a tracking unit associated with an individual or object that uses wireless data transfer and/or wireless location and tracking systems.” Ex. 1001, 1:30–35. Figure 2A of the '289 patent is reproduced below.

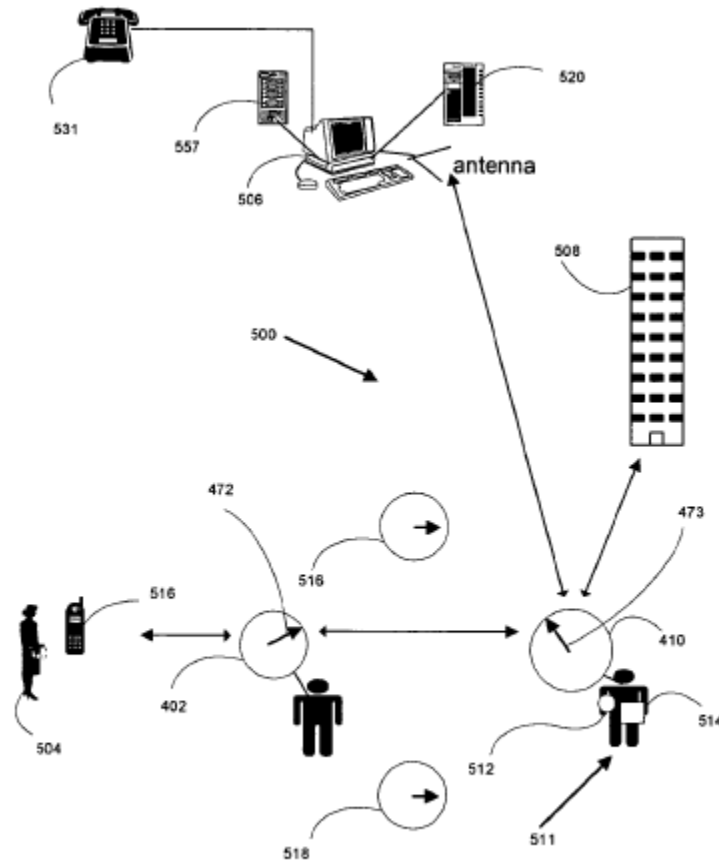


Figure 2A

Figure 2A depicts positioning and tracking system 500 for locating the first tracking device 402. *Id.* at 7:58–59. First tracking device 402 can be remotely activated by user 504, monitoring station 506, nearby base station 508, and/or second tracking device 410. *Id.* at 8:5–8. For example, user 504 may issue a request (including the user’s identification code) for location data associated with first tracking device 402 to monitoring station 506 using communication device 516 (e.g., a cellular phone). *Id.* at 8:14–24. Monitoring station 506 sends a signal with the user’s identification code to second tracking device 410. *Id.* at 8:16–17, 8:33–35. Second tracking device 410 compares a stored identification code with the user’s identification code. *Id.* at 8:45–46. If the codes match, second

tracking device 410 requests information, such as last known or last location coordinates, from first tracking device 402. *Id.* at 8:46–53. The location coordinates of first tracking device 402 are communicated by second tracking device 410 to any or all the following: user 504, nearby base station 508, and monitoring station 506. *Id.* at 9:3–6.

The application that led to the '289 patent claims priority to a number of earlier applications,¹ the earliest of which was filed on February 1, 2005 (i.e., the earliest effective filing date). Ex. 1001, code (63). Petitioner applies this date for qualifying the asserted references as prior art. *See* Pet. 9.

D. Illustrative Claim

Of the challenged claims, claims 8 and 13 are independent. Claims 9 and 10 depend directly or indirectly from claim 8, and claims 14 and 15 depend directly or indirectly from claim 13. Claim 8 is illustrative of the challenged claims and recites:

8. A system comprising:
a first tracking device having a first transceiver configured to receive a first request signal from a remote user terminal, and to transmit a first reply signal that comprises a first identification code; and

¹ Two of the earlier applications relate to U.S. Patent Nos. 7,598,855 (“the ’855 patent”) and 7,728,724 (“the ’724 patent”). *See* Ex. 1001, code (63). We will discuss these patents below in conjunction with claim interpretation. *See infra* §§ II.C.1.b.–c.

a second tracking device having a second transceiver that is configured to:

- (i) receive the first reply signal;
- (ii) compare the first identification code to a stored identification code;
- (iii) determine location coordinates of the first tracking device; and
- (iv) communicate a second reply signal that comprises the location coordinates to a monitoring station connected to the user terminal in part responsive to verification of the first identification code.

Ex. 1001, 16:65–17:13.

E. Prior Art

Petitioner relies on the following prior art:

U.S. Patent No. 6,169,497 B1, filed Dec. 16, 1994, issued Jan. 2, 2001 (Ex. 1012, “Robert”);

U.S. Patent Application No. 2003/0182055 A1, filed Jan. 20, 2003, published Sept. 25, 2003 (Ex. 1013, “Curatolo”);
and

U.S. Patent No. 6,661,372 B1, filed Oct. 6, 2000, issued Dec. 9, 2003 (Ex. 1011, “Girerd”).

F. The Instituted Grounds

We instituted *inter partes* review of claims 8–10 and 13–15 of the ’289 patent on the following grounds (Dec. on Inst. 36), which are all the grounds presented in the Petition (Pet. 4):

Claims Challenged	35 U.S.C. §	References
8–10, 13–15	103(a) ²	Robert
8–10, 13–15	103(a)	Robert, Curatolo
8, 13	103(a)	Girerd

II. ANALYSIS

A. *Legal Standards*

A claim is unpatentable under 35 U.S.C. § 103 if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *See KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007).

The question of obviousness is resolved on the basis of underlying factual determinations, including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) where in evidence, so-called secondary considerations (i.e., objective indicia of obviousness or nonobviousness).³ *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). We also recognize that prior art references must be “considered together with the knowledge of one of ordinary skill in the pertinent art.” *In re Paulsen*,

² The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), amended 35 U.S.C. §§ 102 and 103. Because the application for the ’289 patent was filed before March 16, 2013 (the effective date of the relevant amendments), the pre-AIA versions of §§ 102 and 103 apply.

³ The trial record does not include any evidence of secondary considerations of obviousness or nonobviousness.

30 F.3d 1475, 1480 (Fed. Cir. 1994) (citing *In re Samour*, 571 F.2d 559, 562 (CCPA 1978)).

B. Level of Ordinary Skill in the Art

Citing testimony from Mr. Andrews, Petitioner contends a person of ordinary skill in the art “would have had a bachelor’s degree in electrical engineering, computer engineering, computer science, or a related field, and at least two years of experience in the research, design, development, and/or testing of GPS and related positioning techniques.” Pet. 8 (citing, *inter alia*, Ex. 1002 ¶¶ 27–28, 33). Patent Owner disputes that “two years of that specific work experience is a necessary requirement” for a person of ordinary skill in the art because “more general work experience is sufficient, and may be substituted with education.” PO Resp. 8. Patent Owner nonetheless states that this “distinction . . . is not meaningful or determinative with respect to the issues raised in the petition.” *Id.* (citing Ex. 2005 ¶¶ 32–34). Patent Owner does not otherwise dispute Petitioner’s definition of the level of ordinary skill in the art.

Given Patent Owner’s concession that its criticisms of Petitioner’s proposed level of ordinary skill are not consequential, and based on the evidence before us, we adopt Petitioner’s definition, albeit without the two instances of “at least,” which introduce ambiguity. We are satisfied that this definition comports with the level of skill necessary to understand and implement the teachings of the ’289 patent and the asserted prior art.

C. Claim Interpretation

In an *inter partes* review, we construe each claim using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. [§] 282(b), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.

37 C.F.R. § 42.100(b). Accordingly, our claim construction standard is the same as that of a district court. *See id.* Under the standard applied by district courts, claim terms are generally given their plain and ordinary meaning, as would have been understood by a person of ordinary skill in the art at the time of the invention and in the context of the entire patent disclosure. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc). “There are only two exceptions to this general rule: 1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution.” *Thorner v. Sony Comput. Entm’t Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012).

Petitioner states that, “[t]o resolve the particular grounds presented in this Petition, Petitioner does not believe that any term requires explicit construction.” Pet. 9 (citing Ex. 1002 ¶ 30). Patent Owner likewise argues that “none of the terms in the patent require a formal, express construction to resolve the dispute between the parties.” PO Resp. 10–11. Notwithstanding, Patent Owner expressly “seek[s] a determination that the ‘first identification code’ does not identify a second tracking device.” *Id.* (citing Ex. 2005 ¶¶ 50–53). We now address the construction of “first identification code.”

1. “first identification code”

Patent Owner argues that the specification of the ’289 patent “provides the ‘second’ identification code is consistently used to refer to a code that is transmitted to, not from, the first tracking device. *Id.* at 14 (citing Ex. 1001, 3:31–33, 8:8–13, 10:15–18; Ex. 2005 ¶ 53). Patent Owner also argues that “in no case does the first tracking device transmit an identification code that identifies any device other than itself.” *Id.* (citing Ex. 2005 ¶¶ 51–53). According to Patent Owner, “[t]he specification and claims consistently describe the ‘first identification code’ as sent from the device being tracked to another device, which shows it is intended to identify who or what is being tracked—*not* the device doing the tracking, which receives that code.” PO Sur-reply 7 (citing, *inter alia*, Ex. 1001, 7:58–8:55, 10:3–18, 10:57–59, 13:27–36, 13:61–64).

Petitioner argues that the only significance of “first” as applied to “identification code” in claims 8 and 13 is to distinguish the “first identification code” from the later-recited “stored identified code” and “second identification code.” Pet. Reply 4 (citing *3M Innovative Prods. Co. v. Avery Dennison Corp.*, 350 F.3d 1365, 1371 (Fed. Cir. 2003)). Although Petitioner acknowledges that the specification of the ’289 patent associates “first identification code” with the first tracking device or a user (*id.* at 5 (citing Dec. on Inst. 9)), Petitioner contends that the specification describes other things that may be a “first identification code,” including a “user identification code” (*id.* (citing Ex. 1001, 8:28–29, 14:21–22)), a “stored identification code” (*id.* (citing Ex. 1001, 13:62–63)), and an “electronic serial number” or “ESN” (*id.* (citing Ex. 1001, 10:57–59)). Petitioner additionally cites certain passages in the specification about multiple

subscribers pooling resources, i.e., using other users' tracking devices. *Id.* (citing Ex. 1001, 7:41–57). According to Petitioner, a user in this scenario (depicted in Figure 4) can request the use of an in-range tracking device “by providing a proper identification number.” *Id.* (citing Ex. 1001, 12:58–13:3).

a. Specification of the '289 Patent

We start by considering the use of “first identification code” in the challenged claims. In claim 8, the “first identification code” is part of the “first reply signal” that is transmitted by the “first tracking device.” Ex. 1001, 16:66–17:2. The “first identification code” is then received at the second tracking device and compared to a “stored identification code,” which a later limitation calls “verification of the first identification code.” *Id.* at 17:3–13. In claim 13, the “first identification code” is part of the “first signal” that is transmitted by the “second tracking device.”⁴ *Id.* at 18:8–13. The “first identification code” is then received at the recited “tracking device” and compared to a “second identification code,” which a later limitation calls “verification of the first identification code.” *Id.* at 18:8–21. Neither claim 8 nor claim 13 recites a limitation about what device or person is identified by or associated with the “first identification code.”⁵ Thus, the plain language of the challenged claims does not support Patent Owner's proposed limitation on what the “first identification code” identifies.

