

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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**GOOGLE LLC,**  
Petitioner,

v.

**GEOSCOPE TECHNOLOGIES PTE. LTD.**  
Patent Owner

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Case No. IPR2023-01212  
U.S. Patent No. 8,406,753

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**PATENT OWNER'S PRELIMINARY RESPONSE**

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## **LIST OF EXHIBITS**

| <b>Exhibit No.</b> | <b>Petitioner’s Exhibits</b>                                                                                                                                                                                 |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1001               | U.S. Patent No. 8,406,753, issued on March 26, 2013 (“the ’753 Patent”)                                                                                                                                      |
| 1002               | File History of U.S. Patent Application No. 12/026,480, filed on February 5, 2008 (“the ’480 Application”)                                                                                                   |
| 1003               | U.S. Provisional Application No. 60/899,379, filed on February 5, 2007                                                                                                                                       |
| 1004               | Not Assigned                                                                                                                                                                                                 |
| 1005               | A. Agiwal et al., “LOCATOR- Location Estimation System for Wireless LANs,” 2004                                                                                                                              |
| 1006               | U.S. Patent Publication No. 2003/0064735, published on April 3, 2003 to D. Spain et al. (“Spain”)                                                                                                            |
| 1007               | Appendix D to Geoscope’s Preliminary Infringement Contentions dated April 7, 2023, <i>Geoscope Technologies Pte. Ltd. v. Google LLC f/k/a Google Inc.</i> , Civ. Action No. 1:22-cv-01331 (EDVA)             |
| 1008               | Declaration of David Hilliard Williams                                                                                                                                                                       |
| 1009               | <i>Curriculum Vitae</i> of David Hilliard Williams                                                                                                                                                           |
| 1010               | Declaration of Dr. Sylvia Hall-Ellis                                                                                                                                                                         |
| 1011               | <i>Curriculum Vitae</i> of Dr. Sylvia Hall-Ellis                                                                                                                                                             |
| 1012               | Complaint dated November 22, 2022, <i>Geoscope Technologies Pte. Ltd. v. Google LLC f/k/a Google Inc.</i> , Civ. Action No. 1:22-cv-01331 (EDVA) filed on November 22, 2022 (“the Related Litigation”)       |
| 1013               | Preliminary Identification of Asserted Claims dated March 27, 2023, <i>Geoscope Technologies Pte. Ltd. v. Google LLC f/k/a Google Inc.</i> , Civ. Action No. 1:22-cv-01331 (EDVA) filed on November 22, 2022 |

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| 1014 | U.S. Patent Publication No. 2005/0266855, published on December 1, 2005 to G. Zeng <i>et al.</i> (“Zeng”)                                                                                                          |
| 1015 | U.S. Patent No. 7,167,714, issued on January 23, 2007 to R. Dressler and D. Spain, Jr. <i>et al.</i> (“Dressler”)                                                                                                  |
| 1016 | Difference comparison between the text of the Specifications of the Dressler and Spain                                                                                                                             |
| 1017 | U.S. Patent No. 7,433,695, issued on October 7, 2008 to S. Gordon <i>et al.</i> (“Gordon”)                                                                                                                         |
| 1018 | U.S. Patent No. 7,561,104, issued on July 14, 2009 to M. Alles <i>et al.</i> (“the ’104 Patent”)                                                                                                                   |
| 1019 | File History of Reexamination Control No. 90/012,694 (“the ’694 Reexamination”)                                                                                                                                    |
| 1020 | Difference comparison between the text of the Specifications of the Gordon and Spain                                                                                                                               |
| 1021 | U.S. Patent No. 7,460,505, issued on December 2, 2008 to D. Spain (“the ’505 Patent”)                                                                                                                              |
| 1022 | Difference comparison between the text of the Specifications of the ‘505 Patent and Spain                                                                                                                          |
| 1023 | Plaintiff Geoscope Technologies PTE. LTD.’s Opening Claim Construction Brief, E.D. Va. Civil Action No. 1:22-cv-01373-MSN-JFA (Dkt. No. 75).                                                                       |
| 1024 | Stipulation Regarding Agreed Upon Claim Constructions dated May 23, 2023, <i>Geoscope Technologies Pte. Ltd. v. Google LLC f/k/a Google Inc.</i> , Civ. Action No. 1:22-cv-01331 (EDVA) filed on November 22, 2022 |
| 1025 | Google LLC’s Opening Claim Construction Brief dated May 26, 2023, <i>Geoscope Technologies Pte. Ltd. v. Google LLC f/k/a Google Inc.</i> , Civ. Action No. 1:22-cv-01331 (EDVA) filed on November 22, 2022         |

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|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1026 | Not Assigned                                                                                                                                                                                                    |
| 1027 | Not Assigned                                                                                                                                                                                                    |
| 1028 | Claim Construction Memorandum Opinion & Order dated July 19, 2023, <i>Geoscope Technologies Pte. Ltd. v. Google LLC flk/a Google Inc.</i> , Civ. Action No. 1:22-cv-01331 (EDVA) filed on November 22, 2022     |
|      | <b>Patent Owner's Exhibits</b>                                                                                                                                                                                  |
| 2001 | Declaration of Christopher M. Gerson in Support of Patent Owner's Motion for Pro Hac Vice Admission of Christopher M. Gerson Under 37 C.F.R. § 42.10(c)                                                         |
| 2002 | U.S. Patent No. 6,944,465, issued on September 13, 2005 to D. Spain et al. ("Spain '465 Patent")                                                                                                                |
| 2003 | Memorandum Opinion on Google's Motion for Judgment on the Pleadings on Patent Eligibility dated September 18, 2023, <i>Geoscope Technologies Pte. Ltd. v. Google LLC</i> , Civ. Action No. 1:22-cv-01331 (EDVA) |
| 2004 | Memorandum Opinion on Apple's Motion for Judgment on the Pleadings on Patent Eligibility dated September 18, 2023, <i>Geoscope Technologies Pte. Ltd. v. Apple Inc.</i> , Civ. Action No. 1:22-cv-01373 (EDVA)  |
| 2005 | Final Judgment dated October 6, 2023, <i>Geoscope Technologies Pte. Ltd. v. Google LLC</i> , Civ. Action No. 1:22-cv-01331 (EDVA)                                                                               |
| 2006 | Final Judgment dated October 5, 2023, <i>Geoscope Technologies Pte. Ltd. v. Apple Inc.</i> , Civ. Action No. 1:22-cv-01373 (EDVA)                                                                               |
| 2007 | Order dated June 26, 2023, <i>Geoscope Technologies Pte. Ltd. v. Google LLC</i> , Civ. Action No. 1:22-cv-01331 (EDVA)                                                                                          |
| 2008 | Email from Saunak Desai to Stephen E. Noona, "Geoscope v. Google - Claim Narrowing" (June 12, 2023)                                                                                                             |

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| 2009 | Claim Construction Memorandum Opinion & Order dated July 19, 2023, <i>Geoscope Technologies Pte. Ltd. v. Apple Inc.</i> , Civ. Action No. 1:22-cv-01373 (EDVA)      |
| 2010 | Order dated June 26, 2023, <i>Geoscope Technologies Pte. Ltd. v. Apple Inc.</i> , Civ. Action No. 1:22-cv-01373 (EDVA)                                              |
| 2011 | Defendant Google LLC's Final Invalidity Contentions dated July 3, 2023, <i>Geoscope Technologies Pte. Ltd. v. Google LLC</i> , Civ. Action No. 1:22-cv-01331 (EDVA) |
| 2012 | <i>Not Assigned</i>                                                                                                                                                 |
| 2013 | U.S. Patent No. 9,097,784 issued on Aug. 4, 2015 to Alles et al.                                                                                                    |
| 2014 | U.S. Patent No. 7,383,051, issued on June 3, 2008 to Spain, Jr. et al.                                                                                              |
| 2015 | U.S. Patent No. 8,068,855, issued on Nov. 29, 2011 to Dressler et al.                                                                                               |
| 2016 | U.S. Patent No. 7,725,111, issued on May 25, 2010 to Dressler et al.                                                                                                |

**I. INTRODUCTION**

The Board should deny the Petition for *Inter Partes* Review of U.S. Patent No. 8,406,753 (“’753 Patent”) because Petitioner Google LLC (“Petitioner”) fails to demonstrate a reasonable likelihood that any challenged claim is not patentable.

As an initial matter, the Board should exercise its discretion to deny the Petition under § 325(d) and/or § 314(a). *First*, Petitioner relies on substantially the same art that was considered during prosecution of the ’753 Patent and fails to identify any material error by the Office in evaluating that art. The Petition is almost entirely based on U.S. Patent Publication No. 2003/0064735 (“Spain”), which—as Petitioner concedes—“is the same prior art that the Examiner initialed in an Information Disclosure Statement.” Pet. at 43. The Examiner also considered several related references with the *same disclosures* from Spain that Petitioner relies on here but did not reject the challenged claims over any of them. Petitioner asserts that the Examiner must have overlooked those disclosures in every one of these references. But Petitioner provides no basis for this contention which is inconsistent with the Office’s patent examination principles and procedures. At best, Petitioner shows that it disagrees with the Examiner’s findings but, as the Board has recognized, mere disagreement does not warrant undoing the Office’s work. The Petition is a rehash of the ’753 Patent prosecution and should be denied.

