

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

UBER TECHNOLOGIES, INC.,
Petitioner,

v.

ENOVSYS, LLC,
Patent Owner.

IPR2024-00827
Patent 6,756,918 B2

Before THOMAS L. GIANNETTI, MICHELLE N. WORMMEESTER, and
ANDREW L. NALVEN, *Administrative Patent Judges*.

GIANNETTI, *Administrative Patent Judge*.

DECISION
Denying Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

A. Background

Uber Technologies, Inc. (“Petitioner”) filed a Petition requesting *inter partes* review (“IPR”) of claims 1, 2, 15, and 22 of U.S. Patent No. 6,756,918 B2 (Ex. 1001, “’918 patent”). Paper 2 (“Pet.”). Patent Owner Enovsys, LLC filed a Preliminary Response. Paper 6 (“Prelim. Resp.”).

To institute an *inter partes* review, we must determine “that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a) (2018). For the reasons stated below, we determine that Petitioner has not established a reasonable likelihood that it would prevail with respect to any claim challenged in the Petition. We, therefore, deny institution of *inter partes* review.

B. Related Matters

The parties indicate the ’918 patent is the subject of *Enovsys LLC v. Lyft, Inc.*, Case No. 5:23-cv-05157 (N.D. Cal.). Pet. 2; Paper 5, 1. Petitioner identifies the following district court proceeding involving the ’918 patent: *Enovsys LLC v. Uber Technologies, Inc.*, Case No. 5:23-cv-04549 (N.D. Cal.). Pet. 2.

C. The ’918 Patent (Ex. 1001)

The ’918 patent relates to telecommunication services and systems that convey the location of a mobile unit. Ex. 1001, 1:14–16. The patent describes “an improved telecommunication system that can provide location information pertaining to other communication targets that are present within a pre-specified geographic boundary.” *Id.* at 3:34–37. A general

overview of the system is illustrated in Figure 1 of the '918 patent, reproduced below:

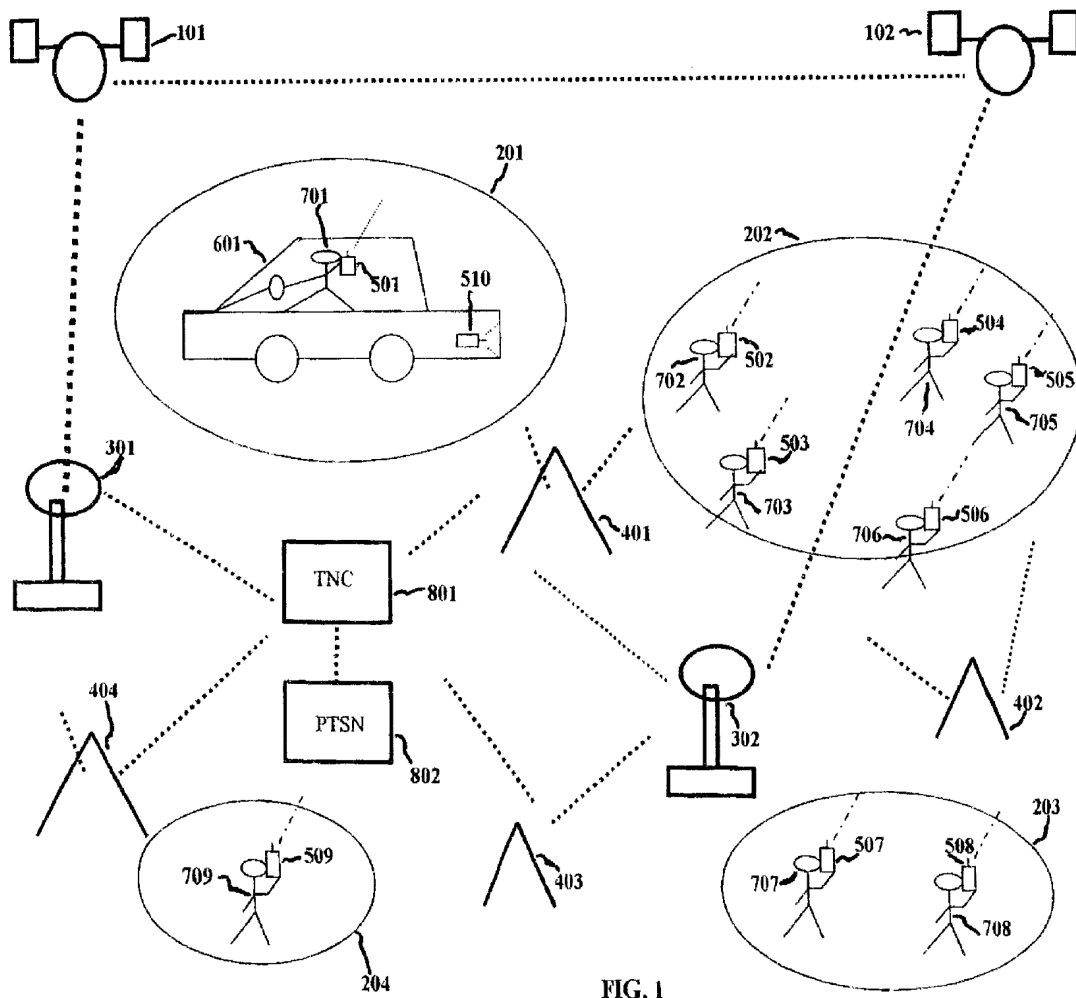


FIG. 1

Figure 1 depicts a network of portable remote units (PRU) 501–510 scattered through a wide geographic area. *Id.* at 4:25–27. Mobile users 701–709 are in possession of PRUs 501-509. *Id.* at 4:27–29. Geographic regions 201–204 may contain one or more portable mobile users 701-709. *Id.* at 4:29–31.

According to the '918 patent, PRU 501 used by subscriber 701 in moving vehicle 601 can be tracked by clandestine unit 510, which is concealed in vehicle 601 by subscriber 704 in another geographic region 202 to keep track of the whereabouts of user 701. Ex. 1001, 5:17–24. The '918

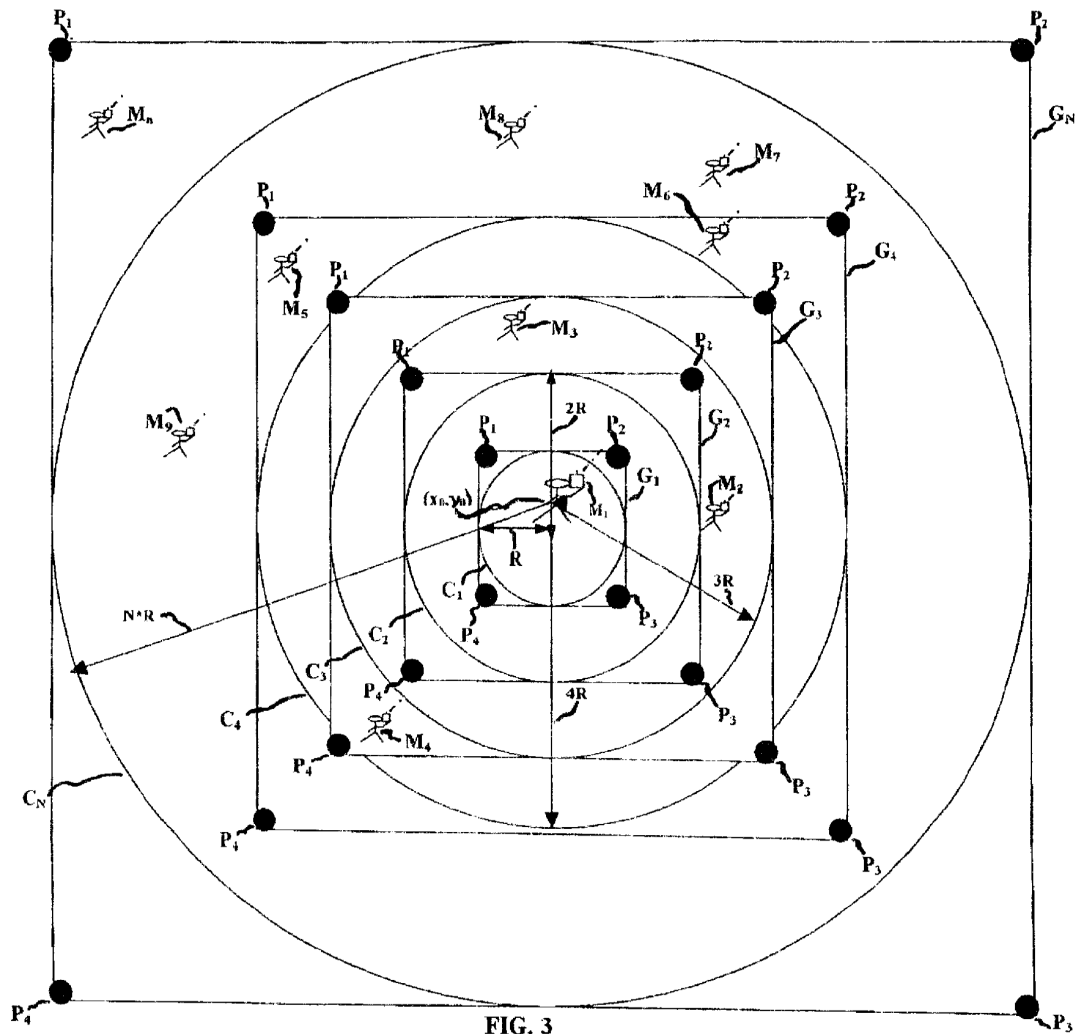
patent explains that “[a]s vehicle 601 travels from one location to the next, authorized users will be able to receive location information from PRU 510 whenever they poll for it.” *Id.* at 5:26–29. Noting that “[i]t is of utmost importance that a subscriber in possession of unit 501 should be able to determine it [sic] they are being tracked by another unit,” the ’918 patent describes a tracking feature provided in PRU 501 that subscriber 701 can activate at any point in time. *Id.* at 5:31–35. “This could be achieved by invoking the appropriate function through the input panel, FIG. 2.25 of the PRU.” *Id.* at 5:35–37. According to the ’918 patent, a tracked PRU 501, in tracking mode, “may simply alert a user in possession of the tracked PRU with the location information of any tracking device—PRU 510—that has resided within a pre-specified radius of the tracked PRU, with both units having traveled a minimum distance.” *Id.* at 5:37–42.

The ’918 patent explains that “[i]n tracking mode the geographic location of the tracked unit, . . . 501, is utilized to determine the geographic boundary where a search for possible tracking units 510 could be initiated.” Ex. 1001, 5:48–51. The ’918 patent describes that “[a]s the tracked unit 501 is moving, that unit or an appropriate network unit, may page for the location of other communication units within the tracking boundary of the tracked unit to disclose their location.” *Id.* at 5:59–63. The ’918 patent further describes the tracking operation as follows:

At the first time interval, a list could be maintained of all the PRUs that responded within the specified geographic boundary defined for tracking. At subsequent time intervals, PRUs that where [sic] in the list at the first tracking interval and not responding in later intervals could be eliminated as possible tracking units.