⁴ As correctly noted by Petitioner, “Claim 13 is substantially the same as Claim 8, but with the roles of first and second tracking device switched.” Pet. 35.

⁵ The challenged dependent claims do not include limitations directed to the “first identification code.”

Next, we consider the use of “identification code” in general—and “first identification code” in particular—in the specification of the ’289 patent. Although the specification mentions a “first identification code” several times, the only passage that provides further context about what that code may identify states the following: “The first tracking device 402 may be, in a variation of the present embodiment, pre-programmed with an identification code (e.g., a first identification code). The identification code, in one embodiment, uniquely identifies the first tracking device 402 and prevents unauthorized individuals accessing the first tracking device 402.” Ex. 1001, 7:65–8:4. We note that this passage is qualified by the phrases “in a variation of the present embodiment” and “in one embodiment,” which suggests that this is a non-limiting example.

In another described embodiment, the first tracking device sends a first reply signal with the “first identification code” to a second tracking device. Ex. 1001, 3:21–30. The second tracking device then compares the “first identification code” to a stored identification code and, if the “first identification code” is verified, the second tracking device sends a second reply signal to the first tracking device. *Id.* at 3:28–33. Notably, the specification of the ’289 patent also describes an alternative embodiment with a “user’s identification code,” which is also called a “second identification code.” Ex. 1001, 8:8–13; 8:45–46. In this alternative embodiment, the second tracking device requests information from the first tracking device if the user’s/second identification code matches a stored identification code. *Id.* at 8:46–49. Both parties apparently agree that the “first identification code” and “user’s identification code”/“second identification code” described in the specification may function as the “first

identification code” recited in claims 8 and 13. *See* Pet. Reply 5; PO Sur-reply 6–7. We also agree based on the preceding discussion. Still, we note that Patent Owner’s agreement with this premise undermines any suggestion by Patent Owner (*see, e.g.*, PO Resp. 14) that the ordinal “first” in the claimed “first identification code” is somehow linked to various descriptors in the specification that also include ordinals. Accordingly, we ascribe no significance to the ordinal “first” in the recited “first identification code” other than the “common patent-law convention to distinguish between repeated instances of an element or limitation.” *3M Innovative Props.*, 350 F.3d at 1371.

Furthermore, the specification of the ’289 patent includes other passages that support broader treatment for the “first identification code.” For example, the specification states that “[t]he identification codes (first identification code and second identification code) may comprise an electronic serial number (ESN).”⁶ Ex. 1001, 10:57–59. The written description does not state that, when used with the disclosed invention, an ESN must relate to a particular device (i.e., the first or second tracking device) in the tracking transaction. This notion also is suggested where the ’289 patent describes “[t]he pooling of subscriber’s tracking devices,” which is described with reference to Figure 4. *See* Ex. 1001, 7:41–49, 12:58–13:22, Fig. 4. In this scenario, “[w]hen the tracking device 735 is located within a communication range of the first tracking device 402, the user 504 may request its use by providing a proper identification number.” *Id.* at 12:63–66. Again, the written description does not specify that the “proper

⁶ In general, an ESN may identify a device such as a phone. *See, e.g.*, Ex. 2013, 458:15–459:8.

identification number” must identify any user or device in the pool of devices. These non-limiting examples in the specification refute Patent Owner’s arguments about an implied restriction on what the “first identification code” must identify.

We also have considered Patent Owner’s argument that “the ‘first identification code’ provides ‘security measures when monitoring tracking devices to prevent unauthorized detection and spying on individuals,’ which reflects it identifies the user or the tracked device.” PO Sur-reply 7 (quoting Ex. 1001, 2:65–67) (citing Ex. 1001, 7:27–32, 7:45–55, 7:65–8:4, 8:45–55). Yet we do not agree that the specification of the ’289 patent ascribes the alleged security advantage of the disclosed invention to identifying the user or the tracked device. Nor does Patent Owner cite evidence that security—which is only one of many alleged advantages (*see* Ex. 1001, 2:61–67)—can only be achieved when the “first identification code” identifies a user or a tracked device.

Further, we have considered the cases Patent Owner cites for the proposition that our construction of “first identification code” cannot be divorced from the context of the specification of the ’289 patent. *See* PO Sur-reply 8–10 (citing, e.g., *Nystrom v. Trex Co.*, 424 F.3d 1136, 1142, 1144–45 (Fed. Cir. 2005)). For example, Patent Owner argues that *Nystrom* is similar to this case insofar as “the specification consistently uses terms to describe one embodiment.” *Id.* at 10. Patent Owner argues that we should follow *Nystrom* and adopt a construction of “first identification code” that “stays true to the claim language and most naturally aligns with the patent’s description of the invention.” *Id.* at 8 (quoting *Nystrom*, 424 F.3d at 1142). Yet *Nystrom* is distinguishable from the instant case because even Patent

Owner associates the “first identification code” with more than one embodiment in the specification of the ’289 patent, namely, embodiments where the “first identification code” identifies (1) a user; and (2) a device being tracked. *See* PO Sur-reply 6. Further, as discussed above, we find that other aspects of the specification—those pertaining to pooled devices and the use of ESNs to identify devices—broaden the potential scope of the claimed “identification code.” We additionally note that the prosecution history for the patent-in-suit in *Nystrom* included a statement limiting the scope of the disputed term, “board” (*see Nystrom*, 424 F.3d at 1144), whereas the prosecution history in the instant case has no such limiting statements. *See infra* § II.C.1.b.

In summary, the specification expressly discloses a “first identification code” associated with the first tracking device and a user. *See* Ex. 1001, 7:65–8:4, 8:8–13, 8:45–46. But the specification does not limit the identification code to these possibilities because the patentees did not “demonstrate[] a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction.” *Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1372 (Fed. Cir. 2014) (internal quotation omitted). We also are mindful that, even where the specification describes very specific embodiments of the invention, the claims are not confined to those embodiments. *See Phillips*, 415 F.3d at 1323. Thus, the specification of the ’289 patent does not support Patent Owner’s proposed restriction.

b. Prosecution History

Patent Owner also contends that certain prosecution history of the grandparent ’855 patent supports its proposed construction of “first

identification code.” PO Resp. 6–7, 12. In particular, Patent Owner cites an Office Action where the Examiner rejected certain claims based on U.S. Patent No. 6,608,559 (“Lemelson”). According to Patent Owner, “the Examiner acknowledged Lemelson does not disclose its ‘code comparison being an identification code comparison,’ but still argued that ‘identification codes’ generally would have been obvious, in light of Lemelson, ‘such that only authorized codes and information would have been relayed between all devices in the system.’” *Id.* at 6–7 (quoting Ex. 2007, 99⁷). By Patent Owner’s reckoning, this shows that “not all code comparisons are the identification code comparison that is described by the ’289 Patent.” *Id.* at 12 (citing Ex. 2007, 99); *see also id.* at 7 (same argument). In its Reply, Petitioner notes that the Examiner based his rejection on Lemelson’s teaching of “location coordinates, not codes assigned to any particular individuals/objects.” Pet. Reply 8 (citing Ex. 2007, 98⁸). As such, Petitioner argues that the Examiner’s comment is merely an acknowledgment “that Lemelson failed to disclose the claimed ‘identification code comparison’ because Lemelson does not disclose any identification codes.” *Id.*

Patent Owner does not explain how the rejection based on Lemelson bears on the issue of whether a “first identification code” can only identify a device being tracked or a user. Nor do we find the Examiner’s comments

⁷ For these arguments, Patent Owner mistakenly cites page 78 of Exhibit 2007, but the context makes clear Patent Owner intended to cite page 99.

⁸ Petitioner mistakenly cites page 99 of Exhibit 2007, but the context makes clear Patent Owner intended to cite page 98.

relevant to that issue. Having considered Patent Owner's arguments and the remainder of the prosecution history, we find nothing in the prosecution history relevant to the instant construction of "first identification code."

c. Extrinsic Evidence

We now consider the parties' proffered extrinsic evidence related to the interpretation of "first identification code." "[E]xtrinsic evidence can shed useful light on the relevant art," but it is "less significant than the intrinsic record in determining the legally operative meaning of claim language." *Phillips*, 415 F.3d at 1317 (internal quotations omitted).

Patent Owner highlights cross-examination testimony from Petitioner's declarant, Mr. Andrews, in which he states that Patent Owner's proposed construction is supported by the specification of the '289 patent. PO Resp. 13 (citing Ex. 2006, 229:23–230:20); PO Sur-reply 7 (citing Ex. 2013, 457:3–11) (similar argument). Patent Owner also highlights cross-examination testimony from Mr. Andrews in which he concedes that the specification never expressly discloses a "first identification code" identifying the device doing the tracking (i.e., the recited "second tracking device"). PO Resp. 13 (citing Ex. 2006, 248:13–22); *see also* PO Sur-reply 11 (citing Ex. 2013, 484–25) (similar argument). Patent Owner also presents similar direct testimony from its declarant, Dr. Koskinen. PO Resp. 11–14 (citing Ex. 2005 ¶¶ 51–53); PO Sur-reply 7 (citing Ex. 2005 ¶¶ 50–53).

Petitioner notes that Dr. Koskinen did not have any opinions to offer in response to Mr. Andrews's direct testimony that the specification of the '289 patent shows that a "first identification code" or "second identification

code” could be a “user identification code,” a “stored identification code,” and an “electronic serial number.” Pet. Reply 5–6 (citing Ex. 1042, 240:15–244:18, 245:24–246:11; Ex. 1043 ¶ 9). Petitioner also highlights Dr. Koskinen’s cross-examination testimony in which he allegedly “was not able to articulate any other significance to the use of the terms ‘first’ and ‘second’ in claims 8 and 13, other than their order.” *Id.* at 6 (citing Ex. 1042, 258:20–259:11, 259:13–269:21).

