

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BMW OF NORTH AMERICA, LLC,
Petitioner,

v.

NORTHSTAR SYSTEMS LLC,
Patent Owner.

IPR2023-01191
Patent 8,805,416 B2

Before KRISTEN L. DROESCH, MEREDITH C. PETRAVICK, and
BENJAMIN D. M. WOOD, *Administrative Patent Judges*.

PETRAVICK, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. Background and Summary

BMW of North America, LLC (“Petitioner”) filed a Petition requesting *inter partes* review of claims 1, 2, 7, 8, 11, 14–16, and 20–35 of U.S. Patent No. 8,805,416 B2 (Ex. 1001, “the ’416 patent”). Paper 1 (“Pet.”). NorthStar Systems LLC (“Patent Owner”) filed a Preliminary Response. Paper 7 (“Prelim. Resp.”).

We also authorized the parties to submit additional briefing to address arguments raised by Patent Owner regarding discretionary denial and claim construction. Ex. 3001. Petitioner filed a Reply (Paper 8, “Pet. Prelim. Reply”) and Patent Owner filed a Sur-Reply (Paper 10, “PO Prelim. Sur-Reply”).

Under 35 U.S.C. § 314(a), an *inter partes* review may not be instituted unless the information presented in the petition “shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.”

After considering the Petition, the Preliminary Response, the Reply, the Sur-Reply, and the evidence of record, we determine the information presented shows a reasonable likelihood that Petitioner would prevail in establishing the unpatentability of at least one of the challenged claims of the ’416 patent. Accordingly, we institute an *inter partes* review of claims 1, 2, 7, 8, 11, 14–16, and 20–35 of the ’416 patent on the grounds asserted in the Petition.

B. Real Parties in Interest

Petitioner identifies itself and Bayerische Motoren Werke AG as the real parties-in-interest. Pet. 84. Patent Owner identifies itself as the real party-in-interest. Paper 5, 2.

C. Related Matters

The parties identify the following related court proceedings: *BMW of North America, LLC v. NorthStar Systems, LLC*, Case No. 6:23-cv-00456 (W.D. Tex.) (filed June 16, 2023); *NorthStar Systems LLC v. Bayerische Motoren Werke AG*, Case No. 2:22-cv-00496 (E.D. Tex.) (filed Dec. 27, 2022); *NorthStar Systems LLC v. Hyundai Motor Group, Hyundai Motor Company, and KIA Motors Corporation*, Case No. 2:22-cv-00495 (E.D. Tex.) (filed Dec. 23, 2022); *NorthStar Systems LLC v. Volkswagen AG*, Case No. 2:22-cv-00486 (E.D. Tex.) (Dec. 22, 2022); *NorthStar Systems LLC v. Mercedes-Benz Group AG*, Case No. 2:22-cv-00323 (E.D. Tex.) (Aug. 19, 2022); *NorthStar Systems LLC v. Lenovo Group Ltd.*, Case No. 2:22-cv-00267 (E.D. Tex.) (July 18, 2022); *NorthStar Systems LLC v. HP Inc.*, Case No. 2:22-cv-00265 (E.D. Tex.) (July 15, 2022); *NorthStar Systems LLC v. Honda Motor Company, Ltd.*, Case No. 2:22-cv-00143 (E.D. Tex.) (May 11, 2022); *NorthStar Systems LLC v. Broadcom Inc.*, Case No. 2:22-cv-00144 (E.D. Tex.) (May 11, 2022); *NorthStar Systems LLC v. Xiaomi Corporation*, Case No. 2:22-cv-00139 (E.D. Tex.) (May 10, 2022); *NorthStar Systems LLC v. MediaTek Inc.*, Case No. 2:22-cv-00135 (E.D. Tex.) (May 05, 2022); *NorthStar Systems LLC v. TCT Mobile Int'l Ltd.*, Case No. 2:20-cv-00383 (E.D. Tex.) (Dec. 15, 2020); *NorthStar Systems LLC v. Kyocera Corp.*, Case No. 2:20-cv-00384 (E.D. Tex.) (Dec. 15, 2020); *NorthStar Systems LLC v. Shenzhen OnePlus Science & Tech. Co., Ltd.*, Case No. 2:20-cv-00385 (E.D.

Tex.) (Dec. 15, 2020); *NorthStar Systems LLC v. ZTE Corp.*, Case No. 2:20-cv-00386 (E.D. Tex.) (Dec. 15, 2020). Pet. 84–85; Paper 5, 2. The parties also identify IPR2023-01049 (*BMW of North America, LLC v. NorthStar Systems, LLC*), as related to the ’416 patent. *Id.*

The ’416 patent is also the subject of IPR2023-01049 (*BMW of North America, LLC v. NorthStar Systems, LLC*). Pet. 84; Paper 5, 2. Petitioner filed a Notice ranking the instant Petition second and the IPR2023-01049 Petition first as the order in which Petitioner wishes the Board to consider the merits. Paper 3 (“Ranking Notice”).

Petitioner’s filing is in compliance with the Board’s November 2019, Consolidated Trial Practice Guide¹ (“CTPG”), requiring Petitioner to file a Notice ranking its two petitions that challenge the ’416 patent. Although the CTPG states that generally “one petition should be sufficient to challenge the claims of a patent in most situations,” we decline to exercise discretion to deny institution in this case where (1) Patent Owner does not request that we exercise discretion to deny due to the presence of multiple petitions, (2) the two petitions challenge a large claim set, and (3) Petitioner represents that, “the claims are directed to different embodiments containing nonoverlapping subject matter,” and include “10 means plus-function limitations, each requiring claim construction.” Ranking Notice 1–2.

