

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,
Petitioner

v.

GEOSCOPE TECHNOLOGIES PTE. LTD.
Patent Owner

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

PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE

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I. INTRODUCTION

Petitioner submits this Reply to Patent Owner's Response (Paper 26, "POR").

The Challenged Claims of the '753 Patent are unpatentable because they recite well-known prior art techniques for locating mobile stations, widely used before the '753 Patent's filing date. Patent Owner waives any argument that the Challenged Claims of the '753 Patent are not unpatentable under the Board's claim construction adopted at institution. ID, p.23 Patent Owner's sole argument is a new claim construction limiting the term "grid point" to require features from exemplary embodiments. This construction lacks support in the '753 Patent file history and renders the term indefinite under US Patent law.

The Board adopted the District Court's final construction of the term "grid point":

Final Construction
"a point associated with representative calibration data for an area"

The Board correctly found this construction to be sound. ID, pp.22-23, 30-31. The Institution Decision noted that the District Court's claim construction has "been agreed to by the parties at this juncture." ID, p.23.

Patent Owner’s newly proposed construction is that a “‘Grid Point’ **Requires Evaluation** of Calibration Data **to Determine the Boundaries** of the Area represented by a ‘Grid Point’”. POR, p.17 (emphasis added). This construction goes beyond the **properties** of a generated grid point (e.g., stored signal strengths), to improperly incorporate additional requirements from examples of **what is done to arrive at a grid point**. The District Court rejected any construction based on “what must be done to arrive at a grid point”. EX1028 p. 19. The Board also rejected “Patent Owner’s ... attempts to reargue the claim construction of the term ‘grid point.’” ID, p.30.

Patent Owner’s own expert conceded on cross-examination that the prior art renders the challenged claims unpatentable under the District Court’s “final construction” (EX1032, 62:5-21), and that the District Court’s claim construction makes no mention of any “evaluation”. EX1032, 68:7-25.

The Board’s construction of the term “grid point” is sound, and all Challenged Claims of the ’753 Patent are unpatentable.

II. CLAIMS AT ISSUE AND STATEMENT OF THE PRECISE RELIEF REQUESTED

The Board instituted review of claims 1, 7, 9, 32, 38, and 40 (“Challenged Claims”) of the ’753 Patent in this IPR. ID, p.37. Petitioner requests the Board to find the Challenged Claims unpatentable based on the substantial evidence discussed herein.

III. CLAIM CONSTRUCTION

A. Patent Owner's Additional Requirements For the Construction of "Grid Point" Were Previously Rejected

Patent Owner's entire case rests on its assertion that the District Court's construction of "grid point" is wrong because this term requires features from exemplary embodiments regarding "*evaluation*" of calibration data to determine the boundaries of the area represented by a 'grid point'". POR, p.17 (emphasis added). *See also id.*, p.3. The District Court and the Board have already rejected Patent Owner's attempts to introduce additional requirements into a "grid point".

In Related Litigation, Patent Owner asserted that "grid point" requires that calibration data be "*analyzed*". EX1028, p.19. The District Court rejected this attempt to limit a "grid point" based on "what *must be done* to arrive at a grid point or set of grid points". *Id.* The POPR again asserted that grid points "are generated based on the *analysis* of calibration data". POPR, p.2 (emphasis added). Again, the Board rejected Patent Owner "attempting to try to introduce requirements on how 'grid points' are determined, which are not part of the claim construction.". ID, p.31.

Patent Owner now swaps its "analysis" construction in favor of an "evaluation" construction without explanation or legal justification. Patent Owner makes no attempt to explain why the swapped term necessitates a different outcome.