Id. at 6:2–7. According to the patent, “[a]t the end of the tracking period, if there are any units in the tracking list and the minimum tracking distance was covered, such communication units are deemed to be tracking another and are reported to the requested party.” *Id.* at 6:8–11.

The ’918 patent also describes disclosing a global location within a prescribed geographic boundary. Ex. 1001, 7:30–46. A PRU at the geographic location picking up a request must determine if it is within that boundary before providing its location to the network. *Id.* at 7:31–33. Figure 3 of the ’918 patent (reproduced below) depicts a geographic location with mobile units M_1 – M_N , wherein the location is divided into cells C_i or grids G_i , also known as regions. *Id.* at 7:33–36.



In Figure 3, “cell C_1 is defined by radius R and its latitude and longitude information is that of mobile user $M_1 (x_0, y_0)$,” and “[g]rid G_1 is defined by four points P_1, P_2, P_3 and P_4 .” *Id.* at 7:38–41. As shown in Figure 3, a distressed mobile user M_1 may need to find where another party might exist in that geographic region. *Id.* at 7:47–49. Mobile user M_1 “could initiate a page from their PRU for the closest available PRUs that could be found in that geographic jurisdiction” and “provide its location, latitude and longitude (x_0, y_0) to the closest available ground station serving area C_1 or grid G_1 .” *Id.* at 7:49–54. According to the ’918 patent, “[o]nce a ground station picks up

this signal, it sends a page for all location reporting devices in the specified boundary surrounding mobile unit $M_1 \dots$ to disclose their location.” *Id.* at 7:56–59. The ’918 patent explains that “[s]ubsequent searches will include incrementing the radii information to from $C_1 \dots C_N$ or grid boundary information from $G_1 \dots G_N$ until a PRU within that geographic boundary responds or system limitations are encountered.” *Id.* at 8:7–11.

In Figure 3, when mobile unit M_1 initiates a search for possible portable remote units in its immediate area, the relevant ground control station sends three pages. Ex. 1001, 8:26–28. A first page covers cell C_1 or grid G_1 , and (as no units are available in that area) a second page covers cell C_2 or grid G_2 . *Id.* at 8:28–31. In Figure 3, the next PRU exists only in cell C_3 or Grid G_3 . *Id.* at 8:31–32. Once a page is sent out for cell C_3 , PRUs M_2 and M_3 will respond. *Id.* at 8:32–33. According to the ’918 patent, the ground control station selects the unit closest to M_1 (in this case, M_2) and forward its location to M_1 . *Id.* at 8:34–37.

D. Illustrative Claim

The Petition challenges claims 1, 2, 15, and 22. Claims 1, 15, and 22 are independent. Claims 1 and 15 are illustrative of the claimed subject matter and are reproduced below.¹

Claim 1:

- 1[pre]. A communication system comprising:
- 1[A] a portable mobile remote unit;
- 1[B] a network of communication units;
- 1[C] means to obtain the location of the portable mobile remote unit;

¹ Paragraph labels are based on labels provided by Petitioner.

1[D] means to obtain geographic boundary information in order to disclose a global location at the network;

1[E] means to provide the location of the portable mobile remote unit to the network upon determination that the portable mobile remote unit is within the geographic boundary obtained at the network;

1[F] means to determine and report to the system upon request that, another mobile remote unit of the network has tracked the portable mobile remote over a period of time.

Claim 15:

15[pre]. A method for determining that a first portable remote unit of a wireless consumer associated with a network is being tracked by at least a second portable remote unit that is in motion with the first portable remote unit over a tracking period comprising:

15[A] i) obtaining the location information of the first portable mobile remote unit, said location information provided at intervals during said tracking period;

15[B] ii) obtaining the location information of the at least second portable communication unit that is within a specified geographic boundary of the first portable remote unit, said location information provided at intervals during said tracking period;

15[C] iii) using the location obtained according to step (i) and (ii) to verify whether the first portable remote unit and second portable remote unit have maintained relative proximity during the tracking period;

15[D] iv) forwarding the result of the verification to a network requestor at the end of the tracking period.

Ex. 1001, 11:57–12:4, 14:3–21.

E. Prior Art and Other Evidence

The Petition relies on the following references:

Name	Reference	Date	Exhibit No.
Layson'757	US 5,731,757	Mar. 24, 1998	1007
Layson'213	US 6,405,213 B1	Filed June 11, 1999	1008
Wang	US 5,365,451	Nov. 15, 1994	1009
IllinoisLaw	720 Ill. Comp. Stat. Ann. 5/12-7.3, as amended by 1995 Ill. Legis. Serv. P.A. 89-377 (H.B. 1792)	1995	1010
Taylor	US 6,160,481	Filed Jan. 12, 1999	1011
Fast	US 5,497,149	Mar. 5, 1996	1012

In addition, Petitioner submits the Declaration of Scott Andrews in support of its Petition. Ex. 1002 (“Andrews Decl.”). Patent Owner submits the Declaration of Joseph C. McAlexander, III. Ex. 2001 (“McAlexander Decl.”).

F. Asserted Grounds of Unpatentability

Petitioner asserts that claims 1, 2, 15, and 22 are unpatentable based on the following grounds (Pet. 4):

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
15	103(a) ²	Layson'757, Layson'213
1, 22	103(a)	Layson'757, Layson'213, IllinoisLaw
2	103(a)	Layson'757, Layson'213, IllinoisLaw, Wang

² The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011), amended 35 U.S.C. §103. Because the '918 patent has a filing date prior to the effective date of the applicable AIA amendment, we refer to the pre-AIA version of §103.

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
15	103(a)	Taylor, Fast
1, 2, 22	103(a)	Taylor, Fast, Illinois Law

II. ANALYSIS

A. Claim Construction

In an *inter partes* review proceeding, the Board applies the same claim construction standard as is applied in federal courts in a civil action under 35 U.S.C. § 282(b), which is generally referred to as the *Phillips* standard. *See* 37 C.F.R. § 42.100(b); *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). Under the *Phillips* standard, “words of a claim ‘are generally given their ordinary and customary meaning.’” *Phillips*, 415 F.3d at 1312.

We construe only those claim terms and phrases necessary to our decision. *See, e.g., Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (“[W]e need only construe 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))).

1. Means Plus Function Terms

Challenged claims 1, 2, and 22 recite elements using the word “means.” *See* Ex. 1001, 11:60–12:4, 12:6–8, 15:30–37. The use of the word “means” in a claim element creates a rebuttable presumption that 35 U.S.C. § 112 ¶ 6³ applies. *See Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1348 (Fed. Cir. 2015) (en banc in relevant part).

³ Section 4(c) of the AIA re-designated 35 U.S.C. § 112, sixth paragraph, as 35 U.S.C. § 112(f). Because the ’918 patent has a filing date before the

Construing a means-plus-function claim term is a two-step process. We must first identify the claimed function. Then, we must determine what structure, if any, disclosed in the specification corresponds to the claimed function. *Id.* at 1351 (citation omitted). The parties do not dispute that 35 U.S.C. § 112 ¶ 6 applies to those “means” elements recited in claims 1, 2, and 22. *See* Pet. 7–12; Prelim. Resp. 9–21.

a. “means to obtain the location of the portable mobile remote unit” (Claim Limitation 1[C])

Petitioner contends that the function is “to obtain the location of the portable mobile remote unit.” Pet. 7. Petitioner contends the corresponding structure is “an antenna 20 and a transceiver circuitry 21 configured to receive signals, together with a control unit programmed to use such signals to determine location, and equivalents thereof.” *Id.* at 8 (citations and internal quotation marks omitted).

Patent Owner agrees that “[t]he function of this claim element is ‘to obtain the location of the portable remote unit.’” Prelim. Resp. 9. Patent Owner contends that “[t]he minimum structure for performing the recited function is ‘a control unit programmed to collect location data of a portable remote unit, and equivalents thereof.’” *Id.* Patent Owner continues, “[s]uch an interpretation is supported by the ’918 Patent’s specification and the required function being performed at a control unit of the network.” *Id.* (citing McAlexander Decl. ¶ 53).

Having reviewed Patent Owner’s position on claim limitation 1[C], we determine that we do not need to expressly construe this claim term to

effective date of the relevant amendment, we refer to the pre-AIA version of § 112.

resolve a controversy for this Decision. *See* Prelim. Resp. 42, 65. Patent Owner acknowledges that the asserted network “includes control units programmed to obtain the locations of the offender and victim devices,” and does not base its arguments on the construction of this limitation. *Id.* at 42.

b. “means to obtain geographic boundary information in order to disclose a global location at the network” (Claim Limitation 1[D])

Petitioner contends that the function is “to obtain geographic boundary information in order to disclose a global location at the network.” Pet. 8. Petitioner contends the corresponding structure is “an antenna 20 and a transceiver circuitry 21 configured to receive signals that include geographic boundary information and to transmit location information, and equivalents thereof.” *Id.* (citations and internal quotation marks omitted).

Patent Owner agrees that the function of this element is “to obtain geographic boundary information in order to disclose a global location to the network.” Prelim. Resp. 10. Patent Owner contends “[t]he minimum structure for performing the recited function is ‘a network control unit programmed to receive information that identifies a contiguous area on earth, within the coverage area of the network, that can be individually queried to disclose a PRU’s global location located within that coverage area of the network, and equivalents thereof.’” *Id.* at 10–11 (citing McAlexander Decl. ¶ 55). Patent Owner continues, “[t]he ’918 Patent’s specification describes that the network polls specific areas of the network so that query or search only involves the PRUs currently located in such areas and not all the PRUs participating in the network wherever they may be located.” *Id.* at 11.

Having reviewed Patent Owner’s position on claim limitation 1[D], we determine that we do not need to expressly construe this claim term to resolve a controversy for this Decision. *See* Prelim. Resp. 43–44, 65–66. To the extent further clarification or explanation of this claim term is necessary, we do so in the context of our analysis of that term *infra*, in Sections II.F.3 and II.I.2.

c. “means to provide the location of the portable mobile remote unit to the network upon determination that the portable mobile remote unit is within the geographic boundary obtained at the network” (Claim Limitation 1[E])

Petitioner contends the function is “to provide the location of the portable mobile remote unit to the network upon determination that the portable mobile remote unit is within the geographic boundary obtained at the network.” Pet. 8. Petitioner contends the corresponding structure is “an antenna 20 and a transceiver circuitry 21 configured to transmit location information, together with a control unit programmed to determine that the unit is within the geographic boundary, and equivalents thereof.” *Id.* (citations and internal quotation marks omitted).

Patent Owner agrees that “[t]he function of this claim element is ‘to provide the location of the portable mobile remote unit to the network upon determination that the portable mobile remote unit is within the geographic boundary obtained at the network.’” Prelim. Resp. 12–13. Patent Owner contends that “[t]he minimum necessary structure for performing the recited function is ‘a controller programmed to determine whether the location of a portable remote unit is within a specified contiguous area on earth and, upon such determination, provide the location of the portable remote unit to

another network component, and equivalents thereof.” Prelim. Resp. 13 (citing McAlexander Decl. ¶ 72).