¹ Available at <https://www.uspto.gov/TrialPracticeGuideConsolidated>.

D. The '416 Patent

The '416 patent is titled “Method and System for Mobile Device Selectively Reporting of GPS Position Information to Others” and issued August 12, 2014, from an application filed February 14, 2008. Ex. 1001, codes (21), (22), (45), (54). The '416 patent relates to a device which enhances privacy by “selectively prevent[ing] the electronic device from transmitting its position.” *Id.* at 1:39–42. The '416 patent explains that it has been difficult to use “thin client” wireless devices, such as cell phones, “to carry out navigation assistance in any but the most superficial of ways.” *Id.* at 4:44–45. According to the '416 patent, “communication over the network may be used to improve this operation.” *Id.* at 4:46–47.

Figure 6 of the '416 patent is reproduced below:

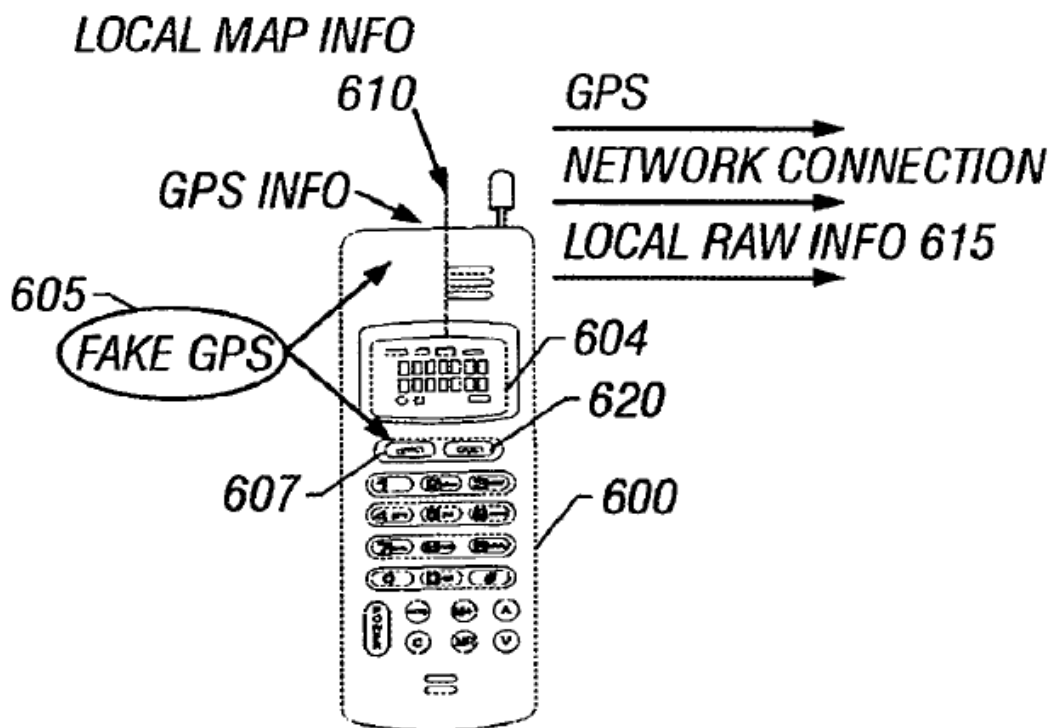


FIG. 6

Figure 6 depicts a position detecting device in which environmental clues may be used to enhance the position detection. *Id.* at 1:60–62. Cell phone or other wireless device 600 may have position detection and monitoring augmented by additional operations carried out over a network. *Id.* at 4:35–43. For example, transponder 605 may produce “simulated” GPS information and transmit that simulated information to Bluetooth receiver 607 within device 600. *Id.* at 4:54–64. The ’416 patent explains that the location of the transponder may be known, or the transmission itself may include information indicating its location. *Id.* at 5:1–6.

In addition, environmental information may be used to provide clues about the specific location of device 600. *Id.* at 5:4–5. Environmental information may include the speed of the device, which may indicate that the user is on a road, and information from the map may be used to narrow down the current location to a position of such a road. *Id.* at 5:47–52. Environmental information also may include the power and/or type of cellular reception, and also may include a database indicating specified types of interference from various environmental factors, including noise. *Id.* at 5:58–6:3. In disclosed embodiments, the device may monitor for different kinds of noise, and send information about the noise that is received. *Id.* at 6:3–4.

According to the ’416 patent, when device 600 is a thin client, “the operations that can be done using the GPS information is often limited by the limited resources of the thin client,” because such devices “do not include enough memory and/or resources to store all of the map information which may be necessary for navigation over an extended route. *Id.* at 5:6–11. In that case, “rough positioning information is used to download positioning information, e.g. map information, over the network

connection.” *Id.* at 5:16–18. In this way, the stored information continually changes as the unit moves, with each new batch of stored information corresponding to a unit of stored information around the current unit position, so that as the unit moves, the information is continually updated to a new batch of information, centered around the current location. *Id.* at 5:25–30. The ’416 patent explains that local map information 610 is received over the network connection as dynamic information, which is stored into memory 604 and which will be later replaced by new map information, indicative of some new area. *Id.* at 5:31–35. Using dynamically changing positioning information minimizes the amount of local resources that are necessary for navigation, so that the device may also transmit local “raw” information, which may include information about the environment, from which clues may be derived for navigation assistance. *Id.* at 5:36–46.

