

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

GEOSCOPE TECHNOLOGIES PTE. LTD.,
Patent Owner.

IPR2024-00032
Patent 8,786,494 B2

Before PATRICK R. SCANLON, SHEILA F. McSHANE, and
BRIAN D. RANGE, *Administrative Patent Judges*.

RANGE, *Administrative Patent Judge*.

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

I. INTRODUCTION

Apple Inc. (“Petitioner”) filed a Petition requesting *inter partes* review of claims 1–5, 9, 11, 12, 14–16, 18–22, 25, 27, 29, 31, 32, and 35 of U.S. Patent No. 8,786,494 B2 (Ex. 1001, “the ’494 patent”). Paper 2 (“Pet.”). Geoscope Technologies Pte. Ltd. (“Patent Owner”) filed a Preliminary Response. Paper 11 (“Prelim. Resp.”).

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.” The following findings of fact and conclusions of law are not final, but are made for the sole purpose of determining whether Petitioner meets the threshold for initiating review. Any final decision shall be based on the full trial record, including any response timely filed by Patent Owner. Any arguments not raised by Patent Owner in a timely-filed response may be deemed waived.

For the reasons stated below, we determine that Petitioner has established a reasonable likelihood that it would prevail with respect to at least one claim. We hereby institute an *inter partes* review as to claims 1–5, 9, 11, 12, 14–16, 18–22, 25, 27, 29, 31, 32, and 35 of the ’494 patent based upon Petitioner’s asserted grounds of unpatentability.

II. BACKGROUND

A. *Real Parties in Interest*

Petitioner identifies itself as the real party in interest. Pet. 89. Patent Owner identifies itself as the real party in interest. Paper 5, 2; Paper 7, 2.

B. Related Matters

The parties identify the following matters as related to this proceeding:

Geoscope Technologies Pte. Ltd. v. Google LLC f/k/a Google Inc., No. 1:22-cv-01331-MSN (E.D. Va.) (filed Nov. 22, 2022) (“the Google Action”);

Geoscope Technologies Pte. Ltd. v. Apple Inc., No. 1:22-cv-01373-MSN (E.D. Va.) (filed Dec. 1, 2022) (“the Apple Action”); and

Google LLC v. Geoscope Technologies Pte. Ltd., IPR2023-01211, (PTAB) (filed Aug. 10, 2023).

Pet. 89; Paper 5 at 2.

Patent Owner additionally identifies the following matters as related to this proceeding:

Google LLC v. Geoscope Technologies Pte. Ltd., IPR2023-01212 and IPR2023-01213 (PTAB) (filed Aug. 9, 2023);

Google LLC v. Geoscope Technologies Pte. Ltd., IPR2023-01209 and IPR2023-01210 (PTAB) (filed Aug. 10, 2023);

Geoscope Technologies Pte. Ltd. v. Google LLC, No. 24-1003 (Fed. Cir.) (docketed Oct. 2, 2023);

Geoscope Technologies Pte. Ltd. v. Apple, Inc., No. 24-1018 (Fed. Cir.) (docketed Oct. 5, 2023); and

Apple Inc. v. Geoscope Technologies Pte. Ltd., IPR2024-00031.

Paper 5 at 2–3.

C. The '494 patent

The '494 patent, titled “Method to Modify Calibration Data Used to Locate a Mobile Unit,” issued July 22, 2014, with claims 1–35. Ex. 1001, codes (45), (54), 12:10–15:6. The '494 patent claims priority as a “[c]ontinuation of application No. 12/424,320, filed on Apr. 15, 2009, now Pat. No. 8,400,358 [(‘the ’358 patent’)], and a continuation of application No. 12/026,333, filed on Feb. 5, 2008, now Pat. No. 7,561,104.” *Id.* at code (63). The '494 patent explains that “[w]hen a wireless device is located indoors, the signal strengths of signals received from the serving and/or neighboring base stations tend to be lower than the strength of the signals received by a wireless device located outdoors,” which may result in “poor estimated location accuracy.” *Id.* at 1:40–47. The '494 patent aims to address this issue with its method of locating a mobile station in an indoor facility, in which calibration data samples obtained outdoors are used to simulate indoor calibration data. *Id.* at 3:47–58; *see also id.* at 1:48–61.

In one embodiment of the '494 patent, the method includes “providing a database of previously-gathered calibration data for a region in a wireless network,” “collecting observed network measurement data from a plurality of transmitters which includes a signal characteristic from each one of said plural transmitters,” “determining an average value for the signal characteristics,” “modifying the observed network measurement data using the average value,” and “compar[ing] the modified network measurement data with the database of calibration data to determine the location of the mobile station.” Ex. 1001, 2:31–43; *see also id.* at 11:32–44, Fig. 9. The '494 patent also describes that “a non-uniform grid point (NUG) may represent the signal characteristics and/or calibration data over a given

region.” *Id.* at 3:59–61. In one example, “a set of NUGs . . . are . . . part of a larger geographical region . . . includ[ing] various wireless networking components,” where “[t]he NUGs represent an area of collected calibration data, which may be stored in a database for easy retrieval during a calibration data comparison operation between the NUG and a received network measurement report (NMR).” *Id.* at 3:61–4:2.

D. Illustrative Claims

Claims 1, 14, and 25 are independent. The other challenged claims (claims 2–5, 9, 11, 12, 15, 16, 18–22, 27, 29, 31, 32, and 35) depend from either claim 1, claim 14, or claim 25. *See* Ex. 1001, 12:10–38, 12:55–58, 12:63–13:3, 13:7–30, 13:34–53, 14:7–23, 14:27–31, 14:35–36, 14:41–45, 15:4–6.

Claim 1 (with identifiers of claim elements, *see, e.g.*, Pet. v, 16–33) is illustrative and is reproduced below. Claim 4 is also reproduced below.

[1.1] A method for determining a location of a mobile station, comprising:

[1.2] providing a database of previously-gathered calibration data for a predetermined region in a wireless network;

[1.3] collecting observed network measurement data,
[1.4] the observed network measurement data collected by the mobile station and transmitted to the network or collected by the network;

[1.5] modifying said observed network measurement data; and

[1.6] comparing said modified network measurement data with said database of calibration data to thereby determine the location of the mobile station.

[4] The method of claim 1 wherein said database comprises previously-gathered calibration data for one or more non-uniform grid points within said region.

Ex. 1001, 12:10–22, 12:31–33.

E. Asserted Grounds of Unpatentability

Petitioner, supported by the declaration of Dr. Karthikeyan Sundaresan (Ex. 1003), asserts the following grounds of unpatentability (Pet. 1):¹

Claims Challenged	35 U.S.C. §	References/Basis
1, 2, 5, 9, 12, 14, 16, 18–22	102(a)	Bhattacharya ²
1–5, 9, 11, 12, 14–16, 18–22	103(a)	Bhattacharya, Spain ³
25, 27, 29, 31, 32, 35	102(b)	Bhattacharya, Meunier ⁴
25, 27, 29, 31, 32, 35	103(a)	Bhattacharya, Spain, Meunier

III. ANALYSIS

A. Legal Standard

A claim may be invalid as anticipated by a prior art reference if “each and every limitation is found either expressly or inherently in a single prior

¹ The relevant sections of the Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112–29, took effect on March 16, 2013. The ’494 patent was filed before this date. *See* Ex. 1001, code (22). For the purposes of this Decision, pre-AIA statutes apply.

² US 2006/0211376 A1, published Sept. 21, 2006, Ex. 1005 (“Bhattacharya”).

³ US 2006/0240843 A1, published Oct. 26, 2006, Ex. 1006 (“Spain”).

⁴ US 2005/0130677 A1, published June 16, 2005, Ex. 1007 (“Meunier”).

art reference.” *Sanofi–Synthelabo v. Apotex, Inc.*, 470 F.3d 1368, 1375 (Fed. Cir. 2006) (internal quotation marks omitted). Anticipation under § 102 may be established by showing, as a matter of fact, that all elements arranged as specified in a claim are disclosed within the four corners of a reference, either expressly or inherently, in a manner enabling one skilled in the art to practice an embodiment of the claimed invention without undue experimentation. *See ClearValue, Inc. v. Pearl River Polymers, Inc.*, 668 F.3d 1340, 1344 (Fed. Cir. 2012).

A patent claim is unpatentable under 35 U.S.C. § 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). 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 ordinary skill in the art; and (4) when in evidence, objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

B. Level of Ordinary Skill in the Art

In order to determine whether an invention would have been obvious at the time the application was filed, we consider the level of ordinary skill in the pertinent art at the critical time. *Graham*, 383 U.S. at 17. The resolution of this question is important because it allows us to “maintain[] objectivity in the obviousness inquiry.” *Ryko Mfg. Co. v. Nu–Star, Inc.*, 950 F.2d 714, 718 (Fed. Cir. 1991). In assessing the level of ordinary skill in the

art, various factors may be considered, including the “type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field.” *In re GPAC, Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (quotation omitted). Generally, it is easier to establish obviousness under a higher level of ordinary skill in the art. *Innovation Toys, LLC v. MGA Entm’t, Inc.*, 637 F.3d 1314, 1323 (Fed. Cir. 2011) (“A less sophisticated level of skill generally favors a determination of nonobviousness . . . while a higher level of skill favors the reverse.”).