Having reviewed Patent Owner’s position on claim limitation 1[E], we determine that we do not need to expressly construe this claim term to resolve a controversy for this Decision. See Prelim. Resp. 44–45, 66–67. To the extent further clarification or explanation of this claim term is necessary, we do so in the context of our analysis of that term *infra*, in Sections II.F.3 and II.I.2.

d. “means to determine and report to the system upon request that, another mobile remote unit of the network has tracked the portable mobile remote over a period of time” (Claim Limitation 1[F])

Petitioner contends that the function is “to determine and report to the system upon request that, another mobile remote unit of the network has tracked the portable mobile remote over a period of time.” Pet. 9. Petitioner contends the corresponding structure is “a control unit programmed to: (1) receive, at intervals, the location of the tracked mobile unit, (2) receive the locations of other mobile units, during such intervals, (3) maintain a list of such other units within a predefined geographic boundary of the tracked unit for a period of time as the tracked unit and such other units have moved a minimum distance, together with a transmitter configured to transmit a message identifying such other unit(s), and equivalents thereof. The control unit may be within the tracked mobile unit or a network control center.” *Id.* (citations, footnote, and internal quotation marks omitted.)

Patent Owner agrees that “[t]he function of this claim element is ‘to determine and report to the system upon request that, [*sic*] another mobile remote unit of the network has tracked the portable mobile remote over a period of time.’” Prelim. Resp. 14 (second alteration in original). Patent

Owner contends “[t]he minimum necessary structure to perform the recited function is ‘a control unit programmed to identify that another PRU within the same network boundary as the PRU has moved together with the PRU over a pre-specified distance while maintaining a pre-specified radius of it over a predefined time period, and equivalents thereof.’” *Id.* (citing McAlexander Decl. ¶ 61).

Having reviewed Patent Owner’s position on claim limitation 1[F], we determine that we do not need to expressly construe this claim term to resolve a controversy for this Decision. *See* Prelim. Resp. 45–48, 67–68. To the extent further clarification or explanation of this claim term is necessary, we do so in the context of our analysis of that term *infra*, in Sections II.F.3 and II.I.2.

e. “means to further determine if location disclosure for the remote unit is prohibited at a specific geographic boundary before sending its location to the network” (Claim 2)

Petitioner contends that the function is “to further determine if location disclosure for the remote unit is prohibited at a specific geographic boundary before sending its location to the network.” Pet. 10. Petitioner contends the corresponding structure is “a control unit programmed to (1) compare its current location to an exclusion zone; (2) if its current location is within the exclusion zone, abort; (3) otherwise, proceed to provide its current location to the network, and equivalents thereof.” *Id.* (citations omitted).

Patent Owner agrees that this element’s function “is ‘to determine if location disclosure for the remote unit is prohibited at a specific geographic boundary before sending its location to the network.’” Prelim. Resp. 16. Patent Owner contends “[t]he minimum necessary structure to perform the

recited function is a control unit programmed to: prior to sending a location of a remote unit to another network component, determining if the location of the remote unit is within a specified contiguous area on earth where disclosure of the remote unit's location is prohibited, and equivalents thereof.” *Id.* at 16–17 (citing Ex. 1001, Fig. 6, 10:21–36; McAlexander Decl. ¶ 64).

Having reviewed Patent Owner's position on claim 2, we determine that we do not need to expressly construe this claim term to resolve a controversy for this Decision. *See* Prelim. Resp. 52–55, 68. To the extent further clarification or explanation of this claim is necessary, we do so in the context of our analysis of that claim *infra*, in Sections II.G, II.I.3.

f. “means to request whether the at least second communication unit is tracking the at least first communication unit” (Claim Element 22[C])

Petitioner contends the function is “to request whether the at least second communication unit is tracking the at least first communication unit.” Pet. 10. Petitioner contends the corresponding structure is “either antenna 20 and transceiver circuitry 21 configured to transmit tracking requests or input panel 25 configured to take user instructions in the form of tracking requests, and equivalents thereof.” *Id.* (citations and internal quotation marks omitted).

Patent Owner agrees that the function is to “request whether the at least second communication unit is tracking the at least first communication unit.” Prelim. Resp. 17. Patent Owner contends “[t]he minimum necessary structure to perform the recited function is ‘a control unit programmed to make a tracking request, and equivalents thereof.’” *Id.* (citing McAlexander Decl. ¶ 65).

Having reviewed Patent Owner’s position on this limitation, we determine that we do not need to expressly construe this claim term to resolve a controversy for this Decision. *See* Prelim. Resp. 49–50, 69–70. To the extent further clarification or explanation of this claim term is necessary, we do so in the context of our analysis of that term *infra*, in Sections II.F.4, II.I.4.

- g. *“means to determine from said location provided (ii) that the at least first and second communication unit maintained proximity while in motion during said time” (Claim Limitation 22[D])*

Petitioner contends the function is “to determine from said location provided (ii) that the at least first and second communication unit maintained proximity while in motion during said time.” Pet. 11. Petitioner contends the corresponding structure is “a control unit programmed to: (1) receive, at intervals, the location of the at least first communication unit, (2) receive the location of the at least second communication unit during such intervals, (3) maintain a list of second communication unit(s) within a predefined geographic boundary of the at least first communication unit for a period of time as the at least first communication unit and the at least second communication unit(s) have moved a minimum distance, and equivalents thereof. The control unit may be within another portable mobile remote unit or a network control center.” *Id.* at 11–12 (citations and internal quotation marks omitted).

Patent Owner agrees that function is “to determine from said location provided (ii) that the at least first and second communication unit maintained proximity while in motion during said time.” Prelim. Resp. 19. Patent Owner contends that “[t]he minimum necessary structure to perform the

recited function is ‘a control unit programmed to identify that a second PRU has moved together with the first PRU within a pre-defined tracking radius of it over a pre-defined time period, and equivalents thereof.’” *Id.* at 19.

Having reviewed Patent Owner’s position on this limitation, we determine that we do not need to expressly construe this claim term to resolve a controversy for this Decision. *See id.* at 50–51, 70. To the extent further clarification or explanation of this claim term is necessary, we do so in the context of our analysis of that term *infra* in Sections II.F.4, II.I.4.

h. “means to provide result of the determination (iv) to the requestor of (iii)” (Claim Limitation 22[E])

Petitioner contends the function is “to provide result of the determination (iv) to the requestor of (iii).” Pet. 12. Petitioner contends the corresponding structure is “either a transmitter configured to transmit the result of the determination to a device belonging to the requestor, or display 23 configured to display the result of the determination to the requestor, and equivalents thereof.” *Id.* (citations and internal quotation marks omitted)

Patent Owner agrees that the function is to “provide the result of the determination (iv) to the requestor of (iii).” Prelim. Resp. 20. Patent Owner contends “[t]he minimum necessary structure to perform the recited function is ‘a control unit programmed to provide the result of the determination (iv) to the requestor of (iii).’” *Id.* (citing McAlexander Decl. ¶ 68).

Having reviewed Patent Owner’s position on this limitation, we determine that we do not need to expressly construe this claim term to resolve a controversy for this Decision. *See* Prelim. Resp. 52, 70–72. To the extent further clarification or explanation of this claim term is necessary, we

do so in the context of our analysis of that term *infra*. in Sections II.F.4, II.I.4.

2. Other Terms

Patent Owner offers the following additional constructions:

- a. “*portable mobile remote unit*”/“*mobile remote unit*”/“*portable communication unit*”/“*remote unit*”/“*communication unit*” (Claims 1, 2, 15, 22)

Patent Owner asserts that these terms are “used interchangeably in the claims” and refer to the same thing: “cell phones or other hand-carried wireless telecommunication devices to communicate via cellular telecommunication networks available to the general public.” Prelim. Resp. 5–7.

Petitioner offers no explicit construction for these terms. We are not aware of any controversy between the parties over whether the terms are “used interchangeably” that would affect this Decision. While we are not required to explicitly construe these terms, as in the parties’ submissions, we do not distinguish among them in this Decision. To the extent further clarification or explanation of the terms is necessary, we do so in the context of our analysis *infra*.

- b. “*geographic region of a wireless network*”

Patent Owner asserts that this term refers to “a specific coverage area of a wireless network that may be individually queried for PRU information, such as location.” Prelim. Resp. 8. Patent Owner further contends “[t]his is consistent with the specification.” *Id.* (citing Ex. 1001, 10:45–49).

Patent Owner identifies this term as appearing in claim 1. *Id.* We do not find this term in claim 1 or any of the other claims challenged in the Petition. Therefore, we determine that we do not need to expressly construe this claim term to resolve a controversy for this Decision.

At this stage of the proceeding, we need not construe any other claim terms and phrases. *See Nidec Motor Corp.*, 868 F.3d at 1017. To the extent further clarification or explanation of any claim term is necessary, we will do so in the context of our analysis of that term, *infra*.

B. The Level of Ordinary Skill in the Art

Petitioner asserts that a person of ordinary skill at the time of the alleged invention “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 location tracking techniques, or the equivalent, with additional education substituting for experience and vice versa.” Pet. 6 (citing Andrews Decl. ¶ 25). At this stage, Patent Owner does not dispute this contention. Prelim. Resp. 5.

For the purpose of determining institution, we adopt Petitioner’s definition of a person of ordinary skill in the art because it is consistent with the level of skill reflected by the ’918 patent specification and the asserted prior art.

C. Principles of Law

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 the subject matter

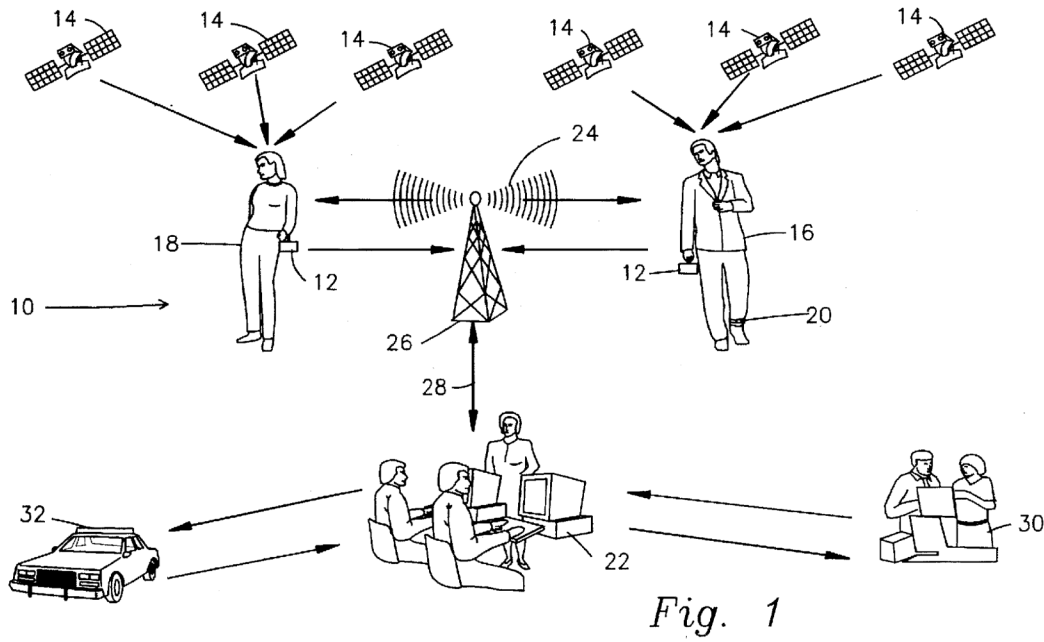
pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) if in evidence, so-called secondary considerations. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).⁴

D. Overview of the Prior Art

1. Layson’757 (Ex. 1007)

Layson’757 is titled “Portable Tracking Apparatus for Continuous Position Determination of Criminal Offenders and Victims.” Ex. 1007, (54). Layson’757 describes a portable tracking apparatus for continuous location determination of a subject which communicates with a body-worn, non-removable, tamper resistant transceiver and a central data-base system. *Id.* at Abstr. Figure 1 of Layson’757, which is reproduced below, depicts a system incorporating the portable tracking apparatus. *Id.* at 2:27–28.