*Second*, two district court litigations involving the ’753 Patent have already

resulted in final judgments based on the district court’s ruling that the asserted claims are unpatentable pursuant to 35 U.S.C. § 101. These litigations are *Geoscope Technologies Pte. Ltd. v. Google LLC*, Civ. Action No. 1:22-cv-01331-MSN (E.D. Va.) (“Google Action”) and *Geoscope Technologies Pte. Ltd. v. Apple Inc.*, Civ. Action No. 1:22-cv-01373-MSN (E.D. Va.) (“Apple Action”). Moreover, by the time the district court issued its § 101 opinion, the parties and the court had already invested substantial resources into the actions, completing *Markman*, fact discovery, and expert discovery. Under similar circumstances, the Board has recognized that institution would not be an efficient use of its time and resources. Further, the Petition falls far short of presenting a “compelling unpatentability challenge” that would warrant institution despite this inefficiency.

Even if the merits are considered, the Petition still fails. At a minimum, Petitioner fails to show that its cited art teaches “generating one or more sets of grid points for said calibration data”—a key limitation of the ’753 Patent that was relied upon to distinguish other art during prosecution. The Petitioner proposed the district court’s construction of “grid point,” which recognizes that the grid points of the ’753 Patent are not just any points on a grid. Rather, they have specific requirements including that they are generated based on the analysis of calibration data. They are not merely locations where data is collected—the ’753 Patent distinguishes such locations, referring to them instead as “calibration points.” Spain, on the other hand,

only discloses a conventional predefined grid that is fundamentally different from the grid points of the '753 Patent. As a result, Petitioner is unable to point to any disclosure in Spain that meets aspects of the claim construction that it proposed for this proceeding. Instead, Petitioner simply ignores those aspects of the construction. This is a fatal flaw that mandates denial of institution.

**II. THE BOARD SHOULD DENY INSTITUTION UNDER § 325(d)**

The Board should exercise its discretion to deny institution under § 325(d) because “the same or substantially the same prior art or arguments previously were presented to the Office” during prosecution of the '753 Patent. 35 U.S.C. § 325(d). In assessing whether to exercise its § 325(d) discretion, the Board applies a two-part framework: first determining whether the same or substantially the same prior art or arguments previously were presented to the Office; and if either of the foregoing conditions is satisfied, whether the petitioner has demonstrated that the Office erred in a manner material to patentability of the challenged claims. *Advanced Bionics, LLC v. Med-El Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper 6 at 8 (PTAB Feb. 13, 2020) (precedential); *Becton, Dickinson and Co. v. B. Braun Melsungen AG*, IPR2017-01586, Paper 8 at 17-18 (PTAB Dec. 15, 2017) (describing nonexclusive factors useful in applying the framework under § 325(d)).

Petitioner has not met its burden under the *Advanced Bionics* framework. Under the first prong of the framework (which relates to *Becton* factors a, b, and d),

Petitioner fails to demonstrate that it presents art or arguments not previously presented to the Office. Under the second prong of the framework (which relates to *Becton* factors c, e, and f), Petitioner fails to demonstrate that the Office erred in its evaluation of the previously-presented prior art. Accordingly, the Board should exercise its discretion to deny institution as part of its “commitment to defer to previous Office evaluations of the evidence of record unless material error is shown.” *Advanced Bionics*, IPR2019-01469, Paper 6 at 9.

**A. Petitioner Relies on the Same Prior Art Evaluated by the Examiner**

Petitioner’s sole ground for seeking *inter partes* review of the ’753 Patent is based almost exclusively on a single prior art reference already considered by the Office: Spain.<sup>1</sup> As reflected in an “Information Disclosure Statement by Applicant,” the Examiner considered U.S. Patent No. 6,944,465 (“Spain ’465 Patent”) during prosecution of the ’753 Patent. Ex. 1002 at 18 (showing Examiner’s initials next to the Spain ’465 Patent indicating that the reference was considered); *see also id.* at 20 (indicating that the Examiner should “[i]nitial if reference considered”); *see also* Ex. 1001 at Page 2 (identifying Spain ’465 Patent as one of the “U.S. PATENT DOCUMENTS” under “References Cited”).

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<sup>1</sup> As explained below, the Petition also includes another reference—Agiwal—but only for a very narrow purpose that does not change the § 325(d) analysis.

The Spain '465 Patent issued—without substantive changes—from the patent application that was published as what Petitioner refers to as “Spain.” Ex. 2002 at 1 (showing that the “Prior Publication Data” for the Spain '465 Patent includes US 2003/0064735—*i.e.*, the publication identified as “Spain” in the Petition). ***Notably, Petitioner concedes that “Spain is the same prior art that the Examiner initialed in an Information Disclosure Statement”*** because the Spain '465 Patent “is the issued patent stemming from Spain.” Pet. at 43 (emphasis added).<sup>2</sup> This alone demonstrates that the first prong of the *Advanced Bionics* framework is met.

Petitioner contends that the Examiner’s consideration of the Spain '465 Patent “without further analysis” is insufficient under this prong. Pet. at 43. This directly contradicts the Board’s precedential ruling in *Advanced Bionics* which makes clear that “[p]reviously presented art includes art made of record by the Examiner, and art provided to the Office by an applicant, ***such as on an Information Disclosure Statement (IDS)***, in the prosecution history of the challenged patent.” *Advanced Bionics*, IPR2019-01469, Paper 6 at 7-8 (emphasis added); *see also Medtronic CoreValve LLC v. Speyside Medical, LLC*, IPR2021-00241, Paper 9 at 23 (PTAB

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<sup>2</sup> Petitioner also concedes that “numerous other Application Publications and Issued Patents related and unrelated to Spain and also assigned to Polaris Wireless” were previously presented to the Office during prosecution. Pet. at 44 n.11.

Jul. 23, 2021) (denying institution where references were included on IDSs but not expressly included in a rejection by the Examiner). Indeed, the Director has recently confirmed that “the first part of the *Advanced Bionics* framework does not require that an Examiner provide a ‘discussion, analysis, or other findings on the applicability’ of the relevant material contained in an IDS.” *Keysight Techs., Inc. v. Centripetal Networks, Inc.*, IPR2022-01421, Paper 14 at 5 (PTAB Aug. 24, 2023); *see also Google LLC v. Valtrus Innovations Ltd.*, IPR2022-01197, Paper 18 at 15-16 (PTAB June 13, 2023) (stating, on remand after Director review, “[o]ur precedent holds that providing a document to the Office in an Information Disclosure Statement is sufficient to satisfy prong one of the *Advanced Bionics* analysis as long as that ‘previously presented’ art is ‘the same or substantially the same’ as that presented in the Petition.”).

Consequently, Petitioner’s reliance on non-precedential decisions in *Amgen* and *Scientific Design* to contradict the plain language of *Advanced Bionics* should be rejected. Pet. at 43-44 (citing *Amgen Inc. v. Alexion Pharm., Inc.*, IPR2019-00740, Paper 15 (PTAB Aug. 30, 2019); *Scientific Design Co. v. Shell Oil Co.*, IPR2021-01537, Paper 7 (PTAB Mar. 18, 2022) and IPR2022-00158, Paper 7 (PTAB Apr. 4, 2022)). *Amgen* predates *Advanced Bionics* and in *Scientific Design*, the Board found that art presented to the Office in an IDS satisfied the first part of the *Advanced Bionics* framework but ultimately declined to exercise its discretion under part two

of the framework after finding sufficient evidence of material Examiner error. *Scientific Design*, IPR2021-01537, Paper 7 at 24-25; IPR2022-00158, Paper 7 at 25.

Petitioner’s attempt to reframe the focus of the § 325(d) analysis to Dressler, which is U.S. Patent No. 7,167,714 (Ex. 1015), fails for the same reason. As an initial matter, the § 325(d) inquiry is whether the “same or substantially the same prior art or arguments” that are relied upon in the Petition were “previously presented to the Office.” 35 U.S.C. § 325(d). The sole ground in the Petition is almost entirely based on Spain—which Petitioner concedes was considered during prosecution—and does not involve Dressler at all. *See* Pet. at 6. Thus, Petitioner’s assertion that Spain is not the same prior art as Dressler (Pet. at 44) is irrelevant to the § 325(d) issue here.

In any event, Dressler—which Petitioner admits “the Examiner did substantively apply” during prosecution of the ’753 Patent (Pet. at 44)—was also submitted on an IDS during prosecution of the ’753 Patent. Ex. 1002 at 17 (showing Examiner’s initials next to Dressler indicating that the reference was considered); *see also* Ex. 1001 at Page 2 (identifying Dressler as one of the “U.S. PATENT DOCUMENTS” under “References Cited”). Moreover, there is extensive overlap between the disclosures in Spain relied upon by Petitioner and the disclosures in Dressler. *Compare, e.g.*, Ex. 1006 at [0054]-[0055], [0099], [0101] *with* Ex. 1015 at 6:42-7:7, 9:57-10:10, 10:25-34. This is confirmed by Petitioner’s redline comparison of the two. *See* Ex. 1016 at 10-11, 19-20.