E. Illustrative Claims

Petitioner challenges claims 1, 2, 7, 8, 11, 14–16, and 20–35 of the ’416 patent. Pet. 1. Claims 1, 11, 20, 24, 25, and 30 are independent. Ex. 1001, 9:9–12:64. Claims 2, 7, and 8 depend from claim 1, claims 14 and 16 depend from claim 11, claims 21–23 depend from claim 20, claims 26–29 depend from claim 25, and claims 31–35 depend from claim 30. *Id.* Claim 1 is illustrative and is reproduced below.

[1pre]² A method, comprising:
[1a] receiving, by a mobile communication device,
information about a current location of the mobile

² Petitioner’s designations referencing the elements of claim 1 are set forth in brackets. Pet. 9–17. Herein we refer to the elements of claim 1 using Petitioner’s designations.

communication device, wherein the information about the current location includes global positioning system (GPS) information;

[1b] detecting, by the mobile communication device, signal interference;

[1c] generating, by the mobile communication device, an indication of the signal interference;

[1d] communicating, by the mobile communication device, with a remote source over a wireless network, wherein said communicating comprises sending both the indication of the signal interference and the GPS information from the mobile communication device to the remote source:

[1e] receiving, by the mobile communication device, navigation information from the remote source in response to sending both the indication of the signal interference and the GPS information, wherein the navigation information comprises data for plotting a course on a map including the current location of the mobile communication device; and

[1f] displaying, by the mobile communication device, the map based on the navigation information.

Ex. 1001, 9:9–33.

F. Evidence and Asserted Grounds

Petitioner asserts that claims 1, 2, 7, 8, 11, 14–16,³ and 20–35 of the ’416 patent would have been unpatentable on the following grounds:

Ground	Claim(s) Challenged	35 U.S.C. §	Basis
1	1, 2, 7, 8, 11, 14, 16, 24–29	103(a) ⁴	Chern, ⁵ Garceran ⁶
2	11, 15	103(a)	Chern, Garin ⁷
3	20–23, 30–35	103(a)	Yamakita ⁸

Petitioner also relies on the Declaration of Dr. Samuel P. Pullen (Ex. 1003) to support its analysis.

II. ANALYSIS

A. Discretionary Denial Under 35 U.S.C. § 314(a)

Patent Owner requests that we exercise our discretion under 35 U.S.C. § 314(a) to deny instituting *inter partes* review of the ’416 patent in light of “parallel District Court Litigation,” i.e., *NorthStar Sys. LLC v. Bayerische*

³ Petitioner’s claim listing under the heading “Relief Requested” omits claim 15. Because claim 15 is listed in Ground 2 of the Grounds Table, immediately below this heading and because claim 15 is discussed as part of Ground 2 on pages 43 and 50–51 of the Petition, we excuse Petitioner’s omission.

⁴ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112–29, 125 Stat. 284 (Sept. 16, 2011), includes revisions to Sections 102 and 103 that became effective on March 16, 2013. Because the challenged claims issued from an application filed before March 16, 2013, we apply pre-AIA law.

⁵ U.S. Patent App. Pub. No. 2003/0060211 A1, published Mar. 27, 2003 (Ex. 1008).

⁶ U.S. Patent No. 6,522,888 B1, issued Feb. 18, 2003 (Ex. 1017).

⁷ U.S. Patent No. 6,427,120 B1, issued July 30, 2002 (Ex. 1007).

⁸ U.S. Patent No. 6,195,022 B1, issued Feb. 27, 2001 (Ex. 1005).

Motoren Werke AG, No. 2:22-cv-00496-JRG (E.D. Tex.). Prelim. Resp. 5–11.

Relevant to this case, the Board may, in the interest of fairness and efficient use of Board resources, deny institution under § 314(a) where there are parallel district-court proceedings involving the same or substantially the same parties and invalidity challenges. *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 at 5–6, 12–13 (PTAB Mar. 20, 2020) (precedential) (“*Fintiv*”) (setting out six nonexclusive factors that the Board may consider in determining whether to deny institution because of a parallel district-court proceeding).

Our analysis under *Fintiv* is guided by the USPTO Director’s June 21, 2022 Memorandum titled Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation (“Memorandum”).⁹ The Memorandum sets forth, *inter alia*, that the Board will not discretionarily deny institution under § 314(a) when a petitioner submits a so-called *Sotera* stipulation, i.e., the petitioner “stipulates not to pursue in a parallel district court proceeding the same grounds as in the petition or any grounds that could have reasonably been raised in the petition.” Memorandum 7 (citing *Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 (PTAB Dec. 1, 2020) (precedential as to § II.A)). Such a stipulation mitigates concerns of potentially conflicting PTAB and district-court decisions and duplicative efforts between the district court and PTAB. *Id.*

⁹ Available at:

https://www.uspto.gov/sites/default/files/documents/interim_proc_discretionary_denials_aia_parallel_district_court_litigation_memo_20220621_.pdf

Petitioner stipulates that “if the Board institutes IPR on this Petition, it will not pursue in the [parallel District Court Litigation] ‘any ground that [Petitioner] raised or reasonably could have raised’ during this proceeding.” Pet. Prelim. Reply 1 (citing *Sotera*, Paper 12 at 18–19; Ex. 1023).

