

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.

Petitioner,

v.

GEOSCOPE TECHNOLOGIES PTE. LTD,

Patent Owner.

CASE: IPR2024-00255

U.S. Patent No. 7,561,104

PATENT OWNER'S SUR-REPLY

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PATENT PROCEDURES

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Exhibit No.	Patent Owner's Exhibits
2001	Declaration of Saunak K. Desai in Support of Patent Owner's Motion For <i>Pro Hac Vice</i> Admission of Saunak K. Desai Under 37 C.F.R. § 42.10(c)
2002	Reserved
2003	U.S. Patent No. 7,753,278 ("Spain '278 Patent")
2004 – 2007	Reserved
2008	Memorandum Opinion on Google's Motion for Judgment on the Pleadings on Patent Eligibility dated Sept. 18, 2023, <i>Geoscope Technologies Pte. Ltd. v. Google LLC</i> , Civ. Action No. 1:22-cv-01331 (EDVA)
2009	Final Judgment dated October 5, 2003, <i>Geoscope Technologies Pte. Ltd. v. Apple Inc.</i> , Civ. Action No. 1:22-cv-01373 (EDVA)
2010	Final Judgment dated October 6, 2023, <i>Geoscope Technologies Pte. Ltd. v. Google LLC</i> , Civ. Action No. 1:22-cv-01331 (EDVA)
2011	Order dated June 26, 2023, <i>Geoscope Technologies Pte. Ltd. v. Apple Inc.</i> , Civ. Action No. 1:22-cv-01373 (EDVA)
2012	Claim Construction Memorandum Opinion & Order, <i>Geoscope Technologies Pte. Ltd. v. Apple Inc.</i> , 1:22-cv-01373 (E.D. Va. Jul 19, 2023) ("Markman Order")
2013	Order dated June 26, 2023, <i>Geoscope Technologies Pte. Ltd. v. Google LLC</i> , Civ. Action No. 1:22-cv-01331 (EDVA)
2014	Defendant Apple Inc.'s Final Invalidity Contentions dated July 3, 2023, <i>Geoscope Technologies Pte. Ltd. v. Apple Inc.</i> , Civ. Action No. 1:22-cv-01373 (EDVA)
2015	Geoscope's Opening Appeal Brief dated November 17, 2023, <i>Geoscope Technologies Pte. Ltd. v. Google LLC, Apple Inc.</i> , Case Nos. 24-1003 (Lead) 24-1018 (member) (Fed. Cir.)
2016	U.S. Patent No. 8,406,753
2017	U.S. Patent No. 9,097,784
2018	Declaration of Mr. Mark Alan Sturza
2019	CV of Mr. Mark Alan Sturza

2020	Deposition Transcript of Dr. Karthikeyan Sundaresan for IPR2024-00031, IPR2024-00032, and IPR2024-00255
2021	U.S. Pat. No. 7,561,104 disclaimer
2022	Business News Daily, “Location-Based Services: Definitions and Examples,” Max Friedman, Oct. 27, 2023 (last accessed July 28, 2024) (“Business News Daily”).
2023	Dictionary.com, “Geolocation Definition & Meaning,” <i>available at</i> www.dictionary.com/browse/geolocation (last accessed July 16, 2024) (“Dictionary.com”).
2024	“Geolocation: What it is, How it Works, Examples”, January 25, 2021, <i>available at</i> https://www.investopedia.com/terms/g/geolocation.asp ; last accessed July 16, 2024 (“Investopedia”).
2025	“How Does GPS Work? 6 Things You Didn’t Know”, Calum McClelland, March 30, 2017, <i>available at</i> https://www.leverage.com/blogpost/how-does-gps-work-6-things-you-didnt-know , last accessed Aug. 7, 2024 (“Leverage”)
2026	U.S. Pat. Appl. Publ. No. 2003/0064735 (“Spain ’735”)
2027	U.S. Pat. No. 7,706,811 (“Shkedi”)
2028	Heikki Laitinen, Jaakko Lähteenmäki, Tero Nordström, “Database Correlation Method for GSM Location,” VTT Information Technology, IEEE, 2001. (“Laitinen”)
2029	U.S. Prov. Appl. No. 60/899,379 (“’379 Provisional”)
2030	U.S. Pat. No. 8,175,620 (“’620 Patent”)
2031	Applus, “Drive Test and Mobile Network Optimization,” <i>Available at</i> https://www.applus.com/global/en/what-we-do/service-sheet/drive-test-and-mobile-network-optimisation ; last accessed July 23, 2024 (“Applus”)
2032	Solomon Ndungu and Erica Mixon, “GSM (Global System for Mobile communication)”, <i>available at</i> https://www.techtarget.com/searchmobilecomputing/definition/GSM ; last accessed July 23, 2024 (“Techtarget”).
2033	<i>Excerpts from Telecom ABC</i> , <i>available at</i> https://www.telecomabc.com/i/is-41.html ; last accessed July 23, 2024 (“Telecom ABC”).
2034	Reserved