⁴ Petitioner does not present evidence related to secondary considerations.



As shown in Figure 1, system 10 incorporates “a portable tracking device 12 which receives communication signals from a global position satellite (GPS) 14 to determine the location of the subject (offender 16 or victim 18).” *Id.* at 2:46–49. To continuously report location of offender 16, “the offender 16 is fitted with a body-worn device 20 which is non-removable by the offender 16 and provides tamper detection to generate alarms should the offender 16 attempt to remove the body-worn device 20.” *Id.* at 2:50–54. When continuous location of victim 18 is desired, “the victim 18 can be provided a portable tracking device 12 and the body-worn device 20 can be a garment clip-on version.” *Id.* at 2:54–57.

Layson’757 explains that “[t]he communication from the subject’s portable tracking device 12 is routed to the central data-base system 22 where response decisions for notification to parole and probation 30, victims 18 and law enforcement 32 are made based on schedule rules and location constraints provided by the supervising agency such as parole and probation 30.” Ex. 1007, 3:3–8. According to Layson’757, “schedule rules are driven

by time of day and day of week as to where a subject's location is allowed or not allowed and describe the response actions taken by both the portable tracking apparatus and the central data-base system,” and “location constraints define locations and a distance radius which constitute a buffer area around a location.” *Id.* at 9:37–43.

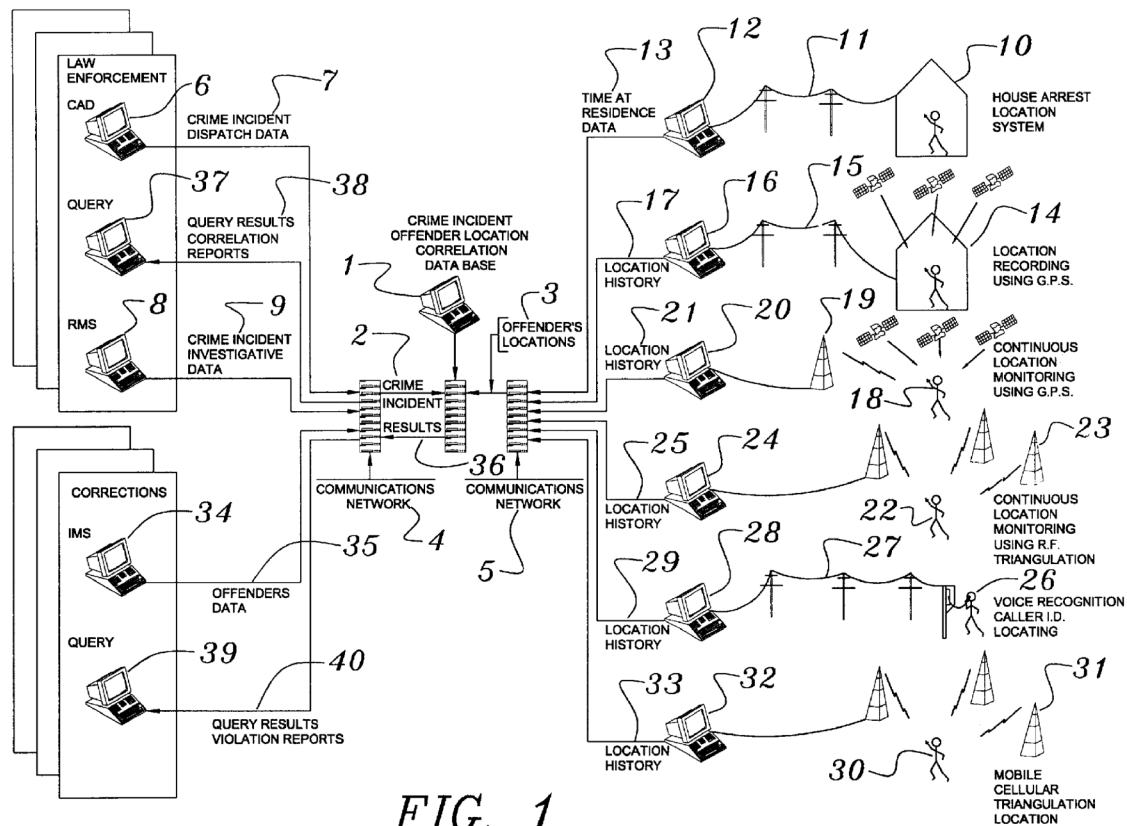
Layson '757 describes that “[t]he schedule rules and location constraints are sent from the central data-base system to the portable tracking apparatus where they are continuously processed.” Ex. 1007, 9:45–48. Layson '757 describes that “[a]t any time the central data-base system 22 may be commanded by law enforcement 32 or other agencies such as parole and probation 30 to query the portable tracking device 12 to ascertain the immediate status of the portable tracking device 12 and the location of the offender 16 or victim 18.” *Id.* at 3:18–23.

When the current location of a subject violates the schedule rules and location constraints of the subject, “the portable tracking apparatus notifies the subject and the central data-base system immediately.” Ex. 1007, 9:48–50; *see also id.* at 7:10–14. According to Layson '757, “[a]n offender's current position relative to any associated victim's current position is analyzed . . . to determine if any alarms to law enforcement or corrections, commands to the offender and warnings to the victim are required based on the dynamic movements of the offender and victim.” *Id.* at 8:13–19. Layson '757 explains that “[b]y including wider buffer zones for locations that are meant to include or exclude a subject, the portable tracking device provides advanced notification to victims far beyond the transmitter range of the subject's body-worn device.” *Id.* at 8:39–43.

2. Layson '213 (Ex. 1008)

Layson '213 is titled "System to Correlate Crime Incidents with a Subject's Location Using Crime Incident Data and a Subject Location Recording Device." Ex. 1008, (54). Layson '213 relates to "correlating crime incident data with the history of a subject's locations by using an all body worn, non-removable, tamper resistant location recording apparatus." *Id.* at 1:23–26.

Figure 1 of Layson '213, reproduced below, depicts "the end-to-end crime incident/subject location correlation system and its major subsystem elements for integrating subject locating methods with crime incident recording methods." Ex. 1008, 7:32–35, FIG. 1.



As shown in Figure 1, crime incident/offender location correlation database 1 receives crime incident data 2 via communication network 4, and receives

offender location data 3 via a communication network 5, on a continuous basis. *Id.* at 8:28–38. Law enforcement and corrections personnel use the query terminal 37, 39 for structured queries. *Id.* at 20:40–42. According to Layson ’213, “law enforcement query terminal 37 receives automated correlation reports and query results 38 using its connection to the communications network 4.” *Id.* at 10:12–14.

Layson ’213 explains that “[r]esults 36 from the crime incident/offender correlation data base 1 are comprised of automated correlation of crime incidents to offender locations and structured queries entered by law enforcement personnel.” Ex. 1008, 10:14–18. Further, “corrections query terminal 39 receives automated violation reports and query results 40 using its connection to the communications network 4.” *Id.* at 10:19–21. “Results 36 from the crime incident/offender correlation data base 1 are comprised of automated offender violation reports and structured queries entered by corrections personnel.” *Id.* at 10:21–24.

3. *Wang (Ex. 1009)*

Wang is titled “Mobile Unit Tracking System.” Ex. 1009, (54). Wang relates to “tracking systems which maintain data describing the locations of mobile units.” *Id.* at 1:10–12.

Figure 1 of Wang, which is reproduced below, depicts “a region of the earth within which a communication network operates.” Ex. 1009, 2:21–22.

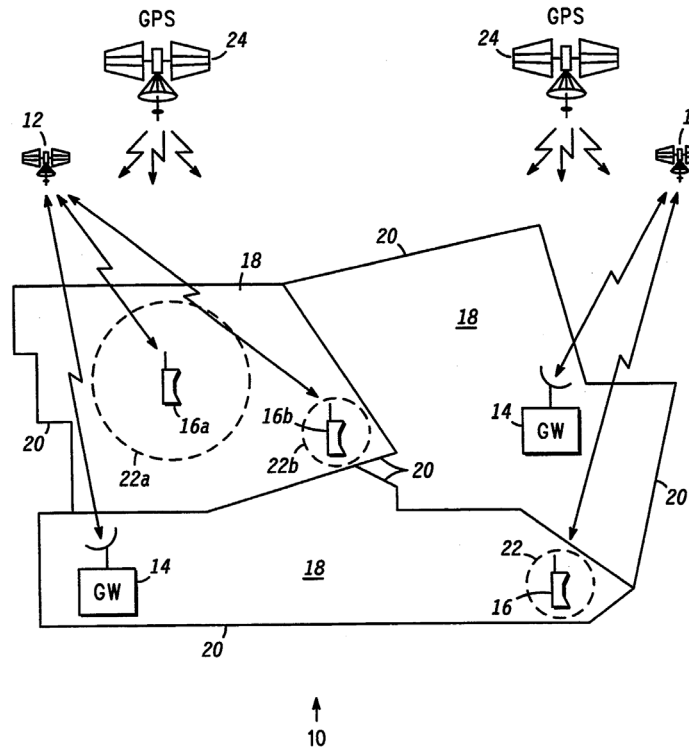


FIG. 1

In Figure 1, “[m]obile units 16 establish a data communication link with a nearby satellite 12, which may then relay the data communication to a nearby gateway 14.” *Id.* at 2:68–3:2. Mobile units 16 use “a satellite positioning system 24, such as the Global Positioning System (GPS),” to determine their own locations. *Id.* at 3:28–33.

Wang describes that “[m]obile units 16 operate, within any one of a number of different political jurisdictions 18,” which are “surrounded by political boundaries 20.” Ex. 1009, 3:3–5. According to Wang, “[n]etwork 10 needs to know with accuracy when mobile unit 16 crosses a boundary 20 so that frequency allocation, billing, tax, and other parameters may be set in accordance with the appropriate jurisdiction 18.” *Id.* at 3:6–10.

As shown in Figure 1, mobile unit 16a centrally located within a jurisdiction 18 may move a relatively large distance (indicated by a border

22a) before it nears a boundary 20. Ex. 1009, 3:14–21. Consequently, network 10 needs only relatively inaccurate data concerning the location of mobile unit 16a. *Id.* at 3:16–18. In contrast, mobile unit 16b near boundary 20 may enter another jurisdiction by moving a relatively small distance, as indicated by the radius of border 22b. *Id.* at 3:22–27.