B. “Grid Point” Was Properly Construed To Exclude “Evaluation” of Calibration Data

Patent Owner argues that a “grid point” is required to be “generated based on evaluation of calibration data”. POR, p.3. The file history of the ’753 Patent does not limit the term “grid point” to require any specific “evaluation” as this is an example of *what can be done* to arrive at a “grid point” or non-uniform grid point (NUG).¹

Evaluation is Not Required

An “evaluation” of calibration data is an example of *what can be done to arrive* at a grid point rather than *properties* of the grid point. Patent Owner’s expert Mr. Sturza acknowledged that the District Court’s final claim construction of “grid point” makes no mention of any “evaluation”:

- 7 Q. And on page 20 of the district court Claim
8 Construction there's a box that says Final Construction.
- 9 A. Yes.
- 10 Q. Correct?
- 11 A. Correct.
- 12 Q. And that's the final construction of "grid

¹ A “NUG” is defined as a non-uniform grid point in the ’753 Patent and the related ’104 Patent. EX1001, 2:46, 9:40-43; EX1018, 3:50.

13 point." Correct?

14 A. That's correct.

15 Q. Okay. My question to you is, in this
16 discussion on page -- starting on page 18 as it relates
17 to the construction of grid point that goes all the way
18 to page 20, is there any discussion of evaluation or
19 evaluating? Please let me know where that is mentioned
20 in the district court's Claim Construction.

21 ATTORNEY McBRIDE: Objection. Relevance.

22 A. Yeah, I -- I don't recall seeing that in those
23 pages. I don't recall if the district court construed
24 "evaluating" or "evaluation," but I don't recall it
25 being in that section.

EX1032, 68:7-25. Note that Patent Owner's own counsel in the above line of questioning even objected to the "relevance" of "evaluation" to the construction of the term "grid point".

Patent Owner asserts that the terms "representative" and "for an area" in the District Court's "grid point" construction "requires by its plain language that the calibration data be *evaluated to determine what constitutes such representative data and the boundaries of the area* represented by that data." POR, p.2 (emphasis added). However, any construction of a "grid point" based on additional

requirements regarding “what *must be done* to arrive at a grid point” has been expressly rejected by the District Court. EX1028, p.19; ID, p.30.

Patent Owner goes even further to assert that the required “evaluation ... involves determining which data are ‘statistically very similar’” (POR, p.12) without file history support. The ’753 Patent and the related ’104 Patent disclose that calibration data representative for an area (*see* EX1001, 10:29-59, 12:15-25, 12:58-67; EX1018, 3:56-60, 4:40-52) can be a single calibration point which constitutes a grid point or a non-uniform grid point (NUG) (“If the NUG contains only a single calibration point, the location of the NUG may be set as the location of the calibration point.” EX1001, 12:59-61, *see also id.*, 10:64-65).

The ’753 Patent expressly discloses many ways for generating a grid point associated with representative calibration data for an area (*see* EX1001, 10:29-59, 12:15-25, 12:58-67), including measurement of a single signal strength. Patent Owner’s expert acknowledged on cross-examination in the related ’104 Patent deposition that representative calibration data of a grid point can simply be “signal strength” at that point (i.e., a grid point’s properties can be one or more signal strengths as representative calibration data stored for that point):

9 Can the signal strength be the data that

10 constitutes the representative calibration data?

11 A. Well, that was, you know, as we saw, an

12 example in one point in the '104 patent.

EX1031, 56:9-12.

One or more signal strengths measured at a point without further evaluation can thus serve as representative calibration data for a grid point. Petitioner’s expert Mr. Williams testified that measured signal strength is used for “grid-based pattern matching”:

“24. The ’753 Patent describes determining location of a mobile device whose location is unknown using “network measurement reports” received from the mobile device and containing “calibration data” (such as signal strength data of wireless signals transmitted from various transmitters) to perform Grid-Based Pattern Matching for a geographic region.” *See e.g.*, EX1001, Abs. EX1008, ¶24.