2035	Deposition Transcript of Dr. Karthikeyan Sundaresan for IPR2024-00259
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I. INTRODUCTION

The Reply never squarely addresses the meaning of “[non-uniform] grid points.” Because Petitioner and its expert simply adopt the conclusions of the district court and DI without meaningful analysis, its arguments are scattershot and conflict with one another. For example, Petitioner concedes PO is not arguing disavowal but then attempts to frame PO’s claim construction arguments as disavow. At the same time, Petitioner asks the Board to ignore most of the intrinsic record, including the ’379 Provisional, the related ’753 and ’784 Patents, and large parts of the ’104 Patent, and instead base a construction entirely on two statements from the ’104 Patent.

Petitioner appears to rely on the district court’s claim construction but it avoids addressing the Markman Order discussion that support PO’s position. Petitioner adopts the unbriefed preliminary construction of “non-uniform” used by the DI, but in so doing, contradicts the district court construction for “grid points” that requires calibration data to be “representative” of the NUG area. Similarly, Petitioner partially quotes opinions and expert testimony out of context in hopes of inviting an incorrect decision.

PO, on the other hand, advances an interpretation of “[non-uniform] grid point” that is consistent across the entire intrinsic record as well as consistent with

the Markman Order and supporting briefing. Together, the '104 Patent, '379 Provisional, and related Geoscope Patents clearly support PO's interpretation.

The Reply does not dispute that Spain does not teach NUGs under PO's interpretation. Instead, Petitioner relies solely on the unbriefed preliminary construction used in the DI for "non-uniform" in support of its incorrect argument that Spain teaches NUGs. As discussed below, that construction is incorrect.

The Reply's arguments relating to its expert report suffer from similar issues. Petitioner never disputes that its expert's opinions related to ordinary skill and claim construction are not the expert's own, that the declaration does not comply with the Federal Rules of Evidence., or that such arguments were required to be present in the Petition and not incorporated by reference. Accordingly, Petitioner has failed to carry its burden and the Board should find all challenged claims not unpatentable.

II. CLAIM CONSTRUCTION

A. The '379 Provisional Is Part Of The Specification

Petitioner asks the Board not to consider the '379 Provisional as part of the intrinsic record because it is not "present in the specification" of the '104 Patent. Reply, 1, 9-13. Petitioner's position is incorrect. The first paragraph of the '104 patent expressly identifies the '379 Provisional and states "which is hereby

incorporated by reference in its entirety.” POR, 10, n, 1, 23; EX1001 [’104 Patent], 1:6-9. *See also* EX2016 [’753 Patent], 1:8-11; EX2017 [’784 Patent], 1:6-13. Such unambiguous incorporation by reference renders the document incorporated into the specification as if it were part of the specification. *Trustees of Columbia Univ. in City of New York v. Symantec Corp.*, 811 F.3d 1359, 1366 (Fed. Cir. 2016) (“provisional applications incorporated by reference are ‘effectively part of the’ specification as though it was ‘explicitly contained therein.’”). *See also Netflix, Inc. v. Avago Techs. Int’l Sales Pte. Ltd.*, No. 2022-1936, 2024 WL 3507601, at *7 (Fed. Cir. July 23, 2024); *X2Y Attenuators, LLC v. Int’l Trade Comm’n*, 757 F.3d 1358, 1362–63 (Fed. Cir. 2014); MPEP 2163.07(b). Petitioner’s attempts to distinguish *Columbia* and *Advanced Display* ignore the critical language cited above that is fatal to Petitioner’s position. Reply, 9-10. The ’379 Provisional is “effectively part of the specification” here.

Nothing in *Columbia* supports Petitioner’s statement that the relevance of the provisional application in *Columbia* is “premised on its presence in the specification.” Reply, 10. Instead, *Columbia* accords the provisional the same weight as the rest of the specification because the provisional is “effectively part of” the specification. *Columbia*, 811 F.3d at 1365-66.

Petitioner argues that “the intrinsic record does not include any clear and unmistakable disclaimer, disavowal, or redefinition.” Reply, 10. There are a number of problems with Petitioner’s argument. First, the POR never argues disclaimer, disavowal, or definition. Reply, 10, n. 2.

Second, Petitioner’s position is premised on the idea that the ’379 Provisional contradicts other portions of the specification. Reply, 10-12. But, as discussed in §II.B below, Petitioner’s alleged contradictions are easily reconciled with the rest of the intrinsic record.

Third, Petitioner’s invitation to ignore portions of the ’379 Provisional that do not appear verbatim in the ’104 Patent is wrong. Reply, 10-12. There would be no purpose to incorporation by reference if applicants must still copy the incorporated material verbatim into the incorporating patent.