Petitioner contends that a person of ordinary skill in the art (POSITA) would have at least a Bachelor’s degree in electrical engineering, computer science, or a similar discipline, and at least two years of experience in the field working with navigation and/or geolocation systems. 1003 ¶ 8; Pet. 6, n.2. According to Petitioner, “[s]uperior education could compensate for a deficiency in work experience, and *vice-versa*.” Ex. 1003 ¶ 8. Patent Owner does not dispute the level of ordinary skill in the art. Prelim Resp. 43.

For purposes of this Decision, we adopt Petitioner’s proposal as reasonable and consistent with the ’494 patent specification and the prior art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (the prior art may reflect an appropriate level of skill in the art).

C. Claim Construction

In *inter partes* reviews, the Board interprets claim language using the district-court-type standard, as described in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). *See* 37 C.F.R. § 42.100(b). Under that

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, in light of the language of the claims, the specification, and the prosecution history. *See Phillips*, 415 F.3d at 1313–14. Although extrinsic evidence, when available, may also be useful when construing claim terms under this standard, extrinsic evidence should be considered in the context of the intrinsic evidence. *See id.* at 1317–19.

Petitioner argues that the applied prior art references “disclose and/or render obvious all of the elements of the Challenged Claims under any of the [following] constructions, which are the same as those issued by the district court in the Google action (Ex. 1054):

CLAIM TERM	PETITIONER’S IDENTIFIED ⁵ CONSTRUCTION
calibration data	“modified or unmodified network measurement data associated with a geographic location”
observed network measurement data	“measurement data from a network measurement report (i.e., a report used in cellular networks which provides the results of a measurement from a mobile device on one or more cells)”
grid point	“a point associated with representative calibration data for an area”
order of “collecting,” “modifying,” and “comparing” steps	collecting has to occur before modifying, and modifying has to occur before comparing

Pet. 2–3. Petitioner also asserts that the parties have stipulated as to the order of the “collecting,” “modifying,” and “comparing” steps in claim 1. *Id.* at 3

⁵ Petitioner stops short of proposing these constructions as being the best construction, but Petitioner identifies no other constructions and states that the challenged claims are unpatentable under these constructions.

(citing Ex. 1052). Petitioner argues that any other claim term should be interpreted consistent with the *Phillips* standard. *Id.* at 2.

Patent Owner “does not dispute Petitioner’s statement on claim construction for the purposes of [the] Preliminary Response” and “reserves the right to present arguments on the constructions should the Petition be instituted.”⁶ Prelim. Resp. 43.

For purposes of this Decision, we adopt the undisputed claim constructions that Petitioner refers to. These constructions are consistent with the claim language and the specification of the ’494 patent and are further supported by the reasoning provided by the district court’s claim construction order. *See* Ex. 1054. We do not discern a need to construe explicitly any other claim language at this juncture because doing so would have no effect on our analyses below of Petitioner’s asserted grounds and will not assist in resolving the present controversy between the parties. *See Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe ‘only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.’”) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

D. Discretion under 35 U.S.C. § 314(a)

Petitioner argues that we should not exercise discretion to deny the

⁶ In other sections of the Preliminary Response, Patent Owner appears to argue in favor of a modified construction of “grid point.” Prelim. Resp. 45–52; *see also id.* at 45 (“As further explained above in Section IV, the district court concluded that ‘grid point,’ as used in the ’494 Patent, specifically refers to ‘a point associated with representative calibration data for an area’ that is ***generated based on analysis of calibration data.***”) (Patent Owner’s emphasis). We disagree with these arguments for the reasons discussed below.

Petition under 35 U.S.C. § 314(a). Pet. 85–89. Patent Owner argues that we should exercise discretion under 35 U.S.C. § 314(a) and not institute trial, given the state of the parallel district court litigation. Prelim. Resp. 15–31. For the reasons explained below, we do not exercise our discretion to deny institution in view of the parallel district court proceeding.

Institution of an *inter partes* review is discretionary. *See* 35 U.S.C. § 314(a) (authorizing institution of an *inter partes* review under particular circumstances, but not requiring institution under any circumstances); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2140 (2016) (“[T]he agency’s decision to deny a petition is a matter committed to the Patent Office’s discretion.”); *SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1356 (2018) (“[Section] 314(a) invests the Director with discretion on the question whether to institute review” (emphasis omitted)); *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d at 1356, 1367 (Fed. Cir. 2016) (“[T]he PTO is permitted, but never compelled, to institute an IPR proceeding.”).

Under Board precedent, one of the considerations that may weigh in favor of denying a petition under § 314(a) is the advanced state of a parallel district court action. *See NHK Spring Co. v. Intrix-Plex Techs., Inc.*, IPR2018-00752, Paper 8 at 20 (PTAB Sept. 12, 2018) (precedential); Patent Trial and Appeal Board, Consolidated Trial Practice Guide (“CTPG”) 58, 58 n.2 (Nov. 2019).⁷ In *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential), the Board explained that “cases addressing earlier trial dates as a basis for denial under *NHK* have sought to balance considerations such as system efficiency, fairness, and patent

⁷ Available at <https://www.uspto.gov/TrialPracticeGuideConsolidated>.

quality.” *Fintiv*, Paper 11 at 5. *Fintiv* sets forth six non-exclusive factors for determining “whether efficiency, fairness, and the merits support the exercise of authority to deny institution in view of an earlier trial date in the parallel proceeding.” *Id.* at 6. The Director has also issued interim guidance to the Board on applying these factors. See Katherine K. Vidal, Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation (June 21, 2022) 9, available at https://www.uspto.gov/sites/default/files/documents/interim_proc_discretionary_denials_aia_parallel_district_court_litigation_memo_20220621_.pdf (“Director Memo”).

When determining whether to exercise discretion to deny institution in view of a parallel proceeding with an earlier trial date, the following factors may be relevant:

1. whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;
2. proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision;
3. investment in the parallel proceeding by the court and the parties;
4. overlap between issues raised in the petition and in the parallel proceeding;
5. whether the petitioner and the defendant in the parallel proceeding are the same party; and
6. other circumstances that impact the Board’s exercise of discretion, including the merits.

Fintiv, Paper 11 at 5–6. “These factors relate to whether efficiency, fairness, and the merits support the exercise of authority to deny institution in view of an earlier trial date in the parallel proceeding.” *Id.* Below, we summarize the

relevant procedural history and then address each factor below.

1. Procedural History

The Petition, filed October 31, 2023, challenges claims 1–5, 9, 11, 12, 14–16, 18–22, 25, 27, 29, 31, 32, and 35 of the ’494 patent based on 35 U.S.C. §§ 102 and 103. Pet. 1.

On December 1, 2022, Patent Owner filed a complaint against Petitioner alleging infringement of the ’494 patent. Pet. 89. The claims at issue in that action were eventually narrowed so that the District Court was addressing only claims 1, 4, 25, 26, and 35 of the ’494 patent. Ex. 2014, 1.

In a September 18, 2023, opinion, the United States District Court for the District of Virginia held that claims 1, 4, 25, 26, and 35 of the ’494 patent (and other claims at issue in the “’104 Patent Family”) were patent ineligible under 35 U.S.C. § 101. Ex. 2008, 18. On October 6, 2023, the Court entered a judgment pursuant to Federal Rule of Civil Procedure Rule 12(c) that stemmed from its holding. Ex. 2010. Patent Owner appealed the District Court’s ruling to the Court of Appeals of the Federal Circuit but only as to claims 4 and 26.⁸ Prelim. Resp. 29–30.⁹

2. Factor 1: whether the court granted a stay or evidence exists that one may be granted if this proceeding is instituted

Petitioner argues that no stay has been requested in the related litigation, and that this factor “is neutral because” the Board does “not

⁸ Only claim 4 is challenged in the Petition. Prelim. Resp. 30; *see also* Pet. 1.

⁹ We invite the parties to address at trial whether or not claims 1, 25, and 35 (adjudicated unpatentable under § 101 with no appeal pending) have any remaining legal importance and whether or not it is appropriate for the Board to reach a final written decision as to claims 1, 25, and 35.

attempt to predict” whether the district court will stay the related litigation. Pet. 86.

In its Preliminary Response, Patent Owner argues that “this factor weighs in favor of exercising discretion to deny institution” because “the district court proceedings are closed pending the § 101 appeal to the Federal Circuit,” so “the district court **cannot** stay the litigation given the posture.” Prelim. Resp. 20 (citing *Snap Inc. v. Blackberry Ltd.*, IPR2020-00391, Paper 8 at 13 (PTAB July 13, 2020); *AviaGames, Inc. v. Skillz Platform, Inc.*, IPR2022-00530, Paper 12 at 12 (PTAB Aug. 9, 2022)).