The parties’ arguments regarding the declarants’ testimony largely recapitulate the same arguments discussed above with direct reference to the claims and written description of the ’289 patent. As discussed above, the specification discloses a “first identification code” associated with the first tracking device and a user but does not expressly limit the identification code to these possibilities. *See supra* § II.C.1.a. We also note other disclosures in the specification, such as the mention of ESNs as identification codes (Ex. 1001, 10:57–59) and verification via a “proper identification number” for pooled resources (*see id.* at 12:63–66), suggest broader treatment for the “first identification number.” *See id.* The declarants’ testimony regarding these issues does not materially change our analysis discussed above. Nevertheless, to the extent necessary to resolve disputes in the declarants’ testimony, we find Mr. Andrews’s testimony more persuasive regarding the “first identification code” because, at least, he considered the disclosure in the ’289 patent regarding ESNs as identification codes (*see* Ex. 1043 ¶ 9), whereas Dr. Koskinen did not (*see* Ex. 1042, 246:16–248:17).

Patent Owner additionally cites Petitioner’s arguments “during claim construction before the district court that identification code should not be

construed to encompass all codes.” PO Resp. 12 (citing Ex. 2008, 6); *see also id.* at 17–18 (similar argument); PO Sur-reply 12–13 (similar argument). Specifically, Patent Owner references Petitioner’s statements in a claim construction brief for the underlying litigation. *See* Ex. 2008, 4–6. The statements relate to the claim term “location request” in the ’855 patent and the ’724 patent. *Id.* In response to Patent Owner’s argument that Petitioner was conflating identification codes with a location request, Petitioner stated the following: “[Patent Owner] misunderstands the patents—the ‘identification code’ is the *user’s*—*i.e.*, the person making the request—not a code identifying a tracking device.” *Id.* at 6. Based on this statement, Patent Owner argues here that Petitioner “has changed its position on what ‘identification code’ means, and must broaden ‘identification code’ to be any code that could be used for any purpose, which is beyond what is described and claimed in the ’289 Patent itself.” PO Resp. 12; *see also* PO Sur-reply 12–13 (similar argument). Patent Owner further argues that we “should not permit Petitioner to speak out of both sides of its mouth, first telling the district court that identification codes do not identify devices for infringement purposes, but later for validity purposes telling the Board that the codes identify the devices doing the tracking.” PO Sur-reply 13.

Petitioner argues that Patent Owner misrepresents Petitioner’s claim construction arguments from the underlying litigation. Pet. Reply 8. Petitioner contends that the cited arguments relate to the issue of whether a “location request” as claimed in the ’855 patent and ’724 patent must specify an individual or object. *See id.* at 8–9. Petitioner explains that

[t]he portion of the specification relied on by [Patent Owner] makes clear that in the described embodiment “the user’s identification code” that may be sent along with a “location

request” is an identification code of the user that may be used for user authentication purposes; it is not used to identify an object or individual to be tracked.

Id. at 9 (citing Ex. 1001, 10:41–51). Petitioner contends that its argument in the claim construction brief “simply makes this point about ‘the user’s identification code’” and that it “was not directed to all ‘identification codes’ described in the specification.” *Id.* (citing Ex. 2008, 6).

In light of the context of Petitioner’s claim construction arguments from the underlying litigation, we do not agree with Patent Owner’s characterization of Petitioner’s claim construction position in the underlying litigation. Petitioner’s arguments pertain to a different claim term—“location request”—in patents other than the challenged patent here. *See* Ex. 2008, 4–6. And, as noted by Petitioner, these arguments address the interplay of “location request” and “identification code” in those particular patents. *See id.* They do not address the full scope of what an “identification code” may be in the challenged claims here. Further, even if we were to link Petitioner’s arguments in the underlying litigation with the instant construction of “first identification code,” Petitioner never asserts that an “identification code” can only be the user’s (*see* Ex. 2008, 6), as Patent Owner seems to imply. *See* PO Resp. 12; PO Sur-reply 12–13. Thus, we do not read Petitioner’s claim construction arguments in the underlying litigation as limiting the “first identification code” here.

d. Conclusion Regarding “first identification code”

For the reasons discussed above, we decline to limit the “first identification code” in the manner suggested by Patent Owner, and we instead apply the plain and ordinary meaning to this term. Accordingly, we

consider the ordinal “first” in “first identification code” to be a descriptor meant only to distinguish the “first identification code” from other recited identification codes. We also determine that the “identification code” in “first identification code” need not identify any particular device and encompasses, but is not limited to, a user identification code, a stored identification code, and an ESN.

2. *Other Terms*

We determine that no other aspects of the challenged claims require explicit construction. *See, e.g., Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe ‘only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

D. *Obviousness Ground Based on Robert and Curatolo*

Petitioner contends the subject matter of claims 8–10 and 13–15 would have been obvious over the combination of Robert and Curatolo. Pet. 15–42; Pet. Reply 10–25. Patent Owner disputes Petitioner’s contentions. PO Resp. 15–42; PO Sur-reply 13–17, 22–24.

1. *Robert*

Robert is a U.S. patent directed to “a mobile tracking and positioning system in which a mobile target is tracked by two or more mobile tracking and positioning stations continuously as all the elements of the system . . . move about or over the surface of the earth.” Ex. 1012, 1:13–18. For

example, the system can be applied to the monitoring of persons or fleets of vehicles. *Id.* at 1:18–25. Figure 1 of Robert is reproduced below.

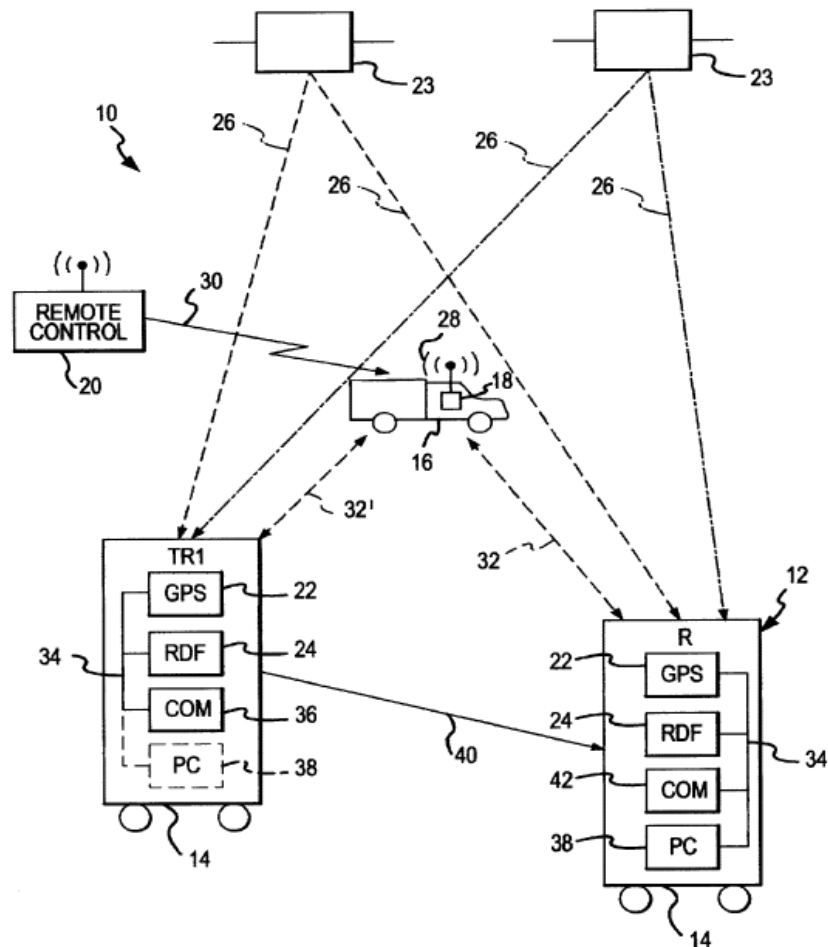


FIG.1

Figure 1 depicts mobile tracking and positioning system 10 in schematic form. *Id.* at 4:13–15. System 10 includes mobile receive (R) station 12, mobile transmit and receive (TR) station 14, and mobile target 16 to be tracked and located by receive station 12 and transmit and receive station 14. *Id.* at 4:15–19. Target 16 includes transmission unit 18, which broadcasts communication signal 28 after tracking is initiated. *Id.* at 4:19–22. Tracking may be initiated when target 16 receives initiation signal 30 from remote control unit 20, transmit and receive station 14, or receive station 12. *Id.* at

4:22–28, 8:6–8. Transmit and receive station 14 and receive station 12 are self-contained, portable units that include GPS receivers 22 that receive position information from satellites 23 and radio direction finders (RDF) 24 for receiving communication signal 28 broadcast from target 16 and for responsively determining direction vector 32 between the station and the target. *Id.* at 4:29–37, 4:55–67.

Figure 3 of Robert is reproduced below

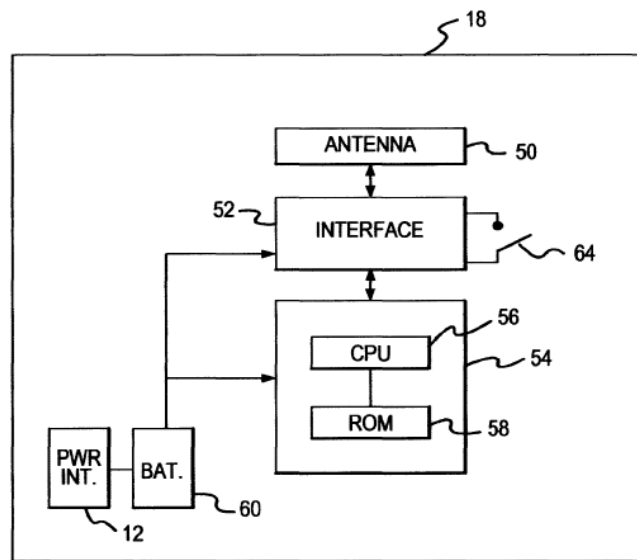


FIG.3

Figure 3 is a block diagram of transmission unit 18. Ex. 1012, 8:23–24. Transmission unit 18 includes antenna 50, communications interface 52, computer system 54 with central processing unit 56, memory 58, and battery 60. *Id.* at 8:26–33, 8:38–40. Antenna 50 receives initiation signals 30 and broadcasts communication signals 28 to transmit and receive stations 14 and receive stations 12. Transmission unit 18 receives coded signals, processes them in communications interface 52, and passes them to computer 54, which compares the coded signals with stored codes in

memory 58 and configures the signal to be transmitted by interface unit 52. *Id.* at 8:54–63.