Petitioner speculates that “had [descriptions in the ’379 Provisional] been ‘fundamental,’ the examiner would have asserted that the claims lack adequate written description.” Reply, 11. “Fundamental” is the term used in the ’379 Provisional, not a characterization by PO. EX2029 [’379 Provisional], 6. The examiner, in allowing the claims, disagreed that the claims lack written description. And the Markman Order made consistent statements without reference

to the '379 Provisional. EX1054 [Markman Order], 19-20. These sources contradict Petitioner's unsupported hindsight speculation.

Petitioner cites *MPHJ Tech. Invs. v. Ricoh Ams. Corp.*, 847 F.3d 1363 (Fed. Cir. 2017) in an attempt to evade the '379 Provisional. Reply, 11-12. But Petitioner misrepresents *MPHJ*'s applicability here. First, the *MPHJ* court acknowledged that provisional applications contribute to claim construction and analyzed the provisional as part of the intrinsic record. *Id.*, 1369.

Second, in *MPHJ*, the patent on appeal incorporated **seven** different provisionals and **nine** different nonprovisional applications. *See* U.S. Pat. No. 8,488,173, 1:7-37. The court's concern was that the resulting specification was no longer consistent with the provisional application appellant relied upon. As correctly explained by a subsequent court distinguishing *MPHJ*, "the provisional application [in *MPHJ*] discussed a one-step operation; the later-filed application later converted it into a one-step **option**." *Regeneron Pharmaceuticals, Inc. v. Mylan Pharmaceuticals Inc.*, 2023 WL 11891335 (N.D.W.V. Aug. 19, 2023) (*citing MPHJ*, 847 F.3d at 1368-69) (emphasis in original).

Here, unlike *MPHJ*, the meaning of "[non-uniform] grid point" does not change between the '379 Provisional and the '104 Patent. The Geoscope patents

rely on a single provisional (the '379 Provisional) that serves as a foundational document for the various Geoscope patents. POR, 8-9.

Third, Petitioner's argument that disclosure in parent provisional applications should be ignored if it is not present verbatim in the child could lead to "[non-uniform] grid point" being construed differently across each Geoscope patent. Since the district court relied on the specifications of the '753 and '784 Patents (which are different than the '104 Patent) (EX1054 [Markman Order], 19-20), the Markman Order would need revisited independently for each Geoscope patent. This is not the law. *Samsung Elecs. Co., Ltd. v. Elm 3DS Innovations, LLC*, 925 F.3d 1373, 1378 (Fed. Cir. 2019) ("Where multiple patents derive from the same parent application and share many common terms, we must interpret the claims consistently across all asserted patents.").

Fourth, as Judge O'Malley's partial dissent points out, the provisional in *MPHJ* was incorporated into the '173 Patent and forms part of the specification. *MPHJ*, 847 F.3d at 1376. The real dispute was whether a statement in the provisional rose to the level of disavowal of claim scope over broader embodiments described later in the specification. *Id.* PO is not arguing any disavowal.

Fifth, Petitioner's reliance on *MPHJ* is based on the incorrect assumption that the term "non-uniform grid point" has an ordinary meaning outside of the context of the intrinsic record. This is incorrect. "Non-uniform grid point" is not a term of art but instead was coined for purposes of the '379 Provisional and the patents claiming priority to the '379 Provisional. The '379 Provisional introduces the term "NUG," explains what NUGs are, and discloses fifteen exemplary inventions relating to NUGs and location estimation. EX2029 ['379 Provisional], 5-35. The various Geoscope patents each incorporate the '379 Provisional by reference and then claim various aspects of the inventions described in the '379 Provisional. Thus, the term "[non-uniform] grid point" can only be understood through review of the entire intrinsic record. EX1054 [Markman Order], 19-20.

Petitioner cites *Finjan* and *Modine* as allegedly supporting its position that documents expressly incorporated by reference into a patent do not form part of the intrinsic record unless they are reprinted verbatim in the patent. Reply, 12. Neither is on point. In *Finjan LLC v. ESET, LLC*, 51 F.4th 1377, 1382-83 (Fed. Cir. 2022), the Federal Circuit held that "two [allegedly competing] definitions can exist in harmony within the patent family." Under *Finjan*, the intrinsic record should be interpreted to create consistency across a patent family, not (as Petitioner urges) to create inconsistency. Here, the '379 Provisional's explanation for how NUGs are

generated “exist[s] in harmony” with the ’104 Patent and the other Geoscope patents. *Infra*, §II.B.

Modine is discussing a situation where the patent-in-suit directly contradicts an unrelated patent incorporated by reference. *Modine Mfg. Co. v. U.S. Int’l Trade Comm’n*, 75 F.3d 1545, 1553 (Fed. Cir. 1996) (overruled on other grounds). Here, the ’104 Patent is consistent with the ’379 Provisional’s detailed explanation of how NUGs are formed. *Infra*, §II.C.