As an initial matter, we do not agree with Patent Owner’s arguments that because judgments have been entered in the district court actions, there is finality as that relates to *Fintiv* issues. In a similar instance in *Volvo*, where a district court’s § 101 determination was appealed to the Federal Circuit, the Director determined that the Board had the authority to institute an *inter partes* review and a *Fintiv* analysis should be performed. See *Volvo Penta of the Americas, LLC v. Brunswick Corp.*, IPR2022-01366, Paper 15 (PTAB May 2, 2023). The Director has additionally distinguished a *Fintiv* analysis under similar circumstances to those here, where “the district court’s judgment of invalidity under 35 U.S.C. § 101, i.e., a statutory ground that could not have been raised before the Board, does not raise concerns of inefficient duplication of efforts or potentially inconsistent results between the Board and the district court.” *AviaGames, Inc.*, Paper 14 at 3. Further, the Director determined that, “the challenged claims have not yet been cancelled and remain in force until the opportunity to appeal has been exhausted,” noting that “[b]y the time an appeal will have concluded,

Petitioner will be barred under 35 U.S.C. § 315(b) from bringing a new challenge in an IPR petition.” *Id.* at 3–4.

Fintiv states that “a district court stay of the litigation pending resolution of the PTAB trial allays concerns about inefficiency and duplication of efforts.” *Fintiv* at 6. In view of the circumstances, we do not discern that the § 101 issues addressed in the Federal Circuit appeal would duplicate the anticipation and obviousness issues addressed here. Accordingly, given the limited § 101 issues on appeal, we do not discern there are any concerns about duplication of efforts. Moreover, because of the uncertainty of the timing of any remand to the district court to address any anticipation or obviousness issues, the present circumstances with a pending appeal effectively act as a stay on the assessment of invalidity issues.

Patent Owner argues that the panel decisions in *Snap* and *AviaGames* found that factor 1, as well as factors 2–6, favor the exercise of discretionary denial. Prelim. Resp. 7–17 (citing *Snap*, Paper 8; *AviaGames*, Paper 12). Other panel’s decisions are not binding, but more importantly, the earlier cases did not have the benefit of the guidance, cited herein, provided by the Director’s decisions in *Volvo* and *AviaGames*. *Volvo*, Paper 15; *AviaGames*, Paper 14 (remanding to the panel only on the issue of whether the challenge’s merits were compelling).

In *AviaGames*, the Director stated that, “[i]f the Board finds the record does not rise to this high standard [compelling, meritorious challenge], the Board will exercise discretion to deny institution.” *AviaGames*, Paper 14 at 5. This statement, however, neither endorsed nor disparaged the panel decision’s analysis of the *Fintiv* factors. Rather, the Director declined to revisit the panel’s analysis of *Fintiv* factors and instead indicated procedure

going forward with the assumption that the analysis of those factors would be unchanged. We again emphasize that the Director explained that the *AviaGames* district court’s invalidity determination “does not raise concerns of inefficient duplication of efforts or potentially inconsistent results between the Board and the district court.” *Id.* at 3. We agree with the Director’s analysis regarding duplication of efforts, and this analysis directly impacts our assessment of the *Fintiv* factors. This Director analysis was unavailable to the original *AviaGames* panel.

Thus, for the reasons explained above, we determine that this factor weighs against the exercise of discretionary denial.

3. *Factor 2: proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision*

Petitioner states that this factor “favors institution” because “there is no trial date,” and “it is unclear if the case will ever be remanded to the District Court.” Pet. 86.

Patent Owner argues that “the Board should find that this factor weighs in favor of denial of institution” because “[t]he district court completed its consideration of the ’494 Patent and reached its final decision in September 2023, months before the Board would even institute review, much less issue a final written decision.” Prelim. Resp. 20. Patent Owner points out that, “[i]n *AviaGames*, under the same circumstances, the Board found that that this factor ‘weighs heavily in favor of denying institution’ because ‘the District Court has completed its consideration of the [challenged patent].’” *Id.* (quoting *AviaGames*, Paper 12 at 12–13; *see also id.* at 20–21 (citing *Snap*, Paper 8 at 13)) (emphasis removed).

At this time, there is no district court trial date scheduled. Further, the date of any potential trial is uncertain if there is a remand after appeal, but it is likely that any potential trial would occur after the completion of this proceeding. Accordingly, we determine that this factor weighs against the exercise of discretionary denial.

4. *Factor 3: investment in the parallel proceeding by the court and the parties*

If, at the time of the institution decision, the district court has issued substantive orders related to the challenged patent, such as a claim construction order, this fact weighs in favor of denial. *See Fintiv*, Paper 11 at 9–10. On the other hand, if the district court has not issued such orders, this fact weighs against discretionary denial. *Id.* at 10.

Petitioner asserts “the District Court proceedings never went to trial or even a pre-trial conference because they were concluded in response to the granting of Apple’s Motion for Judgement on the Pleadings.” Pet. 86–87. Petitioner asserts that, in contrast, because it “diligently worked on addressing the validity of the asserted patents” in order file this petition, based on “the amount of investment already made in this IPR proceeding, factor 3 favors institution or at worst is neutral. *Id.* at 87.

Patent Owner contends that this factor weighs heavily in favor of denying institution because “there has been substantial investment by the parties and the district court in the Apple Action (and the Google Action).” Prelim. Resp. 21–24. First, Patent Owner argues that “[t]he Apple Action is concluded as a result of the district court’s § 101 ruling—*i.e.*, a substantive order related to the ’494 Patent,” and “[b]ased on the same facts, the Board in *AviaGames* and *Snap* found this factor to weigh in favor of denial of

institution.” *Id.* at. 21 (citing Ex. 1051; *AviaGames*, Paper 12 at 13); *see also id.* (citing *Snap*, Paper 8 at 13). Second, Patent Owner argues that, “[e]ven before the district court issued its § 101 ruling, the parties and district court had already made a substantial investment in the litigation,” including the issuance of a *Markman* Order, as well as “fact and expert discovery . . . completed prior to the district court’s § 101 ruling and completed long before the Petition was filed on October 31, 2023,” the “completed discovery includ[ing] extensive written discovery, numerous depositions of fact and expert witnesses, and expert reports (including those addressing the validity of the ’494 Patent under 35 U.S.C. §§ 102 and 103).” *Id.* at 22. Third, Patent Owner argues that contrary to Petitioner’s assertions of diligence, Petitioner waited “until after the parties and the district court invested significant resources in the related litigation” to file the Petition. *Id.* at 22–23 (citing Pet. 86–87). And fourth, Patent Owner argues that prior to the Petition, “the district court and Patent Owner also made a substantial investment in the Google Action, another litigation involving the ’494 Patent,” which included “[t]he same substantive orders—a *Markman* order and § 101 ruling,” as well as “fact and expert discovery . . . completed . . . prior to the district court’s § 101 ruling in September 2023.” *Id.* at 11 (citing Exs. 1054, 2008, 2013).

The district court has issued substantive orders, and the parties in the district court proceedings have invested significant resources prior to the § 101 ruling, including the completion of claim construction and fact and expert discovery. We determine that this factor slightly favors discretionary denial.

5. *Factor 4: overlap between issues raised in the petition and in the parallel proceeding*

Petitioner states that “[b]ecause any appeal of the District Court holding would be limited to § 101 issues and § 101 grounds cannot and are not raised in this IPR petition, there is no overlap of issues in this IPR proceeding and parallel litigation.” Pet. 87–88. Patent Owner argues this factor weighs in favor of denying institution because, under similar facts “[i]n *AviaGames*, the Board determined that the fact that ‘the challenged patent ha[d] already been found to be invalid by another tribunal’ weighed in favor of exercising discretion to deny institution.” Prelim. Resp. 25 (quoting *AviaGames*, Paper 12 at 14). Patent Owner adds that “there is complete overlap between Petitioner’s invalidity arguments in this proceeding and its invalidity arguments in the district court” because “the three prior art references relied on by Petitioner for this proceeding,” *Bhattacharya, Spain, and Meunier* “are also relied on by Petitioner in the Apple Action,” and “the record pertaining to these invalidity arguments has already been developed in the district court, including through hundreds of pages of expert reports.” *Id.* at 25–26 (citing Ex. 2014, 11; Ex. 2003, 1; Pet. 87–88). According to Patent Owner, “[i]t is an inefficient use of the Board’s resources to adjudicate the validity of the ’494 Patent where the district court has already done it. . . . [a]nd . . . to develop a record that has already been developed in the Apple Action.” *Id.* at 26–27.

In *Snap*, the Director determined that a district court’s final judgment based on § 101 does not necessarily create overlap between the issues raised in a petition and a parallel district court proceeding. *Snap*, Paper 8 at 14. In

view of this determination, we determine that this factor weighs against the exercise of discretionary denial.