Initiation signal 30 may include a first coded activation signal that is associated with a particular target to be tracked, and a second coded identification signal that is associated with receive stations 12 or transmit and receive stations 14 that are designated to track target 16. Ex. 1012, 9:31–38. Transmission unit 18 broadcasts the second identification signal in communication signal 28 to mobile transmit and receive stations 14 and mobile receive stations 12. *Id.* at 9:51–67. Only those stations 12 and 14 in which their own internal identification codes match the second identification signal become activated to track target 16. *Id.* at 9:67–10:7.

Petitioner contends that Robert qualifies as prior art under 35 U.S.C. § 102(b) based on its issue date. Pet. 10. Patent Owner does not contest the prior art status of Robert. We determine that Robert qualifies as prior art under 35 U.S.C. § 102(b) because Robert’s issue date of January 2, 2001, is more than one year before the earliest effective filing date of the challenged claims, which is February 1, 2005. Ex. 1001, code (63); Ex. 1012, code (45).

2. *Curatolo*

Curatolo is a U.S. patent application publication directed to “a security and tracking apparatus with overt and covert signaling units in communicating proximity on a person, an animal, or a material asset, with a fully automated system to rapidly and reliably indicate location on demand.” Ex. 1013 ¶ 5. Figure 2 of Curatolo is reproduced below.

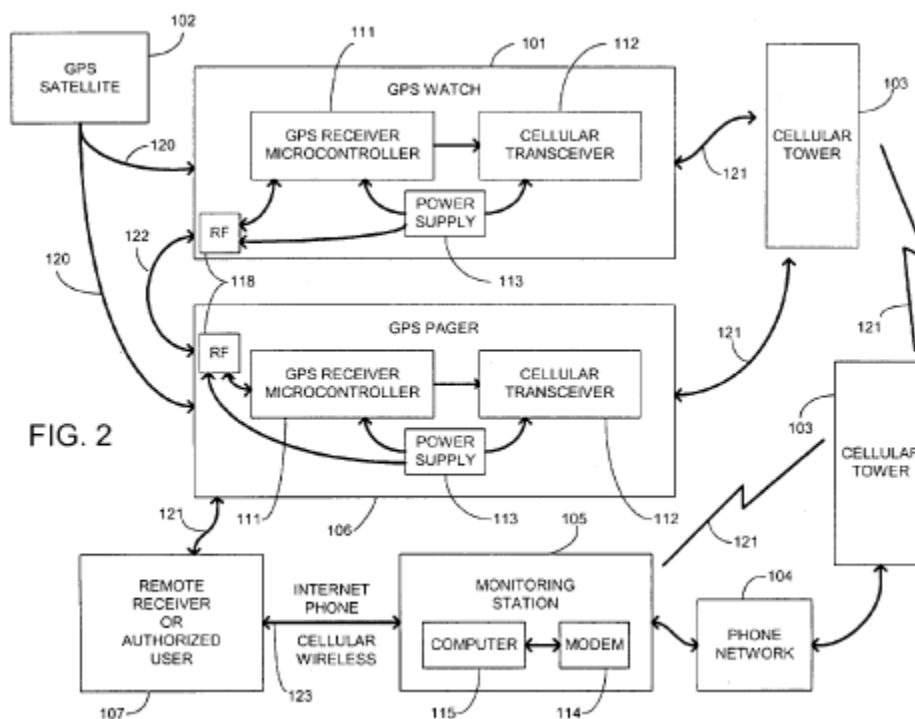


Figure 2 depicts a security and tracking system. *Id.* ¶ 35. Main subsystem signaling unit 101 may be a wristwatch having GPS receiver 111 and cellular transceiver 112. *Id.* ¶¶ 76–77. Main subsystem signaling unit 101 receives requests for location and transmits location data on demand. *Id.* ¶ 77. Monitoring station 105 requests and receives location on demand from and logs all communications with any subsystem signaling unit. *Id.* ¶¶ 81–82. Monitoring station 105 also may communicate location data for use by remote receiver 107, a monitoring station user, or proper authorities. *Id.* ¶ 82.

Petitioner contends that Curatolo qualifies as prior art under 35 U.S.C. § 102(b) based on its publication date. Pet. 12. Patent Owner does not contest the prior art status of Curatolo. We determine that Curatolo qualifies as prior art under 35 U.S.C. § 102(b) because Curatolo’s publication date of September 25, 2003, is more than one year before the earliest effective filing

date of the challenged claims, which is February 1, 2005. Ex. 1001, code (63); Ex. 1013, code (43).

3. *Claim 8*

a. *Preamble*

The preamble of claim 8 recites “[a] system.” Ex. 1001, 16:65. Petitioner cites Robert’s system 10 for tracking mobile targets, which is depicted in Figure 1 of Robert. Pet. 15–16 (citing Ex. 1012, Abstr., 4:13–28, 7:62–8:2, Fig. 1). Neither party addresses whether the preamble is limiting. Patent Owner does not dispute Petitioner’s analysis of the preamble. Because Petitioner shows persuasively that Robert teaches the preamble (*see, e.g.*, Ex. 1012, Abstr., 4:13–28, 7:62–8:2, Fig. 1), we need not determine whether the preamble is limiting. *See Realtime Data*, 912 F.3d at 1375.

- b. “a first tracking device having a first transceiver configured to receive a first request signal from a remote user terminal, and to transmit a first reply signal that comprises a first identification code”

Claim 8 further recites “a first tracking device having a first transceiver configured to receive a first request signal from a remote user terminal, and to transmit a first reply signal that comprises a first identification code.” Ex. 1001, 16:66–17:2. Petitioner maps the recited “first tracking device” to Robert’s transmission unit 18 in mobile target 16. Pet. 16–18 (citing Ex. 1012, 7:62–8:2, Fig. 1). Petitioner further maps the recited “first transceiver” to Robert’s communications interface 52. *Id.* at 18–19 (citing Ex. 1012, 8:30–36). Petitioner contends that Robert’s remote

control 20 is a “remote user terminal” that sends initiation signal 30 (i.e., the recited “first request signal”) to communications interface 52 in transmission unit 18 in order to “initiat[e] the whole tracking process.” *Id.* at 16–17 (emphasis omitted) (quoting Ex. 1012, 8:4–11) (citing Ex. 1012, 7:62–8:2, Fig. 1). Petitioner further contends that communications interface 52 in transmission unit 18 transmits communication signal 28 (i.e., the recited “first reply signal”), which contains “the IDs (each being ‘a first identification code’) of the mobile tracking station (TR1 14, and R 12) expected to respond to signal 28.” *Id.* at 18 (citing Ex. 1012, 8:30–36), 20–21 & n.7 (citing Ex. 1012, 9:63–67, 10:26–33).

Patent Owner argues that Petitioner has not established that Robert teaches a “first identification code” that “(i) identifies the user or first tracking device; (ii) is relayed from the first tracking device; and (iii) is used by the second tracking device.” PO Resp. 16 (citing Ex. 2005 ¶¶ 55–59). In particular, Patent Owner argues that “the alleged identification code is sent from the alleged remote user terminal, **not** the first tracking device as claimed.” *Id.*; *see also* PO Sur-reply 13 (similar argument). According to Patent Owner, Robert’s target 16 and transmission unit 18 “simply pass along information they receive from the remote control 20 to the Robert transmit/receive stations.” PO Resp. 17 (citing Ex. 1012, 9:30–38). Patent Owner further argues that Petitioner’s alleged identification code identifies Robert’s transmit/receive stations that are used to locate the target, not the target itself. *Id.* at 17–18 (citing Ex. 1012, 3:12–26, 7:41–49; Ex. 2005 ¶¶ 58–59).

In reply, Petitioner acknowledges that Robert’s identification code is sent from the remote user terminal, but argues that this is “irrelevant to the

claim, which does not specify where the first identification code *originates*.” Pet. Reply 10. Petitioner explains as follows: “[W]hile Robert’s ‘second identification signals’/‘id codes’ (each a claimed ‘first identification code’) do not originate at Robert’s transmission unit 18 (‘first tracking device’), they are nevertheless transmitted by it, which is all the claims require.” *Id.* at 11 (citing Ex. 1001, claims 1, 13; Ex. 1043 ¶¶ 16–18).

We addressed the construction of “first identification code” above. *See supra* § II.C.1. We do not agree with Patent Owner that recited “first identification code” of claim 8 can only identify a user or a device being tracked (e.g., the “first tracking device”) or that it may not identify the device doing the tracking (e.g., the “second tracking device”). *See id.* Accordingly, we apply the plain and ordinary meaning to this term. *See id.* We are persuaded that Robert’s disclosure of communication signal 28 (i.e., the recited “first reply signal”) including “id codes of the chosen transmit and receive stations 14 that are designated for participation” teaches the “first identification code” under the plain and ordinary meaning. Ex. 1012, 10:26–33. We also are persuaded that the transmission of “id codes” related to receive stations 12 by Robert’s transmission unit teaches the “first identification code.” *See* Pet. 21 n.7; Ex. 1012, 9:63–67 (describing the broadcasting of “a second identification signal to the mobile transmit and receive stations 14 and mobile receive stations 12”). The fact that Robert’s “id codes” may originate in a remote user terminal prior to being transmitted by transmission unit 18 in mobile target 16 is irrelevant because the claim has no limitation on the origin of the “first identification code.”