Under the mandatory *Fintiv* guidance discussed above, this stipulation is dispositive. Memorandum 7. Accordingly, in view of Petitioner’s *Sotera* stipulation (Ex. 1023), we decline to exercise our discretion under § 314(a) to deny institution of *inter partes* review

B. Legal Standards

“In an IPR, the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)); *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (discussing the burden of proof in *inter partes* review). Although we may indicate in this Decision that certain Patent Owner arguments are not persuasive, in doing so we do not shift the ultimate burden from Petitioner.

A claim is unpatentable under § 103(a) 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. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). “[W]hen a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination

must do more than yield a predictable result.” *KSR*, 550 U.S. at 416 (citing *U.S. v. Adams*, 383 U.S. 39, 50–51 (1966)). 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) when in evidence, objective indicia of non-obviousness (i.e., secondary considerations). *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). Here, the present record contains no evidence of objective indicia of non-obviousness.

C. Level of Ordinary Skill in the Art

Petitioner contends that a person of ordinary skill in the art “would have had at least a bachelor’s degree in Computer or Electrical Engineering, or equivalent engineering discipline, and approximately three years of experience in navigation or geolocation systems alongside a background in telecommunications.” Pet. 6. Petitioner also states that “[a]dditional education could substitute for professional experience, and significant work experience could substitute for formal education.” *Id.*

At this stage of the proceeding, Patent Owner does not dispute Petitioner’s proposed level of ordinary skill in the art and does not propose an alternative level. Prelim. Resp. 2.

For purposes of this Decision, we adopt Petitioner’s assessment of the level of ordinary skill in the art as it is consistent with the ’416 patent and the asserted prior art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

D. Claim Construction

In this *inter partes* review, we apply the same claim construction standard that would be used in a civil action under 35 U.S.C. § 282(b). 37 C.F.R. § 42.100(b). In applying this standard, we generally give claim terms their ordinary and customary meaning as would be 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. *See id.*; *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–14 (Fed. Cir. 2005) (en banc). Only those terms in controversy need to be construed, and only to the extent necessary to resolve the controversy. *Realtime Data LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019).

Petitioner proposes constructions for several “means-plus-function limitations” in challenged claims 30 and 32–35. Pet. 3–5. Patent Owner does not comment on these claim constructions proposed by Petitioner. Prelim. Resp. 2. For the purposes of this Decision, we determine that Petitioner’s construction of the means-plus-function limitations in the challenged claims appears reasonable.

In the Petition and Preliminary Response, neither party explicitly proposes a construction of any other claim term. Pet. 6; Prelim. Resp. 2. The parties dispute, however, how the term “receiving information about a current location” is applied to the prior art, and this dispute implicates the proper construction of the term.

“receiving information about a current location”

Claim 1, limitation 1a recites, “receiving, by a mobile communication device, information about a current location of the mobile communication device, wherein the information about the current location includes global positioning system (GPS) information.” Ex. 1001, 9:10–14.

Patent Owner argues that the “information about a current location” in limitation 1a cannot be the location itself (i.e., GPS information). Prelim. Resp. 4–5; PO Prelim. Sur-reply 1–2.

In the Preliminary Response, Patent asserts “the claims do not require determining location on a handset and sending a handset’s determined location to a server,” but rather “require that data is gathered by a handset, sent to a server, and that the server performs location determination.” Prelim. Resp. 4. In particular, Patent Owner asserts that limitation 1a “requires ‘receiving information **about** a current location,’ not the location itself,” and limitations 1b and 1c “requires ‘detecting, by the mobile communication device, signal interference; generating, by the mobile communication device, an indication of the signal interference’—no requirement of determining a location.” *Id.* at 4–5. According to Patent Owner, thereafter, “the information [is] sent to a server, but that information does not include the location itself; Claim 1(d) requires: ‘sending both the indication of the signal interference and the GPS information from the mobile communication device to the remote source.’” *Id.* at 5. Patent Owner asserts the “current location” is not required “until it is sent from the server to the mobile communication device: in Claim 1(e), the mobile communication device receives the current location from the server.” *Id.* Patent Owner thus asserts, “the location determination is not performed by the mobile device but is, instead, performed by the server in direct contradiction to Petitioner’s combination.” *Id.*

Petitioner contends that Patent Owner’s construction that “Claim 1(a) requires ‘receiving information **about** a current location,’ not the location itself,” is improper because it “is not supported by the ’416 patent specification.” Pet. Prelim. Reply 2. According to Petitioner, Patent

Owner’s construction “improperly narrows the plain language of the claim, which supports an interpretation that the ‘information about the current location’ includes the location itself.” *Id.* Petitioner contends that the claim itself requires that “information about a current location of the mobile communication device ... *includes global positioning system (GPS) information.*” *Id.* at 3. Petitioner asserts that the Specification includes various embodiments that describe a phone having a “position detector” for determining its “position and report[ing] that position to a remote source.” *Id.* (citing Ex. 1001, 2:12–21; Fig. 2). Petitioner asserts that this also applies to “GPS computer 600,” which receives “GPS info” and transmits this info to a server. *Id.* (citing Ex. 1001, 4:35–43, 48–51, Fig. 6). According to Petitioner, the Specification “does not differentiate these ‘position detector’ and ‘GPS’ devices from those that ‘automatic[ally]’ detect ‘position location,’ or otherwise provide that ‘information about a current location’ necessarily excludes the position location of the device.” *Id.* (citing Ex. 1001, 1:14–17, 2:12–21, 4:35–43, 48–51, Fig. 6). Petitioner contends, “[t]hat claim 1 further recites receiving, from the ‘remote source,’ navigation information including the current location of the mobile device (as argued by Patent Owner), does not preclude the mobile device from sending its current location, or the ‘user’s current location as determined by [a GPS] position determination system.”” *Id.* at 4 (citing Prelim. Resp. 5; Pet. 6–7, 12).