B. The Intrinsic Record Supports PO’s Construction

The Reply argues that Geoscope’s construction “is not justified by the specification.” Reply, 6-7. But Petitioner does not address the ’379 Provisional, which is “part of the specification.” *Columbia*, 811 F.3d at 1366. *See supra*, §II.A. *See Finjan*, 51 F.4th at 1382 (“Claims must be read in light of the specification. [] That includes any patents incorporated by reference.”). Nor does the Reply discuss the related ’753 or ’784 Patents. *Samsung Elecs.*, 925 F.3d at 1378. The Petition does not cite the ’379 Provisional, ’753 Patent or ’784 Patent for any substantive analysis, including claim construction. 37 C.F.R. §42.104(b)(3) (“the petition must set forth ... how the challenged claim is to be construed.”). Petitioner simply fails to give any weight to the bulk of the intrinsic record.

Petitioner argues that the '104 Patent at 3:61-4:6 discloses “two examples of factors in ‘deciding the boundaries of a NUG’” that do not “necessarily require [] evaluation of calibration data.” Reply, 6. These two alleged examples are “geographical areas” and “varying concentration of MSs.” *Id.* Petitioner’s argument requires a narrow interpretation of “geographical areas” and “varying concentration of MSs” as forming NUGs by themselves to exclude evaluating calibration data. But nothing in the cited paragraph contradicts the intrinsic record’s teaching that NUGs are formed through evaluation of calibration data. POR, 9-15, 25-38.

The '104 Patent at 4:1-6 says “geographical areas” and “varying concentrations of MSs” can be “*a* factor” in forming NUGs. It does not say that they can be the only factors, or that the evaluation of calibration data—which is “fundamental to the method” of NUG generation—is not still needed. EX2029 [’379 Provisional], 6; *see also* EX1054 [Markman Order], 20 (“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.”); EX2016 [’753 Patent], 10:55-59, 10:66-11:6. Nothing in the paragraph indicates these examples exclude the fundamental evaluation of calibration data.

The surrounding text also does not support Petitioner's limiting interpretation. The '104 Patent at 3:50-60 explains that "[t]he NUGs represent an area of collected calibration data" (*id.*, 3:56-57) and that NUGs can "represent the signal characteristics and/or calibration data over a given region." *Id.*, 3:50-52; *see also* EX1054 [Markman Order], 19 (citing the same quotes from the '104 Patent). If NUGs were formed solely based on geographical regions or concentration of MSs, they would not represent an area of calibration data over a given region because the calibration data within a predefined geographic region would have many different values.

The '379 Provisional explains this: "if within a few feet of the original measurement if a particular parameter was blocked (say by a large structure such as a building) that would fall out of the original cluster." EX2029 ['379 Provisional], 7. Thus, the '379 Provisional explains that physical geography (like mountains, buildings, or roads) is a factor that impacts the values of the calibration data such that adjacent calibration points may have different values and form different NUGs.

Similarly, the concentration of MSs (mobile stations) is just one factor that may impact the formation of NUGs. Where there are more MSs, there is more calibration data to record and less likelihood of inaccurate or missing

measurements. The '379 Provisional explains that where there are “very few measurements” available (e.g., few MSs), the calibration points are “greatly influenced by any outlier measurements,” leading to inaccuracy. EX2029 ['379 Provisional], 7. *See, e.g.*, EX2016 ['753 Patent], 11:7-21. Nothing in the '104 Patent indicates NUGs may be formed based on concentration of MSs without evaluation of calibration data.

Petitioner’s argument is also inconsistent with the district court construction for “grid point.” Pet., 2-3, POR, 54; EX2020 [Sundaresan Dep. Tr.], 36:1-10. As the district court explained, calibration data is “representative” because it is “intended to reflect 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.” EX1054 [Markman Order], 20. If NUGs were formed solely by reference to “geographical areas” or “concentrations of MSs” as Petitioner argues, the calibration data within the area would not be “representative” of the area.

Petitioner cites its supplemental expert declaration in support (Reply, 6-7), but the cited paragraphs simply speculate about how NUGs could be formed without referencing the intrinsic record. EX1055, ¶¶42, 43. The intrinsic record is

clear that evaluation of calibration data is fundamental to forming NUGs, and nothing at the '104 Patent at 4:1-6 contradicts this.

C. Petitioner Mischaracterizes The '379 Provisional

Petitioner argues that “Page 8 [of the '379 Provisional] confirms the inventors clearly did not limit the scope of techniques of NUG boundary determination to only those involving use of ‘statistical similarity.’” Reply, 8. This is incorrect. First, PO’s proposed construction does not use the term “statistical similarity” and thereby accounts for generating NUGs based on methods of evaluating calibration data that do not involve the statistical analyses discussed in the '379 Provisional.