Although Petitioner’s secondary reference—Agiwal—was not expressly considered by the Examiner, Petitioner relies on Agiwal only for a very narrow purpose that does not change the § 325(d) analysis. Specifically, Petitioner contends that Agiwal “provides further evidence of a way a POSITA would consider calculating ‘closeness’ between signal strength fingerprints in the selection of multiple fingerprints in the same two-tiered searching context as Spain.” Pet. at 32; *see also id.* at 18 (analogizing Agiwal to Spain). This is the **only** mention of Agiwal in the portion of the Petition purporting to show how the challenged claims are anticipated or rendered obvious in view of the prior art. *See* Pet. at 22. In fact, the heading for that portion of the Petition is “Claims 1, 7, 9, 32, 38, and 40 Are Anticipated or Rendered Obvious Over Spain (Ground 1)” with no mention of Agiwal. *Id.* Thus, even if the inclusion of Agiwal in the Petition for an extremely limited purpose is credited, it does not change that—at a minimum—“**substantially the same** prior art or arguments previously were presented to the Office.” *Advanced Bionics*, IPR2019-01469, Paper 6 at 7-8 (quoting 35 U.S.C. § 325(d)) (emphasis added); *see also Palo Alto Networks, Inc. v. Centripetal Networks, Inc.*, IPR2021-01270, Paper 10 at 13-14 (PTAB Jan. 24, 2022) (finding substantially the same prior art previously presented to the Office despite the Petition including, for limited purposes, prior art that was not considered during prosecution). Indeed, Petitioner appears to concede that Agiwal does not change the analysis because Petitioner does

not reference Agiwal at all in its arguments regarding § 325(d). *See* Pet. at 42-49.

For these reasons, the first prong of the *Advanced Bionics* framework is met.

**B. Petitioner Fails to Show that the Office Materially Erred in Evaluating the Prior Art**

Under the second prong of the *Advanced Bionics* framework, Petitioner fails to meet its burden to demonstrate that the Office made a material error in its consideration of Spain. Again, Petitioner’s arguments are primarily directed to Dressler, which Petitioner contends “reflect[s]” Spain’s content. Pet. at 45-48. The Board has explained that “[if] reasonable minds can disagree regarding the purported treatment of the art or arguments, it cannot be said that the Office erred in a manner material to patentability.” *Advanced Bionics*, IPR2019-01469, Paper 6 at 9. Even considering Petitioner’s contentions in the light most favorable to it, reasonable minds can disagree regarding the Examiner’s treatment of Spain and Dressler.

Petitioner first focuses on the Examiner’s rejection of certain dependent claims—which, as Petitioner acknowledges, was based on limitations that are not found in the challenged claims—over Dressler. Pet. at 45-46 (citing Ex. 1002 at 56). Petitioner contends that because the Examiner only rejected these dependent claims over Dressler, “the Examiner failed to focus on any application of Dressler’s disclosure to the broad features of the independent claims,” constituting a “material error.” *Id.* This is illogical as it simply assumes the conclusion that Dressler (and thus Spain “as reflected in Dressler” (*see* Pet. at 47)) teaches the limitations of the

independent claims of the '753 Patent. *If anything, the prosecution history shows the opposite.* The Examiner clearly analyzed Dressler—which, as noted above, has extensive overlap with Spain—and only found that it teaches limitations of certain dependent claims that are not at issue in this proceeding. Although Petitioner frames this as the Examiner overlooking something, it is nothing more than Petitioner disagreeing with the Examiner which is insufficient to show material error under this prong of *Advanced Bionics*.

In *Juniper Networks*, the Board rejected the same argument Petitioner makes here, finding that an Examiner's substantive discussion of a prior art reference with respect to one claim was sufficient to infer that the Examiner evaluated the reference in its entirety and would have applied it to the other claim "if it had been proper to do so." *Juniper Networks, Inc. v. Mobile Telecomms. Techs., LLC*, IPR2017-00642, Paper 31 at 15-17, 19-21 (PTAB Mar. 14, 2018). The Board emphasized that "[s]howing an Examiner was silent regarding application of the prior art to a claim in an Office Action, where the same reference was applied to other claims in the same Office Action, is **not a showing of error.**" *Id.* at 19-21 (emphasis added). The same principle is applicable here because the Examiner analyzed Dressler and relied on it as part of rejecting claims 13 and 44 but did **not** reject any of the challenged claims in view of Dressler (or Spain).

Petitioner also suggests that because the Examiner cited a particular portion

of Dressler referring to an “adaptation algorithm” in rejecting claims 13 and 44, its analysis was limited to that portion. *See* Pet. at 46. As the Board recognized in *Juniper Networks*, that is inconsistent with the principles of patent examination, and it should be presumed that the Examiner analyzed the entirety of Dressler. IPR2017-00642, Paper 31 at 17 (“[W]e may infer that although the Office Action cites specific portions of a reference in a rejection, the entirety of that reference has been evaluated.”).

By assuming the Examiner only considered disclosure regarding the “adaptation algorithm,” which Petitioner does not rely on here, Petitioner argues that the Examiner must not have considered the disclosures that Petitioner does rely on—namely, “Spain’s disclosure of interpolation for populating its RF Fingerprint database.” Pet. at 46. ***But Dressler has the same disclosures regarding interpolation that Petitioner relies upon here. Compare*** Ex. 1006 at [0054]-[0055], [0101] *with* Ex. 1015 at 6:42-7:7, 10:25-34; *see also* Pet. at 25-26 (Petitioner citing [0054]-[0055], [0101] of Spain to contend that “Spain discloses generation of sets of grid points wherein each set includes newly interpolated grid points”). Petitioner’s own comparison of Spain and Dressler shows this. *See* Ex. 1016 at 10-11, 19-20 (showing no substantive redline in the paragraphs identified as [0054]-[0055] and [0101]). Of course, the Spain ’465 Patent also has the same disclosures regarding interpolation. Ex. 2002 at 7:25-57, 14:23-31. Thus, Petitioner has no basis to conclude that the

Examiner overlooked any disclosure in Spain or Dressler.

Moreover, during prosecution, the Examiner considered even more references with the *same disclosures* regarding interpolation that Petitioner relies on to argue that Spain teaches a key limitation of the '753 Patent—"generating one or more sets of grid points for said calibration data." Pet. at 25-26 (citing [0054]-[0055], [0101] of Spain); *see also id.* at 46 ("This Petition does rely on Spain's disclosure of interpolation for populating its RF Fingerprint database...").

- U.S. Patent No. 7,383,051 (Ex. 2014) (Ex. 1001 at Page 2; Ex. 1002 at 17 (showing Examiner's initials next to Cite No. 16))
  - *Compare* Ex. 1006 at [0054]-[0055], [0101] *with* Ex. 2014 at 7:10-42, 14:1-9.
- U.S. Patent No. 8,068,855 (Ex. 2015) (Ex. 1001 at Page 2; Ex. 1002 at 16 (showing Examiner's initials next to Cite No. 4))
  - *Compare* Ex. 1006 at [0054]-[0055], [0101] *with* Ex. 2015 at 6:36-67, 10:15-23.
- U.S. Patent No. 7,725,111 (Ex. 2016) (Ex. 1001 at Page 2; Ex. 1002 at 17 (showing Examiner's initials next to Cite No. 12))
  - *Compare* Ex. 1006 at [0054]-[0055], [0101] *with* Ex. 2016 at 6:33-64, 10:11-19.

As discussed below, these disclosures fail to teach this limitation. *Infra* § VIII. The

Examiner apparently agreed given that these disclosures—found in five references considered by the Examiner—were not relied upon in rejecting the challenged claims. Petitioner contends that the Examiner must have overlooked these disclosures found in multiple references considered during prosecution. *See* Pet. at 46-48. This argument contradicts well-established principles of patent examination and is unsupported by the prosecution history. Thus, Petitioner’s argument should be rejected.

Petitioner further contends that “[t]he Examiner particularly overlooked the disclosure concerning ‘grid points’ and ‘generating one or more sets of grid points,’” offering no support for this beyond a broad citation to large swaths of its invalidity argument. Pet. at 47. Petitioner cannot meet its burden to show a material error by the Examiner with this generic assertion that fails to specifically explain what the alleged material error is. As the Board has recently found, it need not assess the merits of a petition where the petitioner has not sufficiently explained the basis for its assertion of material error. *Google*, IPR2022-01197, Paper 18 at 20-23 (rejecting petitioner’s argument that “Ground 6 shows ‘how the Examiner erred in its evaluation...’” and citing additional decisions with similar rulings). In any event, as discussed below, Spain does not teach or suggest the limitations of the challenged claims reciting “generating one or more sets of grid points for said calibration data.” *Infra* § VIII. Thus, Petitioner fails to show material error in the Examiner’s

consideration of Spain (and Dressler).

Lastly, Petitioner contends that its expert declaration constitutes new evidence that weighs against discretionary denial. But “providing a declaration alone is insufficient.” *Juniper Networks*, IPR2017-00642, Paper 31 at 23. Petitioner’s expert declaration merely parrots the Petition and fails to present any evidence not already considered by the Examiner to warrant reconsideration of the prior art. *See NHK Spring Co. v. Intri-Plex Techs., Inc.*, IPR2018-00752, Paper 8 at 16-17 (PTAB Sept. 12, 2018) (precedential) (finding expert declaration did not warrant reconsideration “because the declaration is substantially similar to the Petition”).