Each mobile unit 16 determines its own location and sends a location communication to a nearby “local” gateway 14 to inform network 10 of its location. Ex. 1009, 3:50–53. Upon receipt of the location communication, the gateway 14 “generates data which define a border 22 and sends these border data back to the mobile unit 16.” *Id.* at 3:53–56. According to Wang, “when the mobile unit 16 goes outside the border 22, it sends a new location communication to network 10 and receives a new border definition in response.” *Id.* at 3:58–61.

4. *IllinoisLaw (Ex. 1010)*

IllinoisLaw is a portion of Laws of the State of Illinois, Eighty-Ninth General Assembly, Public Act 89-377, relating to criminal law, which was compiled, printed, and distributed in 1995. Ex. 1010, 3–5.⁵ In Section 12-7.3, IllinoisLaw defines “stalking” as follows:

A person commits stalking when he or she, knowingly and without lawful justification, on at least 2 separate occasions follows another person or places the person under surveillance or any combination thereof and:

(1) at any time transmits a threat to that person of immediate or future bodily harm, sexual assault, confinement or restraint; or

⁵ Unless otherwise specified, citations to exhibits use the page numbers assigned by the parties and not the original page numbers.

(2) places that person in reasonable apprehension of immediate or future bodily harm, sexual assault, confinement or restraint.

Id. at 9. According to IllinoisLaw,

“follows another person” means (i) to move in relative proximity to a person as that person moves from place to place or (ii) to remain in relative proximity to a person who is stationary or whose movements are confined to a small area.

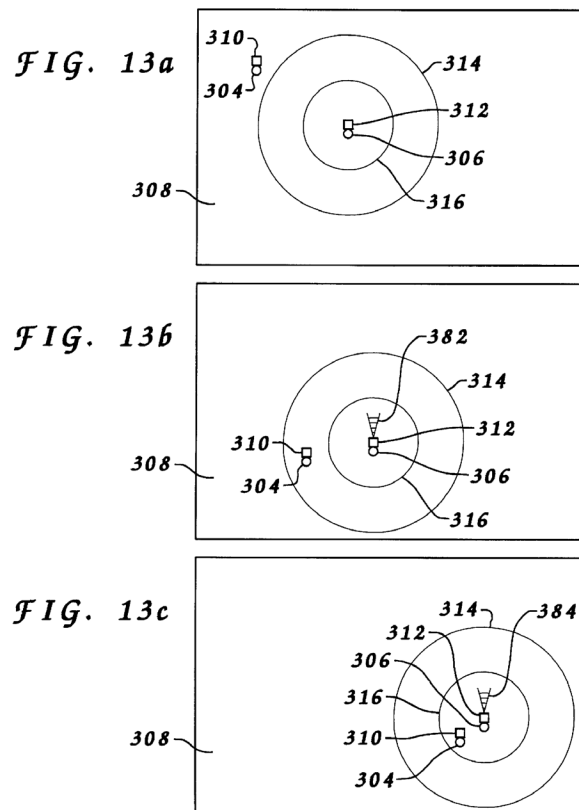
Id. at 10 (italics in original, indicating new matter). IllinoisLaw states that “[f]ollows another person” does not include a following within the residence of the defendant.” *Id.*

5. *Taylor (Ex. 1011)*

Taylor is titled “Monitoring System.” Ex. 1011, (54). Taylor relates monitoring of persons, “wherein at least one monitored person has a portable monitoring device attached thereto.” *Id.* at 1:11–14.

Taylor describes a “dual tracking system” to “monitor the behavior of a first person, a restrictee person, relative to a second person, a restrictor person.” Ex. 1011, 19:61–64. The dual tracking system is applicable, for example, to “the enforcement of court issued restraining orders.” *Id.* at 20:5–7. According to Taylor, a perimeter is defined “around the restrictor person of the pair of monitored persons which is updated depending upon the movement of the restrictor person,” and “[w]hen the restrictee person enters within the perimeter a notification is given of such violation.” *Id.* at 20:13–18. The perimeter would have a predefined distance measurement from the restrictor person. *Id.* at 20:31–33.

Figures 13a-13c, reproduced below, depict tracking of restrictee person 304 and restrictor person 306 at various distances. Ex. 1011, 20:58–59.



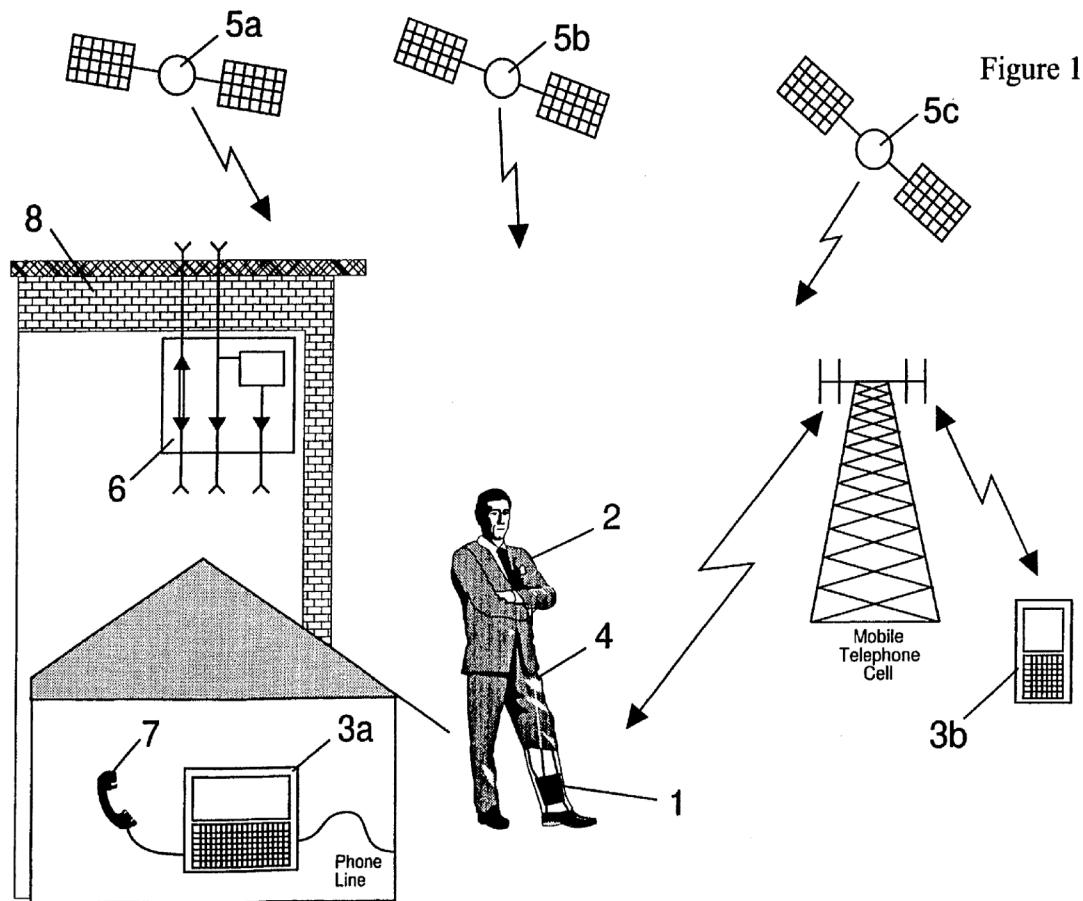
In Figures 13a–13c, portable monitoring device 310 is attached to restrictee person 304, and portable monitoring device 312 is attached to restrictor person 306. *Id.* at 20:59–62. The figures also show first perimeter 314 radially surrounding restrictor portable monitoring device 312 and second perimeter 316, which is smaller than first perimeter 314, radially surrounding restrictor portable monitoring device 312. *Id.* at 20:62–66. In Figure 13a, restrictee person 304 and restrictee portable monitoring device 310 are outside of both first perimeter 314 and second perimeter 316, and no notification is given. *Id.* at 21:1–4. In Figure 13b, restrictee person 304 and restrictee portable monitoring device 310 are inside of first perimeter 314,

but outside of second perimeter 316, and a first notification 382, such as a first beeping sound from restrictor portable monitoring device 312, is given. *Id.* at 21:4–9. In Figure 13c, restrictee person 304 and restrictee portable monitoring device 310 are inside of second perimeter 316 and a second notification 384, such as a distinct, second beeping sound, is given. *Id.* at 21:9–16; *see also id.* at 16:57–60 (activating an intervention to disable restrictee person 304 when restrictee person 304 and restrictee portable monitoring device 310 are inside of both first perimeter 314 and second perimeter 316).

6. *Fast (Ex. 1012)*

Fast is titled “Global Security System.” Ex. 1012, (54). Fast describes “[a] system for determining the position of an object to be protected using a local or global positioning system and issuing messages to a monitoring message center at predetermined times and/or at times when the object to be protected is under an alert condition, such as being outside an allowed position zone during a defined time period.” *Id.* at Abst.

Figure 1 of Fast, which is reproduced below, schematically illustrates a global security system. Ex. 1012, 12:62–63.



In Figure 1, security beacon 1 is attached to object 2 to be monitored. *Id.* at 12:64–65. Communication between beacon 1 and a monitoring/programming terminal (e.g., mobile terminal 3b) is wireless via, for example, a cellular network. *Id.* at 12:65–13:4. The beacon also receives signals from global positioning satellites, such as satellites 5a, 5b, and 5c, which can be used to determine the present position of the beacon. *Id.* at 13:9–12. According to Fast, “[b]eacon 1 will determine periodically or, if activated, continuously its position” and “transmit the determined position to terminal 3 whenever polled by terminal 3 or continuously if activated.” *Id.* at 13:12–15. Fast also discloses that “[a]llowed areas and disallowed areas and any timing restraints related to these areas are downloaded from a terminal 3 into beacon 1,” e.g., via a cable, and when the

beacon receives signals from navigation transmitters, the received signals are fed to a microprocessor in the beacon to “determin[e] the actual position, and whether the determined position is inside or outside an allowed area.”

Id. at 13:37–40, 13:27–33.

Fast describes enforcement of restraining orders by using a security beacon, which is programmed with “means for defining allowable zones, and times during which an allowable zone may be occupied, zones disallowed at all times, as well as recharge schedules,” locked to the person and monitored by the law enforcement officials. Ex. 1012, 7:44–49. Fast discloses that enforcement of a restraining order “relating to maintaining a set distance between two persons” can be done, for example, by requiring both “the threatened person and the threatening person” to wear a beacon, which are monitored by a supervising authority. *Id.* at 7:50–53, 7:62–65. According to Fast, “[i]f the positions of the two beacons were found to be too close together, a warning message would be sent to each wearer indicating that a potential violation had occurred,” and “[i]f greater separation distance was not provided within a predetermined time limit, both beacons would be triggered into emergency mode allowing the supervising authority to track one or both the parties.” *Id.* at 7:67–8:7.