Moreover, Petitioner misleadingly groups pages 5-7 of the '379 Provisional together as describing evaluation based on “statistical similarity.” Reply, 7-8. This is incorrect. The concept of evaluating calibration data to create NUGs is introduced at the second paragraph of page 6 (“A NUG generator could begin...”). EX2029 ['379 Provisional], 6. The next paragraph (“In any of these cases...”) introduces evaluation of calibration data and explains that “the evaluation of the [calibration] data vectors is of great importance since it is fundamental to the method.” *Id.* At this point, the '379 Provisional has not mentioned statistical similarity. Instead, it is explaining that evaluation of calibration data—alone—is

fundamental to NUG generation. Only after explaining the fundamental importance of evaluating calibration data does the '379 Provisional introduce the additional concept of statistical similarity, which it identifies as “the primary” test for evaluating calibration data. *Id.* See also EX2016 ['753 Patent], 10:66-11:6.

Petitioner's arguments regarding the '379 Provisional at 8 are also inconsistent with the surrounding text. The statement from the '379 Provisional that “we also consider the method of generating NUGs based not on statistical consistency but on other conditions ...” (EX2029 ['379 Provisional], 8 (quoted at Reply, 8)) goes on to list several examples of types of calibration data that can be evaluated to form NUGs. These include “minimum number of unique neighbors,” “minimum number of data vectors (NMRs),” “maximum and minimum NUG radius,” “specific set of NCs,” and “specific set of NCs with power ordering.” *Id.* See, e.g., EX2029 ['379 Provisional], 5 (providing overlapping examples of “calibration data.”); EX2016 ['753 Patent], 9:59-10:8.

The '379 Provisional at 8 is pointing out that NUGs do not need to be generated through statistical analysis such as the “clustering tests” described at page 7. But the system still evaluates whether adjacent calibration points share similar calibration data in order to generate the NUG.

The '379 Provisional at 8 also states that NUGs may be generated using “the method of using statistical consistency or similarity or data clustering combined with any of these other conditions.” *Id.* The Reply argues that this statement “unambiguously confirms that techniques described in pages 5-7 of EX-2029 ... are distinct from ‘additional[]’ techniques described in page 8.” Reply, 8. But PO’s construction does not mention “statistical similarity” and the techniques described at page 8 **are** techniques for evaluating calibration data to determine the boundaries of NUGs. Further, the language of the statement once again contradicts Petitioner’s point because it indicates the statistical clustering tests can be “combined with” the evaluation techniques described at page 8. That is, the cited sentence **requires** use of statistical clustering tests in combination with other forms of evaluation.

Petitioner argues that the Sturza Declaration should have addressed the '379 Provisional at 8 (Reply, 9), but doing so would have only strengthened his opinions because page 8 supports PO’s position that NUG boundaries are determined from evaluation of calibration data.

Petitioner’s implication that Mr. Sturza did not review the entire '379 Provisional is false. Reply, 9. Mr. Sturza’s Declaration stated that he reviewed the exhibits to this IPR, including the '379 Provisional. EX2018 [Sturza Decl.], ¶32.

Further, Petitioner misrepresents Mr. Sturza's testimony. Petitioner's question was whether the '379 Provisional at 8 is cited in Mr. Sturza's declaration, to which Mr. Sturza replied "I either have to take a look at [the '379 Provisional] or I would have to go through my declaration." EX1056 [Sturza Dep. Tr.], 56:16-18. Mr. Sturza even stated "I don't know what we are referring to without looking at [EX2029, the '379 Provisional]." *Id.*, 56:19-20. Petitioner's counsel did not provide Mr. Sturza with the '379 Provisional. Thus, when Mr. Sturza states "I didn't review the entire provisional," he is referring back to his statement that he would need to review the '379 Provisional at the deposition to fully answer the question. *Id.*, 57:14-58:15.

Accordingly, the '379 Provisional supports PO's construction.

D. PO Has Not Argued Disavowal

Petitioner repeatedly mischaracterizes PO's argument as disavowal. Reply, 1, 3, 8, 10, 21. The POR does not use the term "disavow" or any variations of the term.

The term "[non-uniform] grid point" is not a term of art that might be understood without reference to the intrinsic record. Instead it is unique to the Geoscope Patents. Thus, it must be understood through reference to the entire intrinsic record. *Medrad, Inc. v. MRI Devices Corp.*, 401 F.3d 1313, 1319 (Fed.

Cir. 2005) (“we must look at the ordinary meaning in the context of the written description and the prosecution history.”). The POR analyzes the entire intrinsic record, as well as the district court’s claim construction order. POR, 25-38. The citations therein are consistent with one another in explaining what a NUG is. *Id.*

Petitioner’s position, on the other hand, is essentially arguing disavowal. Petitioner provides no consistent explanation of what a NUG is. Instead, Petitioner relies on the ’104 Patent’s brief statements about “geographic areas” and “varying concentrations of MSs,” presented out of context, and argues that they take precedence over the rest of the intrinsic record and the Markman Order. Reply, 6-7 (discussing ’104 Patent at 3:61-4:6). When read in context, however, the sentences are consistent with the rest of the intrinsic record. *Supra*, §II.B.