The related ’104 Patent confirms grid points can be determined from collected calibration data without further evaluation. *See* EX1018, 3:52-60. The Board’s construction is properly focused on “what a grid point *is*” and not *what can be done* to arrive at a grid point. ID, pp.30-31. *See* EX2023, 37:10-22 (“[Determining a grid point] would not require analysis. It could be just the actual measurements . . . [s]o analysis could be part of it, but it doesn’t have to be.”).

The ’753 Patent file history also does not require generating a “grid point” by any special evaluation involving “statistical analysis” or “boundaries”. At best, the terms “evaluation”, “statistically very similar” data, and “boundaries of an area”

correspond to exemplary methods to generate grid points in the '753 Patent and related applications. The '379 Provisional Application of the '753 Patent expressly discloses generating grid points and NUGs that are not based on statistical consistency/similarity of data. EX1003, p.8 (“Additionally, we also consider the method of generating NUGs based not on statistical consistency but on other conditions...”). Patent Owner provides no basis for limiting a non-uniform grid point to any specific exemplary method that requires evaluation using statistical similarity/consistency and boundaries of an area. Patent Owner fails to demonstrate any clear and unmistakable disclaimer/disavowal. *Avid Tech., Inc. v. Harmonic, Inc.*, 812 F.3d 1040 (Fed. Cir. 2016).

Regarding “statistical similarity”, Patent Owner relies on a disclosure from the '753 Patent with respect to non-uniform grid points (NUGs) and states that “[t]he geometrical shape . . . 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.” POR, p.21 (citing EX1001, 12:7-14). However, the very next paragraph of the '753 Patent confirms that “statistical similarity” of data is merely one embodiment, i.e., “[one] may also consider *the method of generating NUGs based not on statistical consistency of calibration data, but on other conditions*”. EX1001, 12:15-17 (emphasis added).

Patent Owner incorrectly asserts that Figure 6 of the related '784 Patent confirms that the claimed grid points “look nothing like any conventional conception of a ‘grid’ or ‘grid points.’” POR, p.3. The '784 Patent expressly states that Figure 6 illustrates “an *exemplary* non-uniform grid (NUG) region”. EX2013, 3:12-13. Patent Owner’s expert agrees that Figure 6 merely depicts an “**exemplary**” NUG. EX1031, 115:13-20.

Regarding “boundaries”, Patent Owner’s expert Mr. Sturza was unable to confirm details of how “boundaries” are determined or whether boundaries are even stored pursuant to the teachings of the '753 Patent:

10 BY ATTORNEY LEE:

11 Q. And after the boundaries are determined, are
12 they stored?

13 A. Well, you know, I think that's getting into
14 embodiments, which is something I haven't opined on.

EX1031, 57:10-14.

The Board’s construction of “grid point” therefore remains sound. There is no legal basis to import the limitations (e.g., “evaluation”) Patent Owner seeks to import. The Federal Circuit has rejected similar attempts to import limitations. *See, e.g., Malvern Panalytical Inc. v. TA Instruments-Waters LLC*, 85 F.4th 1365, 1372 (Fed.

Cir. 2023); *Hill-Rom Services, Inc. v. Stryker Corp.*, 755 F.3d 1367, 1375 (Fed. Cir. 2014).

Grid Point was Properly Construed to Encompass a Single Calibration Point

During Related Litigation, Patent Owner’s proposed construction for “grid point” included multiple calibration points by requiring “locations or areas that are determined and associated with a particular set or sets of calibration data.” EX1028, p.19. The District Court rejected this construction, acknowledging that “representative calibration data” encompasses not only a set or sets of calibration data, but also a single calibration point. EX1028, p.20.