In the Sur-Reply, Patent Owner asserts that “Petitioner ignores the plain language of the claims and the specification itself.” PO Prelim. Sur-Reply 1. According to Patent Owner, “Petitioner focuses on embodiments in Columns 1, 2, and 4; however, Petitioner fails to discuss the server-mediated embodiments which are described in Column 5 onward.” *Id.* Patent Owner contends that Columns 1, 2, and 4 do not describe “information **about a**

current location,” because that description “does not begin until Column 5.” *Id.* Patent Owner asserts that there, the Specification discloses thin client 600 transmits “raw” information, which includes “information ‘**about** the environment,’” that the server uses to “narrow down the current location to a position.” *Id.* (citing Ex. 1001, 5:42–59). According to Patent Owner, “this disclosure makes clear that ‘information about a current location’ does not include the current location—otherwise the server would not need to narrow down the position.” *Id.* at 1–2.

At this stage of the proceeding, we agree with Petitioner because Petitioner’s construction is consistent with the plain language of claim 1 and the disclosure of the ’416 patent.

The plain language of the limitation 1a recites that “the information about current location includes global positioning system (GPS) information.” Ex. 1001, 9:12–14. We note that independent claims 11 and 17 recite different limitations where the information includes GPS information and also explicitly recites that the information includes additional information other than GPS information. *Id.* at 10:5–12, 10:49–65.

The ’416 patent discloses that Figure 6 is an “embodiment in which position detection and monitoring may be augmented by additional operations carried out over a network.” Ex. 1001 4:35–37. The ’416 patent further discloses that “positioning information may include information obtained from GPS satellites, *and* information obtained from other positioning elements such as repeaters and transponders.” *Id.* at 4:48–51. Based on this, we understand that positioning information obtained from a satellite (by GPS device 600) is augmented using additional information, and is not obtained solely based on the additional information. As Patent Owner

notes, the additional information may be environmental information such as “the speed of the device,” as the device is traveling. *Id.* at 5:47–48. The ’416 patent explains that augmenting may be necessary because a thin client device, such as device 600, has “limited resources” and does not have enough memory to “store all of the map information” for navigation. *Id.* at 5:6–11. Thus, additional “position information, e.g. map information” is used for navigation. *Id.* at 5:13–15.

At this stage of the proceeding, we see nothing in the ’416 patent, and Patent Owner does not point us to any persuasive disclosure in the ’416 patent, that the use of additional or “augmented” information in some embodiments, “necessarily excludes the position location of the device” from meeting limitation 1a’s “information about a current location.” *See* Pet. Prelim. Reply 3.

Accordingly, at this stage of the proceeding, we agree with Petitioner that “the plain and ordinary meaning of [limitation 1a] does not exclude the location of the mobile device itself.” *Id.* at 5. For purposes of this Decision, we construe limitation 1a’s “receiving information about a current location” to include information regarding current location of the device as determined by a GPS position determination system.

E. Ground 1: Obviousness Based on Chern and Garceran

1. Overview of Chern (Ex. 1008)

Chern is titled “Location-Based Information Retrieval System for Wireless Communication Device,” and relates to “radio or wireless communications.” Ex. 1008, code (54), ¶2. Figure 1 of Chern, reproduced below, illustrates an exemplary wireless communication device.