III. THE PRIOR ART DOES NOT DISCLOSE OR SUGGEST [NON-UNIFORM] GRID POINTS

The POR explains, with evidentiary support, why Spain does not teach NUGs under both the district court construction and PO’s alternate construction. POR, 25-38, 59-66. In particular, the boundaries of Spain’s locations are predetermined based on criteria (such as geographic features) that are not calibration data. POR, 59-66. Spain doesn’t base its locations on network measurement data like signal strength. Instead, it relies on “natural and man-made physical attributes.” POR, 60-61 (*quoting* EX1007 [Spain], [0087]).

Petitioner fails to rebut the arguments made in the POR. Reply, 12-13, 20-21. Instead, the Reply relies on statements from the DI to argue PO's position is incorrect. *Id.* But the DI was decided under a different standard and without the benefit of a full record. Statements from the DI are not a substitute for Petitioner supporting its arguments with reasoned analysis and evidentiary support.

The only other argument advanced by Petitioner is that “[t]he Petition’s application of Spain is even consistent with examples of techniques for determining NUG boundaries described within the specification.” Reply, 13. NUGs are formed by evaluating calibration data. POR, 25-38. As discussed above, the sentence of the ’104 Patent relied upon by Petitioner does not mean NUGs can be formed without evaluation calibration data. *Supra*, §II.B. Instead, it is disclosing that geographic areas can be one factor that may influence the calibration data in forming NUGs. *Id.*

Thus, Petitioner cannot meet its burden and the Board should find claim 18 not unpatentable.

A. Spain Does Not Teach NUGs Under PO’s Alternate Construction

The Reply does not dispute that Spain does not teach [non-uniform] grid points under PO’s alternate construction. Reply, 12-13, 20-21. To the extent that the Board agrees with PO that NUGs require evaluation of calibration data,

Petitioner has presented no evidence or argument to carry its burden and the Board must find claim 2 not unpatentable.

B. Spain Does Not Teach NUGs Under The District Court Construction

The POR presented argument and evidence that the district court construction of “grid point”—consistent with PO’s alternate construction—requires evaluation of calibration data to determine the boundaries of the area represented by a “grid point.” POR, 27-32. This is because under the district court’s construction—“a point associated with representative calibration data for an area,”—the calibration data aggregated in the area must be “representative” of the area. *Id.* In order to determine whether calibration data is “representative” of the area, the system must evaluate adjacent calibration data to form the NUG. *Id.*

The Reply does not address whether Spain teaches NUGs under PO’s argument. Reply, 12-13, 20-21. Thus, to the extent that the Board agrees with the Markman order that “‘representative calibration data’ is intended to reflect 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” (EX1054 [Markman Order], 20), Petitioner has not carried its burden and the Board should find claim 2 not unpatentable.

IV. LEVEL OF ORDINARY SKILL

A. The Reply Fails To Rebut the POR

The Reply argues that the Petition's failure to identify a level of ordinary skill is "without merit." Reply, 13-14. But Petitioner does not dispute the fact that the Petition does not identify a level of ordinary skill, or that Petitioner's counsel provided its expert with the level of ordinary skill he relied upon. Nor does the Reply dispute that the Petition improperly incorporates arguments by reference. POR, 40-41. Instead, the Reply introduces a thirty-two page supplemental declaration to inject new arguments that should have been included in the Petition. PO is prejudiced because it has no opportunity to introduce evidence at this stage to counter Petitioner's new positions.

Petitioner argues that "Geoscope's identification of an alternative POSITA definition demonstrates awareness of a level of ordinary skill sufficient to permit a comparison of the asserted prior art and the features claimed in the '104 Patent." Reply, 14. The Petition did not employ Geoscope's level of ordinary skill. Instead, it employed the flawed level of ordinary skill provided by Petitioner's counsel. EX1003 [Sundaresan Decl.], ¶8. That level of skill required no knowledge of the cellular technologies that are fundamental to understanding the patents and the prior art. POR, 39-48. Nor is it surprising the Board preliminarily adopted the level

of ordinary skill proffered by Petitioner’s counsel, since the issue was not disputed in the POPR.

Petitioner cites the *Okajima* case to argue that “mere disagreement with a POSITA definition does not rise to the level of ‘defects’” that is fatal to the Petition. Reply, 15. But neither *Okajima* nor the Reply discusses the statutory and regulatory requirements for an IPR Petition. See POR, 39-41. Nor is *Okajima* discussing an instance where an expert uses a level of ordinary skill provided by attorneys. Instead, *Okajima* is discussing whether the failure of a factfinder to expressly include a finding on level of ordinary skill is reversible error on appeal. *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). Indeed, the parties in *Okajima* appear to have agreed on the level of skill. *Id.*, And, while the prior art may help inform the level of ordinary skill (*id.*), here the Petition did not account for the fact that the prior art are telecommunications references that require a relatively detailed knowledge of cellular technologies that someone with two years of experience in navigation and/or geolocation systems would not necessarily have. POR, 21-23, 39-48; EX2018 [Sturza Decl.], ¶¶46-50, 108-118.