Accordingly, Petitioner has failed to meet its burden as to the second prong of the *Advanced Bionics* framework. The Board should exercise its discretion to deny institution under § 325(d).

**III. THE BOARD SHOULD EXERCISE ITS DISCRETION AND DENY THIS PETITION UNDER § 314(A)**

The Board should exercise its discretion to deny institution under § 314(a) because institution would be an “inefficient use of Board resources.” *NHK Spring Co.*, IPR2018-00752, Paper 8 at 19-20. As explained in further detail below, two district court litigations involving the ’753 Patent are not just at advanced stages but, in fact, have *already resulted in final judgments* stemming from the district court’s ruling that the asserted claims are unpatentable pursuant to 35 U.S.C. § 101.

In *NHK Spring Co.*, the Board denied institution of an *inter partes* review

under § 314(a) where a parallel district court proceeding was nearing its final stages, and a PTAB proceeding would not conclude until about six months after the district court trial was scheduled. *NHK Spring Co.*, IPR2018-00752, Paper 8 at 19-21. In so reasoning, the Board set the precedent that parallel court proceedings must be considered when determining whether the institution of an *inter partes* review is consistent with the objective of the America Invents Act (“AIA”) to “provide an effective and efficient alternative to district court litigation.” *Id.*

Building on *NHK Spring Co.*, in *Apple Inc. v. Fintiv, Inc.*, the Board identified specific factors relating 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.” IPR2020-00019, Paper 11 at 6 (PTAB Mar. 20, 2020) (precedential).

The *Fintiv* factors include:

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.

*Id.*

The Director provided further guidance on the application of the *Fintiv* precedent in a June 21, 2022 Memorandum regarding an Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation (“Guidance Memo”) and *CommScope Tech. LLC v. Dali Wireless, Inc.*, IPR2022-01242, Paper 23 (PTAB Feb. 27, 2023) (precedential). The Director set forth a “compelling merits test” under which the Board—if it has found that *Fintiv* factors 1-5 favor discretionary denial—must assess whether a petition presents a “compelling unpatentability challenge” before discretionarily denying institution. *CommScope*, IPR2022-01242, Paper 23 at 3-5. As the Director explained, “the compelling merits standard is a higher standard than the standard for institution set by statute.”<sup>3</sup> *Id.* at 3. A reasonable likelihood that the petitioner would prevail with respect to at least one challenged claim does not suffice to demonstrate that a challenge is “compelling.” Rather, a “compelling” challenge is one “in which the evidence, if unrebutted at trial, would plainly lead to a conclusion that one or more claims are unpatentable by a preponderance of the evidence” such that “it is *highly*

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<sup>3</sup> Institution of an IPR is authorized only when “the information presented in the petition ... and any response ... 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.” 35 U.S.C. § 314(a).

*likely* that the petitioner would prevail with respect to at least one challenged claim.” *Id.* at 3-4 (emphasis added). This is a “high standard” (see *AviaGames, Inc. v. Skillz Platform, Inc.*, IPR2022-00530, Paper 14 at 3, 5 (PTAB Mar. 2, 2023)) and the Board must explain its reasoning in determining whether the merits are compelling. *CommScope*, IPR2022-01242, Paper 23 at 4-6.

The *Fintiv* factors weigh strongly in favor of discretionary denial and Petitioner’s challenge does not meet even the statutory standard, let alone the higher “compelling merits” standard. On September 18, 2023, the district court issued its ruling that the asserted claims of the ’753 Patent are unpatentable under § 101 in both the Google Action and the Apple Action. Exs. 2003, 2004. Shortly thereafter, on October 5, 2023 and October 6, 2023, the district court issued final judgments in both actions. Exs. 2005, 2006. Accordingly, both actions are closed pending Patent Owner’s appeal to the Federal Circuit.

The Board has recognized that the *Fintiv* factors strongly favor denial of institution where the challenged patent has already been invalidated by the district court under § 101. In *AviaGames*—which is *directly* analogous to the present case—the Board denied institution after weighing the *Fintiv* factors “largely because the claims of the challenged patent have been determined to be invalid” explaining that “the interests of efficiency and integrity of the system would be best served by invoking 35 U.S.C. § 314(a) to deny institution” in view of the district court’s ruling

under § 101. *AviaGames*, IPR2022-00530, Paper 12 at 11-15. Although the Board initially exercised its discretion to deny institution based on the *Fintiv* factors alone, the Director remanded the matter to the Board to assess “whether the record before the Board prior to institution presents a compelling, meritorious challenge,” stating that “[i]f the Board finds the record does not rise to this high standard, the Board will exercise discretion to deny institution.” *AviaGames*, IPR2022-00530, Paper 14 at 5-6. Importantly, the Director did not disagree with or find any fault in the Board’s analysis of the *Fintiv* factors in *AviaGames*. On remand, the Board determined that the Petition did not meet the “compelling merits” standard and discretionarily denied institution. *AviaGames*, IPR2022-00530, Paper 15 at 2-3.

Similarly, in *Snap Inc. v. Blackberry Ltd.*, a district court had issued an order finding all claims of the challenged patent invalid under § 101; as a result, the Board denied institution, in large part because it did “not consider it an efficient use of Board resources to institute an *inter partes* review where all remaining Challenged Claims have already been adjudicated by an Article III court.” IPR2020-00391, Paper 8 at 17 (PTAB July 13, 2020).

As discussed below, the *Fintiv* factors favor discretionary denial here even more than they did in *AviaGames* and *Snap*. And because Petitioner has failed to meet the high standard required by the “compelling merits test,” the Board should exercise its discretion to deny institution under § 314(a).

a. **Factor 1: The district court case has concluded, and cannot be stayed**

“A district court stay of the litigation pending resolution of the PTAB trial allays concerns about inefficiency and duplication of efforts,” and thus “weigh[s] against exercising the authority to deny institution under *NHK*.” *Fintiv*, IPR2020-00019, Paper 11 at 6.

Although Petitioner contends it “will seek a pre-institution stay” (Pet. at 39), it has not filed any motion to stay the Google Action in view of the instant Petition. Nor could it, because the district court proceedings are closed pending the § 101 appeal to the Federal Circuit. Accordingly, contrary to Petitioner’s assertion, there is no need to “predict whether the district court will stay related litigation”—the district court **cannot** stay the litigation given the posture. Pet. at 39. Thus, as the Board found in *Snap*, this factor weighs in favor of exercising discretion to deny institution. *Snap*, IPR2020-00391, Paper 8 at 13; *see also AviaGames*, IPR2022-00530, Paper 12 at 12 (finding that *Fintiv* Factor 1, if weighed, favors denial because “the District Court’s invalidity determination has already been made”).

b. **Factor 2: The Board’s final written decision deadline would be more than one year after the district court issued its § 101 decision**

As demonstrated by *NHK* and its progeny, “[i]f the court’s trial date is earlier than the projected statutory deadline, the Board generally has weighed this fact in favor of exercising authority to deny institution under *NHK*.” *Fintiv*, IPR2020-

00019, Paper 11 at 9.

The district court completed its consideration of the '753 Patent and reached its final decision in September 2023, months before the Board would even institute review, much less issue a final written decision. There is no further scheduled or proposed trial date in the Google Action. In *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].” *AviaGames*, IPR2022-00530, Paper 12 at 12-13 (emphasis added). The Board in *Snap* came to the same conclusion, finding that this factor weighed in favor of denying institution because the Board’s statutory deadline for the final written decision would be “one year after the district court issued final judgment.” *Snap*, IPR2020-00391, Paper 8 at 13. For the same reasons, the Board should find that this factor weighs in favor of denial of institution.

**c. Factor 3: There has been substantial investment by the parties and district court in the litigation, culminating in a final decision by the court**

“[I]f, at the time of the institution decision, the district court has issued substantive orders related to the patent at issue in the petition, this fact favors denial.” *Fintiv*, IPR2020-00019, Paper 11 at 9-10.

The Google Action is concluded as a result of the district court’s § 101 ruling—*i.e.*, a substantive order related to the '753 Patent. Ex. 2003. Based on the

same facts, the Board in *AviaGames* and *Snap* found this factor to weigh in favor of denial of institution. *AviaGames*, IPR2022-00530, Paper 12 at 13 (“The District Court’s invalidity determination is a substantive order related to the ’602 patent. We determine this factor weighs in favor of denying institution.”) (citations omitted); *Snap*, IPR2020-00391, Paper 8 at 13 (finding that *Fintiv* Factor 3 supports denial of institution because “[t]he parties’ and district court’s investment in the district court case was sufficient to already reach a final adjudication.”).

Even before the district court issued its § 101 ruling, the parties and district court had already made a substantial investment in the litigation. As Petitioner recognizes, the district court issued a *Markman* order (Ex. 1028)—another substantive order related to the ’753 Patent—before the Petition was filed and this weighs in favor of denial. Pet. at 40. Moreover, fact and expert discovery in the Google Action were completed prior to the district court’s § 101 ruling and nearly completed even before the Petition was filed on August 9, 2023. *See* Ex. 2007 (setting July 3, 2023 deadline for opening expert reports and August 18, 2023 deadline for close of expert discovery). This completed discovery included extensive written discovery, numerous depositions of fact and expert witnesses, and expert reports (including those addressing the validity of the ’753 Patent under 35 U.S.C. §§ 102 and 103).