E. Obviousness of Claim 15 Based on Layson ’757 and Layson ’213

Petitioner contends that claim 15 would have been obvious over Layson ’757 and Layson ’213. Pet. 20–40. Patent Owner disputes Petitioner’s contentions. Prelim. Resp. 32–39.

1. Motivation to Combine Layson '757 and Layson '213

Petitioner contends that a person of ordinary skill would have been motivated to combine the teachings of Layson '757 and Layson '213. Pet. 20–24; Andrews Decl. ¶¶ 152–160. Patent Owner does not expressly dispute this contention.

We determine that Petitioner has presented a sufficient motivation for combining the teachings of Layson '757 and Layson '213. In addition to the reasons given by Petitioner, we note also that Layson '213 refers to Layson '757 and incorporates its disclosure by reference. *See* Ex. 1008, 2:26–30. While not determinative, this additional fact further suggests that a person of ordinary skill would have been motivated to consider the teachings of Layson '757 in implementing Layson '213.

2. Claim 15

Petitioner provides an element-by-element analysis of claim 15 in relation to Layson '757 and Layson '213. Pet. 24–40. Patent Owner contests this analysis and contends that the combination of Layson '757 and Layson '213 does not teach all the elements of claim 15 and therefore claim 15 would not have been obvious. Prelim. Resp. 32–39.

Claim 15 is reproduced in Section I.D, *supra*. We agree with Patent Owner that at least one limitation of claim 15 is not taught or suggested by the combination of Layson '757 and Layson '213. Specifically, we agree with Patent Owner that Petitioner does not sufficiently demonstrate that the “tracking period” limitation of claim 15 is met by the combination of

Layson’757 and Layson’213. Our analysis focusing on disputed claim elements follows.⁶

15[pre]: “A method for determining that a first portable remote unit of a wireless consumer associated with a network is being tracked by at least a second portable remote unit that is in motion with the first portable remote unit over a tracking period comprising:”

15[A]: “i) obtaining the location information of the first portable mobile remote unit, said location information provided at intervals during said tracking period;”

15[B]: “ii) obtaining the location information of the at least second portable communication unit that is within a specified geographic boundary of the first portable remote unit, said location information provided at intervals during said tracking period;”

Petitioner identifies Layson’757’s victim portable tracking device as the “first portable remote unit” recited in the claim preamble.⁷ Pet. 24. Petitioner identifies the offender portable tracking devices in Layson’757 as the “second portable remote unit.” *Id.* at 26 (citing Andrews Decl. ¶ 168). Petitioner asserts that “[e]ach of Layson’757’s portable tracking devices provides its location to the network by transmitting the location to the central database, either at ‘deterministic reporting intervals’ or on demand.” *Id.* at 28 (citation omitted). Petitioner continues, “‘said tracking period’ in

⁶ Throughout this Decision, we use the labeling for claim limitations used by the parties.

⁷ We assume, without deciding, that the preambles of the challenged claims are limiting as Patent Owner asserts. *See, e.g.*, Prelim. Resp. 32 (asserting the claim 15 preamble is limiting). However, our conclusion does not depend on this, as our analysis takes into account other claim limitations (besides the preamble) that are not met by Petitioner.

Layson’757–Layson’213 corresponds to at least two or more intervals necessary to constitute the offender loitering within the victim’s buffer zone as opposed to passing through (i.e., ‘said tracking period’ is the ‘loiter time’^[8] for the offender).” *Id.*

Patent Owner responds that “[t]he ‘loiter time’ mentioned in Layson’s system is not equivalent to the tracking period described in the ’918 Patent.” Prelim. Resp. 34 (citing McAlexander Decl. ¶¶ 102–103). Patent Owner continues, “while Layson’s system provides continuous location reporting of offender and victim devices, it does not include a ‘tracking period’ during which it is assessed whether the devices moved together within a predefined proximity.” *Id.* Mr. McAlexander testifies that “[a]dding a ‘loiter time’ to allow the offender device to be in a buffer zone for some minimum period of time does not result in any comparison of the offender and victim unit somehow moving together within the same buffer zone.” McAlexander Decl. ¶ 115.

We agree with Patent Owner that “loiter time” is not a “tracking period” as it is claimed in the ’918 patent. Prelim. Resp. 34. Loiter time is the maximum time that the offender may be located in an exclusion zone without the system reporting a violation. Ex. 1008, 23:31–36. In contrast, a tracking period is a time period over which the two units that are within a pre-specified radius of each other have traveled a minimum pre-specified distance together. Ex. 1001, 2:41–48, 5:37–44; McAlexander Decl. ¶ 41; Prelim. Resp. 33 (“for one unit to be considered to ‘track’ another, it must

⁸ “Loiter time” is useful in identifying violations. As described by Layson’213, “passing through an exclusion zone is permitted but loitering is not [a violation].” Ex. 1008, 23:31–36 (quoted at Andrews Decl. ¶ 97.)

move in tandem with the tracked unit while staying within a pre-specified radius of it and traveling a minimum distance over a defined time period”). As Patent Owner explains, “[t]he ‘loiter time’ proposed by Mr. Andrews only addresses whether the offender device remains in the buffer zone for a minimum period, without any analysis of how both units move together within the buffer zone.” *Id.* at 38 (citing McAlexander Decl. ¶¶ 114–115).

We conclude that the Petition does not sufficiently demonstrate that the “tracking period” limitation is met by Layson ’757 and Layson ’231. For the reasons given, we determine that Petitioner has not demonstrated sufficiently that claim 15 would have been obvious over Layson ’757 and Layson ’213.

3. *Summary and Conclusion*

We find that Petitioner has not demonstrated a reasonable likelihood of prevailing on this challenge.

F. Obviousness of Claims 1 and 22 Based on Layson ’757, Layson ’213, and IllinoisLaw

Petitioner contends that claims 1 and 22 would have been obvious over Layson ’757, Layson ’213, and IllinoisLaw.⁹ Pet. 40–60. Patent Owner disputes Petitioner’s contentions. Prelim. Resp. 39–52.

⁹ Petitioner states its reliance on IllinoisLaw is contingent on whether Patent Owner or the Board adopts a claim construction that requires a “minimum distance” as part of the algorithm that performs the recited function. *See* Pet. 11 n.5. Because Patent Owner has argued that a “minimum distance” between victim and offender is required in interpreting certain claims, we address IllinoisLaw in our analysis. *See* Prelim. Resp. 33 (claim 15), 46 (claim 1).

1. Motivation to Combine Layson '757, Layson '213, and IllinoisLaw

In Section II.E.1, *supra*, we determined that Petitioner has demonstrated a sufficient motivation to combine Layson '757 and Layson '213. Our focus here is on Petitioner's argument that a person of ordinary skill would have been further motivated to combine the teachings of those references with IllinoisLaw, an Illinois criminal statute. Pet. 41–42.

Petitioner argues that “a [person of ordinary skill] would have been motivated to implement a system that identifies potential stalking incidents using the legal definition of the crime.” Pet. 41. We are not persuaded by this argument. The parties have agreed (or at least not disputed) that the person of ordinary skill pertinent to this case is an engineer, not a lawyer. *See supra*, Section II.B. Specifically, as proposed by Petitioner, the person of ordinary skill “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 location tracking techniques, or the equivalent, with additional education substituting for experience and vice versa.” Pet. 6. This description is echoed by Mr. Andrews. *See Andrews Decl.* ¶ 25. Nowhere in Petitioner's or Mr. Andrews's description of the person of ordinary skill is there any mention of experience with legal subject matter, much less experience specifically with Illinois law. We are, therefore, not persuaded by Petitioner's argument that such a person of ordinary skill would have looked to Illinois criminal law for a legal definition of stalking. *See Pet.* 41.

2. *Whether IllinoisLaw is Analogous Art*

The Board requested and received supplemental briefing from the parties on whether IllinoisLaw is analogous art to the '918 patent. *See* Papers 7 (Petitioner's memo) and 8 (Patent Owner's memo). Petitioner argues that the "proximity alert" claims of the '918 patent before us (claims 1, 2, 15, and 22) and IllinoisLaw "are in the same field of endeavor, each directed to solving the problem of identifying potentially abusive tracking." Paper 7, 1. Further, Petitioner asserts the development of tracking systems and anti-stalking legislation "were two sides of the same coin, propelled by the same government initiatives and funding sources." *Id.* In addition, Petitioner argues, "IllinoisLaw is also reasonably pertinent to the problem addressed, because it provides a definition of stalking that can be used to distinguish potentially abusive tracking from other, innocent behaviors." *Id.*

Patent Owner contends that "'IllinoisLaw' is not analogous art because it is neither within the field of the inventor's endeavor nor reasonably pertinent to the particular problem to which the challenged patent is directed." Paper 8, 1. Patent Owner continues, "[t]he field of endeavor is determined 'by reference to explanations of the invention's subject matter in the patent application, including the embodiments, function, and structure of the claimed invention.'" *Id.* at 2 (quoting *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004)).

We are not persuaded by Petitioner's argument that IllinoisLaw is analogous art to the '918 patent. "Two separate tests define the scope of analogous prior art: (1) whether the art is from the same field of endeavor, regardless of the problem addressed and, (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved."

Sanofi-Aventis Deutschland GmbH v. Mylan Pharms. Inc., 66 F.4th 1373, 1377 (Fed. Cir. 2023). In evaluating whether a reference is analogous, the Federal Circuit has “consistently held that a patent challenger must compare the reference to the challenged patent.” *Id.* “A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor’s endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor’s attention in considering his problem.” *In re ICON Health & Fitness, Inc.*, 496 F.3d 1374, 1379–80 (Fed. Cir. 2007) (quoting *In re Clay*, 966 F.2d 656, 659 (Fed.Cir.1992)).

Patent Owner argues that “the field of endeavor of the Challenged Patent is indisputably wireless telecommunication systems and services that request and process the position of [portable mobile remote units].” Paper 8. 2. Patent Owner continues, “IllinoisLaw’s field of endeavor, such as it is, is the regulation of criminal conduct.” *Id.* at 3. We agree with this analysis. Petitioner attempts to bridge the gap between telecommunications and criminal law by characterizing “the development of tracking systems and anti-stalking legislation” as “two sides of the same coin.” Paper 7, 1. This argument is unavailing. We see no evidence of overlap between the activities of Illinois legislators and those of the engineers of ordinary skill defined by Petitioner as pertinent to the ’918 patent, such that one can say they are in the same field of endeavor.

Nor can we say there is any persuasive evidence from Petitioner that the Illinois legislators and the engineers defined by Petitioner as persons of ordinary skill face the same problems in their work, or that their activities are “intertwined.” *See* Paper 7, 3. We are more persuaded that Illinois’s legislators are not attempting to solve the technical problems addressed by

persons of ordinary skill pertinent to the '918 patent, and vice versa. *See* Paper 8, 4. For the reasons given, we determine that IllinoisLaw is not analogous art to the '918 patent claims, and therefore IllinoisLaw is not available as a reference in this proceeding. *See Sanofi-Aventis*, 66 F.4th at 1377 (Board determination of obviousness reversed where reference relied on by the Board was not analogous art).