B. Petitioner’s POSITA Definition Is Deficient

Petitioner argues “Geoscope’s allegations of procedural defects lack merit.” Reply, 15. But Petitioner never explains why. Petitioner has no response to the fact

that the Petition does not identify a level of ordinary skill (POR, 38-41), or that Dr. Sundaresan did not provide an opinion on level of ordinary skill. POR, 42-43.

Petitioner rationalizes that experience working with “‘navigation and/or geolocation systems’ would have encompassed knowledge of ‘radio frequency and cellular technologies.’” Reply, 15. First, Petitioner argues that “disclosure of well-known cellular protocols [in the Geoscope patents] demonstrates knowledge of ‘radio frequency and cellular technologies’ was within the skill level of a POSITA definition applied in the Petition.” Reply, 15-16. But it does not follow that just because the patents discuss cellular protocols that someone with a background in geolocation (as defined by Petitioner’s attorneys) would necessarily understand those protocols. POR, 21-23, 39-48; EX2018 [Sturza Decl.], ¶¶46-50, 110-118. Moreover, even though the *use* of wireless communication devices was “prevalent” circa 2007 (Reply, 16), the vast majority of cell phone users likely did not understand cellular technologies. There were numerous forms of geolocation available that had nothing to do with cellular technology. EX2018 [Sturza Decl.], ¶52.

Further, Petitioner misrepresents Mr. Sturza’s deposition testimony. Reply, 18. When Mr. Sturza was discussing “geolocation using the cellular infrastructure”, he was referring to the use of “cellphone tower locations.” EX1056

[Sturza Dep. Tr.], 16:6-8. *See id.*, 16:20-22 (“Well, they use cellular infrastructure. They don’t use, you know, per se, cellular telephone calls.”); 17:4-8 (“Yes, there was, you know, as I mentioned, using the base station location and tower location. There was the time difference of arrival and variations of that that were in use.”).

Mr. Sturza was saying, for example, when a mobile at the time dialed 911, the system might know which cell tower received the call. Based on that information, the system would know the mobile was likely somewhere around the serving tower and the system might even be able to use time difference of arrival to try to narrow down the location. That rudimentary functionality does not indicate someone with a background in geolocation understood how complex cellular protocols operated. EX2018 [Sturza Decl.], ¶¶110-118.

Petitioner alleges that the “asserted prior art also demonstrates that the use of cellular technology in geolocation systems was within the skill level of a POSITA.” Reply, 16-17. Bhattacharya’s disclosure of geolocation applications (EX1005 [Bhattacharya], [0001]) does not mean that a person with a background in geolocation understands cellular technology. The two fields are distinct. Moreover, the Zeng reference has nothing to do with geolocation and is directed solely to cellular networks. EX1006 [Zeng]. The Reply never explains why

experience in geolocation would necessarily require experience with cellular technology.

C. Geoscope's POSITA Definition

Petitioner argues that “The Petition demonstrates obviousness even under Geoscope’s alternative POSITA definition.” Reply, 17-18. But the Petition applies the level of ordinary skill provided by Petitioner’s attorneys, not the level of ordinary skill from the POR. Pet., 7 n. 2. Neither the Petition nor the Reply address the proposed prior art combination of Bhattacharya and Spain under PO’s definition.

D. The Sundaresan Declaration Is Entitled To No Weight

The Reply does not dispute that Dr. Sundaresan simply adopted the level of ordinary skill provided by Petitioner’s attorneys (Reply, 18-20) or that Dr. Sundaresan simply adopted the Markman Order without further analysis. *Id.* As Dr. Sundaresan’s positions on the level of ordinary skill and claim construction are not his own opinions or based on his own analysis, they are entitled to no weight. POR, 52-59; Fed. R. Evid. 702(b)-(d); 37 C.F.R. §42.65(a).

Petitioner’s attempts to distinguish the decisions cited in the POR fail. Reply, 18-19. First, Petitioner’s failure to address the POR’s arguments regarding

the Federal Rules of Evidence alone is dispositive. POR, 52-53. These are not Dr. Sundaresan's opinions, therefore they are entitled to no weight.

Second, level of ordinary skill and claim construction are foundational elements of any obviousness or invalidity analysis. POR, 39-40. Since Dr. Sundaresan's opinions on level of ordinary skill and claim construction are flawed, so too are his opinions on validity.