Patent Owner now repackages this argument in asserting that the District Court’s *Markman* Order expanded the term “grid point” to require that “the calibration data associated with a grid point are ‘statistically very similar’ such that the calibration data are representative of the area encompassed by the grid point.” POR, p.18. Patent Owner is wrong; the District Court’s Order merely referenced an example of “representative calibration data” and confirmed calibration data can be a single calibration point. EX1028, p.20. The Federal Circuit has “cautioned against interpreting a claim term in a way that excludes disclosed embodiments, when that term has multiple ordinary meanings consistent with the intrinsic record.” *Nobel Biocare Servs. AG v. Intradent U.S., Inc.*, 903 F.3d 1365, 1381 (Fed. Cir. 2018)

(quoting *Helmsderfer v. Bobrick Washroom Equip., Inc.*, 527 F.3d 1379, 1383 (Fed. Cir. 2008)). *See also Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1305 (Fed. Cir. 2007) (“We normally do not interpret claim terms in a way that excludes disclosed examples in the specification.”).

The ’753 Patent confirms that “representative calibration data” can include a **single** calibration point as an exemplary set or sets of calibration data. EX1001, 10:64-65. Patent Owner and its expert cite the ’753 Patent at 10:44-59 and 10:66-11:6 (POR, p.12; EX2020, ¶71) yet ignore this language at 10:60-65. Patent Owner’s expert Mr. Sturza confirmed that he could not and has not provided any opinion on the amount of calibration data that may form a NUG. EX1031, 52:13-53:5; 52:20-22; 101:1-4 (“I haven’t, you know, thought about that. I haven’t, you know, provided an opinion on how big or small the set of calibration data could be.”).

To the extent a NUG having a single calibration point as “representative calibration data” requires any “statistical similarity,” the individual calibration point itself would make up a “statistically similar” group of one. EX1001, 12:59-61. The ’753 Patent confirms that a NUG can have “representative calibration data” that is “only a single calibration point.” *Ibid.*; *see also id.*, 10:64-65. The Board’s construction of a “grid point” at institution remains legally sound.

C. Patent Owner's New Construction Renders a "Grid Point" Ambiguous and Indefinite

Patent Owner's new construction injects ambiguity, as evidenced by Mr. Sturza's admissions that he does not know the metes and bounds of the newly proposed "evaluation" requirements. Indeed, Mr. Sturza provides no cogent explanation of the meaning of the referenced "evaluation", "statistical very similar" data, and "boundaries" terms required by Patent Owner's construction.²

First, Patent Owner fails to explain the metes and bounds of "evaluation" and "statistical similarity". Mr. Sturza concedes that he provided no explanation as to how the "evaluation" is performed. EX1031, 83:19-21. *See also id.*, 87:5-6 ("I've provided, you know, no opinion on how the evaluation could be performed."), 87:9-15 ("Q. So you do not have any opinion on how the evaluation in your construction might be performed. Is that correct? ... A. That's correct."). Mr. Sturza also concedes that "statistical similarity" ***"is not a defined value"***. EX1031, 81:6-10. *See also id.*, 75:2-5, 84:4-6 ("Well, you know, I haven't, you know, provided an opinion

² Mr. Sturza admits that "the '753 Patent uses the term 'non-uniform grid points' or 'NUGs' when describing grid points." EX2020, ¶60. *See also* EX1032, 14:23-15:1 (stating that the '753 Patent "conflate[s]" nonuniform grid points with grid points and "[t]here's not, you know, a clear distinction").

on statistically similar, you know, in – in this matter.”). Mr. Sturza concedes that he did not provide any explanation of the degree of “similarity” that is required, and the “statistic” considered when determining whether data is “statistically” similar. EX1031, 81:6-10, 82:13-21 (“Q. What statistic is considered when determining whether data is statistically similar? ... A. Again, not something I specifically opined upon.”). The metes and bounds of “evaluation” and “statistically similar” required by Patent Owner’s construction remain undefined and ambiguous by Mr. Sturza’s own admission. *See Atlas IP, LLC v. Medtronic, Inc.*, 809 F.3d 599 (Fed. Cir. 2015) (rejecting a District Court’s construction because it was “ambiguous”).