6. *Factor 5: whether the petitioner and the defendant in the parallel proceeding are the same party*

Petitioner here is the same as the named party in the Apple Action. Accordingly, this factor weighs in favor of exercising our discretion to deny institution.

7. *Factor 6: other circumstances that impact the Board's exercise of discretion, including the merits*

Patent Owner argues that the asserted grounds are not strong and should be denied on the merits. Prelim. Resp. 27–30. Patent Owner further asserts that because the challenged patent has been found invalid in the district court, this weighs in favor of denying institution. *Id.* at 28–29. Petitioner, on the other hand, argues that the merits of its arguments are strong. Pet. 88–89.

As discussed above, because there is no overlap of issues between this proceeding and the district court's judgment, the court's invalidity finding does not significantly impact the issue of discretionary denial. Moreover, as discussed below, we determine that the merits of the Petition meet the standard for institution.

Accordingly, we determine that this factor is neutral.

8. *Conclusion*

We have considered the circumstances and facts before us in view of the *Fintiv* factors. Because our analysis is fact-driven, no single factor is determinative of whether we exercise our discretion to deny institution under § 314(a). We take “a holistic view of whether efficiency and integrity of the system are best served by denying or instituting review” when evaluating

these factors. *Fintiv*, Paper 11, 6. Evaluating all of the factors on this record, we determine that weight of factors 1, 2, and 4 outweigh the remaining factors. Thus, based on our assessment of the *Fintiv* factors, we decline to exercise our discretion under 35 U.S.C. § 314(a) to deny *inter partes* review.

E. Discretionary Denial Under 35 U.S.C. § 325(d)

Pursuant to 35 U.S.C. § 325(d), in determining whether to institute an *inter partes* review, “the Director may take into account whether, and reject the petition or request because, the same or substantially the same prior art or arguments previously were presented to the Office.” In evaluating arguments under § 325(d), we use a two part framework:

- (1) whether the same or substantially the same art previously was presented to the Office or whether the same or substantially the same arguments previously were presented to the Office; and (2)
- if either condition of first part of the framework is satisfied, whether the petitioner has demonstrated that the Office erred in a manner material to the patentability of challenged claims.

Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH, IPR2019-01469, Paper 6 at 8 (PTAB Feb. 13, 2020) (precedential) (“*Advanced Bionics*”); *see also Becton, Dickinson & Co. v. B. Braun Melsungen AG*, IPR2017-01586, Paper 8 at 17–18 (PTAB Dec. 15, 2017) (precedential as to Section III.C.5, first paragraph) (listing factors to consider in evaluating the applicability of § 325(d)) (“*Becton, Dickinson*”).

The non-exclusive factors set forth in *Becton, Dickinson* “provide useful insight into how to apply the framework” of *Advanced Bionics* under § 325(d). *Advanced Bionics* at 9. Those non-exclusive factors include:

- (a) the similarities and material differences between the asserted art and the prior art involved during examination;

- (b) the cumulative nature of the asserted art and the prior art evaluated during examination;
- (c) the extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection;
- (d) the extent of the overlap between the arguments made during examination and the manner in which Petitioner relies on the prior art or Patent Owner distinguishes the prior art;
- (e) whether Petitioner has pointed out sufficiently how the Examiner erred in its evaluation of the asserted prior art; and
- (f) the extent to which additional evidence and facts presented in the Petition warrant reconsideration of the prior art or arguments.

Becton, Dickinson at 17–18. “If, after review of factors (a), (b), and (d), it is determined that the same or substantially the same art or arguments previously were presented to the Office, then factors (c), (e), and (f) relate to whether the petitioner has demonstrated a material error by the Office.” *Advanced Bionics* at 10.

We address each prong of the two-prong *Advanced Bionics* assessment below.

1. First Prong

As to the first prong of the *Advanced Bionics* assessment, Petitioner argues that “no IDS was filed by the applicant” and there was “[n]o prior art-based rejection . . . other than a double patenting rejection.” Pet. 84.

Patent Owner contends that Bhattacharya and Spain were considered by the Patent Office during the prosecution of the parent ’358 patent, and that the only other reference, Meunier, is cited “only for two of the grounds

and only for a very narrow purpose that does not change the § 325(d) analysis.” Prelim. Resp. 5; *see id.* at n.2. Specifically, Patent Owner contends 1) the Examiner considered Bhattacharya and Spain, as evidenced in the Information Disclosure Statement, 2) the ’358 Patent and the ’494 Patent “both were examined by the same Examiner,” and 3) “the Examiner rejected the ’494 Patent claims for nonstatutory double patenting over the ’358 Patent . . . and Applicant responded with a terminal disclaimer.” *Id.* at 6–7 (citing Ex. 1001, 1; Ex. 1002, 22, 35, 42–43; Ex. 2020, 1–2; Ex. 2021, 20; *Beckton, Dickinson*, Paper 8 at 23. *Id.*

Although we appreciate that Bhattacharya and Spain are not listed on an IDS in the ’494 patent, we agree with Patent Owner that the record shows that Bhattacharya and Spain¹⁰ were listed on an IDS during prosecution of the parent ’358 patent, which the ’494 patent Examiner was required to consider. Prelim. Resp. 5 (citing MPEP 609.02). As such, we determine that Bhattacharya and Spain were presented previously to the Office. *See* Prelim. Resp. 9; *Advanced Bionics* at 7–8. We also agree with Patent Owner that the addition of Meunier does not substantially impact our § 325(d) analysis because of the Petition’s limited reliance on this reference. For these reasons, we determine that the first prong of *Advanced Bionics* is met and turn to the second prong.

¹⁰ We agree with Patent Owner that “US 2006/0240843—i.e., the publication identified as ‘Spain’ in the Petition” is the same Spain considered by the Examiner because US 7,753,278 B2 lists US 2006/0240843 A1 under “Prior Publication Data.” Ex. 2003, code (65); Prelim. Resp. 7.

2. *Second Prong*

For the second prong of *Advanced Bionics*, we consider whether the petitioner has demonstrated that the Office erred in a manner material to the patentability of the challenged claims. Petitioner argues that the asserted references anticipate or render obvious the challenged claims. Pet. 84. Petitioner argues, “[t]he Examiner committed an error by not examining the application against the pertinent art, such as the asserted references in this petition.” *Id.*

Patent Owner asserts that “Petitioner does not identify any specific error in the Examiner’s consideration of Bhattacharya [and] Spain,” and rather makes a generic argument that the art was not applied. Prelim. Resp. 12 (citing Pet. 84–85). According to Patent Owner, “Petitioner cannot meet its burden to show a material error by the Examiner with this boilerplate contention that does not explain specifically what the alleged material error is.” *Id.* at 12–13.

Factors (c), (e), and (f) of *Becton, Dickinson* are used as part of our assessment of this second prong of *Advanced Bionics*. *Advanced Bionics* states

Factor (c) focuses on the record developed by the Office in previously reviewing the art or arguments. It informs, therefore, the petitioner’s showing under factors (e) and (f), which focus on the petitioner’s evidence of previous Office error regardless of the context in which the same or substantially the same art or arguments were previously presented. For example, if the record of the Office’s previous consideration of the art is not well developed or silent, then a petitioner may show the Office erred by overlooking something persuasive under factors (e) and (f). On the other hand, if the alleged error is a disagreement with a specific finding of record by the Office, then ordinarily the petitioner’s required showing of material error must overcome persuasively that specific finding of record.

Advanced Bionics at 10–11.

As stated in the assessment under prong 2, the Patent Office record is the “focus” of factor (c) and “informs” the petitioner’s showing under factors (e) and (f). As to factor (c), the parties agree, and the record shows, Bhattacharya and Spain were only listed or cited to in IDSs and were not addressed in any Office Actions. *See* Pet. 84; Prelim. Resp. 7. As *Advanced Bionics* recognizes, a showing of material error varies depending on the degree to which the previously-presented art was substantively addressed by the Office. *Advanced Bionics* at 10–11.

Turning to factor (e), as Petitioner argues, the Examiner did not examine the ’494 patent’s application against Bhattacharya or Spain. The record is silent as to how the Examiner viewed the prior art listed in IDSs which is asserted here. We recognize that it is difficult to characterize error in a silent record. In this light, we find that Petitioner’s assertion that the Examiner failed to adequately consider the references, which should have resulted in an Office Action because the references clearly disclose the ’335 patent claimed subject matter, serves as sufficient identification of error under factor (e). Pet. 84.