Otherwise, Patent Owner does not dispute Petitioner’s analysis of the “first tracking device” limitation. Petitioner shows persuasively that

Robert's transmission unit 18 teaches the "first tracking device" (*see, e.g.*, Ex. 1012, 7:62–8:2, Fig. 1); Robert's communications interface 52 teaches the "first transceiver" in transmission unit 18 (*see, e.g.*, Ex. 1012, 8:30–36, Fig. 3); and Robert's remote control 20 teaches the "remote user terminal" that sends initiation signal 30 (i.e., the recited "first request signal") to transmission unit 18, where it is received (*see, e.g.*, Ex. 1012, 7:62–8:2, 8:4–11, Fig. 1).

c. "a second tracking device having a second transceiver"

Claim 8 further recites "a second tracking device having a second transceiver." Ex. 1001, 17:3. Petitioner maps the recited "second tracking device" to Robert's mobile tracking station R 12. Pet. 21–22 (citing Ex. 1012, 4:29–37, 4:55–67, Fig. 1). Petitioner also cites communication unit 42 within mobile tracking station R 12 for teaching the recited "second transceiver." *Id.* at 22–23 (citing Ex. 1012, 4:38–45, 5:30–35). Patent Owner does not dispute Petitioner's analysis of this limitation. Petitioner shows persuasively that Robert's mobile tracking station R 12 teaches the "second tracking device" (*see, e.g.*, Ex. 1012, 4:29–37, 4:55–67, Fig. 1) and communication unit 42 in mobile tracking station R 12 teaches the "second transceiver" (*see, e.g.*, Ex. 1012, 4:38–45, 5:30–35).

d. "(i) receive the first reply signal"

Claim 8 further recites that the second tracking device having the second transceiver is configured to "(i) receive the first reply signal." Ex. 1001, 17:3–5. Petitioner cites Robert's teaching of mobile tracking station 12 having "direction means 24 *for receiving the communication*

signal 28 broadcast from the target 16 and for responsively determining the direction (vector) 32 between the station and the target.” Pet. 24 (emphasis by Petitioner) (quoting Ex. 1012, 4:55–58). Patent Owner does not dispute Petitioner’s analysis of this limitation. Petitioner shows persuasively that Robert’s direction means 24 in mobile tracking station 12 receives communication signal 28 (i.e., the recited “first reply signal”). *See, e.g.*, Ex. 1012, 4:55–58.

- e. “(ii) compare the first identification code to a stored identification code”

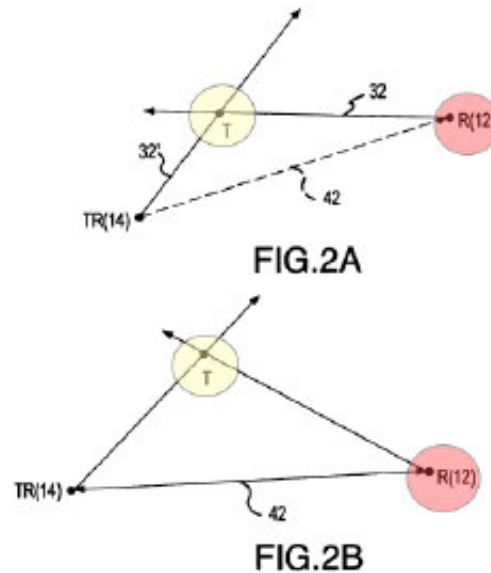
Claim 8 further recites that the second tracking device having the second transceiver is configured to “(ii) compare the first identification code to a stored identification code.” Ex. 1001, 17:3–7. Regarding the recited comparison, Petitioner cites Robert’s teaching that “transmit and receive stations 14 and **the receive stations 12 that have personal id codes that match the id codes transmitted in the communication signal** are placed in a powered-up mode.” Pet. 25 (emphasis by Petitioner) (quoting Ex. 1012, 10:37–41). Petitioner contends that “personal identification codes unique to [a] station are stored in the memory of computer 38 (of R 12).” *Id.* at 26 (citing Ex. 1012, 7:41–46, 8:44–47).

Patent Owner disputes Petitioner’s analysis of this limitation for similar reasons to those mentioned above: that Robert’s “id codes” are “sent from the alleged remote user terminal, **not** the first tracking device” and “identify the transmit/receive stations that are used to locate the target; they do **not** identify the target itself.” PO Resp. 16–17; *see also* PO Sur-reply 13 (similar argument). Nevertheless, for the same reasons discussed above (*see supra* §§ II.C.1, II.D.3.b), we do not agree that the “first identification code”

must originate in the first tracking device and identify the device being tracked. We are persuaded that Robert teaches matching the “id codes” for receive stations 12 and transmit and receive stations 14 (i.e., the recited “first identification code”) to each station’s unique code stored in memory before powering up a station. *See, e.g.*, Ex. 1012, 7:41–46, 8:44–47, 10:37–41.

- f. “(iii) determine location coordinates of the first tracking device”

Claim 8 further recites that the second tracking device having the second transceiver is configured to “(iii) determine location coordinates of the first tracking device.” Ex. 1001, 17:3–9. Petitioner contends that mobile tracking station R 12 “receives both the coordinates of the other mobile tracking station, TR1 14, and its directional vector 32 to target 16 in signal 40.” Pet. 27 (citing Ex. 1012, 6:30–34, Fig. 2B). Petitioner further contends that mobile tracking station R 12 uses this information “to precisely locate the position of [target] T: the intersection of the vectors 32 and 32’, using triangulation.” *Id.* at 27–28 (alteration by Petitioner) (quoting Ex. 1012, 6:21–23) (citing Ex. 1012, 6:47–50, Fig. 4 (steps 7–8)). Specifically, Petitioner provides annotated versions of Figures 2A and 2B from Robert, which are reproduced below.



Pet. 28. Figures 2A and 2B of Robert depict the triangulation of a target T using known positions of transit and receive station TR 14 and receive station R 12. Ex. 1012, 3:51–56, 6:13–50. In these annotated versions of Figures 2A and 2B, “target 16, with its transmission unit 18, is located at location ‘T’ at the intersection of vectors 32 and 32’ (as shown in yellow).” Pet. 28.

Petitioner contends that an ordinarily skilled artisan “would have understood or been motivated to express the location ‘T’ in ‘location coordinates’ form represented by, for example, longitude and latitude because this is of familiar type used by paper and electronic map providers.” Pet. 29 (citing Ex. 1002 ¶ 114). Patent Owner does not dispute Petitioner’s analysis of this limitation. Petitioner shows persuasively that Robert teaches mobile tracking station R 12 determining location coordinates of target 16 (in which transmission unit 18 resides) via triangulation. *See, e.g.*, Ex. 1002 ¶ 114; Ex. 1012, 6:21–23, 6:30–34, 6:47–50, Figs. 2B, 4.

- g. “(iv) communicate a second reply signal that comprises the location coordinates to a monitoring station connected to the user terminal in part responsive to verification of the first identification code” and
Rationale for the Combination

Claim 8 further recites that the second tracking device having the second transceiver is configured to “(iv) communicate a second reply signal that comprises the location coordinates to a monitoring station connected to the user terminal in part responsive to verification of the first identification code.” Ex. 1001, 17:3–12. Petitioner contends that when Robert’s mobile tracking station R 12 (i.e., the “second tracking device having a second transceiver”) verifies the first identification code sent by transmission unit 18 in mobile target 16, mobile tracking station R 12 “knows to participate in the detection process.” Pet. 29 (citing Ex. 1012, 10:34–41, 10:60–63). Then, according to Petitioner, once mobile tracking station R 12 is verified, it “proceeds to determine the location coordinates,” which may be displayed on a map at mobile tracking station R 12. *Id.* (citing Ex. 1012, 10:64–65). As such, Petitioner contends that the process of determining location and displaying the location on a map is “in part responsive to verification of the first identification code.” *Id.*

Petitioner notes that Robert’s system may be used for monitoring fleets of vehicles, and that Robert contemplates that its system is controlled by a system operator. Pet. 30–31 (citing Ex. 1012, 1:18–23, 11:20–26). Petitioner additionally cites Robert’s teaching that, once station 12 determines a target’s location, it “can take ***any appropriate action***, such as notify the authorities, proceed to the target location, log the position in a journal, etc.” *Id.* at 29 (emphasis by Petitioner) (quoting Ex. 1012, 5:67–6:3). Petitioner further cites Robert’s claim 36 for the proposition that “[t]he

exact location can also be transmitted in a ‘second reply signal’ to a ‘remote station’ (i.e. a monitoring station) with a display device that communicates with mobile tracking stations.”⁹ *Id.* at 29–30 (citing Ex. 1012, 18:22–25). In light of these teachings, Petitioner contends that an ordinarily skilled artisan “would have been motivated to implement Curatolo’s teachings of monitoring station 105 with [a] separate, but connected, remote receiver/authorized user 107 in the Robert system.” *Id.* at 39–40 (citing Ex. 1002 ¶ 137; Ex. 1013 ¶¶ 39, 77, 81–82, Fig. 2, claim 13). As such, Petitioner contends that “[i]t would have been an obvious modification to Robert’s system to communicate the location signal in ‘a second reply signal’ to a ‘monitoring station,’ such as taught by Curatolo, which can be accessed by remote receiver 107, by the ‘proper authorities,’ or even by ‘a parent.’” *Id.* at 40 (citing Ex. 1002 ¶ 137; Ex. 1013 ¶¶ 81–82).

According to Petitioner, an ordinarily skilled artisan would have considered the modification beneficial “in allowing the monitoring station operator to perform centralized tasks such a ‘log all transaction, i.e., communications . . . [in] a database, which stores all pertinent information,’ and also to communicate locations to the proper authorities via a remote receiver connected to the internet.” *Id.* at 40–41 (alteration by Petitioner) (quoting Ex. 1013 ¶ 82) (citing Ex. 1013 ¶ 55). For example, Petitioner cites the benefit to “fleet owners (an application of Robert), who may be able to host a monitoring station but access the information remotely (such as from

⁹ As discussed at the oral hearing, Petitioner’s reliance on Robert’s “remote station” for teaching the “monitoring station” recited in claims 8 and 13 should not be confused with a different limitation in claims 8 and 13 directed to a “remote user terminal.” *See* Tr. 35:9–20.

a remote user terminal at home) to check on the location of fleet vehicles by initiating a request for location and receiving a location response on a display.” *Id.* at 41 (citing Ex. 1002 ¶¶ 138–139). Petitioner also contends an ordinarily skilled artisan would have had a reasonable expectation of success in making the combination with “commercially available computers and [a] hand-held PDA [personal data assistant].” *Id.* (citing Ex. 1002 ¶ 140; Ex. 1013 ¶ 75).

