

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.
Petitioner,

v.

SMITH INTERFACE TECHNOLOGIES, LLC
Patent Owner.

Case IPR2024-01091
Patent 10,936,114

PETITIONER'S BRIEF ON CLAIM CONSTRUCTION

TABLE OF CONTENTS

I.	Introduction.....	1
II.	Claim Construction.....	2
A.	Express claim construction of the claim term “gesture”	2
B.	Express claim construction of the claim term “a magnitude of a duration of the gesture being detected”	3
C.	Whether conditional limitations [1.f, 1.g. and 1.i] could be met by a single detected gesture; or whether conditional limitations [1.f, 1.g, and 1.i] present alternatives such that no magnitude of the duration of a single detected gesture could meet all three limitations;.....	6
D.	Whether conditional limitations [1.f, 1.g, and 1.i] could be met by different gestures in which each gesture has a different duration that satisfies different alternatives;.....	9
E.	Whether or not all of conditional limitations [1.f, 1.g, and 1.i] need to be met in order to satisfy the claim and, if not all, which ones need to be met	11
F.	Claim 32/“component of the gesture”	12
G.	<i>Schulhauser</i> Applies to Method Claims 34 and 64.....	13
III.	Conclusion	15

LIST OF EXHIBITS

APPLE-1001	U.S. Patent No. 10,936,114
APPLE-1002	U.S. Patent No. 10,936,114 File History
APPLE-1003	Declaration of Dr. Andrew Cockburn
APPLE-1004	U.S. Patent Publication No. 2010/0302281 to Kim (“Kim”)
APPLE-1005	U.S. Patent Publication No. 2009/0273571 to Bowens (“Bowens”)
APPLE-1006	U.S. Patent Publication No. 2006/0139320 to Lang (“Lang”)
APPLE-1007	U.S. Patent Publication No. 2010/0156818 to Burrough et al. (“Burrough”)
APPLE-1008	U.S. Patent Publication No. 2011/0310043 to Lacroix et al. (“Lacroix”)
APPLE-1009	Simon, Windows CE 2 for Dummies (1997)
APPLE-1010	U.S. Patent Publication No. 2011/0221666 to Newton et al. (“Newton”)
APPLE-1011	U.S. Patent Publication No. 2015/0324116 to Marsden et al. (“Marsden”)
APPLE-1012	U.S. Patent Publication No. 2018/0059928 to Westerman et al. (“Westerman”)
APPLE-1013	U.S. Patent Publication No. 2013/0212541 to Dolenc et al. (“Dolenc”)

APPLE-1014	U.S. Patent Publication No. 2005/0168488 to Montague (“Montague”)
APPLE-1015	U.S. Patent No. 8,954,887 to Tseng et al. (“Tseng”)
APPLE-1016	Smith’s Infringement Contention
APPLE-1017	U.S. Patent Publication No. 2007/0024593 to Schroeder (“Schroeder”)
APPLE-1018	U.S. Patent Publication No. 2009/0167508 to Fadell et al. (“Fadell”)
APPLE-1019	United States District Courts — National Judicial Caseload Profile (Dec. 31, 2023) United States Courts (uscourts.gov), https://www.uscourts.gov/sites/default/files/fcms_na_distprofile_1231.2023_0.pdf (last visited June 25, 2024)
APPLE-1020	Memorandum, Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation (USPTO June 21, 2022) (“Guidance”)
APPLE-1021	Case Management Order, Smith Interface Technologies, LLC v. Apple Inc., 3-23-cv-01187, S.D. Cal. (June 20, 2024)
APPLE-1022	Supplemental Declaration of Dr. Andrew Cockburn

APPLE-1023	Transcript of the Deposition of Dr. Madisetti ¹
APPLE-1024	Smith's Preliminary Infringement Contentions ("Exhibit A9")
APPLE-1025	Smith's Preliminary Infringement Contentions ("Exhibit B7")
APPLE-1026	Smith's Preliminary Infringement Contentions ("Exhibit C1")

¹ Petitioner understands that Patent Owner intends for Dr. Madisetti to perform a read-and-sign of this deposition transcript (APPLE-1023), per 37 C.F.R. § 42.53(f)(5). At the time of this filing, Petitioner has not received any communications from Patent Owner regarding the progress of Dr. Madisetti's read-and-sign. Petitioner assumes Patent Owner is facilitating Dr. Madisetti's review, that the review is ongoing, and that Patent Owner will raise any alleged errata. Should Patent Owner propose entry into the record of any alleged errata that does not seek to change the substance of Dr. Madisetti's testimony, Petitioner does not expect to object.

CONVENTIONS OF THIS CLAIM CONSTRUCTION BRIEF

- All emphasis is added unless noted otherwise;
- Quotations are generally reserved for exhibits; and
- The phrase “as discussed” and equivalent phrases incorporate fully the analysis of the cross-cited portion of the Reply Brief or Claim Construction Brief.

I. Introduction

The Challenged Claims should be read as written, without precluding different detected gestures, each having its own duration magnitude, from satisfying the claim's conditional limitations. Indeed, Smith's positions to the contrary are inconsistent with the language of the claims and rules of claim construction, and even Smith's own infringement contentions and its expert's testimony. APPLE-1022, ¶16.