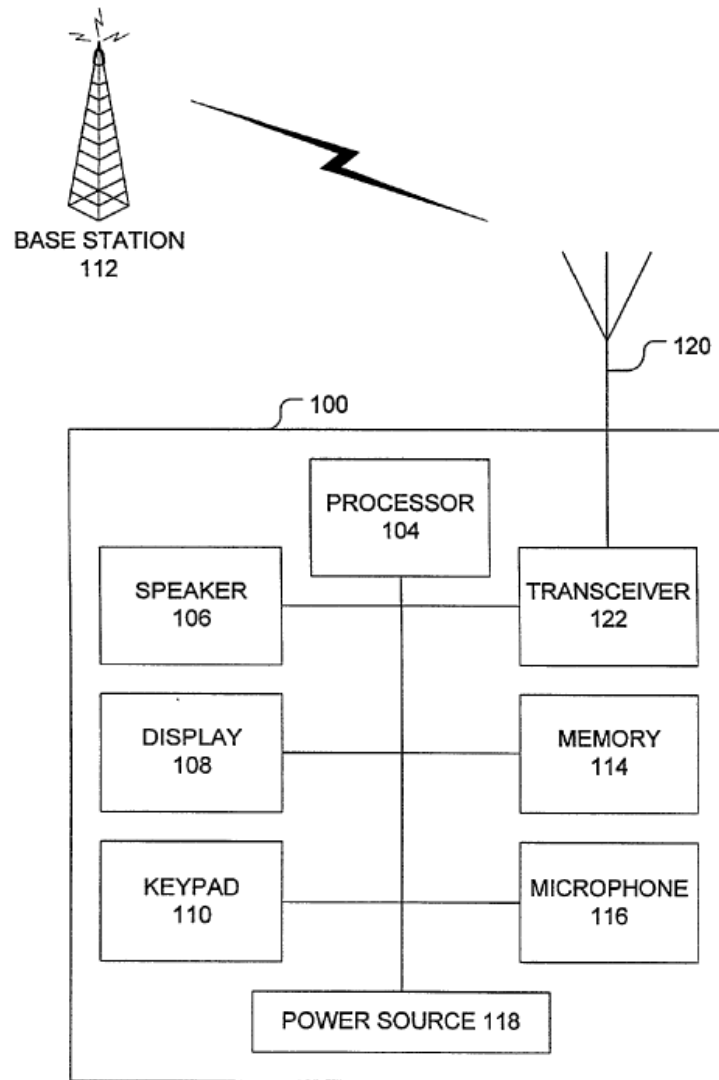


Fig. 1

Figure 1 depicts wireless communication device 100 in communication with base station 112. Ex. 1008 ¶ 32. Device 100 includes processor 104, speaker 106, display 108, keypad 110, transceiver 122, memory 114, microphone 116, power source 118 and antenna 120, and is typically a mobile device such as a handheld handset or an integrated vehicle phone that is configured to communicate with other communications devices

such as base station 112. *Id.* Device 100 may be implemented in a wireless communication system, as depicted in Figure 2 of Chern, reproduced below.

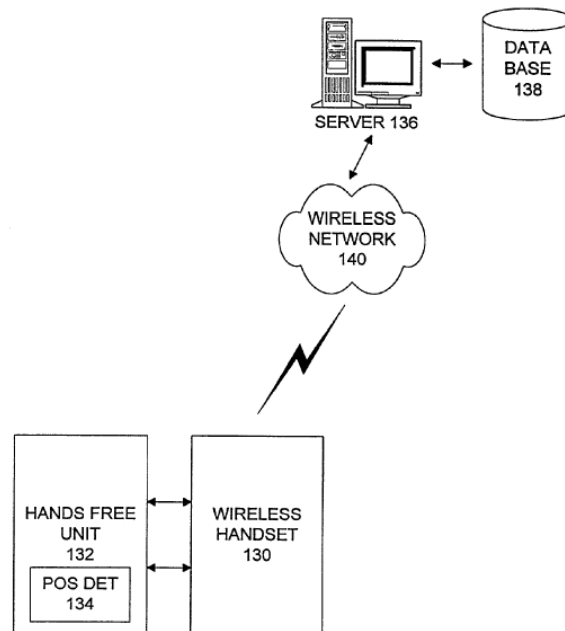


Fig. 2

Figure 2 depicts a block diagram of a wireless communication system. *Id.* ¶ 13. Chern's system includes wireless handset 130, such as device 100 of Figure 1, and hands-free unit 132. *Id.* ¶ 38. Hands free unit 132 is equipped with a position determination system 134 to determine the location of unit 132 and handset 130. *Id.* ¶ 40. Position determination system 134 may be directly incorporated into handset 130, and may be implemented using a global positioning system (GPS). *Id.* Chern's system also includes network 140 that permits communication between handset 130 and data server 136. *Id.* ¶ 43. Using the handset location determined by location determination system 134 and the destination address, server 136 calculates a route and compiles driving directions that are transmitted to handset 130 over network 140 and are displayed, as a map, or audibly rendered to the

user. *Id.* ¶44. Chern explains that “[p]osition determination system 134 determines location in terms of parameters such as latitude, longitude, height, speed of travel, and any other useful location or position parameters.” *Id.* ¶40.

2. Overview of Garceran (Ex. 1017)

Garceran is titled “System For Determining Wireless Coverage Using Location Information for a Wireless Unit,” and “relates to wireless communications.” Ex. 1017, code (54), 1:8. Figure 4 of Garceran, reproduced below, illustrates a wireless unit which can provide location information according to an exemplary embodiment. *Id.* at 2:55–56.

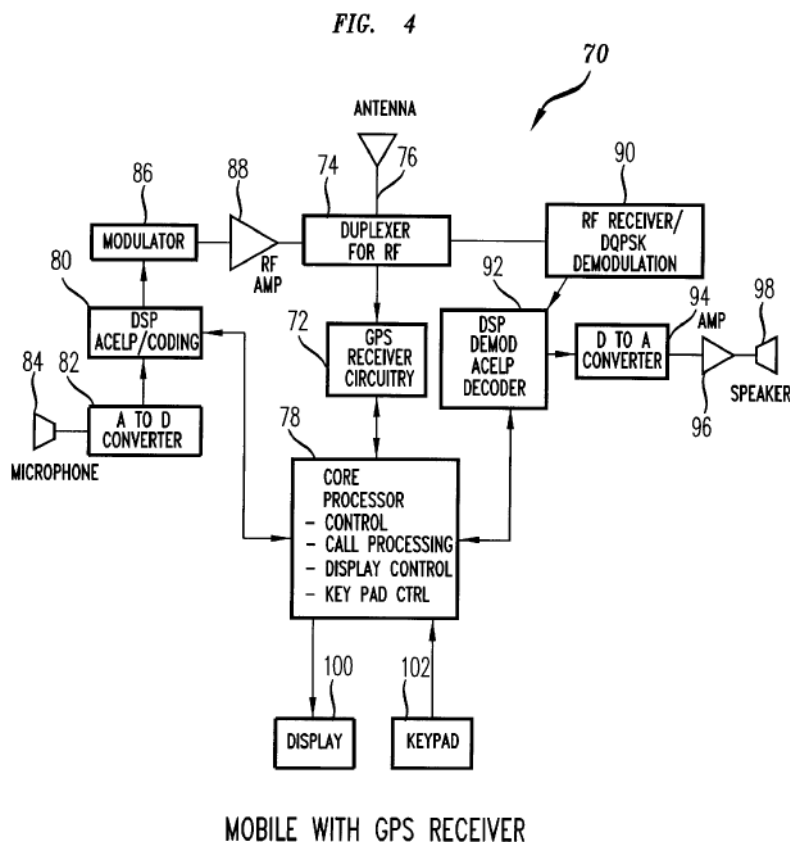


Figure 4 depicts “wireless unit 70 [that] includes GPS receiver circuitry 72 which receives GPS signals from a duplexer 74 which is