Patent Owner makes a number of arguments related to the “communicate a second reply signal” limitation. First, Patent Owner criticizes Petitioner’s analysis of the “in part responsive” aspect of this limitation because the “identification code verification” in Robert that allegedly triggers communication “occurs much earlier in the Robert process.” PO Resp. 19 (citing Ex. 2005 ¶¶ 62–64), 34–35 (relying on the same argument for the Robert–Curatolo obviousness ground). Patent Owner notes a number of steps that follow verification in Robert. *Id.* at 19–20 (citing Ex. 1012, 10:34–51; Ex. 2005 ¶¶ 62–67) (discussing steps associated with the flowchart in Robert’s Figure 4); *see also* PO Sur-reply 15 (similar argument). Further, Patent Owner argues that Petitioner’s reliance on Robert’s station 12 taking “any appropriate action” after the location is determined—which occurs several steps later—is what actually prompts the communication in Robert. PO Resp. 18–20 (citing Pet. 29; Ex. 1012, 5:67–6:3; Ex. 2005 ¶¶ 64–65). Patent Owner argues that Petitioner’s position amounts to “a sweeping ‘but for’ link between (i) the claimed identification code verification and (ii) communication of location coordinates to a monitoring station.” PO Sur-reply 13–14 (citing Pet. Reply 12–14; Ex. 1043 ¶¶ 19–23; Ex. 2013, 504:7–505:9, 507:13–21, 509:4–14, 527:25–528:9).

Patent Owner urges us to reject this position and instead follow the court in *American Calcar, Inc. v. American Honda Motor Co.*, 651 F.3d 1318, 1340 (Fed. Cir. 2011), which allegedly held in a similar situation that “*intervening events* precluded [an] ‘in response to’ limitation from being met.” *Id.* at 14.

In its Reply, Petitioner states that Patent Owner does not dispute Petitioner’s description of how Robert’s system works; rather, Patent Owner only argues that the “in part responsive” limitation is not taught because “location information is sent ‘much later’ than Robert’s identification code verification. Pet. Reply 12 (citing PO Resp. 19–20). Petitioner also contends Dr. Koskinen reads in a “recentness” timing requirement for this limitation, but that neither the claims nor the specification of the ’289 patent requires any time limitations on sending location coordinates. *Id.* at 12–13 (citing Ex. 1042, 281:14–283:3). According to Petitioner, “[t]he plain and ordinary meaning of ‘in part responsive to’ simply ‘requires a cause-and-effect relationship,’ such that Robert’s location coordinates are not sent *unless* Robert’s identification code verification has already occurred.” *Id.* at 13.

We are persuaded by Petitioner’s showing as to the “in part responsive” aspect of this limitation. As noted by Petitioner (Pet. Reply 12), Patent Owner does not dispute that Robert’s Figure 4 process works in the manner described by Petitioner. Patent Owner acknowledges that Robert’s receive station 12 verifies identification codes (step 4), which powers up the station to participate in tracking the target. PO Resp. 19–20. Indeed, Dr. Koskinen states that “Robert’s code comparison process is used to wake-up or ‘activate’ multiple stations to participate in tracking a target” and that

“[t]his activation process *must occur before* these devices can begin locating the target.” Ex. 2005 ¶ 62 (emphasis added) (citing Ex. 1012, 7:34–61, 8:11–22). Patent Owner further acknowledges that receive station 12 determines the location of target 16 (step 8) later within the same process from Robert. *See* PO Resp. 19–20; *see also* Pet. 29 (citing, *inter alia*, Ex. 1012, 10:60–63). Patent Owner additionally acknowledges Robert’s disclosure that the location determination step is what prompts receive station 12 to “take any appropriate action, such as notify the authorities, proceed to the target location, log the position in a journal, etc.” *See* PO Resp. 18–20; *see also* Pet. 29 (quoting Ex. 1012, 5:67–6:3). In light of Patent Owner’s acknowledgements and Dr. Koskinen’s testimony that Robert’s identification code comparison and activation “must occur before” location determination and any subsequent “appropriate action” (Ex. 2005 ¶ 62), we are persuaded that Robert teaches the “in part responsive” relationship recited in claim 8 under the plain and ordinary meaning of that term. In our view, Robert’s receive station 12 communicates a reply signal with location information *responsive at least in part* to the verification of “id codes” sent by mobile target 16, which activates receive station 12 to perform location processing. *See, e.g.*, Ex. 1012, 10:34–41, 10:60–65, Fig. 4.

Although Patent Owner argues that Petitioner does not “rely on the ’289 Patent’s written description to interpret this claim term” (PO Sur-reply 13–14), the record is devoid of evidence that “in part responsive” requires a particular construction or that it should be interpreted differently from its plain and ordinary meaning. Furthermore, we do not agree with Patent Owner (*see* PO Sur-reply 14–15) that the holding of *American Calcar*

precludes intervening events when the claim recites “in part responsive.” We find *American Calcar* distinguishable at least because the relevant claim language in that case was different: “in response to.” *American Calcar*, 651 F.3d at 1339–40. In contrast, we agree with Mr. Andrews that the “in part” language here at least suggests the possibility of other steps. See Ex. 1043 ¶ 21. Moreover, the construction in *American Calcar* was also based on prosecution history estoppel (see *American Calcar*, 651 F.3d at 1339–40), whereas the parties here have not apprised us of any prosecution history relevant to the interpretation of “in part responsive.”

Second, Patent Owner notes several differences between Robert and Curatolo that allegedly renders them incompatible. See PO Resp. 35–40; PO Sur-reply 22–23. According to Petitioner, Patent Owner argues that:

- (i) “Robert never discloses that the alleged user terminal (the remote control unit 20) *receives* any signal” ([PO Resp.], 35),
- (ii) “in Curatolo location is never actually calculated” ([PO Resp.], 35),
- (iii) “Curatolo (according to Petitioner) discloses only one device that performs only part of the function of the claimed first and second tracking devices” ([PO Resp.], 36),
- (iv) “in Curatolo, the signaling units themselves receive their location from satellites” ([PO Resp.], 39),
- (v) “Curatolo does not use identification codes to determine whether information is sent from a second tracking device to a monitoring station” ([PO Resp.], 40).

Pet. Reply 22–23. We agree with Petitioner (*id.*) that these arguments amount to attacking the references individually. Such arguments do not show nonobviousness where Petitioner’s obviousness ground is based on a combination of references. See *In re Keller*, 642 F.2d 413, 426 (CCPA 1981).

Third, Patent Owner argues that Robert and Curatolo are incompatible because Robert’s transmit/receive station uses triangulation to locate a target

without GPS, whereas Curatolo's system locates targets directly with GPS. PO Resp. 37 (citing Ex. 2005 ¶¶ 81–83, 93–95). Patent Owner further argues that Curatolo's GPS-located target communicates location information directly with the monitoring station, thus obviating the need for Robert's transmit/receive station. *Id.* (citing Ex. 2005 ¶ 83). We agree with Petitioner, however, that “the Petition relies on Curatolo for its remote monitoring station teachings, not its location determination features.” Pet. Reply 23 (citing Pet. 39–40).

Fourth, Patent Owner argues that there “would be no reason to combine Robert with Curatolo in a way that would place Curatolo's monitoring station as a subsequent, tertiary link in the system chain that Robert discloses.” PO Resp. 37 (citing Ex. 2005 ¶¶ 83–99). According to Patent Owner, an ordinarily skilled artisan instead would have “either (i) modif[ied] Robert to simply add GPS to the target, and remove the transmit/receive stations since they would no longer be needed to locate the target or (ii) add[ed] any additional functionality of the Curatolo monitoring station to the Robert receive station.” *Id.* (citing Ex. 2005 ¶ 97); *see also* PO Sur-reply 23 (similar argument). Patent Owner argues that “Curatolo repeatedly touts GPS, and its uninterrupted ability to locate,” so an ordinarily skilled artisan would have had “overwhelming reason to simply jettison Robert's more complicated mesh network, and instead locate Robert's targets through GPS.” PO Resp. 37–38 (citing Ex. 1012 ¶¶ 44, 68; Ex. 2005 ¶¶ 83, 112). Patent Owner also argues that Robert's receive station already is able to perform “centralized tasks” by “log[ging] the position [of a target] in a journal,” which undermines the rationale for including Curatolo's

central monitoring station. *Id.* at 41 (citing Pet. 40; Ex. 1012, 5:67–63; Ex. 2005 ¶¶ 102, 105).

In its Reply, Petitioner argues that even if its proposed combination does not represent the best way to combine Curatolo with Robert, “[i]t’s not necessary to show that a combination is the *best* option, only that it be a *suitable* option.” Pet. Reply 23–34 (quoting *Intel Corp. v. Qualcomm Inc.*, 21 F.4th 784, 800 (Fed. Cir. 2021)). Petitioner also argues that a benefit of Robert’s system is “*not* having GPS capability at the target,” which undermines Patent Owner’s suggestion of a system with a GPS-capable target. *Id.* at 24 (citing Ex. 1012, 3:30–40). Petitioner additionally argues that, contrary to Patent Owner’s suggestion, an ordinarily skilled artisan would not have simply added Curatolo’s monitoring station to Robert’s receive station for the application cited in the Petition, which is for a user to monitor multiple fleet vehicles. *Id.* (citing Pet. 41).

We do not agree with Patent Owner’s arguments, which overlook the benefit of Robert’s system that targets need not include a GPS receiver. *See* Ex. 1012, 3:36–40 (“[T]he communication transmission unit located at the target is readily miniaturized, much more so than many other types of tracking systems, since the transmission unit is not acquiring GPS or other satellite data but is rather functioning as a radiotransmitter.”); *see also* Pet. 34 (“[T]arget 16, with its transmission unit 18, does not have or need a GPS receiver.”); PO Resp. 37 (stating that Robert’s target “does not have GPS”). Indeed, Dr. Koskinen testifies that “Robert’s system does not require the technological complexities of Curatolo’s self-locating tracking units (e.g., by including GPS features in the target device).” Ex. 2005 ¶ 103. This undermines Patent Owner’s suggestion that an ordinarily skilled artisan

simply would have added GPS capability to Robert's target in lieu of Petitioner's proposed combination.

Fifth, Patent Owner argues that adding Curatolo's monitoring station to Robert's system would be redundant of functionality in Robert's receive station. PO Sur-reply 23 (citing Ex. 1012, 6:55–7:2; Ex. 2005 ¶¶ 93, 96–102); *see also* PO Resp. 37 (similar argument). In particular, Patent Owner notes Robert's teaching that "R station determines the location of a target and logs its position in a journal." PO Sur-reply 22 (citing Ex. 1012, 1:18–25, 5:56–6:3, 10:45–64, 12:19–39). Yet even as Dr. Koskinen testifies that an ordinarily skilled artisan considering Robert would have preferred "implementing decentralized functionality in its various distributed stations," he nonetheless concedes that an ordinarily skilled artisan would have "determine[d] that Curatolo suggests that the logging (storing) of information could be centralized." Ex. 2005 ¶ 102. And Petitioner need not establish that Curatolo's centralized monitoring is "the *best* option, only that it [is] a *suitable* option." *Intel*, 21 F.4th at 800 (internal quotation omitted). We find that adding Curatolo's centralized monitoring station to Robert's system is suitable in light of Robert's application to monitor fleets of vehicles and Robert's disclosure of a centralized "remote station" in claim 36. *See* Pet. 40–41 (citing, *inter alia*, Ex. 1002 ¶¶ 138–139); Ex. 1012, 1:18–25, 18:22–25. We also agree with Petitioner (Pet. Reply 24–25) that centrally monitoring all vehicles in a fleet is different from whatever logging operations a given receive station in Robert may incorporate for the particular target vehicles it is designated to track. *See* Ex. 1012, 7:41–46 ("The stations 12, 14 are assigned their own personal identification code . . . that is compared with the received communication signal 28 from the targets

to determine if the stations 12, 14 are designated to participate in the tracking and positioning effort.”).