Patent Owner’s failure to articulate metes and bounds of “evaluation” and “statistical similarity” is not surprising given that the ’104 and ’753 Patents do not elaborate on this concept, but merely call out “statistical similarity”, (EX1001, 11:1) “statistical sufficiency” (*id.*, 10:46), and “statistical consistency” as exemplary embodiments (*id.*, 12:16) without further explanation.

Second, Patent Owner’s claim construction imports ambiguous functional limitations of “evaluating” calibration data into the structural claim term of “grid point.” “When a claim limitation employs functional language, the examiner’s determination of whether the limitation is sufficiently definite will be highly dependent on context (e.g., the disclosure in the specification and the knowledge of a person of ordinary skill in the art).” MPEP §2173.05(g) (citing *Halliburton Energy*

Servs. v. M-I LLC, 514 F.3d 1244, 1255 (Fed. Cir. 2008)). In *Halliburton*, a claim including the term “fragile gel” was found to be indefinite because the proposed construction of the term did not “resolve[] the ambiguity in the scope” of the functional term. *Halliburton*, 514 F.3d at 1250. The “fragile gel” was defined in the specification “by *what it does rather than what it is*” and it was found to be ambiguous. *Id.* at 1255-56 (emphasis added). Patent Owner’s construction of “grid point” based on ambiguous functional limitations must therefore fail.

IV. PETITIONER HAS MET ITS BURDEN TO PROVE THAT THE CHALLENGED CLAIMS ARE UNPATENTABLE

Patent Owner and its expert acknowledge that all Challenged Claims 1, 7, 9, 32, 38, and 40 of the ’753 Patent are unpatentable under the District Court’s claim construction because Petitioner’s art discloses all limitations of these claims, including “generating one or more sets of grid points for said calibration data.” EX1001, cls. 1, 32. To the extent any Challenged Claim is improperly limited to alternate embodiments regarding *what is done to arrive* at a “grid point” (i.e., “analysis”, “evaluation” or “statistical analysis” of calibration data based on “boundaries”), the claims would still be unpatentable over Petitioner’s cited art.

A. The Prior Art Discloses “Grid Point” Under The District Court’s Construction

Petitioner has demonstrated that the Spain document relied upon in the Petition discloses “generating one or more sets of grid points” where a “grid point” is “a point associated with representative calibration data for an area.” Spain’s database of stored “fingerprints” satisfies this claim 1 limitation. *See* Pet., p.24.

Patent Owner’s expert conceded on cross-examination that under the District Court’s construction, the Spain document renders the Challenged Claims unpatentable absent Patent Owner’s construction of a “grid point” based on “boundaries” and “evaluation of calibration data” as the only distinction:

8 A. Well, so the claims require generating or
9 generate one or more sets of grid points for said
10 calibration. And Spain talks about, you know,
11 fingerprint measurements at predefined locations and
12 interpolating fingerprints at locations between sample
13 locations, and that's not the grid points that are
14 claimed in the '753 patent.

15 BY ATTORNEY FEDOWITZ:

16 Q. Why? Why not?

17 ATTORNEY McBRIDE: Object to form.

18 A. Well, the '753 patent, the claimed grid points
19 are associated with representative calibration for an

20 area whose boundaries are determined from evaluation of
21 the calibration data.

EX1032, 62:5-21.

Patent Owner’s testimony demonstrates reliance upon their flawed claim construction of a “grid point” as requiring association with “representative calibration data for an area whose **boundaries are determined from evaluation of the calibration data.**” *Id.* (Emphasis added).

Spain renders the Challenged Claims unpatentable. Spain discloses generating grid points “by taking fingerprint measurements [i.e., signal strengths representing calibration data] at predetermined locations and using intelligent algorithms that interpolate the fingerprints at all locations in between the sampled locations [sets of grid points].” Pet., p.25 (citing EX1006, [0101]:1-4). Thus, Spain uses fingerprint measurements to generate grid points, and generates new grid points by interpolation of existing grid points (e.g., generates a new grid, EX1006, [0055]:5).