Moreover, as discussed in Section III(G), *infra*, and relevant to factor (f), the evidence presented in the Petition is meritorious, which further demonstrates that the combination of the cited prior art was overlooked during prosecution. Although we appreciate Patent Owner’s position that some panels have denied institution under § 325(d) because petitioner did not identify any specific error under a § 325(d) analysis (Prelim. Resp. 13), nonetheless, other panels have determined that a petitioner’s showing that the challenged claims are unpatentable over the asserted prior art may itself

be evidence of material error by the Office during prosecution. *See Quasar Science LLC v. Colt International Clothing, Inc. d/b/a Colt LED*, IPR2023-00611, Paper 10 at 14 (PTAB Oct. 10, 2023); *Chemtronics USA, Inc. v. Flatfrog Labs. AB*, IPR2024-00014, Paper 11 at 21–26 (PTAB April 22, 2024); *Apple, Inc. v. Telefonaktiebolaget LM Ericsson*, IPR2022-00457, Paper 7 at 8 (PTAB Sept. 21, 2022); *CODE200, UAB et al. v. Bright Data Ltd.*, IPR2022-00353, Paper 8 at 10 (PTAB July 1, 2022). In particular, we agree with prior panels to the extent they determine that a showing of unpatentability over the art “may itself” be evidence of material error where the Office did not previously address the pertinent art in substance:

Where, as here, the Office has not substantively addressed prior art other than an Examiner initialing an IDS or listing a reference on a Notice of References Cited, the petitioner may show material error by showing that the Office failed to reject the claims over the asserted art. In other words, a petitioner’s showing that the challenged claims are unpatentable over the asserted prior art may itself be evidence of material error by the Office during prosecution. *See Apple, Inc. v. Telefonaktiebolaget LM Ericsson*, IPR2022-00457, Paper 7 at 8 (PTAB Sept. 21, 2022); *CODE200, UAB et al. v. Bright Data Ltd.*, IPR2022-00353, Paper 8 at 10 (PTAB July 1, 2022).

Quasar Science LLC, IPR2023-00611, Paper 10 at 14.

3. Conclusion

Here, we determine that the Office committed material error in overlooking the pertinence of Bhattacharya and Spain because Petitioner has shown that Spain describes calibration data as claimed, where “region 220 is partitioned such that the locations represent ‘one or more non-uniform grid points within said region.’” Pet. 58–61; Ex. 1006 ¶¶ 6, 58, 66, 70, 72, 76–82, 98–99; Ex. 1003 ¶¶ 127–131. Based on the present record, Petitioner has shown a reasonable likelihood of prevailing in establishing that Bhattacharya

and Spain render obvious the challenged independent claim. Accordingly, for the reasons above, and based on the second part of the *Advanced Bionics* framework, we decline to exercise discretion to deny institution under 35 U.S.C. § 325(d).

F. Overview of the Asserted Art

1. Bhattacharya (Exhibit 1005)

Bhattacharya generally relates to a technique for estimating the location of a wireless terminal. Ex. 1005 ¶ 1. The technique estimates the location of a wireless terminal without the addition of hardware to either the wireless terminal or to the telecommunication system's base stations. *Id.* ¶ 13. Bhattacharya explains that “the signal strength of a signal from a transmitter is different at some locations, and, therefore, the location of a wireless terminal can be estimated by comparing the signal strength it currently observes against a map or database that correlates locations to signal strengths.” *Id.* ¶ 14. An exemplary database is Bhattacharya's Expected Signal-Strength Database that is populated with the expected signal strengths of three signals at each location in geographic region 200. *Id.* ¶ 85. Geographic region 200 is shown in Figure 2, reproduced below.

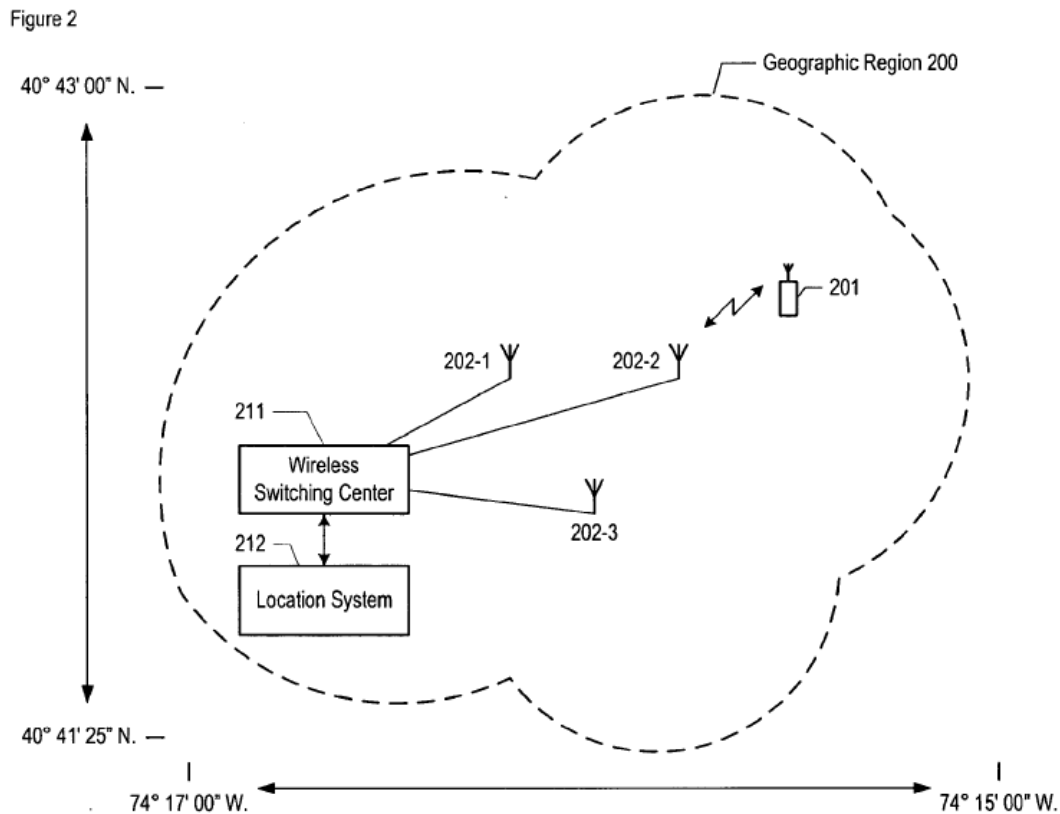


Figure 2 depicts a map of geographic region 200. In Figure 2, wireless switching center 211, location system 212, base stations 202-1, 202-2, and 202-3, and wireless terminal 201, are interconnected as shown to provide wireless telecommunications service to all of geographic region 200. *Id.*

¶ 51. Using this system, a method of estimating the location is depicted in Figure 4, reproduced below.

Figure 4

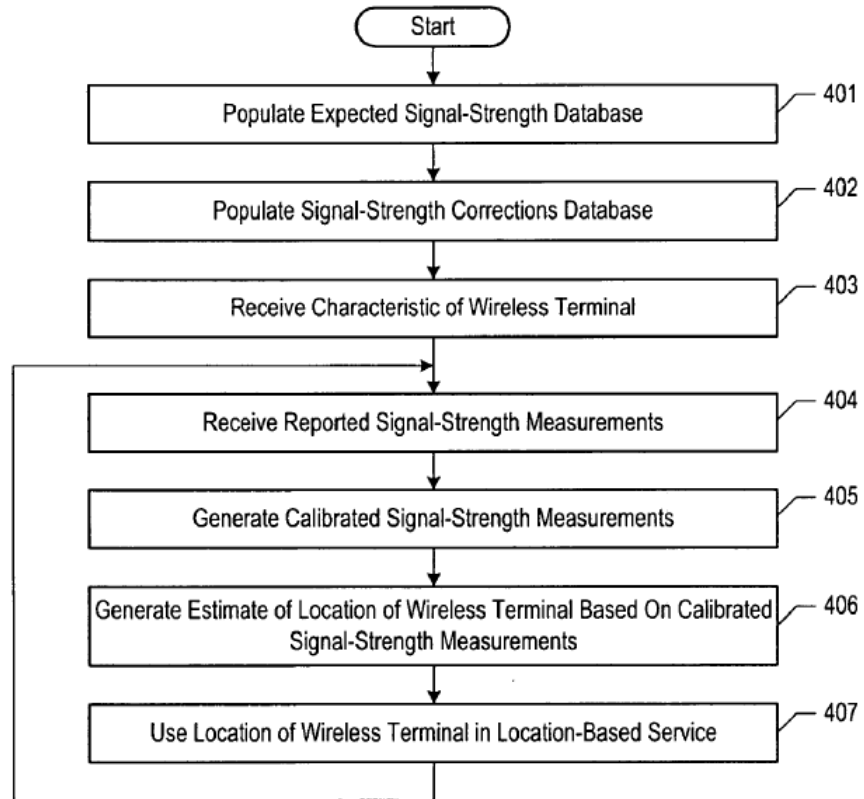


Figure 4 depicts an overview of exemplary tasks performed in estimating the location of wireless terminal 201 in geographic region 200. *Id.* ¶ 30. “At task 401, the Expected Signal-Strength Database is populated with the expected signal strengths of three signals at each location in geographic region 200. *Id.* ¶ 85. At task 404, location system 212 periodically receives a Signal-Strength Measurement Report from wireless terminal 201.” *Id.* ¶ 91. “At task 405, location system 212 uses the reported signal-strength measurements [] from task 404 and the calibration function for the make and model of wireless terminal 201 to generate a tuple of calibrated signal-strength measurements.” *Id.* ¶ 97. At task 406, location system 212 generates a current estimate of the location of wireless terminal 201 based on i.) the tuple of calibrated signal-strength measurements, ii.) the