Sixth, Patent Owner criticizes Robert’s “scant and passing mentions of fleets” and how Petitioner has cited it as motivation for including a central monitoring station. PO Resp. 42. Yet Robert repeatedly mentions vehicle tracking applications. *See, e.g.*, Ex. 1012, 1:10–25, 4:22–31, 8:23–26, 8:64–9:18, 11:55–59, 13:27–29, 15:30–33. We are persuaded that, within this context, Robert’s mention of fleets (*id.* at 1:18–21) suggests large-scale vehicle tracking applications consistent with Petitioner’s obviousness contentions.

Seventh, Patent Owner argues that Petitioner’s proposed combination with Curatolo’s monitoring station is antithetical to Robert’s goal of “quick and efficient calculations.” PO Sur-reply 1; *see also* PO Resp. 24, 26–27 (similar arguments); PO Sur-reply 17–18, 22–24 (citing Ex. 1012, 6:55–7:2) (similar arguments); Ex. 2005 ¶¶ 74, 77, 79, 101–102 (similar testimony from Dr. Koskinen). Patent Owner notes cross-examination testimony from Mr. Andrews that allegedly affirms such a goal. PO Sur-reply 17–18, 23–24 (both citing Ex. 2013, 534:23–536:15, 560:21–562:1, 575:5–576:9). Yet Patent Owner and Dr. Koskinen do not explain how merely communicating location information to a monitoring station would lead to inefficiency in targeting calculations. Even if Robert suggests calculation efficiency, Robert additionally discloses “a remote station that communicates with [a location information processor] for indicating the position of said target.”¹⁰

¹⁰ We agree with Petitioner (Pet. Reply 16–17) that this teaching is not necessarily limited by other disclosures in Robert where its remote station determines the target’s location. *See, e.g.*, Ex. 1012, 6:51–7:2. We must consider Robert “for everything it *teaches* by way of technology,” which is

Ex. 1012, 18:22–25. Thus, Robert’s disclosures, taken together, contemplate a system that could maintain sufficient calculation efficiency even while communicating with the remote station. This supports the notion that Robert’s system—as modified to communicate with Curatolo’s monitoring station—could likewise perform sufficiently. And, as discussed above, Petitioner need not prove that is proposed combination is the best option with regard to efficiency, just that it is suitable for Petitioner’s proposed fleet-tracking application. *See Intel*, 21 F.4th at 800.

For these reasons, we are persuaded that the combination of Robert and Curatolo teaches communicating location coordinates to a monitoring station in a “second reply signal” such that the communicating is performed “in part responsive” to verifying “id codes.” *See, e.g.*, Ex. 1002 ¶ 137; Ex. 1012, 5:67–6:3, 10:34–41, 10:60–65, 18:22–25; Ex. 1013 ¶¶ 81–82. Petitioner’s proposed combination of Curatolo’s monitoring station with Robert’s system is rooted in (1) Robert’s teaching of a receive station “tak[ing] any appropriate action, such as notify[ing] the authorities, proceed[ing] to the target location, log[ging] the position in a journal, etc.” after the location of the target is determined (Ex. 1012, 5:67–6:3); (2) Robert’s claim 36, which teaches communicating a target’s location to a “display device being located at a remote station” (*id.* at 18:22–25); (3) Robert’s disclosed application of monitoring “the location of a person or vehicle (or persons and fleets of vehicles)” (*id.* at 1:18–22); and (4) Curatolo’s teaching of a monitoring station requesting and receiving the

“not limited to the particular *invention* it is describing.” *EWP Corp. v. Reliance Universal Inc.*, 755 F.2d 898, 907 (Fed. Cir. 1985).

location of signaling units on demand and then communicating or displaying that information to an authorized user at a remote receiver (Ex. 1013 ¶¶ 81–82). Mr. Andrews also has put forth un rebutted testimony that an ordinarily skilled artisan would have expected success in combining the references using “commercially available computers and [a] hand-held PDA,” which is supported by Curatolo’s teachings. *See, e.g.*, Ex. 1002 ¶ 140; Ex. 1013 ¶ 75. As such, we find Petitioner’s proposed combination amounts to “the predictable use of prior art elements according to their established functions” for Petitioner’s proposed fleet-vehicle monitoring application. *KSR*, 550 U.S. at 417.

h. Patent Owner’s Other Arguments

Patent Owner argues that we “should find that Petitioner’s expert’s testimony is not ‘persuasive or helpful as it repeats the Petitioner’s arguments and offers little or no elaboration.’” PO Resp. 8–9 (quoting *InfoBionic, Inc. v. Braemer Mfg., LLC*, No. IPR2015-01704, Paper 11, 6 (PTAB Feb. 16, 2016)). According to Patent Owner, “Mr. Andrews’s report parrots Petitioner’s brief verbatim across practically all of the grounds, which greatly diminishes Mr. Andrews’s credibility as an independent expert.” *Id.* at 9–10. In light of this, and based on the recent Director Review decision in *Xerox Corp. v. Bytemark, Inc.*, Patent Owner argues that “Petitioner has failed to establish *prima facie* obviousness, and the Board may affirm patentability of all challenged claims on that basis.” *Id.* at 10 (citing *Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 12, 5 (PTAB Feb. 10, 2023) (decision on Director Review)).

With its Reply, Petitioner provides at Exhibit 1044 a comparison between the Petition and Mr. Andrews's first declaration, and Petitioner contends the comparison "highlights the significant support for his opinions, including discussing substantial background information upon which Mr. Andrews's opinions rest." Pet. Reply 1 (citing Ex. 1002 ¶¶ 33, 114, 121; Ex. 1044). As such, Petitioner contends "Mr. Andrews's declaration is entitled to its full evidentiary weight." *Id.* at 4.

We have reviewed the comparison provided by Petitioner at Exhibit 1044, and we note that, at the very least, Mr. Andrews provides significant technology background information that is not included in the Petition. *See, e.g.*, Ex. 1002 ¶¶ 33–73. Although Patent Owner criticizes the technology background as "generic points" (PO Sur-reply 1–2), this unrebutted testimony has proven useful for us to understand the parties' arguments regarding known calculation methods for triangulation, for example. *See infra* § II.D.4. Thus, we decline to discount Mr. Andrews's testimony based on certain other similarities with the Petition. Further, we do not read *Xerox* as requiring us to deny Petitioner's patentability challenges based simply on the degree of similarity between Petitioner's papers and Mr. Andrews's declarations. Rather, in *Xerox*, the Director affirmed the Board's decision to give a declarant's testimony little weight because the testimony merely offered conclusory assertions without underlying factual support and repeated a petitioner's conclusory assertions. *Xerox*, Paper 12 at 4–5. In conformity with *Xerox*, we have accorded appropriate weight to the declarants' testimony in our analysis based on, *inter alia*, whether such testimony is supported by underlying evidence.

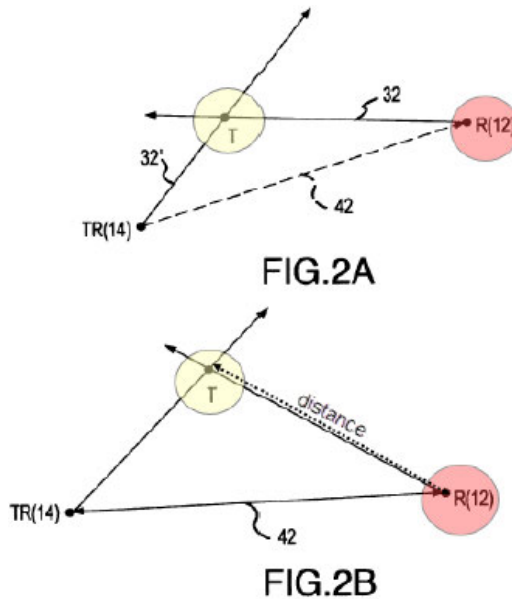
i. Conclusion for Claim 8

Petitioner has persuasively shown that the combination of Robert and Curatolo teaches all limitations of claim 8. Petitioner also has put forth persuasive reasons for combining these references with a reasonable expectation of success. Thus, we determine that Petitioner has shown by a preponderance of the evidence that the subject matter of claim 8 would have been obvious over the combination of Robert and Curatolo.

4. *Claim 9*

Claim 9 depends from claim 8 and recites that “the location coordinates of the first tracking device are determined at least in part from second location coordinates of the second tracking device and a distance between the first tracking device and the second tracking device.” Ex. 1001, 17:14–18. Building on its mapping from claim 8 of the “first tracking device” to Robert’s transmission unit 18 in mobile target 16 and the “second tracking device” to Robert’s mobile tracking station R 12, Petitioner cites the following teaching from Robert: “Once the position and direction information from both stations 12, 14 has been acquired, the computer 38 in the receive station [R] 12 implements a triangulation algorithm according to well-known techniques in the art to locate the position of the target 16.” Pet. 32 (quoting Ex. 1012, 5:56–60).

As such, Petitioner’s analysis is similar to that of claim 8 for the limitation “(iii) determine location coordinates of the first tracking device.” Pet. 32; *see also id.* at 27–29 (analysis for claim 8). To explain its position, Petitioner provides further annotated versions of Figures 2A and 2B from Robert, which are reproduced below.