Spain confirms that the calibration data of each fingerprint “correspond [] not to one exact spot on the surface of the earth, *but instead to a small area*. The Lat and Long fields in this embodiment indicate a *position inside the area*, preferably the center point.” Pet., p.27 (quoting EX1006, [0099] (emphasis added)). It is clear Spain therefore discloses “grid points associated with representative calibration data for an area”.

Patent Owner waives any arguments refuting Spain’s disclosed “grid points” as “points associated with representative calibration data for an area”.

B. The Prior Art Discloses Evaluation of Calibration Data Under Patent Owner’s Erroneous Construction

Patent Owner’s new construction of “grid points” based on exemplary embodiments is also disclosed by Spain. Spain discloses “evaluation” of statistically similar calibration data within a boundary of a small area to generate new “grid points” at arbitrary (not predetermined) locations and thereby mitigate fingerprint ambiguity.

Patent Owner incorrectly argues that Spain “confirms a key distinction between the interpolated fingerprints of Spain and the claimed ‘grid points’” (POR, p.26); namely, that the phrase “for said calibration data” recited in claims 1 and 32 “requires that the claimed grid points be generated based on this calibration data.” POR, p.27. As already discussed, Spain clearly discloses this limitation.

Now Patent Owner argues that “even if the Board finds that the term ‘grid point’ does not require the evaluation of calibration data to define the boundaries of the area represented by a ‘grid point,’ the remaining claim language in the Challenged Claims includes this requirement.” POR, p.27. Patent Owner asserts that Spain teaches that “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.” *Id.* (emphasis added).

First, Patent Owner’s more recent construction does not foreclose generating “grid points” at “predetermined locations”.

Second, Patent Owner fails to appreciate that Spain’s interpolated points can be generated at arbitrary (i.e., not predetermined) locations to resolve potentially ambiguous positions stored in a fingerprint database that have been identified by evaluation of calibration data. Spain discloses “eliminating potentially ambiguous positions from consideration”. EX1006, ¶[0009].

Fingerprint ambiguities exist, for example, when a measured fingerprint (i.e., calibration data, such as signal strength) from a mobile device matches “the fingerprint model for the incorrect location.” *Id.*, ¶[0103]. Spain discloses that “the system can learn which are the ambiguous areas within an intelligent agent, and collect measurements for them, so the [fingerprint] database can be continually improved.” *Id.*, ¶[0055]. Spain also discloses that “...when a fingerprint model is produced for a particular region, it can be subjected to statistical analysis to ... identify specific areas that can have potential ambiguity problems.” *Id.*, ¶[0104]:1-6.

Spain discloses generating new fingerprints to resolve such ambiguities. EX1006, ¶[0055]. One technique Spain discloses for generating a new grid point (i.e., fingerprint) is by interpolation of existing fingerprints: “the database is built by taking fingerprint measurements [i.e., calibration data] at predetermined locations

and using intelligent algorithms that interpolate the fingerprints at **all locations in between** the sampled locations.” *Id.*, ¶[0101]. (Emphasis added). The interpolated grid points in exemplary embodiments taught by Spain will increase the database accuracy and are associated with representative calibration data for the area from which they were generated. An interpolated location can therefore be an “arbitrary position” for which calibration data (i.e., one or more signal strengths) is evaluated.

Spain teaches that a “complete grid of locations for the cellular service area” can be generated. EX1006, ¶[0054]. The final result is a learned relationship between position and signal strength for each mapping so that, *given an arbitrary position*, the corresponding signal strength is obtained for each particular frequency channel.” *Id.*, ¶[0054]. Patent Owner points out that this same paragraph of Spain indicates that in this example, “[p]osition will be used as the input value, while signal strength will be used as the target value.” POR, p.15 (quoting EX1006, ¶[0054]). This paragraph [0054] is referring to an exemplary “learning/training technique” of the database in Spain. *Ibid.* However, Spain’s paragraph [0055] describes generating new grid points for such “arbitrary locations” that are not known in advance. *Id.*, ¶¶[0055], [0101].