connected to the antenna 76 of the wireless unit 70.” *Id.* at 6:34–37. “GPS receiver circuitry 72 provides a location information which can include time, speed, distance and/or direction for the wireless unit to the processing circuitry 78 of the wireless unit 70.” *Id.* at 6:41–44. According to Garceran, “[a] change in operating condition could trigger a dynamic change in the RF coverage provided by the serving base station(s) and/or neighboring base stations to the wireless unit(s) in the location or range of locations.” *Id.* at 2:39–42. Thus, a wireless unit could be served by a serving base station based on “certain operating conditions or parameters, such as time, weather, traffic load, path loss and/or interference level.” *Id.* at 2:34–39. In certain embodiments, “wireless unit 70 can transmit the location information and associated signal quality or other information to a serving base station 54 [] over a channel on the reverse link.” *Id.* at 6:59–62.

3. *Analysis*

Petitioner contends that claims 1, 2, 7, 8, 11, 14, 16, and 24–29 are unpatentable as obvious over Chern and Garceran. Pet. 4–24. In particular, Petitioner contends that the combined teachings of Chern and Garceran disclose each of the limitations of claims 1, 2, 7, 8, 11, 14, 16, and 24–29 and provides a sufficient rationale to combine Chern and Garceran. *Id.*

To support its contention, Petitioner provides a detailed mapping of limitations in claims 1, 2, 7, 8, 11, 14, 16, and 24–29 to disclosure in Chern and Garceran. *Id.* In particular, Petitioner maps the claimed “information about a current location” to Chern’s disclosure of a user’s current location determined by a position determination system, such as a GPS. *Id.* at 6–7 (citing Ex. 1008 ¶¶ 40, 45).

Patent Owner contends that “Petitioner’s combination does not arrive at the claims,” because “the Challenged Claims do not require the handset to

make any location determination.” Prelim. Resp. 1. In particular, Patent Owner contends that “Petitioner’s combination places certain functionality on the handset whereas the claims require such functionality to be on the server.” *Id.* at 3–4. In other words, Patent Owner argues that limitation 1(a)’s “information about a current location” cannot be the location itself. *See id.*

Patent Owner’s contention, however, is based upon a claim construction that we do not adopt. *Id.* at 4–5. As discussed above in section II.D, at this stage in the proceeding, we do not agree with Patent Owner that “the location determination is not performed by the mobile device.”

On this record, and absent any other arguments from Patent Owner, we determine that Petitioner’s analysis and evidence shows a reasonable likelihood that claims 1, 2, 7, 8, 11, 14, 16, and 24–29 would have been unpatentable over Chern and Garceran.

F. Ground 2: Obviousness Based on Chern and Garin

1. Overview of Garin (Ex. 1007)

Garin is titled “Information Transfer in a Multi-Mode Global Positioning System used with Wireless Networks,” and relates “to multi-mode Global Positioning System (GPS) for use with wireless networks.” Ex. 1007, code (54), 1:18–20. Garin discloses that when the GPS system is not receiving a strong enough GPS signal, e.g., the handheld wireless communication device is being used indoors, the GPS system “can switch to a different mode of operation, e.g., a mode of operation where the wireless communication system helps or ‘aids’ the GPS system to acquire, track, and/or navigate using the GPS signals received by the GPS receiver and additional information supplied by the wireless communications system.”

Id. at 3:54–62. One mode uses “low power short range wireless technology to aid GPS receiver with approximate location.” *Id.* at 10:37–39. In an alternate mode, Garin’s GPS receiver can receive information from GPS satellites and a Bluetooth network, so that “GPS acquisition, tracking, and navigation functions can be enhanced with inputs from the Bluetooth network without using the cellular network.” *Id.* at 7:60–65. Garin explains that “Bluetooth, or other sensors such as pressure, accelerometers, or gyros [are used] to provide the GPS with aids outside of the network being used for communications.” *Id.* at 8:55–57.

2. *Analysis*

Claim 11 is independent, and claim 15 depends from claim 11. Petitioner contends that claims 11 and 15 are unpatentable as obvious over Chern and Garin. Pet. 43–51. Petitioner provides a mapping of limitations of claims 11 and 15 to disclosures in Chern and Garin and a sufficient rationale for combining Chern and Garin. *Id.*

Patent Owner does not make any argument specifically directed to claims 11 and 15. Prelim. Resp. 3–5. Instead, Patent Owner broadly asserts that its arguments concerning claim 1 “applies to all claims and grounds.” Prelim. Resp. 5. We note that unlike claim 1, independent claim 17 does not recite “receiving information *about* a current location.” *See* Ex. 1001, 10:6–21. And, in any event, we found Patent Owner’s argument concerning claim construction to be unpersuasive at this stage of the proceeding.

On this record, and absent any other arguments from Patent Owner, we determine that Petitioner’s analysis and evidence shows a reasonable likelihood that claims 11 and 15 would have been unpatentable over Chern and Garin.