3. *Independent Claim 1*

We agree with Patent Owner that at least one limitation of claim 1 is not taught or suggested by the combination of Layson '757, Layson '213, and IllinoisLaw. Prelim. Resp. 39–48. Our analysis focusing on the dispositive claim elements follows.

Claim 1 is reproduced in Section I.D, *supra*. Petitioner identifies the victim's portable tracking unit in Layson '757 as the “portable mobile remote unit” in limitation 1[A]. Pet. 43. Petitioner identifies Layson '757's portable tracking units as the “communication units” of limitation 1[B], and together with the central database, these form the claimed “network of communication units.” *Id.* at 43–44. Petitioner argues that each of Layson '757's portable tracking devices provides the location information recited in limitation 1[C]. *Id.* at 45–46. Petitioner identifies the “another” mobile remote units of limitation 1[F] with the offender's tracking device. *Id.* at 51.

1[D]: “means to obtain geographic boundary information in order to disclose a global location at the network;”

Petitioner identifies the “geographic boundary information” recited in limitation 1[D] with the location constraints in Layson '757. Pet. 48. Petitioner argues that “[t]he central database [in Layson '757] sends ‘location

constraints’ to each portable tracking device, which identify ‘buffer zones’ around locations meant to exclude a subject.” *Id.* (citations omitted).

Petitioner asserts that in Layson’757, “[t]o enable the central database to accurately identify when an offender is located too close to a victim, or vice versa, each of the monitored subjects’ devices would receive location constraints from the central database (both offender and victim.)” Pet. 48 (citing Ex. 1007, 1:17–18). Petitioner continues, “[i]n particular, *the victim device would receive the associated offender’s location and ‘buffer zone’ around that location.*” *Id.* (citing Ex. 1007, 8:36–43) (emphasis added). Similarly, analyzing claim limitation 1[E], Petitioner asserts “[t]he location constraints provided to the victim’s portable tracking device [in Layson’757] include the offender location obtained at the network, together with a buffer zone around that location (‘geographic boundary’).” *Id.* at 50 (citing Ex. 1007, 8:36–43).

We disagree that Petitioner has demonstrated that “the victim device [in Layson’757] would receive the associated offender’s location.” *See* Pet. 48. This argument is not supported by Petitioner’s citations to Layson’757. *See id.* Petitioner’s first citation (Ex. 1007, 1:17–18) refers only to a general discussion of the prior art, and not a description of the system disclosed by Layson’757. Specifically, it states “[c]urrently, determining the location of subjects, such as criminal offenders and victims, has only been possible by electronic monitoring means at fixed locations, such as the subject’s residence.” Ex. 1007, 1:16–19. The second citation (Ex. 1007, 8:36–43) refers to the central database system “contacting the portable tracking device and downloading schedule rules and location constraints to the portable tracking device.” The cited description does not explain what location constraints are downloaded to which devices, nor does it disclose

downloading the offender's location information to the victim's portable tracking device.¹⁰

While Layson '757 leaves open the possibility that a victim may be required to wear a "body-worn device," "when the continuous location for the victim . . . is desired," the focus of the disclosure of that reference is on monitoring the continuous location of the stalker, not the victim. Ex. 1007, 2:54–58. Petitioner fails to show us any disclosure in Layson '757 that the stalker's location or location constraints would be shared with the victim.

In Layson '757, assuming that the location of the victim is being monitored (which, as noted, is the exception, not the norm), the victim's location would be compared to the location constraints *for the victim*, not the location constraints of the offender. This is apparent from the following description of Layson '757's flowchart, referring to Figure 6:

Once the status of the body-worn device has been established 138, *the current location is compared to the schedule rules and location constraints 140 of the subject*. If the current location complies with the schedule rules and the location constraints 142 *for the subject*, then the location and status data is stored 144 in the portable tracking apparatus to be transmitted to the central data-base system on the next scheduled communication 146. If the current location violates the schedule rules and location constraints *of the subject* then *the subject is notified* 148 and the response to the central data-base system is evaluated against the schedule rules and location constraints 150 *for the subject*.

Ex. 1007, 7:3–13 (emphasis added). Thus, as Layson '757 explains, "[o]nce the status of the body-worn device has been established, the current location is compared to the schedule rules and location constraints *of the subject*,"

¹⁰ Mr. Andrews relies on these same citations in his analysis of this limitation. See Andrews Decl. ¶ 231.

i.e., the location and location constraints of the person wearing the body-worn device. Ex. 1007, 7:3–5 (emphasis added) (reference numerals omitted). Layson ’757 goes on to explain that the central data base (not the *victim*’s portable device) compares the offender’s location to the appropriate location constraints:

An offender’s current position relative to any associated victim’s current position is analyzed by data fusion . . . to determine if any alarms to law enforcement or corrections, commands to the offender and warnings to the victim are required based on the dynamic movements of the offender and victim.

Id. at 8:13–19. Accordingly, Layson ’757 does not teach or suggest downloading the stalker’s location to the victim, as the central data base (not the victim) monitors the stalker’s location.

Thus, for the reasons given, Petitioner has not sufficiently shown that that “the victim device would receive *the associated offender’s location and ‘buffer zone’* around that location.” Pet. 48 (emphasis added). Instead, a violation of the stalker’s location constraints or “buffer zone” by the stalker would result in an audible alarm from the stalker’s portable tracking device. *See* Ex. 1007, 3:51–60; Fig. 6. Accordingly, the Petition has not established sufficiently disclosure of “means to obtain geographic boundary information in order to disclose a global location at the network.”

I[E]: “means to provide the location of the portable mobile remote unit to the network upon determination that the portable mobile remote unit is within the geographic boundary obtained at the network;”

To meet this limitation, Petitioner relies on its argument discussed *supra*, that “[t]he location constraints provided to the victim’s portable tracking device include the offender location obtained at the network,

together with a buffer zone around that location (‘geographic boundary’).” Pet. 50 (citing Ex. 1007, 8:36–43). For the reasons given above in connection with limitation 1[F], we determine that Petitioner has failed to demonstrate sufficiently that this limitation is met. For the reasons given, Petitioner does not show that the Layson references, specifically Layson’757, disclose providing the victim’s tracking device with an offender’s location or constraints.

4. *Independent Claim 22*

22[B]: “(ii) at least a first communication unit and at least a second communication unit able to provide location information to the network for a time while in motion;”

As background, Petitioner identifies Layson’757’s victim portable tracking device as a “first communication unit,” and Layson’757’s offender portable tracking device is a “second communication unit.” Pet. 54.

22[C]: “(iii) means to request whether the at least second communication unit is tracking the at least first communication unit;”

Referring to Layson’757, Petitioner contends that two separate “tracking requests” meet this limitation. Pet. 55–56. Petitioner contends the first such “request” is sent from the victim’s device: “[A person of ordinary skill] would have understood that each transmission of location coordinates by the victim device [in Layson’757] corresponds to a request for the central database to track any proximately-located offenders.” *Id.* at 55 (citing Andrews Decl. ¶¶ 253–254). According to Petitioner, the second such “request” results from a hypothetical query by law enforcement personnel to Layson’213’s correlation data base entered via a query terminal. *Id.* at 56. Petitioner contends, “such a query corresponds to a tracking request.” *Id.*

Patent Owner disputes these contentions. Prelim. Resp. 50. Patent Owner argues that there is no disclosure in the Layson references of a tracking request query. *Id.* (citing McAlexander Decl. ¶ 158). As Mr. McAlexander testifies, “[t]o the extent that the victim’s device [in Layson ’757] reporting its location could be interpreted as a request, such a request is not a tracking request that meets this claim element because the result of the victim’s location reporting is at best an alert that associated offender’s device came within a buffer zone of the victim.” McAlexander Decl. ¶ 159. He further testifies that “there is no tracking criteria or operation that is described in Layson ’213 that even compares any arbitrary offender’s location with any arbitrary victim’s location ‘to identify potential stalkers tracking the victim,’ let alone makes any actual tracking determinations.” *Id.* ¶ 160 (emphasis omitted). Further responding to Petitioner’s “query terminal” argument, he explains, “not only would there be no motivation to enter victim locations as crime incidents in a crime/offender correlation database, but there would be no realistic reason to add the undue complexity to compare arbitrary offenders with arbitrary victim locations.” *Id.*

We agree with this reasoning as consistent with the ’918 patent and references, and for the reasons given, we are not persuaded that Petitioner has demonstrated that the Layson references disclose or suggest this limitation. The ’918 patent states that “[i]t is of utmost importance that a subscriber in possession of unit 501 should be able to determine if they are being tracked by another unit.” *Id.* at 5:31–34. Thus, the subscriber may *initiate a request* to determine whether they are being tracked by another unit *by activating a tracking feature* provided by the PRU “at any point in

time.” *Id.* at 5: 33–35 (“In the current invention subscriber 701 will at any point in time activate the tracking feature provided by PRU 501”).

We see no disclosure or suggestion in the Layson references of a specific tracking request initiated by the victim. Unlike the special request in the ’918 patent initiated by a subscriber, the routine transmission of location information by the victim’s device in Layson’757 is the result of the normal operation of the tracking device. Similarly, there is no disclosure in Layson’213 that the query terminal would be operated in the manner described by Petitioner. The fact that the query terminal could be operated to identify potential offenders does not satisfy Petitioner’s burden of showing that a person of ordinary skill would be motivated to do so. *See Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015) (fact that skilled artisan could have made modifications to prior art is insufficient).

*22[D]: “(iv) means to determine from said location provided
(ii) that the at least first and second communication unit
maintained proximity while in motion during said time;”*

Petitioner relies on IllinoisLaw to meet this limitation, asserting that “[a person of ordinary skill] would have been motivated to ensure that any offenders whose locations correlated over time with the victim’s location had traveled together with the victim as the victim ‘move[d] from place to place’ to avoid false positives arising when an offender and victim are merely incidentally located in the same area over a period of time.” Pet. 59 (citing IllinoisLaw, Ex. 1010, 9–10) (alteration in original) (internal citation omitted).

As discussed in Sections II.F.1 and II.F.2, *supra*, we find that Petitioner has not demonstrated a sufficient motivation to combine

IllinoisLaw with the Layson references, nor has Petitioner demonstrated sufficiently the IllinoisLaw is analogous art to the '918 patent.

For at least those reasons, we are not persuaded that Petitioner has demonstrated that the cited references disclose or suggest this limitation

5. *Summary and Conclusion*

We find that Petitioner has not demonstrated a reasonable likelihood of prevailing on this challenge.

G. Obviousness of Claim 2 Based on Layson '757, Layson '213, IllinoisLaw, and Wang

Claim 2 depends from claim 1 and therefore includes the limitations of that claim. Ex. 1001, 12:5–8. Petitioner contends that claim 2 would have been obvious over Layson '757, Layson '213, IllinoisLaw, and Wang. Pet. 61–66.