To the extent Patent Owner demands that the Board adopt previously rejected” requirements” of a “grid point”, and/or asserts other portions of the claims somehow

import such requirements, the Spain document discloses these features with at least the specificity of the '753 Patent.

Spain discloses generating geographically “small areas” (i.e., boundaries) as grid points. *Id.*, ¶[0099]. “In one instance, the fingerprint corresponds not to one exact spot on the surface of the earth, but instead to a small area.” *Id.*.

Regarding the calibration data of a particular grid point (i.e., calibration data within a boundary of the small area), Spain discloses a preference for “low statistical variance” of that data point (i.e., statistical similarity). *Id.*, ¶[0104].

Regarding evaluation of calibration data for ambiguity resolution among grid points, Spain states that “when a fingerprint model is produced for a particular region, it can be subjected to *statistical analysis* to assess both the location accuracy that may be expected in that region and to identify specific areas (e.g., grid points) that can have potential ambiguity problems. **For each point in the fingerprint model**, the probability distribution of ambiguous locations may be calculated, as a function of the level of errors expected, by computing the likelihood that each pair of location points will be confused at that error level.” EX1006, ¶[0104] (emphasis added). Spain therefore recognizes that for a grid point representing a small area of calibration data, the calibration data should exhibit some degree of statistical similarity.

Spain's preference for statistical similarity provides accurate location estimates of a mobile device by mitigating fingerprint ambiguities. Spain states: "If the distribution at a particular point is very broad (high statistical variance)" location estimates of a mobile unit at that location are likely to be inaccurate. *Id.* Where an ambiguity exists, Spain discloses that the database can be "continually improved" by generating a new grid point. *Id.*, ¶[0055].

Thus, Spain discloses "evaluation" of statistically similar calibration data within a boundary of a grid point area to new generate "grid points" at arbitrary (not predetermined) locations to thereby mitigate fingerprint ambiguities.

V. CONCLUSION

Substantial evidence supports finding all Challenged Claims of the '753 Patent unpatentable.

Date: September 11, 2024

Respectfully submitted,

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APPENDIX A – LIST OF EXHIBITS

Exhibit No.	Description
1001	U.S. Patent No. 8,406,753, issued on March 26, 2013 (“the ’753 Patent”)
1003	U.S. Provisional Application No. 60/899,379, filed on February 5, 2007
1006	U.S. Patent Publication No. 2003/0064735, published on April 3, 2003 to D. Spain <i>et al.</i> (“Spain”)
1008	Declaration of David Hilliard Williams
1018	U.S. Patent No. 7,561,104, issued on July 14, 2009 to M. Alles <i>et al.</i> (“the ’104 Patent”)
1028	Claim Construction Memorandum Opinion & Order dated July 19, 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
1031	Deposition Transcript of Mark Sturza in IPR2023-01209, -01210, -01211 (August 27, 2024)
1032	Deposition Transcript of Mark Sturza in IPR2023-01212 (August 27, 2024)
2013	U.S. Patent No. 9,097,784 issued on Aug. 4, 2015 to Alles et al.
2020	Declaration of Mark Alan Sturza
2023	Deposition Transcript of David Hilliard Williams for IPR2023-01209, -01210, -01211 (U.S. Pat. Nos. 7,561,104, 8,786,494 and 8,400,358) (April 23, 2024)

CERTIFICATE OF COMPLIANCE WITH 37 C.F.R. §42.24

The undersigned hereby certifies that the foregoing Reply totals 4,273 words, excluding the parts which are exempted by 37 C.F.R. §42.24(a)(1).

Date: September 11, 2024

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that on this 11th day of September, 2024, a true and correct copy of the foregoing **PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE** are being served by electronic mail to Patent Owner's counsel as follows:

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Date: September 11, 2024

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