expected signal-strength tuples for all locations at the time *t* when the measurements underlying were made, and iii.) the cumulative probability distribution for the location of wireless terminal 201. *Id.* ¶¶ 98–101. Task 406 includes a plurality of subtasks 1701–1706 for estimating the location of wireless terminal 201. *Id.* ¶ 174. At subtask 1702, a processor computes the signal-strength differentials for all of the calibrated signal-strength measurements whose reported signal-strength measurements are not “saturated,” i.e., “is at one of the bounds of the range at which a measurement can be reported.” *Id.* ¶ 179. At subtask 1703, the processor computes the expected signal-strength differentials. *Id.* at ¶ 184. At subtask 1704, the processor 301 generates the “current probability distribution” for the location of wireless terminal 201 based on the most recently received reported signal-strength measurements and at subtask 1705, the processor 301 generates the “cumulative probability distribution” for the location of wireless terminal 201 based on all of the received reported signal-strength measurements. *Id.* ¶ 189. The cumulative probability distribution for the location of wireless terminal 201 is normalized to generate the normalized cumulative probability distribution for the location of wireless terminal 201, and at subtask 1706, the processor estimates the location of wireless terminal 201 based on the normalized cumulative probability distribution for the location of wireless terminal 201. *Id.* ¶¶ 206, 207.

2. *Spain (Exhibit 1006)*

Spain generally relates to “a technique for estimating the location of a wireless terminal and using the estimate of the location in a location-based application.” Ex. 1006, code (54), ¶ 1. Spain’s wireless telecommunications system 200 includes wireless terminal 201, base stations 202-1, 202-2, and

202-3, wireless switching center 211, and location server 214, to provides wireless telecommunications service to geographic region 220. *Id.* ¶ 41.

“Location server 214 comprises: processor 301, memory 302, and local-area network transceiver 303,” wherein processor 301 executes operating system 311 and application software 312, and populates, amends, uses, and manages Location-Trait Database 313 and Trait-Correction Database 314. *Id.* ¶¶ 57–58. An exemplary operation of Spain’s technique is depicted in Figure 4, reproduced below.

Figure 4

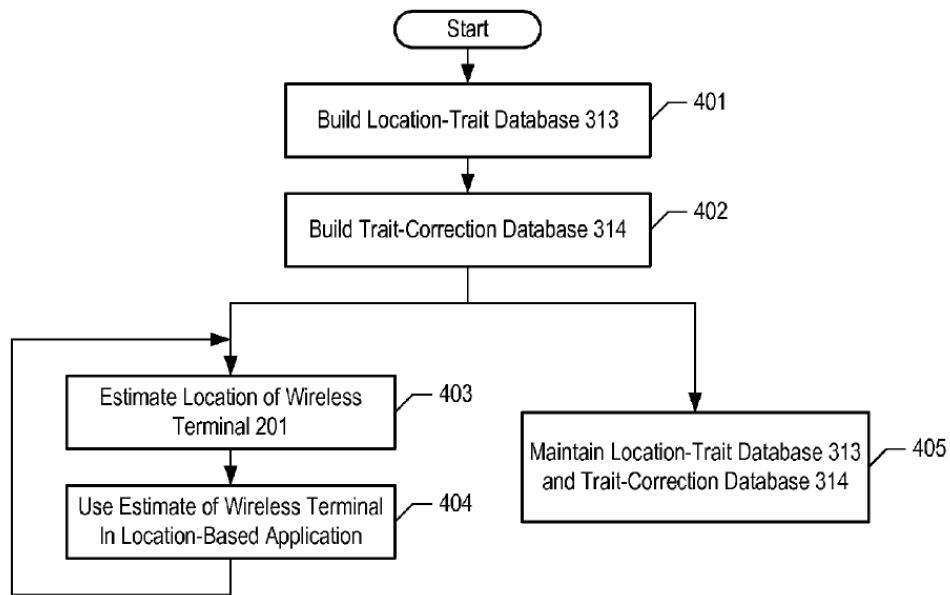


Figure 4 depicts a flowchart of the processes performed in accordance with an illustrative embodiment. *Id.* ¶ 18. At process 401, Location-Trait Database 313 is built, wherein the “Location-Trait Database” is defined as “a database that maps each of a plurality of locations to one or more expected traits associated with a wireless terminal at that location.” *Id.* ¶ 66. To build Location-Trait Database 313, geographic region 220 is partitioned

into B(T,N) locations. *Id.* ¶ 72. Each location is described by various traits, including “a unique identifier,” “the coordinates (e.g., latitude, longitude, altitude, etc.) that define its scope (e.g., position, area, volume, etc.),” and “the identities of its adjacent locations.” *Id.* ¶¶ 76–82. Spain explains that geographic region 220 may be partitioned “into any number of locations of any size and shape.” *Id.* ¶ 99.

3. *Meunier (Ex. 1007)*

Meunier “relates generally to a method for determining the proximity of mobile devices in a wireless network.” Ex. 1007 ¶ 1. Meunier recognizes that using a wireless local-area network to detect the location of a device within the area covered by the network suffers from issues with stability and orientation. *Id.* ¶¶ 2–3. According to Meunier, the reliability of the raw location information derived from a comparison of measured signal strength against the signal strengths recorded during a calibration phase “can be improved by changing how the raw signal strength measurements is used, in particular, by processing the raw location information based on additional information,” including using “a motion detector (which in this case is an accelerometer).” *Id.* ¶ 13. “If the device is not moving, [Meunier] can apply various statistical algorithms to attempt to detect and remove erroneous location guesses knowing that the real position of the mobile device has not changed.” *Id.* ¶ 15. An exemplary statistical algorithm uses “a moving window of the last N signal strength samples” and an “average value and standard deviation of the signal strength is computed.” *Id.* ¶ 16. To improve orientation, Meunier discloses “augmenting the mobile device 100 with an orientation detector, such as an electronic compass 20,” which “would not appreciably increase the size or weight of the mobile device 100,” and

“would provide automatic labeling of direction information during calibration.” ¶ 20.

G. Unpatentability Grounds

1. Unpatentability over Bhattacharya (Ground 1)

Petitioner asserts that claims 1, 2, 5, 9, 12, 14, 16, and 18–22 are unpatentable under 35 U.S.C. § 102(a) as anticipated by Bhattacharya, citing the Declaration of Dr. Sundaresan for support. Pet. 1, 4–42 (citing Ex. 1003) (Petitioner’s Ground 1A). Patent Owner does not dispute Petitioner’s assertions at this stage of the proceeding. *See* Prelim. Resp. 44–52. We address Petitioner’s assertions below.

a. Claim 1

Petitioner contends that Bhattacharya discloses the limitations of claim 1. Pet. 17–31. To support its arguments, Petitioner identifies certain passages in the cited reference and explains the significance of each passage with respect to the corresponding claim limitation. *Id.* For instance, regarding limitation [1.2], “providing a database of previously-gathered calibration data for a predetermined region in a wireless network,” Petitioner argues that Bhattacharya discloses “previously-gathered calibration data.” Bhattacharya’s Figure 4 depicts

the expected signal-strength database is populated (i.e., data is stored in the database) at task 401, prior to the generation of signal-strength measurements by wireless terminal 201 and/or the collection of an SSMR (which includes the signal-strength measurements) by the location system 212 from a wireless terminal by computing signal-strength differentials in task 406.

Pet. 23 (citing Ex. 1005 ¶¶ 98–101, 179, Fig. 17 (subtask 1702), Fig. 4.

Patent Owner does not offer any arguments specifically addressing the limitations of claim 1. *See* Prelim. Resp. 44–52. Also, as discussed above,

Patent Owner has not appealed the district court's ruling that claim 1 is patent ineligible under 35 U.S.C. § 101. *See* Prelim. Resp. 2; Ex. 2015, 19.

Based on our review and consideration of the current record, we determine that the information presented sufficiently supports, for purposes of institution, Petitioner's assertions that Bhattacharya satisfies each limitation of claim 1. *See* Pet. 17–31. We therefore determine Petitioner has met its burden to show a reasonable likelihood it would prevail in demonstrating that claim 1 is anticipated by Bhattacharya.

b. *Remaining Claims 2, 5, 9, 12, 14, 16, and 18–22*

Claims 2, 5, 9, and 12 depend from claim 1. Ex. 1001, 12:34–38, 12:55–58, 12:63–13:3. Independent claim 14 differs from claim 1 by reciting that the wireless network includes a serving transmitter, and reciting that the observed network measurement data includes a first signal characteristic from the serving transmitter. *Id.* at 13:7–21. Claims 16 and 18–22 depend from claim 14. *Id.* at 13:26–30, 13:34–52. Petitioner accounts for the limitation recited in each of claims 2, 5, 9, 12, 14, 16, and 18–22. Pet. 33–42. Petitioner shows sufficiently for purposes of this Decision that each element of claims 2, 5, 9, 12, 14, 16, and 18–22 is disclosed by Bhattacharya. Thus, we determine that Petitioner has sufficiently established a reasonable likelihood of establishing claims 2, 5, 9, 12, 14, 16, and 18–22 are anticipated by Bhattacharya.