Contrary to Petitioner’s assertions of diligence (*see* Pet. at 41), Petitioner

waited until *after* the parties and the court invested significant resources in the case to file the Petition. Petitioner contends that it “filed its Petition less than three months after being made aware of the full set of asserted claims.” *Id.* This contradicts the record. The Petition challenges every asserted claim identified in Patent Owner’s preliminary identification of asserted claims, served on March 27, 2023. Ex. 1013; *see also* Pet. at 6 (identifying challenged claims). Although Patent Owner narrowed its assertion of claims on June 12, 2023, that apparently had no bearing on the Petition, which challenges far more claims than were identified as asserted on that date. Ex. 2008. Thus, Petitioner’s contention that its purported “diligence in filing its Petition outweighs any investment” in the litigation is incorrect. Pet. at 41.

Moreover, the district court and Patent Owner also made a substantial investment in the Apple Action, another litigation involving the ’753 Patent.<sup>4</sup> The

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<sup>4</sup> Although Petitioner is not a party to the Apple Action, the Board has recognized that discretionary denial under the *Fintiv* factors can be based on a district court litigation involving the same challenged patent even if Petitioner is not a party to that case. For example, in *Mylan Laboratories Ltd. v. Janssen Pharmaceutica NV*, IPR2020-00440, Paper 17 (PTAB Sept. 16, 2020), the Board denied institution after evaluating the *Fintiv* factors for two related litigations involving the challenged patent—one between the patent owner and the petitioner (referred to as the “Mylan

same substantive orders—a *Markman* order and § 101 ruling—were issued by the district court in the Apple Action. Exs. 2004, 2009. And fact and expert discovery were also completed in the Apple Action prior to the district court’s § 101 ruling in September 2023. Ex. 2010 (setting July 3, 2023 deadline for opening expert reports and August 18, 2023 deadline for close of expert discovery). Again, Petitioner chose to file the Petition *after* these parties and the district court invested substantial resources in the case.

Thus, even aside from the district court’s substantive § 101 ruling related to the ’753 Patent, there has been substantial investment by the parties and the district court in the Google Action (and the Apple Action). Accordingly, in this proceeding, this factor weighs even more heavily in favor of denying institution than it did in *AviaGames* and *Snap* where the Board found that the district court’s § 101 ruling alone was sufficient to conclude that this factor weighs in favor of denying institution.

d. **Factor 4: The ’753 Patent was found to be invalid by another tribunal and, in any event, there is substantial overlap between issues raised in the petition and in the district court**

*Fintiv* states that “if the petition includes the same or substantially the same \_\_\_\_\_ litigation”) and one between the patent owner and a different defendant (referred to as the “Teva litigation”). *Id.* at 9-11, 25.

claims, grounds, arguments, and evidence as presented in the parallel proceeding, this fact has favored denial,” and if “other circumstances weigh against redoing the work of another tribunal, the Board may, nonetheless, exercise the authority to deny institution.” *Fintiv*, IPR2020-00019, Paper 11 at 12, 14.

In *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. *AviaGames*, IPR2022-00530, Paper 12 at 14. For at least the same reason, the Board should find the same here.

Even apart from the district court’s § 101 ruling, the prior art references relied on by Petitioner for this proceeding—Spain and Agiwal—are also relied on by Petitioner in the Google Action. Ex. 2011 at 23, 26 (identifying Spain—referred to as “Spain 735”—and Agiwal as prior art asserted against the ’753 Patent in Petitioner’s Final Invalidity Contentions in the Google Action). Thus, there is significant overlap between Petitioner’s invalidity arguments in this proceeding and its invalidity arguments in the district court. Further, the record pertaining to these invalidity arguments has already been developed in the district court, including through hundreds of pages of expert reports. Subject to the pending appeal, the ’753 Patent will remain invalid under § 101<sup>5</sup> or its invalidity will be adjudicated in the

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<sup>5</sup> Consistent with the Director’s guidance, if the district court’s § 101 ruling is

district court based on this extensive, already-developed record. Petitioner does not address this factor—and the clear overlap in arguments—beyond stating that it “reserves the right” to file a stipulation in the Google Action. Pet. at 41. But the Google Action is closed pending appeal.

It is an inefficient use of the Board’s resources to adjudicate the validity of the ’753 Patent where the district court has already done it. Even if considering only the validity of the ’753 Patent under §§ 102 and 103, it is an inefficient use of the Board’s resources to develop a record that has already been developed in the Google Action. Thus, this factor weighs in favor of denying institution.

e. **Factor 5: Petitioner and the defendant in the district court litigation are the same party**

The petitioner here and the defendant in the district court litigation are both Google LLC—in other words, identical. This was true in *Fintiv*, *Snap*, and *AviaGames*. Therefore, this factor weighs in favor of denying institution.

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affirmed in a final, non-appealable judgment by the Federal Circuit, this proceeding—if instituted—would be terminated. *See AviaGames*, IPR2022-00530, Paper 14, 5-6 (Director explaining that “[i]f the Board institutes an IPR after a compelling merits analysis, and if the invalidity judgment under 35 U.S.C. § 101 of the district court is affirmed in a final, non-appealable judgment by the Federal Circuit, this proceeding shall be terminated.”).

**f. Factor 6: Other circumstances weigh in favor of exercising discretion to deny institution, including the merits**

The “factors considered in the exercise of discretion” are part of a “balanced assessment of all the relevant circumstances in the case, including the merits.” *Fintiv*, IPR2020-00019, Paper 11 at 14. “[I]f the merits of the grounds raised in the petition are a closer call, then that fact has favored denying institution when other factors favoring denial are present.” *Id.* at 15.

As discussed in the merits sections below, each ground is lacking at least because Spain and Agiwal fail to teach the “[generate/generating] one or more sets of grid points for said calibration data” limitation—and subsequent limitations that recite “grid points”—required by the independent claims of the ’753 Patent. *Infra* § VIII. Thus, at best, the merits in this case fall into the camp of a “closer call,” not in Petitioner’s favor. At a minimum, the merits fall far short of satisfying the “compelling merits test” which presents a “higher standard than the standard for institution set by statute,” requiring that it be “highly likely that the petitioner would prevail with respect to at least one challenged claim.” *CommScope*, IPR2022-01242, Paper 23 at 3-5.

Additionally, in *AviaGames*, the Board explained in connection with this factor that “on balance, the District Court’s invalidity determination is the most important relevant circumstance and, as the challenged patent has already been found to be invalid, this factor favors denial of institution.” *AviaGames*, IPR2022-

00530, Paper 12 at 14-15. The same is true here—the district court has already found the challenged patent to be invalid and, for the same reason as in *AviaGames*, this weighs in favor of denying institution.

Further, as explained above, the Board should deny institution under § 325(d) because the Petition relies on substantially the same prior art and arguments evaluated by the Examiner during prosecution of the '753 Patent. *Supra* § II. Although Petitioner's attempt to rehash the prosecution of the '753 Patent warrants discretionary denial on its own under § 325(d), at the very least it tips the scales further in favor of denial under the *Fintiv* factors.

Because institution of any ground raised in the Petition would be an inefficient use of the Board's resources—as evidenced by all six *Fintiv* factors—and the Petition fails to satisfy the “compelling merits test,” the Board should exercise its discretion under § 314(a) to deny institution.

#### IV. **OVERVIEW OF THE '753 PATENT**

The '753 Patent is directed to an invention for determining the location (or “geolocating”) of a mobile device using signal information from wireless communications networks (*e.g.*, cellular signals). Ex. 1001 at 1:15-23. This involves collecting “calibration data” which includes measuring the properties of such network signals at known locations. *Id.* at 9:49-59. These properties may include, as one example, the measured strengths of the network signals, as received at those

known locations. *Id.* at 9:60-10:8. After the calibration data is available, mobile devices at unknown locations can observe network signals and measure their properties (*e.g.*, signal strength), and then compare this observed data to the previously-gathered calibration data to determine their location. *Id.* at 9:43-48.

The invention of the '753 Patent involves the generation and use of what the patent refers to as “grid points” to improve the accuracy and efficiency of this process for using network signals for geolocation. *Id.* at 2:21-50. As used in the '753 Patent, “grid points” are not merely points on a grid. Rather, as explained below, the grid points of the '753 Patent are data structures that are generated and associated with signal information based on analysis of the similarities between calibration data that has been previously collected in a region. Because they are generated based on the calibration data—rather than being predefined—the location, geographical boundaries, and associated signal information of the grid points are not defined until determined from particular aspects of the calibration data. The grid points serve as additional known locations associated with network signal information, creating a denser “map” for mobile devices to compare observed data to for the purpose of determining their location.

The grid points of the '753 Patent “usually will not be uniformly distributed throughout the geographic region,” and thus the '753 Patent (and related patents) often uses the term “non-uniform grid points” or “NUGs” when describing grid

points. *See* Ex. 1001 at 2:43-50; *see also* Ex. 1018 at 3:50-60.<sup>6</sup> Additionally, the grid points “represent an area of collected calibration data.” Ex. 1018 at 3:56-60. Accordingly, the district court construed “grid point” as “a point associated with representative calibration data for an area,” which is the same construction that Petitioner proposes for this proceeding. Pet. at 20 (citing Ex. 1028 at 20).