Contrary to Petitioner's attempts to distinguish *Xerox* and *TQ Delta* (Reply, 18-19), the flaws in Dr. Sundaresan's opinions directly impact his analysis on patentability and obviousness. Dr. Sundaresan's motivation to combine sections repeatedly rely on Petitioner's attorneys' definition of POSITA to underpin his rationale for combination. EX1003 [Sundaresan Decl.], ¶¶66-76, 113-120, POR, 44-48. His application of the prior art to the challenged claims relies on Petitioner's attorneys' definition of POSITA approximately 42 times. *See generally id.*, 42-106. And for at least claim 2, Dr. Sundaresan relies on the district court's construction of "[non-uniform] grid point" in lieu of his own analysis to form his opinions regarding "[non-uniform] grid point." *Id.*, ¶¶139-143. Thus, Dr. Sundaresan's unsupported testimony provides exactly the sort of conclusory expert testimony as discussed in *Xerox* and *TQ Delta*. Accordingly, the Board should provide no weight to Dr. Sundaresan's testimony.

V. PETITIONER’S MOTIVATION TO COMBINE BHATTACHARYA AND ZENG FAILS

Petitioner never addresses the fundamental problem with its analysis—a POSITA with a background in geolocation does not necessarily know anything about cellular technologies. POR, 44-48. Bhattacharya is a telecommunications reference with applications in geolocation. EX1005 [Bhattacharya], [0001]. Zeng is directed entirely to cellular technology with no relevance to geolocation. EX1006 [Zeng]. Cellular standards are not within the “routine knowledge” of Petitioner’s POSITA. Reply, 24. Mr. Sturza is not imposing a “superficially high skill level” (Reply, 24) on a POSITA, he’s pointing out that Petitioner’s POSITA lacks fundamental knowledge necessary to combine two cellular references.

Petitioner argues bodily incorporation, but does not explain how PO allegedly bodily incorporates anything or what “specific types of hardware” are being incorporated. Reply, 24-25. Indeed, Petitioner cites *nothing* from PO to substantiate its bodily incorporation argument. *Id.* To the contrary, Petitioner seeks to incorporate Zeng’s handoff functionality into Bhattacharya to arrive at the claimed invention, but Bhattacharya’s location estimation has nothing to do with mobile handoffs. POR, 48-51.

Petitioner’s misunderstanding of how Bhattacharya is using the “HandoffMeasurementRequest” demonstrates the flaw in its POSITA definition.

POR, 48-51; Pet., 25; EX1005 [Bhattacharya], [0055]. Someone like Petitioner's attorneys' POSITA that lacks knowledge of cellular technology or IS-41 could misinterpret Bhattacharya's reference to "HandoffMeasurementRequest" to imply that Bhattacharya's location estimation is requesting a handoff. As discussed by Mr. Sturza (and not rebutted), Bhattacharya is not requesting a handoff. Instead, it is merely using a commonly-sent IS-41 message to measure signal strength for location estimation. EX2018 [Sturza Decl.], ¶120; *see generally id.*, ¶¶119-125. The Petition adds Zeng for its teachings regarding the cellular handover process (Pet., 24-25), but a POSITA would have no reason to look to Zeng to solve a cellular network handover problem that Bhattacharya does not mention. POR, 49-50.

The Reply advances various other unsupported drive-by arguments, but never addresses the fundamental issues that (1) its POSITA doesn't have a background in the cellular technology described in the asserted prior art and (2) the Petition misunderstands (or misstates) Bhattacharya's reference to "HandoffMeasurementRequest" to imply Zeng solves a problem Bhattacharya never intended to solve.

VI. CONCLUSION

Petitioner has not met its burden of proving the challenged claims are unpatentable by a preponderance of the evidence. The Board should therefore issue a final written decision finding claims 2, 4, and 6-10 patentable.

Date: December 20, 2024

Respectfully submitted,

By: / Stephen McBride /
Stephen McBride
Reg. No. 78,396
CARMICHAEL IP, PLLC
8607 Westwood Center Drive
Suite 270
Tysons, VA 22182
Email: stevemcbride@carmichaelip.com
Tel.: 703-646-9247

*Counsel for Patent Owner
Geoscope Technologies Pte. Ltd.*

CERTIFICATE OF COMPLIANCE WITH TYPE-VOLUME LIMITS

This Patent Owner's Sur-Reply (the "Sur-Reply") consists of 5,379 words, excluding table of contents, table of authorities, certificate of service, this certificate, or table of exhibits. The Sur-Reply complies with the type-volume limitation of 5,600 words as mandated in 37 C.F.R. § 42.24. In preparing this certificate, counsel has relied on the word count of the word-processing system used to prepare the paper (Microsoft Word).

Respectfully submitted,

/ Stephen McBride /

Date: December 20, 2024

CERTIFICATE OF SERVICE

The undersigned hereby certifies that the following document was served by electronic service, by agreement between the parties, on the date below:

PATENT OWNER'S SUR-REPLY

W. Karl Renner
Roberto Devoto
Ryan Chowdhury
Usman A. Khan
FISH & RICHARDSON P.C.

Email: IPR50095-0137IP1@fr.com

Date: December 20, 2024

By: / Stephen McBride /
Stephen McBride
Reg. No. 78,396