2. *Unpatentability over Bhattacharya and Spain*
(Ground 2¹¹)

Petitioner asserts claims 1–5, 9, 11, 12, 14–16, and 18–22 are unpatentable under 35 U.S.C. § 103(a) as obvious over Bhattacharya in view of Spain. Pet. 1, 43–63 (citing Ex. 1003) (Petitioner’s Ground 1B). Patent Owner provides arguments addressing this asserted ground of unpatentability, but only as to claim 4. Prelim. Resp. 44–52. We address Petitioner’s arguments for reaching an apparatus reflecting the combined teachings of Bhattacharya and Spain (a “Bhattacharya-Spain” apparatus) and address Petitioner’s and Patent Owner’s arguments below.

a. *Combining Bhattacharya and Spain*

Petitioner argues that Bhattacharya teaches leveraging signal-strength functions that are “a function of time” to account for time-dependent changes based on “atmospheric and meteorological conditions” and also describes pattern matching calibrated measurements against expected functions that correspond in time. Pet. 45 (citing Ex. 1005 ¶¶ 115, 127). Petitioner states, however, that Bhattacharya does not specifically address how its expected signal-strength database is populated to account for time-dependent changes based on “atmospheric and meteorological conditions.” *Id.* Petitioner argues that a person having ordinary skill in the art would thus look to known techniques for generating and using expected values to account for time-dependent changes based on atmospheric and meteorological conditions. *Id.* (citing Ex. 1003 ¶ 102).

Petitioner argues that Spain was filed by the same applicant as Bhattacharya and has overlapping named inventors. *Id.* at 46 (citing Ex.

¹¹ Petitioner refers to the grounds as 1A through 1D.

1005, 1; Ex. 1006, 1; Ex. 1003 ¶ 103). Petitioner argues that Spain describes implementation details for expected values stored in a database and used for pattern matching in location estimation. *Id.* (citing Ex. 1006 ¶¶ 6, 72, 76). Petitioner argues it would have been obvious that Bhattacharya's expected signal-strength measurements correspond to Spain's expected values. *Id.* (citing Ex. 1003 ¶ 104). Petitioner contends that a person having ordinary skill in the art would have implemented a Bhattacharya-Spain database involving collected expected values and populating the database during a pre-processing step. *Id.* at 47 ¶ 105. Petitioner argues that such an implementation would be recognized based on the teachings of both references and would ensure the location system is not slow. *Id.* at 47–48 (citing Ex. 1003 ¶ 105). Petitioner also provides reasoning and supporting evidence as to why a person of ordinary skill in the art would have had a reasonable expectation of success in combining Bhattacharya and Spain's teachings. *Id.* at 49–50.

Patent Owner does not, at present, dispute Petitioner's rationale to combine the references' teachings. Based on the evidence presented, Petitioner adequately establishes that a person having ordinary skill in the art would have had reason to reach the Bhattacharya-Spain apparatus with a reasonable expectation of success.

b. *Claim 1*

Petitioner relies on Bhattacharya for many of claim 1's recitations and refers back to its arguments and evidence of ground one. Pet. 50–51. Additionally, Petitioner argues that, based on the teachings of Bhattacharya and Spain, a person having ordinary skill in the art would have understood that data representing expected values in the expected signal-strength

database represents previously-gathered data and would have understood the Bhattacharya-Spain database is populated with previously-gathered calibration data. *Id.* at 52–55.

Patent Owner does not offer any arguments specifically addressing the limitations of claim 1. *See* Prelim. Resp. 44–52. Based on our review and consideration of the current record, we determine that the information presented sufficiently supports, for purposes of institution, Petitioner’s assertions that Bhattacharya satisfies each limitation of claim 1. *See* Pet. 50–54. We therefore determine Petitioner has met its burden to show a reasonable likelihood it would prevail in demonstrating that claim 1 is obvious over Bhattacharya and Spain.

c. *Claim 4*

Claim 4 recites, “[t]he method of claim 1 wherein said database comprises previously-gathered calibration data for one or more non-uniform grid points within said region.” Ex. 1001, 12:31–33. Petitioner argues that claim 4 is obvious for the reasons Petitioner provides when addressing claim 3. Pet. 63.¹²

Petitioner argues that “grid point” means “a point associated with representative calibration data for an area.” Pet. 3. Petitioner also argues that “calibration data” means “modified or unmodified network measurement data associated with a geographic location.” *Id.* at 2–3. Patent Owner does not dispute these claim constructions. Prelim. Resp. 43. We accept these

¹² Claim 3 is similar to claim 4. Claim 3 recites, “[t]he method of claim 2 wherein said previously-gathered calibration data at one or more predetermined calibration points is combined to form previously-gathered calibration data for one or more non-uniform grid points within said region.” Ex. 1001, 26–30.

claim constructions for the purpose of this decision when analyzing claim 4.

As to the grid point being *non-uniform*, Petitioner argues that in the '494 patent specification, “non-uniform grid point” can “represent the signal characteristics and/or calibration data over a given region.” Pet. 58 (citing Ex. 1001, 3:57–67). Patent Owner argues that the district court recognized that “grid point” in the '494 patent has the same meaning as it in related U.S. Patent No. 8,406,753 (Ex. 1008, “the '753 patent”), which explains that “grid points do not necessarily have to be part of a uniform grid and usually will not be uniformly distributed throughout the geographic region,” and that such non-uniformly distributed grid points are more specifically referred to as “non-uniform grid points.” Prelim. Resp. 45 (quoting Ex. 2016, 2:43–50) (citing Ex. 2012 (18–20)).

Under these circumstances, we agree that it is helpful to consider the related '753 patent in construing “non-uniform grid points.” We also note that the '753 patent describes non-uniform grid points as “non-uniformly spaced throughout a geographic region.” Ex. 2016, 9:41–42. Accordingly, for purposes of this Decision, we determine that “non-uniform grid points” are “grid points that are non-uniformly spaced throughout a geographic region” based upon the '753 patent’s specification.

Petitioner argues that Spain teaches techniques for partitioning a geographic region. Pet. 58 (citing Ex. 1003 ¶ 127). In particular, Petitioner argues that Spain teaches “populating, amending, using, and managing Location-Trait Database 313” which is “a database that maps each of a plurality of locations to one or more expected traits associated with a wireless terminal at that location.” *Id.* (citing Ex. 1006 ¶¶ 58, 66). Petitioner reproduces Spain’s Figures 6A and 6E which depict geographic region 220.

Id. (citing Ex. 1006 Fig. 6A, 6E, ¶¶ 98, 128–129); *see also* Ex. 1006 Figs. 6B–6D. Spain teaches that each location is described with various information such as “unique identifier” and “coordinates” that define its scope (e.g., position, area, volume, etc.).” Pet. 60 (citing Ex. 1006 ¶¶ 76–82). Petitioner argues that the locations 20, 25, and 26 of Figure 6E have different shapes and sizes and represent different areas. Thus, Petitioner argues the locations represent “one or more non-uniform grid points within said region.” *Id.* at 61 (citing Ex. 1003 ¶ 130).

Petitioner further argues that a person having ordinary skill in the art would have found it obvious to implement the Bhattacharya-Spain database by populating the database with data representing signal-strength measurements collected at a pre-processing or prior measurement step. Pet. 61 (citations omitted). Petitioner argues this corresponds to “previously-gathered calibration data.” *Id.* Petitioner argues that the database combines data from expected values at each location to reach “one or more predetermined calibration points.” *Id.* at 61 (citation omitted).

Patent Owner argues that neither Bhattacharya nor Spain teaches or suggest a database comprising previously-gathered calibration data for one or more non-uniform grid points, as recited in claim 4. Prelim. Resp. 45–51. In particular, Patent Owner argues “the district court concluded that ‘grid point,’ as used in the ’404 Patent, specifically refers to ‘a point associated with representative calibration data for an area’ that is ***generated based on analysis of calibration data.***” Prelim. Resp. 45 (quoting Ex. 2012, 20) (Patent Owner’s emphasis). Patent Owner then contends that Spain’s disclosure of partitioning a region is done independently of measuring calibration data. *Id.* at 46. Patent Owner similarly argues that Spain

considers an “operator’s desired accuracy level and tolerance level for computational complexity are also used to partition a region into locations.” *Id.* at 47. Patent Owner argues that these considerations are not “calibration data.” *Id.* Patent further argues that Spain Figures 5 and 6a-6e demonstrate that portioning is not based on calibration data. *Id.* at 47–52.