Id. at 32–33. In this further annotated version of Figure 2B, Petitioner has added a dashed line indicating “distance” between target T and receive station R 12 in Figure 2B. *Id.* at 33. Similar to claim 8, Petitioner contends that “the location coordinates ‘T’ of target 16, with its transmission unit 18, lie at the intersection of the vectors 32 and 32’.” *Id.* at 32. Petitioner also contends that an ordinarily skilled artisan “would have recognized that the distance between first tracking device (at ‘T’) and second tracking device (at ‘R(12)’) is one side of the triangle formed by the location of T, R(12), and TR(14).” *Id.* at 33 (citing Ex. 1002 ¶ 121). Petitioner explains that “the coordinates of first tracking device and transmission unit 18 ‘T’ is determined at least in part from the location coordinates of the second tracking device ‘R(12)’ and a distance between the first tracking device and a second tracking device.” *Id.*

Patent Owner disputes Petitioner’s analysis insofar as Robert “calculates target location using angles—the relative *direction* from the target to the receive station—as well as the distance between the *stations*.” PO Resp. 32 (citing Ex. 1012, 2:29–47, 5:56–60, 6:13–36, 11:60–39;

Ex. 2005 ¶ 127). Patent Owner also argues that “the distance between the *target* and the two stations is unknown, and therefore is not, and cannot be, used to determine location.” *Id.* Referring to Robert’s Figure 2B, Patent Owner also states that “Robert . . . simply calculates where the two vectors intersect, and then directly determines coordinates of T without the need to determine the distance from R(12) to T.” *Id.* at 33. Dr. Koskinen likewise testifies that, in light of the specification of the ’289 patent, claim 9’s “‘distance between the first tracking device and the second tracking device’ is not determined from an interim triangulation-based calculation step, but is instead determined from a measurement of a characteristic that is indicative of a distance between the two devices (e.g., a measured signal strength).” Ex. 2005 ¶ 127.

In its Reply, Petitioner argues that Patent Owner “fails to recognize that location information determined using Robert’s angles and distance between stations (all of which is independent of absolute coordinates, and therefore cannot itself determine the target’s absolute coordinate location) are relative displacements (i.e., vector distances) between the target and the stations.” Pet. Reply 20 (citing Ex. 1043 ¶¶ 34–37). As such, Petitioner contends that an ordinarily skilled artisan “would have recognized that an intermediate step in Robert’s location determination process used angles and distance between stations to determine the displacement between the target and at least one of Robert’s stations.” *Id.* Petitioner further contends that the displacement “would then be added to the location coordinates of that station, to obtain the location coordinates of the target.” *Id.* (citing Ex. 1043 ¶¶ 35–38). In support of its analysis, Petitioner references background testimony and calculations regarding triangulation from both of

Mr. Andrews's declarations. *Id.* at 20–21 (citing Ex. 1002 ¶ 59; Ex. 1043 ¶¶ 34–40) (reproducing diagram from Exhibit 1002 on “Position Determination Using Angle of Arrival and Distance to Base Stations”).

We are persuaded by Petitioner's analysis. Similar to claim 8, Petitioner relies on Robert for teaching the location of a target via triangulation from the known locations of receive station 12 and transmit and receive station 14. *See* Pet. 32–33. Patent Owner seemingly does not dispute Robert's teaching that the target can be located via triangulation; rather, Patent Owner disputes that the triangulation calculation can be accomplished using a distance between the target and a station, as is recited in claim 9. *See* PO Resp. 32–33. Yet Mr. Andrews showed this very sort of calculation in his first declaration as one of “several different basic forms of triangulation that can be used” with cellular signals. Ex. 1002 ¶¶ 57, 59. Moreover, his testimony stands unrebutted that such methods of triangulation were well known as of the filing date of the '289 patent. *Id.* ¶¶ 65–66. Thus, we are persuaded by Mr. Andrews's testimony in both his first and second declarations that an ordinarily skilled artisan would have known that, as an intermediate step, Robert's location process uses angles and distance between stations to determine the displacement between the target and a station. *See id.* ¶¶ 57, 59, 120–121; Ex. 1043 ¶¶ 35–39; *see also* Ex. 1012, 5:56–60 (stating that “the computer 38 in the receive station 12 implements a triangulation algorithm according to well-known techniques in the art to locate the position of the target 16”), Figs. 2A, 2B.

We do not agree with Patent Owner's arguments because they imply that claim 9's location determination must be accomplished with a different type of algorithm. *See* PO Resp. 33 (citing Ex. 2005 ¶¶ 127–128). In

particular, Dr. Koskinen applies a narrow reading of claim 9 that attempts to distinguish claim 9 from interim triangulation steps. *See* Ex. 2005

¶¶ 125, 127 (“I disagree . . . that triangulation, and any ‘distance’ calculated as a part of the triangulation algorithm, would satisfy Claim 9.”).

Dr. Koskinen also observes that Robert does not discuss the details of triangulation algorithms. *See id.* ¶ 127. But the plain language of the claim does not limit how the calculation is accomplished, and Petitioner’s evidence shows that the claim language reads on at least one “triangulation algorithm according to well-known techniques in the art.” *See* Ex. 1002 ¶¶ 59, 65–66; Ex. 1012, 5:56–60. Dr. Koskinen also does not dispute that it was well-known to accomplish triangulation in the manner that Mr. Robert describes in his original declaration.

For these reasons, we determine that Petitioner has shown by a preponderance of the evidence that the subject matter of claim 9 would have been obvious over the combination of Robert and Curatolo.

5. *Claim 10*

Claim 10 depends from claim 9 and recites that “the location coordinates of the first tracking device are calculated when the first tracking device is out-of-range of GPS positioning satellites.” Ex. 1001, 17:19–21. Petitioner contends Robert teaches calculating location coordinates for target 16 via triangulation even when transmission unit 18 in target 16 is out-of-range of GPS satellites (or else is not equipped with a GPS receiver). Pet. 34. Petitioner’s analysis regarding triangulation is essentially the same as for claims 9 and 10. *See id.* Petitioner contends that when locating lost vehicles or people, “it would have been expected that the target may often be

in a garage or a building out-of-range of GPS satellites.” *Id.* (citing Ex. 1002 ¶¶ 123–124). Accordingly, Petitioner contends that an ordinarily skilled artisan would have recognized the benefit of “using radio direction finding and triangulation to obtain the location of target 16, with its transmission unit 18” regardless of whether target 16 is in range of GPS positioning satellites. *Id.*

Patent Owner argues that “Robert . . . does not contemplate [a] GPS associated with its target 16 (what Petitioner contends is the first tracking device), and therefore never addresses whether the target is either in-range, or out-of-range, of GPS satellites.” PO Resp. 33–34 (citing Ex. 2005 ¶¶ 129–131). We agree with Petitioner, however, that claim 10 “do[es] not require that any determination be made that the first tracking device *is* out-of-range of GPS, just that the location coordinates *can be calculated when* the device is out-of-range of GPS.” Pet. Reply 22 (citing Ex. 1043 ¶¶ 41–43). Petitioner is correct that Robert’s system can locate the target when it is out-of-range of GPS positioning satellites because the target “does not have or need a GPS receiver.” Pet. 34; Ex. 1012, 3:36–40. Thus, we determine that Petitioner has shown by a preponderance of the evidence that the subject matter of claim 10 would have been obvious over the combination of Robert and Curatolo.

6. *Claims 13–15*

Claim 13 is an independent claim reciting a “tracking device” with limitations similar in scope to the recited “system” of claim 8, though claim 13 employs a slightly different naming convention. *See* Ex. 1001, 18:6–21. As noted by Petitioner (Pet. 35), the roles of the first and second

tracking devices are switched in claim 13. Specifically, the “tracking device” in the preamble of claim 13 corresponds to the “second tracking device” of claim 8. *See id.* In addition, the “first signal” in claim 13 corresponds to the “first reply signal” in claim 8, and the “second identification code” in claim 13 corresponds to the “stored identification code” of claim 8. *See id.* Aside from accounting for these differences in nomenclature, Petitioner puts forth the same obviousness contentions for claim 13 as for claim 8. *See id.* at 35–37. Furthermore, dependent claims 14 and 15 are substantially similar to dependent claims 8 and 9, respectively (*see* Ex. 1001, 18:22–28), and Petitioner relies on the same obviousness contentions from claims 8 and 9. *See* Pet. 37–38. For claims 13–15, Patent Owner relies on the same arguments discussed above with respect to claims 8–10, respectively. *See* PO Resp. 18, 21, 32–34; PO Sur-reply 1 n.1.

For reasons similar to those discussed directly above, we determine that Petitioner has shown by a preponderance of the evidence that the subject matter of claims 13–15 would have been obvious over the combination of Robert and Curatolo.

E. Obviousness Ground Based on Robert

Petitioner contends the subject matter of claims 8–10 and 13–15 would have been obvious over Robert. Pet. 15–38. Because the Robert–Curatolo obviousness ground is dispositive as to all challenged claims, we do not reach Petitioner’s challenge based on Robert alone. *See SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1359 (2018) (holding a petitioner “is entitled to a final written decision addressing all of the claims it has challenged”); *Bos. Sci. Scimed, Inc. v. Cook Grp. Inc.*, 809 F. App’x 984, 990 (Fed. Cir. 2020)

(non-precedential) (recognizing that “[t]he Board has the discretion to decline to decide additional instituted grounds once the petitioner has prevailed on all its challenged claims”).

F. Obviousness Ground Based on Girerd

Petitioner contends the subject matter of claims 8 and 13 would have been obvious over Girerd. Pet. 42–57. Because the Robert–Curatolo obviousness ground is dispositive as to all challenged claims, we do not reach Petitioner’s challenge based on Girerd. *See SAS*, 138 S. Ct. at 1359; *Bos. Sci. Scimed*, 809 F. App’x at 990.

III. CONCLUSION¹¹

Petitioner has shown, by a preponderance of the evidence, that the subject matter of claims 8–10 and 13–15 would have been obvious over the combination of Robert and Curatolo.

¹¹ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner’s attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. *See* 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. *See* 37 C.F.R. § 42.8(a)(3), (b)(2).

IV. ORDER

Accordingly, it is

ORDERED that claims 8–10 and 13–15 of the '289 patent are unpatentable; and

FURTHER ORDERED that, because this is a Final Written Decision, parties to this proceeding seeking judicial review of our decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

In summary:

Claim(s)	35 U.S.C. §	Reference(s)/Basis	Claim(s) Shown Unpatentable	Claim(s) Not shown Unpatentable
8–10, 13–15	103(a)	Robert ¹²		
8–10, 13–15	103(a)	Robert, Curatolo	8–10, 13–15	
8, 13	103(a)	Girerd ¹³		
Overall Outcome			8–10, 13–15	

¹² We do not reach this ground because we have determined the challenged claims to be unpatentable under the Robert–Curatolo ground. *See supra* § II.E.

¹³ We do not reach this ground because we have determined the challenged claims to be unpatentable under the Robert–Curatolo ground. *See supra* § II.F.

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