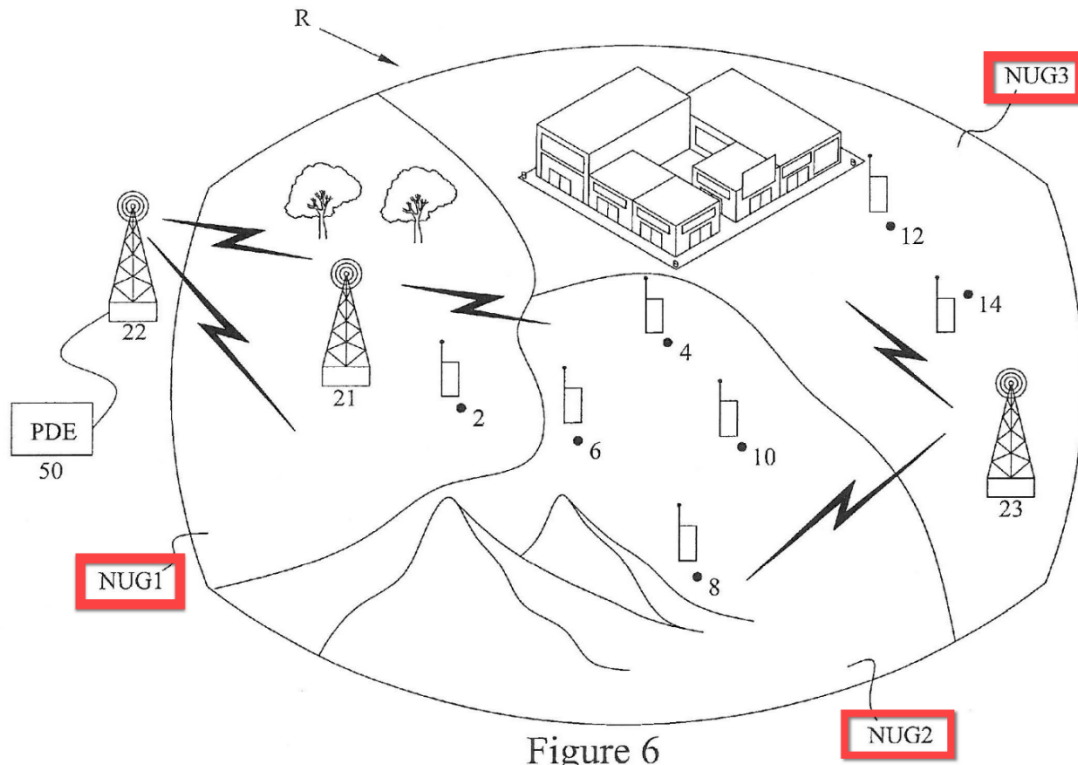
In its *Markman* order, the district court provided further detail about the meaning of “grid point” in the ’753 Patent and its construction of the term. *First*, the district court stated that the ’753 Patent’s explanation that calibration data from a number of locations is “gathered and analyzed so 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.” Ex. 1028 at 19 (quoting ’753 Patent at Abstract) (emphasis in original). Accordingly, the district court acknowledged that the claimed grid points

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<sup>6</sup> U.S. Patent No. 7,561,104 (Ex. 1018; “’104 Patent”) and U.S. Patent No. 9,097,784 (Ex. 2013; “’784 Patent”) claim priority to the same provisional application as the ’753 Patent, and also describe “grid points” as the term is used in this patent family. Consequently, the district court relied on disclosures in the ’104 Patent and ’784 Patent in construing the term “grid point.” *See* Ex. 1028 at 19-20 (citing ’104 Patent (as “Ex. B”) and ’784 Patent (as “Ex. F”)).

must be generated based on the measured calibration data—they do not exist until generated by the claimed invention. *Second*, the district court explained that “representative calibration data” in its adopted construction reflects that “the defining characteristic of a NUG 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.” Ex. 1028 at 20 (citing Ex. 1018 at 3:56-60; Ex. 1001 at 10:29-11:7; Ex. 2013 at 6:22-28). In other words, the geographical boundaries of the claimed grid points are undefined until determined by the claimed invention based on similarities across the measured calibration data.

Thus, although termed grid *points*, they are not just “points”—they represent a broader area whose boundaries are defined by the commonality of the calibration data measured in the region. This is depicted in the related ’784 Patent, which shows “a geographical region (R) having NUGs represented by NUG1, NUG2, and NUG3,” and explains “[a] NUG may be generated to represent the signal characteristics and calibration data over a given region.” Ex. 2013 at 6:21-34.



*Id.* at Fig. 6.

To generate grid points, calibration data for 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.” Ex. 1001 at Abstract, 9:34-39. The calibration data used to generate grid points “may be obtained at each of several calibration points, which may be discrete points within region R each having geographical coordinates (e.g., latitude and longitude) associated therewith” and can include information regarding, for example, signal strength. *Id.* at 9:56-10:7. A single point—the “grid point” or “non-uniform grid point”—is then generated and includes specific coordinates but is also defined by

the geographical area comprising similar calibration data. *See id.* at 9:34-48. For this reason, the set of grid points is well-defined and ordered from a network signal perspective, but appears irregular and non-uniform from a geographical perspective, as shown in the figure above.

Generating the claimed grid points includes determining their location (or “geographical coordinates”) and boundaries based on evaluation of the calibration data. *Id.* at 9:34-40, 12:9-14; *see also id.* at 2:51-60. Because the claimed grid points are generated from calibration data gathered in a region, they are tailored in location and shape to that region based on the available calibration data. *Id.* at 12:9-14. Additionally, generating grid points includes associating them with “characteristics” that describe the grid point—*e.g.*, information about signal strengths derived from the measured calibration data. *Id.* at 12:26-50. Thus, as taught in the specification, each grid point is a data structure that captures the necessary components to define parameters of the network signals in a region and their propagation:

For each so obtained NUG [non-uniform grid point], a variety of parameters and functions may be generated and stored to describe that NUG. These are termed the NUG characteristics. The NUG characteristics are a representation in that attempt to capture the nature and variability of the data associated with that NUG in a compact and representative form. These characteristics may include, but are not limited to, the following: (a) an ordered list of neighboring cells; (b) functions defined on the absolute neighboring cell power levels (*e.g.*,

mean, median,  $k^{\text{th}}$  moment, cluster-mean, etc.); (c) functions defined on the relative neighboring cell power differences (e.g., mean, median,  $k^{\text{th}}$  moment, cluster-mean, etc.); (d) serving cell/sector; (e) timing advance parameter (or equivalent); (f) individual pdf (probability density function or probability distribution function) of each neighboring cell power level; (g) joint pdf of neighboring cell power levels; (h) mean and variance of neighboring cell power levels; (i) mobile device orientation (e.g., indoors, outdoors, direction mobile device is facing (e.g., North, South, etc.), tilted upwards, azimuth, elevation, etc.); (j) a compact and/or efficient representation that enables retrieval of the calibration data NMR vectors assigned to this NUG; (k) the network state as indicated in the calibration data; (l) a confidence measure indicative of the reliability of the calibration data feeding this NUG ...

*Id.*

The claimed grid points are new creations that define a geographical area based on the propagation of signals of opportunity in the area, and capture parameters of that propagation to enable later geolocation using observed signals. Consequently, the “grid” of the ’753 Patent does not exist—and is not defined—until the calibration data is gathered and analyzed to generate the claimed “grid points,” each with a unique shape and geographical area dictated by the propagation of the network signals in a region, as determined from the measured calibration data.

The ’753 Patent describes how grid points are generated based on the evaluation of calibration data. For example, the statistical similarity of the

calibration data can be evaluated to determine where a grid point should be generated, if one should be generated at all. Ex. 1001 at 10:66-11:6. The statistical similarity in the calibration data can be assessed based on clustering tests, a probability density function, the mean and variance of the data, or other functions of the calibration data. *Id.* at 10:66-11:6, 12:4-14.

Once the grid points are generated, they can be used in connection with geolocating a mobile device using network signals. “The location of a wireless mobile device may be estimated by comparing data reported by the mobile device to be geolocated with the data (and more particularly the characteristics derived from this data) associated with the various grid points to thereby estimate the location of the mobile.” *Id.* at 9:43-48. This involves evaluating data observed by the mobile device with the grid points and then selecting the set of generated grid points that are appropriate for comparison to that observed data based on predetermined criteria such as “total probability, cluster radius, Euclidean norm, joint probability, and Mahalanobis distance.” *Id.* at 5:63-6:7, 51:27-33.

In this way, the invention of the ’753 Patent improved on conventional methods for geolocation using network signals through the generation and use of grid points—as that term is used in the ’753 Patent—including non-uniform grid points. The invention enabled using existing calibration data to create additional known locations, tailored to a region based on similarities across the calibration data,

that are associated with wireless signal information. Thus, instead of using network signal information only from certain sources—*e.g.*, cellular towers that may be far away from each other and the device—a mobile device could geolocate itself via comparison to newly-generated grid points, ensuring more accurate geolocation with simpler calculations.