Although Patent Owner states that it does not dispute Petitioner’s adoption of the district court’s constructions for the purposes of the Preliminary Response (Prelim. Resp. 43), this argument relies on an altered claim construction of “grid point.” In support of its position that “grid points” must be generated based on analysis of calibration data (in addition to being “a point associated with representative calibration data for an area”), Patent Owner argues:

[T]he district court stated that the ’753 Patent’s explanation that calibration data from a number of locations is ‘gathered and analyzed so that particular grid points within the geographic region can be determined and associated with a particular set or sets of calibration data’ demonstrates ‘what *must be done* to arrive at a grid point or set of grid points.’

Prelim. Resp. 33–34 (citing Ex. 2012, 19). Thus, according to Patent Owner, “the district court acknowledged that the claimed grid points must be generated based on the measured calibration data—they do not exist until generated by the claimed invention.” *Id.*

Patent Owner mischaracterizes the district court’s claim construction order. Instead of concluding that a “grid point” must be generated based on analysis of calibration data, the district court was explaining why it declined to adopt Patent Owner’s¹³ proposed construction. Ex. 2012, 19. That is, after

¹³ Patent Owner is the plaintiff in the Google Action.

noting that Patent Owner cited language from the Abstract of the '753 patent in support of its proposed claim construction, the district court explained that the cited language “is drawn . . . more toward what *must be done* to arrive at a grid point or set of grid points rather than what a grid point *is*.” *Id.* The district court was explaining why the cited language was not pertinent to the meaning of “grid point”; it was not indicating that grid points must be generated based on the measured calibration data.

The district court determined that the claim term “grid point” should be construed as “a point associated with representative calibration data for an area.” *Id.* at 19. For present purposes, we agree with the district court’s analysis. Patent Owner’s argument attempts to introduce additional requirements that are not part of the district court’s claim construction and that are not supported by the present record. For these reasons, we do not find Patent Owner’s argument on this point persuasive.

Patent Owner also argues that Petitioner fails to show how Spain teaches the district court’s requirement that a “grid point” be associated with “representative calibration data for an area.” Prelim. Resp. 51. Patent Owner states that “Petitioner does not even attempt to address the ‘representative calibration data’ part of the ‘grid point’ construction.” *Id.* This requirement is commensurate with the proper claim construction (according to both the district court and the present decision). Patent Owner further argues that the district court explained that the phrase “representative calibration data” as appearing within the district court’s construction of “grid point” is intended to “reflect that ‘the defining characteristic of a NUG [non-uniform grid point] region . . . is that the data points within an area are all ‘statistically

very similar’ such that each of the grid points within the NUG region can represent the overall NUG.” Prelim. Resp. 51–52 (quoting Ex. 2012 at 20).

Patent Owner’s argument does not persuasively undermine Petitioner’s showing. Petitioner explained that a “non-uniform grid point,” according to the ’494 patent specification, can “represent the signal characteristics and/or calibration data over a given region.” Pet. 58 (quoting Ex. 1001, 3:57–67). Petitioner explained how Bhattacharya-Spain renders this feature obvious as explained above. *Id.* at 58–61. Moreover, Petitioner explained, for example, how Bhattacharya teaches storing data “*representing* expected values later used for location estimation within geographic region 200.” Pet. 20–21 (emphasis added). Patent Owner does not persuasively dispute Petitioner’s explanation of Bhattacharya in this regard, and Patent Owner does not persuasively address why Petitioner’s overall explanation is incorrect or inadequate.

Moreover, although the district court provided an explanation of why the term “representative calibration data” is appropriate for inclusion in the construction of grid point, the district court did not include its explanation of representative calibration data as an explicit part of the “grid point” construction. Ex. 2012, 20.

Based on our review and consideration of the current record, we determine Petitioner has met its burden to show a reasonable likelihood it would prevail in demonstrating that claim 4 is obvious over the combined teachings of Bhattacharya and Spain.

d. *Remaining Claims 2, 3, 5, 9, 11, 12, 14–16, and 18–22*

Claims 2, 3, 5, 9, 11, and 12 depend from claim 1. Claim 14 is independent. Claims 15, 16, and 18–22 depend from claim 14. *Id.* at 13:26–30, 13:34–52. Petitioner accounts for the limitation recited in each of claims 2, 3, 5, 9, 11, 12, 14–16, and 18–22. Pet. 57–63. Petitioner shows sufficiently for purposes of this Decision that each element of claims 2, 3, 5, 9, 11, 12, 14–16, and 18–22 is disclosed by the combined teachings of Bhattacharya and Spain. Thus, we determine that Petitioner has sufficiently established a reasonable likelihood of establishing claims 2, 3, 5, 9, 11, 12, 14–16, and 18–22 are obvious over Bhattacharya and Spain. Furthermore, because Petitioner has demonstrated a reasonable likelihood of success in proving that at least one claim of the ’494 patent is unpatentable, we include this ground in the instituted *inter partes* review. *See SAS*, 138 S. Ct. at 1354, 1359–60; *PGS Geophysical*, 891 F.3d at 1360; 37 C.F.R. § 42.108(a).

3. *Unpatentability over Bhattacharya and Meunier (Ground 3)*

Petitioner asserts that claims 25, 27, 29, 31, 32, and 35 are unpatentable under 35 U.S.C. § 103(a) as obvious over Bhattacharya and Meunier. Pet. 1, 64–83 (citing Ex. 1003) (Petitioner’s Ground 1C).

Patent Owner does not offer any arguments specifically addressing the limitations of claims 25, 27, 29, 31, 32, and 35. *See* Prelim. Resp. 44–52. Also, as discussed above, Patent Owner has not appealed the district court’s ruling that claims 25 and 35 are patent ineligible under 35 U.S.C. § 101. *See* Prelim. Resp. 2; Ex. 2015.

Petitioner accounts for the limitations recited in claims 25, 27, 29, 31, 32, and 35. Pet. 83. Petitioner shows sufficiently for purposes of this

Decision that each element of claims 25, 27, 29, 31, 32, and 35 is taught or suggested by the combined teachings of Bhattacharya and Meunier, and shows reason to combine the references' teachings with rational underpinning and reasonable expectation of success. Thus, we determine that Petitioner has sufficiently established a reasonable likelihood of establishing claims 25, 27, 29, 31, 32, and 35 is obvious in view of Bhattacharya and Meunier. Furthermore, because Petitioner has demonstrated a reasonable likelihood of success in proving that at least one claim of the '494 patent is unpatentable, we include this ground in the instituted *inter partes* review. *See SAS*, 138 S. Ct. at 1354, 1359–60; *PGS Geophysical*, 891 F.3d at 1360; 37 C.F.R. § 42.108(a).

4. *Unpatentability over and Bhattacharya, Spain, and Meunier (Ground 4)*

Petitioner asserts claim 25, 27, 29, 31, 32, and 35 are unpatentable under 35 U.S.C. § 103(a) as obvious over Bhattacharya, Spain, and Meunier. Pet. 1, 83 (citing Ex. 1003) (Petitioner's Ground 1D). Patent Owner does not dispute Petitioner's assertions for this ground. *See generally* Prelim. Resp.

Petitioner accounts for the limitations recited in claims 25, 27, 29, 31, 32, and 35. Pet. 83. Petitioner shows sufficiently for purposes of this Decision that each element of claims 25, 27, 29, 31, 32, and 35 is taught or suggested by the combined teachings of Bhattacharya, Spain, and Meunier, and shows reason to combine the references' teachings with rational underpinning and reasonable expectation of success. Thus, we determine that Petitioner has sufficiently established a reasonable likelihood of establishing claims 25, 27, 29, 31, 32, and 35 is obvious in view of Bhattacharya, Spain, and Meunier. Furthermore, because Petitioner has

demonstrated a reasonable likelihood of success in proving that at least one claim of the '494 patent is unpatentable, we include this ground in the instituted *inter partes* review. *See SAS*, 138 S. Ct. at 1354, 1359–60; *PGS Geophysical*, 891 F.3d at 1360; 37 C.F.R. § 42.108(a).

IV. CONCLUSION

For the reasons above, we determine that the information presented in the Petition establishes that there is a reasonable likelihood that Petitioner would prevail with respect to challenged claims 1–5, 9, 11, 12, 14–16, 18–22, 25, 27, 29, 31, 32, and 35 of the '494 patent. At this juncture in the proceeding, we have not made a final determination with respect to the patentability of the challenged claims, or with respect to claim construction.

V. ORDER

For the foregoing reasons, it is

ORDERED that pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1–5, 9, 11, 12, 14–16, 18–22, 25, 27, 29, 31, 32, and 35 of the '494 patent is hereby instituted with respect to all grounds of unpatentability set forth 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; the trial will commence on the entry date of this Decision.

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