Patent Owner responds that a person of ordinary skill would not have combined Wang with the Layson references. Prelim. Resp. 52–53. We agree. Wang teaches that the location of a vehicle is reported once when the vehicle approaches or crosses a border. Ex. 1009, Fig. 6, 3:24–27. We agree with Patent Owner that Petitioner has failed to demonstrate sufficiently that a person of ordinary skill would have been motivated to incorporate Wang's "borders" to stop location reporting if the offender is within an "allowed region," such as their home or work. Prelim Resp. 52 (citing McAlexander Decl. ¶ 172). Mr. McAlexander testifies that "there is no evidence that the offender/victim system would benefit from complete non-reporting of a location." McAlexander Decl. ¶ 172. Further, "if efficiency were a concern, a [person of ordinary skill] could simply adjust

the reporting interval for locations within an allowed region, rather than eliminating reporting altogether.” Prelim. Resp. 51–52.

Furthermore, Wang does not address the other ways discussed *supra* that the combination of the Layson references and IllinoisLaw fails to meet the limitations of claim 1, from which claim 2 depends. Consequently, for the reasons given above and those discussed for claim 1, Petitioner does not demonstrate sufficiently that claim 2 would have been obvious over the Layson references, IllinoisLaw, and Wang.

H. Obviousness of Claim 15 Based on Taylor and Fast

Petitioner contends that claim 15 would have been obvious over Taylor and Fast. Pet. 66–78. Patent Owner disputes Petitioner’s contentions. Prelim. Resp. 55–63.

1. Motivation to Combine Taylor and Fast

Petitioner contends a person of ordinary skill would have been motivated to combine Taylor and Fast. Pet. 66–69. Petitioner contends that “Taylor’s system is particularly expedient in the enforcement of court issued restraining orders, where it may be used to protect a restrictor/victim from a restrictee/stalker by providing notifications to the restrictor and/or an oversight authority when the restrictee person is nearby.” *Id.* at 66 (citation and internal quotation marks omitted). Further, Petitioner contends “Fast is in the same field as Taylor, disclosing a monitoring system for restraining order enforcement establishing a set distance between a threatened person and a threatening person.” *Id.* at 67–68 (internal quotation marks omitted). Petitioner concludes that “[a person of ordinary skill] would have been motivated to implement Fast’s predetermined time limit in Taylor’s

monitoring system by waiting for Fast’s predetermined time limit before notifying an oversight authority, in response to the restrictee’s violation of one of the restrictor’s perimeters, in case the violation was inadvertent.” *Id.* at 69 (citation and internal quotation marks omitted) (citing Andrews Decl. ¶ 283).

Patent Owner responds that “Claim 15 is not made obvious by combining Taylor with Fast, as neither reference provides a substantive difference from Layson’757 and Layson’213 in meeting the requirements of Claim 15.” Prelim. Resp. 55. As is discussed *infra*, Petitioner does not demonstrate that Taylor and Fast, even if combined, teach or suggest claim 15.

2. Claim 15

As discussed *supra*, in Section II.E, claim 15 calls for a “tracking period.” For example, the preamble of claim 15 recites “determining that a first portable remote unit of a wireless consumer associated with a network is being tracked by at least a second portable remote unit that is in motion with the first portable remote unit *over a tracking period*.” Ex. 1001, 14:3–7 (emphasis added). Similarly, limitation 15[A] recites “obtaining the location information of the first portable mobile remote unit, said location information provided at intervals *during said tracking period*.” *Id.* at 14:8–10 (emphasis added). The remaining limitations 15[B], 15[C], and 15[D] all call for a tracking period.

To meet this “tracking period” limitation, Petitioner relies on Taylor and Fast. Pet. 73. Petitioner relates the claimed “tracking period” to Fast’s “predetermined time limit” disclosure, which refers to criteria for notifying Taylor’s oversight authority. *Id.* (citing Ex. 1012, 7:65–8:7). Fast discloses

that when the beacons worn by a threatened person and a threatening person are too close together, a warning message is sent to each wearer. Ex. 1012, 7:62–8:3. “If greater separation distance was not provided within a predetermined time limit, both beacons would be triggered into emergency mode allowing the supervising authority to track one or both the parties.” *Id.* at 8:3–7.

Patent Owner argues that this disclosure by Fast and Taylor is “loiter time” that does not meet the limitations of claim 15. Prelim. Resp. 58–63; *see also* discussion of loiter time” in Section II.E, *supra*. Patent Owner argues, “[e]ven if a [person of ordinary skill] were motivated to incorporate Fast’s loiter time into Taylor’s system, the combination would still not meet Claim 15 because it does not address or incorporate the tracking algorithm specifically outlined in Claim 15.” Prelim. Resp. 55 (emphasis omitted). As Mr. McAlexander testifies, “[t]he tracking period . . . is the period in which the first unit is being ‘tracked’ by at least a second portable remote unit that is in motion with the first portable remote unit.” McAlexander Decl. ¶ 187 (emphasis omitted). He continues, “[t]here is no such disclosure in Taylor, even if one adds Fast’s ‘predetermined time limit,’ there is still no tracking interval and tracking determination, just a delay in when the system is notified of the perimeter violation.” *Id.* ¶ 188 (emphases omitted).

We agree with this reasoning. For the reasons presented in our discussion of claim 15 in Section II.E, *supra*, Fast’s loiter time is not equivalent to a tracking period. Furthermore, we agree with Patent Owner and Mr. McAlexander that “[e]ven if a [person of ordinary skill] were to integrate Fast’s time delay into Taylor, this modification would not enable the determination of whether two units maintained relative proximity during a tracking period while in motion.” Prelim. Resp. 62 (citing McAlexander

Decl. ¶ 201). As Patent Owner explains, “at best, it would only confirm that the units were within the same perimeter, not that they moved together within it.” *Id.*

3. *Summary and Conclusion*

We find that Petitioner has not demonstrated a reasonable likelihood of prevailing on this challenge.

I. Obviousness of Claims 1, 2, and 22 Based on Taylor, Fast, and IllinoisLaw

Petitioner contends that claims 1, 2, and 22 would have been obvious over Taylor, Fast, and IllinoisLaw. Pet. 79–92. Patent Owner disputes Petitioner’s contentions. Prelim. Resp. 63–71.

1. Motivation to Combine Taylor, Fast, and IllinoisLaw

Petitioner contends a person of ordinary skill would have been motivated to combine the teachings of Taylor and Fast with the legal definition of stalking from IllinoisLaw. Pet. 79–80. For the reasons given previously in connection with combining IllinoisLaw with the Layson references, we find that Petitioner has not demonstrated a sufficient motivation to combine IllinoisLaw with Taylor and Fast, nor has Petitioner demonstrated sufficiently the IllinoisLaw is analogous art to the ’918 patent. *See supra*, Sections II.F.1 and II.F.2.

Patent Owner asserts that “[a person of ordinary skill] would not be motivated to combine Taylor and Fast because of a fundamental incompatibility.” *Id.* at 63 (citing McAlexander Decl. ¶ 206). Patent Owner continues, “[e]ven if a [person of ordinary skill] were motivated to integrate Fast’s ‘predetermined time limit’ into Taylor, it would not result in the

required ‘tracking period’ or tracking determination as specified in the claims.” *Id.* For the reasons given by Petitioner and those that follow, Petitioner does not demonstrate sufficiently that Taylor and Fast, even if combined, teach or suggest the limitations of claim 1, 2, and 22.

2. *Independent Claim 1*

As discussed *supra*, in Section II.F.3, claim limitation 1[D] recites “means to obtain geographic boundary information in order to disclose a global location at the network.” Ex. 1001, 11:62–63. Petitioner contends that “Taylor’s restrictor and restrictee devices would communicate geographic boundary information needed to identify dynamic perimeter violations to one another in order to report any identified violation in real time to the central location.” Andrews Decl. ¶ 339 (citations omitted). Further, “[s]uch geographic boundary information would include the device’s current location.” *Id.*

Patent Owner responds that this suggestion “is flawed” because Taylor “requires continuous reporting to dynamically update perimeters and compare with other exclusion zone information, which makes eliminating such reporting impractical.” Prelim. Resp. 65 (citing McAlexander Decl. ¶ 217). Further responding, Patent Owner argues, “[a person of ordinary skill] would not be motivated to have the restrictor and restrictee devices directly communicate their current locations, as suggested by Mr. Andrews because such exchanges could potentially lead to security issues, as the restrictee could learn the restrictor’s location, undermining the system’s purpose of avoiding such risks.” *Id.* at 66 (citing McAlexander Decl. ¶ 220).

We find these arguments by Patent Owner persuasive. We are not persuaded by Mr. Andrews’s argument that the victim would receive the

associated offender’s “buffer zone” and location “so that the victim does not enter it inadvertently.” Andrews Decl. ¶ 231. As Mr. McAlexander explains, “[a person of ordinary skill] would not be motivated for the restrictor device and the restrictee device to be in direct communication, or to provide each other with their respective current location information, as Mr. Andrews suggests, since such exchanges could lead to criminal incidents that the system is meant to avoid by risking that the restrictee learns the location of the restrictor (or vice versa).” McAlexander Decl. ¶ 220 (citations omitted).

Mr. Andrews’s opinion that the geographic boundary information transmitted by Taylor “would include the device’s current location” (*id.* ¶ 339) is not supported sufficiently by citations to Taylor or Fast. *See id.* Such unsupported expert opinions are not persuasive. PTAB Consolidated Trial Practice Guide 35 (Nov. 2019)¹¹ (“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”) (quoting 37 C.F.R. § 42.65(a)).

We agree with Patent Owner that, for the reasons given, Petitioner has failed to demonstrate persuasively that these references teach or suggest that the location of the potential victim (“restrictor”) and the location of the offender (“restrictee”) would be shared.

3. *Claim 2*

Claim 2 depends from claim 1. For the reasons given above for claim 1, Petitioner has not demonstrated a reasonable likelihood of prevailing on this challenge to claim 2.

¹¹ Available at <https://www.uspto.gov/TrialPracticeGuideConsolidated>.

4. *Independent Claim 22*

Limitation 22[C] recites “means to request whether the at least second communication unit is tracking the at least first communication unit.” Ex. 1001, 15:30–32. Petitioner contends that “each transmission of location coordinates by the restrictor portable monitoring device” in Taylor is a “request” that meets this limitation. Pet. 91–92 (citing Andrews Decl. ¶ 362).

Patent Owner responds that the transmission of location information from the restrictee device in Taylor “does not trigger a tracking request as defined by the claim as argued by Mr. Andrews; it merely updates the location constraint perimeter, which prompts the restrictee device to notify the system if it enters the perimeter.” Prelim. Resp. 70 (citation omitted); *see also* McAlexander Decl. ¶¶ 242–243.

We agree with Patent Owner that for the reasons given, the routine transmission of location information by the restrictee device in Taylor is not a “tracking request.” Prelim. Resp. 70 (“This system does not perform the specific tracking determination required by the claim, as it does not involve both the restrictor and restrictee moving in tandem over a specified distance during a tracking period.”). *See also* discussion of tracking requests in Section II.F.4, *supra*.

5. *Summary and Conclusion*

We find that Petitioner has not demonstrated a reasonable likelihood of prevailing on this challenge

III. CONCLUSION

For the foregoing reasons, we determine Petitioner has failed to demonstrate there is a reasonable likelihood that Petitioner would prevail in showing at least one of the challenged claims of the '918 patent is unpatentable.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that the Petition is *denied*, and no trial is instituted.

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Patent 6,756,918 B2

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