**v. SUMMARY OF THE REFERENCES ASSERTED IN THE PETITION**

**A. Spain**

Spain describes a “method for determining the location of a mobile unit” using “a fingerprint database that contains a number of fingerprints along with their corresponding location identities.” Ex. 1006 at Abstract, [0047]. Spain issued to Polaris Wireless, Inc. as the Spain ’465 Patent, which was considered by the Examiner—among many other related Polaris Wireless patents—during prosecution of the ’753 Patent. *Supra* § II.A.

Figure 10 of Spain (reproduced below) shows the structure of the fingerprint database, which includes “Lat and Long fields [that] indicate the latitude and longitude of the location to which the fingerprint corresponds” and “the time at which the fingerprint was captured.” Ex. 1006 at [0099].

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| Fingerprint Database |      |       |      |             |             |
|----------------------|------|-------|------|-------------|-------------|
| No.                  | Lat. | Long. | Time | Fingerprint | Description |
| 1                    |      |       |      |             |             |
| 2                    |      |       |      |             |             |
| 3                    |      |       |      |             |             |
| 4                    |      |       |      |             |             |
| 5                    |      |       |      |             |             |
| 6                    |      |       |      |             |             |
| ...                  |      |       |      |             |             |
| L                    |      |       |      |             |             |

Fig. 10

As used in Spain, “fingerprint” refers to “a predetermined combination of observable RF spectral parameters.” *Id.* at [0035]. Spain describes building the fingerprint database by “taking off-line snapshots of fingerprints at various locations” or “taking fingerprint measurements at predetermined locations and using intelligent algorithms that interpolate the fingerprints at all locations in between the sampled locations.” *Id.* at [0100]-[0101]. Thus, the interpolation described in Spain is merely for the purpose of filling in missing fingerprint measurements at predetermined locations. In other words, the locations themselves are determined *a priori* and then can be filled in with “fingerprint measurements” or interpolations of such measurements. *Id.*

Spain further describes that the “complete grid of locations for the cellular service area” can be used as training data to improve the accuracy of the fingerprint database using “learning/training techniques.” *Id.* at [0054]-[0055]. Although Spain

provides scant detail on the “learning/training techniques,” Spain explains that “[p]osition will be used as the input value, while signal strength will be used as the target value.” *Id.* at [0054].

Accordingly, while Spain uses the term “grid point,” it only uses this term in referring to a conventional grid, and thus does not use the term in the manner used in the ’753 Patent. As the district court recognized in its *Markman* order—which Petitioner relies on for its proposed construction of “grid point”—the ’753 Patent uses “grid point” to more specifically mean “a point associated with representative calibration data for an area” that is generated based on analysis of calibration data. Pet. at 20 (citing Ex. 1028 at 20); *see also* Ex. 1028 at 19 (district court explaining that gathering and analyzing calibration data is “what *must be done* to arrive at a grid point or set of grid points”) (emphasis in original) (citing Ex. 1001 at Abstract); *see also supra* § IV. As explained in further detail below, Spain does not teach generating and using “grid points” as that term is used in the ’753 Patent. *Infra* § VIII.

## **B. Agiwal**

Agiwal describes “an RF-based system for locating and tracking users in an 802.11 wireless LAN framework” called “LOCATOR.” Ex. 1005 at 102. To estimate a user’s current location, the LOCATOR system utilizes a radio map database that is built by taking multiple signal strength samples at locations set apart

at a certain distance and calculating, from these samples, the mean signal strength and signal strength probability distribution function at each location. *Id.* at 102, 104-105. The locations in the radio map database are defined by the desired “granularity” (i.e., “the physical closeness between two consecutive points where the signal strength samples are taken while building the radio map database”). *Id.* at 104.

Figure 3 of Agiwal (reproduced below) depicts the setup used to evaluate the performance of the LOCATOR system in the experiment. The crosses depicted in the figure “indicate the locations where signal strength samples were collected while building the radio map database,” where the “separation between the crosses defines the granularity” of the radio map database. *Id.* at 106.

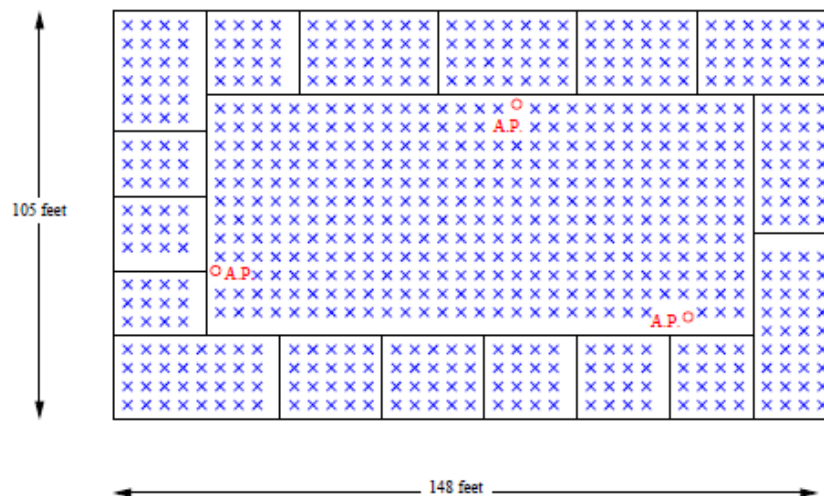


Figure 3: Experimental testbed

## VI. LEVEL OF ORDINARY SKILL IN THE ART

Patent Owner adopts Petitioner’s definition of a person of ordinary skill in the art (“POSITA”) for the purposes of this Preliminary Response. Patent Owner

reserves the right to present arguments on the definition should the Petition be instituted.

**VII. CLAIM CONSTRUCTION**

Patent Owner does not dispute Petitioner's statement on claim construction for the purposes of this Preliminary Response. Patent Owner reserves the right to present arguments on the constructions should the Petition be instituted.

**VIII. PETITIONER FAILS TO SHOW A REASONABLE LIKELIHOOD OF PREVAILING ON ANY CHALLENGED CLAIM**

To the extent the Board considers the merits of the Petition, the Petition fails to demonstrate that Spain, alone or in view of Agiwal, anticipates or renders obvious any of the challenged claims. All of the challenged claims of the '753 Patent require "generating one or more sets of grid points for said calibration data," or for the system claims, a processor programmed to "generate one or more sets of grid points for said calibration data." Ex. 1001 at cls. 1, 7, 9, 32, 38, 40. There is no disclosure in Spain that teaches or suggests this limitation. And Petitioner does not even contend that Agiwal teaches or suggests this limitation as it points to nothing from Agiwal in connection with this limitation.<sup>7</sup> See Pet. at 24-27.

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<sup>7</sup> As Petitioner did not identify any disclosure in Agiwal relevant to this limitation, Agiwal is not addressed below. Patent Owner does not concede that Agiwal has any disclosure relevant to the issues in the Petition.

Spain describes a method for determining the location of a mobile unit using a “fingerprint database that contains a number of fingerprints along with their corresponding location identities.” Ex. 1006 at [0047]. Figures 9 and 10 of Spain illustrate how the locations in the fingerprint database correspond to locations where measurements are *collected*, not locations that are generated based on analysis of the measurements. Ex. 1006 at Figs. 9-10. For example, Spain describes the structure of each fingerprint with reference to Figure 9:

The fingerprint comprises characteristics of received signals at multiple frequencies. Each column in FIG. 9 is information pertaining to a particular frequency or carrier. . . Finally, Signal Strength fields 411, 413, *are filled by the mobile unit based on the signal strengths of the received carriers*. In one embodiment *the signal strength is sampled* multiple times for each frequency in order to smooth out any variations. At least one of the Signal Strength fields is required to be filled by the mobile unit.

Ex. 1006 at [0098] (emphasis added). Spain then describes the structure of the fingerprint database with respect to Figure 10:

FIG. 10 shows the high level structure of the fingerprint database 501 in one embodiment. . . . Each row in database 501 corresponds to one fingerprint. The Lat and Long fields indicate *the latitude and longitude of the location to which the fingerprint corresponds*. . . . The Time column indicates the *time at which the fingerprint was captured*. . . . The Fingerprint column contains the actual fingerprint data. In one

embodiment the structure depicted in FIG. 9 is used to store the fingerprint data.

Ex. 1006 at [0099] (emphasis added).

Thus, the fingerprint database of Spain comprises data that has been measured at various locations, and that location is associated with the measurements. In other words, the fingerprint database of Spain is only made up of “calibration points”—*i.e.*, locations where data is measured and collected. *See* Ex. 1001 at 9:56-59 (“The calibration data may be obtained at each of several calibration points, which may be discrete points within region R each having geographical coordinates (e.g., latitude and longitude) associated therewith.”).