G. Ground 3: Obviousness Based on Yamakita

1. Overview of Yamakita (Ex. 1005)

Yamakita is titled “Action Analyzing/Recording System,” and “relates to a system for analyzing the action of, e.g., a user who is carrying a portable terminal on the basis of information acquired from the portable terminal.” Ex. 1005, code (54), 1:5–7. Yamakita discloses that “portable terminal 1 detects the position [] of the portable terminal 1 at a certain time point” and “supplies the position and time information to the host terminal 3.” *Id.* at 2:54–58. Figure 7 of Yamakita, reproduced below, illustrates a flow chart for explaining processing in the host terminal. *Id.* at 2:12–13.

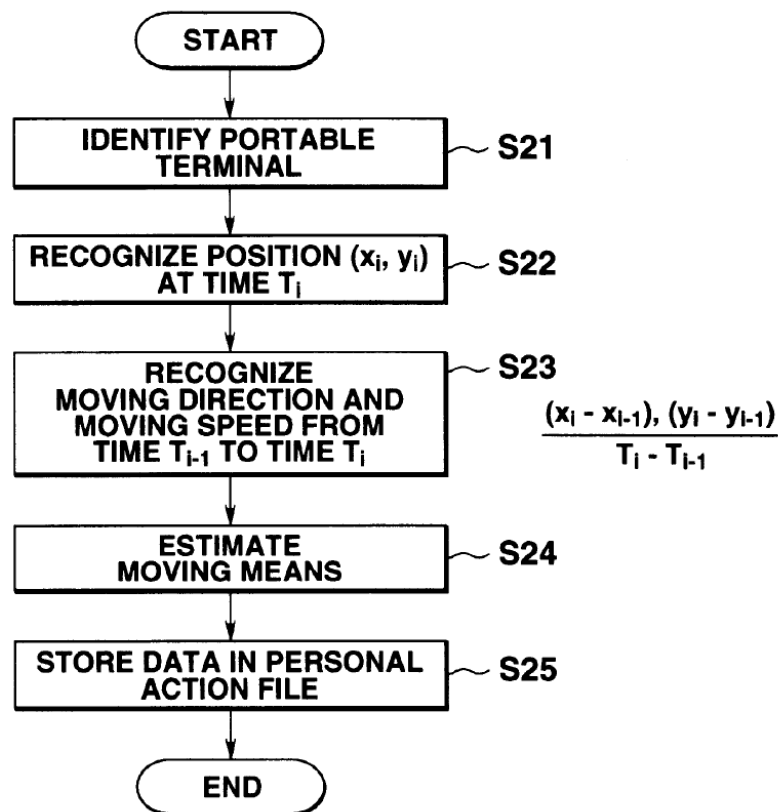


Figure 7 depicts a flow chart explaining processing in host terminal 3, in which a packet sent from portable terminal 1 “is received to analyze the action of the user who is carrying the portable terminal 1.” *Id.* at 5:53–57.

“In step S22, position information and time information, which are stored in the data portion of the received packet, are extracted to recognize the position ($x_i y_i$) of the portable terminal 1 at time T_i .” *Id.* at 5:65–6:1. “In step S23, the moving direction and moving speed of the portable terminal 1 from time T_{i-1} to time T_i are calculated.” *Id.* at 6:1–3. “In step S24, the calculation result obtained in step S23 is used to estimate the moving means (walking, train, motor vehicle, stop, . . .) of the user who is carrying the portable terminal 1,” and “the position of the user who is carrying the portable terminal 1 at a certain time point, and if he/she is moving, the moving means are estimated.” *Id.* at 6:4–9. “Upon receiving the information transferred from the portable terminal 1, the host terminal 3” “analyze[s] the moving route of the user who is carrying the portable terminal 1,” using map data. *Id.* at 6:38–43. The actions of the user can be stored in an action record table as a packet and transferred to the portable terminal 1, which “extracts the action record table from the packet transferred from the host terminal 3 and displays it on an LCD display unit. *Id.* at 9:65–10:4.

2. *Analysis*

Petitioner contends that claims 20–23 and 30–35 are unpatentable as obvious over Yamakita. Pet. 51–81. Petitioner provides a detailed mapping of limitations in claims 20–23 and 30–35 to disclosures in Yamakita and a sufficient rationale as to why the claims would have been obvious. *Id.*

Patent Owner makes no arguments specifically directed to these claims and this ground. Instead, Patent Owner broadly asserts that its arguments concerning claim 1 “applies to all claims and grounds.” Prelim. Resp. 5. We note however, that independent claim 30 does not recite “receiving information *about* a current location” like claim 1. *See* Ex. 1001,

12:30–44. Rather, claim 30 recites a “means for determining a current location of the apparatus.” *Id.* Patent Owner does not discuss Yamakita and does not sufficiently explain why its arguments also pertain to claim 30.

On this record, and absent any other arguments from Patent Owner, we determine that Petitioner’s analysis and evidence shows a reasonable likelihood that claims 20–23 and 30–35 would have been unpatentable over Yamakita.

III. CONCLUSION

After considering the evidence and arguments presented in the Petition, Preliminary Response, Reply, and Sur-Reply, we determine that the information presented shows a reasonable likelihood that Petitioner would prevail in establishing that claims 1, 2, 7, 8, 11, 14–16, and 20–35 of the ’416 patent are unpatentable.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review is instituted for claims 1, 2, 7, 8, 11, 14–16, and 20–35 of the ’416 patent on the unpatentability grounds asserted in the Petition; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial, which commences on the entry date of this decision.

IPR2023-01191
Patent 8,805,416 B2

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