This is a critical flaw in Petitioner’s argument because the claim expressly distinguishes “calibration points” from “grid points.” *See, e.g., id.* at cl. 1 (“providing calibration data for each of one or more calibration points...” and “generating one or more sets of grid points for said calibration data”). Indeed, during prosecution, the Applicant successfully distinguished a different prior art reference, Zeng, on the same grounds, explaining that the Examiner failed to make a distinction between the claimed calibration points and claimed grid points. *See* Ex. 1002 at 42-43 (“The claim specifically requires both calibration points and grid points; however, the Office has not made this distinction in its rejection and has thus misread the claim and misapplied the reference of record.”). Unlike the claimed calibration points, the

claimed grid points are not points where data was collected. Instead, grid points are generated based on analysis of gathered calibration data. Ex. 1001 at 2:31-23 (“The calibration data for these locations must be gathered and analyzed so that particular points (e.g., ‘grid points’) within the geographic region *can be determined and associated with a particular set or sets of calibration data*” (emphasis added)).

Petitioner’s conflation of the claimed calibration points and claimed grid points is made especially clear in its characterization of Spain’s alleged disclosure of a “set of grid points”:

Here, the two grid points used to interpolate an additional grid point or points and the generated additional grid point or points are collectively a generated “set” of grid points (i.e., a “set” which includes the two calibrated grid points *and* the associated interpolated grid points).

Pet. at 26 (emphasis in original). Petitioner contends that the claimed “set of grid points” is taught by Spain’s so-called “calibrated grid points” together with “interpolated grid points.” But the term “calibrated grid point” is Petitioner’s own terminology—Spain does not use that term. As explained above, the fingerprint database of Spain is comprised of data associated with the location where that data was collected. Thus, what Petitioner calls “calibrated grid points” in Spain are not “grid points” as that term is used in the ’753 Patent. Those are points where data was collected which—consistent with the prosecution history of the ’753 Patent—are distinct from the claimed grid points. Thus, Petitioner fails to demonstrate a

reasonable likelihood of prevailing as it conflates two distinct claim elements—  
“calibration points” and “grid points.”

Even if only considering the so-called “interpolated grid points” (Pet. at 26),  
Petitioner’s argument still fails. As an initial matter, Petitioner’s argument for this  
limitation is largely based on Petitioner’s assertion that “Owner has indicated this  
limitation requires generating a random grid point such as a non-uniform grid point,”  
citing Patent Owner’s complaint and infringement contentions. Pet. at 24-25.  
Petitioner’s characterization of Patent Owner’s position is incorrect, especially to  
the extent Petitioner suggests this limitation is met by generating any “random”  
point. Regardless, the proper inquiry is not based on erroneous characterizations of  
Patent Owner’s complaint and infringement contentions, but rather based on  
consideration of the claim language, as construed. *TI Grp. Auto. Sys. (N. Am.), Inc.*  
*v. VDO N. Am., L.L.C.*, 375 F.3d 1126, 1139 (Fed. Cir. 2004) (“The first step  
involves the proper interpretation of the claims. The second step involves  
determining whether the limitations of the claims as properly interpreted are met by  
the prior art.”); *Deere & Co. v. Gramm*, 842 F. App’x 628, 632 (Fed. Cir. 2021).  
Despite proposing the district court’s construction of “grid point” for this proceeding  
(Pet. at 20), Petitioner has failed to explain how Spain teaches this limitation based  
on the district court’s construction and further discussion regarding “grid points.”  
*See supra* § IV.

Petitioner relies on Spain’s description of how a fingerprint database “is built by taking fingerprint measurements at predetermined locations and using intelligent algorithms that interpolate the fingerprints at all locations between the sample locations” as disclosing this limitation. Pet. at 25-26 (citing Ex. 1006 at [0101] and [0054]-[0055]). Contrary to Petitioner’s assertion, this disclosure confirms a key distinction between the interpolated fingerprints of Spain and the “grid points” of the ’753 Patent. The claimed grid points of the ’753 Patent—including their geographical coordinates and boundaries—are generated based on analysis of calibration data. *See, e.g.*, Ex. 1001 at Abstract, 9:34-40 (“The calibration data for various points must be gathered and analyzed so that particular points (e.g., ‘grid points’) within the geographic region can be determined and associated with a particular set or sets of calibration data from, for example, one or more NMRs. In order to do so geographic coordinates may be assigned to grid points located in a geographic region.”), 12:9-14 (“The geometrical shape (i.e., the shape defined by the union of locations of calibration points assigned to the NUG) and the amount of data accumulated into such NUGs is seen to be variable since these are determined by the statistical similarity of the data allocated to a NUG.”); *see also* Ex. 1028 at 19 (district court quoting the ’753 Patent Abstract in finding that it describes “what *must be done* to arrive at a grid point or set of grid points”).

In Spain, however, the interpolated fingerprints are used to fill in missing

fingerprint measurements *at predetermined locations*—*i.e.*, locations that are defined in advance independently of any calibration data. Petitioner points to no disclosure in Spain showing that the location corresponding to any interpolated fingerprint is tied to or determined based on analysis of the calibration data.

Nor could Petitioner do so. Spain describes “interpolat[ing] the fingerprints at *all locations* in between the sampled locations” to reduce the number of physical measurements to be made to populate the fingerprint database. Ex. 1006 at [0101] (emphasis added). That this interpolation occurs at “all locations” confirms that it is for the purpose of filling in fingerprint measurements for predetermined locations in the database. Interpolating fingerprints for “all locations” is meaningless unless those locations have already been determined and defined; “all” refers to the entire set of locations, requiring the set of locations to be defined in advance. In other words, the predetermined locations are associated with measured fingerprints or, if no such measurements exist, filled in with interpolated measurements. Regardless, the location in the database associated with measured or interpolated fingerprint data is predetermined and defined independently of any calibration data. Thus, even crediting the interpolated fingerprints, Spain fails to teach “generating one or more sets of grid points for said calibration data,” as well as the corresponding limitation for the challenged system claims.

Petitioner also attempts to disregard this distinction between Spain and the

'753 Patent by ignoring the full claim limitation, which recites “generating one or more sets of grid points *for said calibration data*.” Ex. 1001 at cl. 1; *see also id.* at cl. 32. Thus, even putting aside the construction of “grid point,” the claim language further confirms that the invention requires the grid points to be generated based on an analysis of collected calibration data. Despite this, Petitioner ignores this aspect of the claim language. *See generally* Pet. at 24-27.

Petitioner also fails to meaningfully address how Spain satisfies the district court’s construction of “grid point” requiring it to be associated with “representative calibration data for an area.” *See* Pet. at 27; *see also* Pet. at 20 (citing Ex. 1028 at 20). Petitioner addresses this construction of “grid point” in only a cursory and superficial manner. In just two sentences, Petitioner points to Spain’s disclosure that fingerprints may correspond to a “small area” and then concludes that this suffices to teach “a point associated with representative calibration data for an area.” Pet. at 27. At best, Petitioner shows that Spain teaches a point that corresponds to an area. But this disclosure does not show that any purported grid point in Spain is “associated with representative calibration data for an area.”

Indeed, Petitioner does not even attempt to address the “representative calibration data” part of the “grid point” construction. For example, Petitioner does not explain how Spain teaches anything about “representative calibration data,” what it means for calibration data to be “representative,” how to evaluate whether

calibration data is “representative,” or anything else that could plausibly satisfy this part of the construction. *See* Pet. at 24-27. The district court—which adopted the construction that Petitioner proposed—explained that “representative calibration data” in the construction reflects that “the defining characteristic of a NUG 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.” Ex. 1028 at 20. Yet, Petitioner does not point to anything in Spain teaching evaluating the statistical similarity, or any other commonality, in the calibration data. Thus, Petitioner improperly disregards the “representative calibration data” portion of the construction, which is a fatal flaw in the Petition.

For these reasons, Petitioner has failed to demonstrate that Spain or Agiwal teaches or suggests “generating one or more sets of grid points for said calibration data” or a processor programmed to “generate one or more sets of grid points for said calibration data.” Because this limitation is part of every challenged claim, Petitioner cannot meet its burden to show even a reasonable likelihood of prevailing on at least one claim. Therefore, even if the Board reaches the merits, it should deny the Petition.

## **IX. CONCLUSION**

Petitioner fails to show that institution is warranted. As explained above, institution would require an inefficient use of the Board’s resources. Petitioner asks

the Board to redo work already done by the Office based on a reference that was considered during prosecution of the '753 Patent. Moreover, a district court has already ruled that the '753 Patent claims are unpatentable under § 101, and the Petition does not present a “compelling unpatentability challenge” that would warrant proceeding despite that ruling.

Even if the Board reaches the merits under the lower “reasonable likelihood” standard, denial is still warranted. Petitioner’s sole ground fails to demonstrate that the asserted prior art teaches every limitation of the challenged claims. Petitioner relies on superficial arguments that fail to satisfy the claim constructions that Petitioner itself proposed. For the foregoing reasons, Patent Owner respectfully requests that the Board deny institution.

Dated: November 22, 2023

Respectfully submitted,

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**CERTIFICATE OF COMPLIANCE**

The undersigned certifies that this brief complies with the type-volume limitations of 37 CFR § 42.24(a)(1)(i). This brief contains 11,135 words as calculated by the “Word Count” feature of Microsoft Word, the word processing program used to create it. The undersigned further certifies that this brief complies with the typeface requirements of 37 CFR § 42.6(a)(2)(ii) and typestyle requirements of 37 CFR § 42.6(a)(2)(iii). This brief has been prepared in a proportionally spaced typeface using Microsoft Word in Times New Roman 14 point font.

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**CERTIFICATE OF SERVICE**

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