Smith's argument hinges on its position that the use of the definite article "the" before noun "gesture" in the claims dictates that the same gesture must be evaluated for all conditions. However, Smith suggests the opposite when assigning two different interpretations to "the magnitude of the duration of the gesture." POR, 23-24. If Smith's approach to the application of antecedent basis were being used by Smith to limit scope, Smith would have applied the same approach consistently. Smith's inconsistent approach is evidence of more than its flaws; it demonstrates a lack of intent by Smith when drafting its claims to employ antecedent basis in the manner now conveniently suggested by Smith. Instead, the correct interpretation of the claims—and application of antecedent basis—requires that each conditional limitation refers back to the initial recitation of a gesture being detected; antecedent basis should not be read across the conditions in a co-mingled fashion. Per this

approach, the claims permit *different* detected gestures, each having a *different* duration magnitude, to meet the conditional limitations. APPLE-1022, ¶17.

II. Claim Construction

A. Express claim construction of the claim term “gesture”

No express claim construction for the term “gesture” is required; the plain and ordinary meaning suffices for purposes of the IPR. Notably, both Kim and Bowens explicitly teach a “gesture.” APPLE-1004, Abstract; APPLE-1005, [0056], [0065]; Moreover, the ’114 Patent broadly treats the term “gesture” as including a “user input defined by inputs, flags, and signals,” consistent with a POSITA’s understanding. APPLE-1022, ¶18; APPLE-1001, 58:13-15 (“gesture input refers to the collection of inputs, flags, and signals by which a gesture is identified and parameterized”); *see id.*, 58:23-49, 62:4-16; *but see id.*, 60:61-61:3. Additionally, the ’114 Patent provides examples gestures (e.g., “two finger, double press,” “two finger pinch-to-zoom,” “quick flicking gesture,” “swipe, slide or other simple gesture”). APPLE-1001, 57:31-34, 57:43-47, 58:13-34, 60:12-16, 61:54-55. Smith agrees that “gesture” does not require an express construction beyond its plain and ordinary meaning, and disagrees with Petitioner only as to the application of antecedent basis across the conditional claims. *See* POR, 21-25. Petitioner’s position is that each conditional limitation [1.f], [1.g], and [1.i] refers back to *the* gesture recited in limitation [1.e]

but that the conditional limitations are not required to be read as co-mingled. As further discussed in Petitioner’s Reply, Smith’s interpretations are inconsistent and flawed for numerous reasons. Reply, §II.B-F.

B. Express claim construction of the claim term “a magnitude of a duration of the gesture being detected”

No express claim construction for this term is required. However, the following discussion provides insight as to the manner in which this term would have been understood by a POSITA when read within the context of the specification and independent claims—and, in particular, the conditional limitations. In contrast, Smith’s approach does not consistently apply the antecedent basis of the claims and is inconsistent with dependent claims. APPLE-1022, ¶19.

First, as discussed in more detail below, “a magnitude of a duration of the gesture being detected”² would not have been foreclosed from including the magnitude³ of the duration of any gesture being detected, which includes the duration magnitude of any part of the inputs, flags, and signals that constitute the gesture being detected. APPLE-1022, ¶20. This interpretation is proper at least

² For brevity’s sake, this Brief refers to a “duration magnitude” as a shorthand.

³ The ’114 Patent’s limited examples of any “magnitude” relate to “pressure” or, e.g., “the length of the swipe.” APPLE-1001, 62:39-47.

because it is not possible for any single duration magnitude of a single gesture to be both less than (per limitation [1.f]) and greater than (per limitation [1.g]) a first magnitude threshold—a point on which Smith agrees as reflected by its offering of different constructions for a “magnitude”—one that includes a period of time “ending at the conclusion of the gesture” for limitation [1.f] and one that includes a period of time “ending at the time of the execution of the logic or at the conclusion of the gesture” for limitations [1.g] and [1.i] (POR, 23-24), though dependent claims contemplate more than one of the conditions of limitations [1.f], [1.g], and [1.i] being met. *E.g.*, APPLE-1001, 98:10-32 (cl. 10), 108:4-13 (cl. 33), 109:14-30 (cl. 43), 119:6-14 (cl. 65); APPLE-1022, ¶¶21-22. Thus, the “magnitude of the duration of the gesture being detected” for each of limitations [1.f], [1.g], and [1.i] should be based on the gesture from limitation [1.e], without being co-mingled with one another. APPLE-1022, ¶23.

While the Board invited discussion of the term “a magnitude of a duration of the gesture,” this term is best understood when also including “being detected.” That is, each independent claim refers to a gesture that is “underway of being detected,” as Dr. Cockburn testified. EX2013, 117:11-17. The full term is recited in each conditional limitation, so gesture detection is ongoing as it relates to the particular time threshold (e.g., first magnitude threshold). Thus, “a magnitude of a duration of the gesture being detected” should be considered *at the time of evaluation of the*

respective threshold condition (1f, 1g, 1i). APPLE-1022, ¶24.

Second, Smith’s treatment of the “magnitude of the duration of the gesture” as being different across limitations [1.f], [1.g], and [1.i] is inconsistent with its insistence that “the gesture” refers to the same gesture across all conditional limitations, as discussed in more detail in Petitioner’s Reply. Reply, §II.C; APPLE-1022, ¶25. Namely, in discussing each of the three conditions, Smith inexplicably applies *different* constructions to “[a/the] magnitude of [a/the] duration of the gesture.” For limitation [1.f], Smith refers to “the length of a period of time beginning at the start of the gesture and *ending at the conclusion of the gesture.*” POR, 23 (emphasis altered). For limitations [1.g] and [1.i], Smith refers to “the length of a period of time beginning at the start of the gesture and *ending at the time of the execution of the logic or at the conclusion of the gesture.*” POR, 24 (emphasis altered).

Third, dependent claims of the ’114 Patent highlight various flaws with Smith’s interpretation of the claims, including its arguments that the “duration” must “end[] at the conclusion of the gesture” (Reply, §§II.D.1-2), that cessation of the gesture is required for the condition of [1.f] to be met (Reply, §§II.D.2-3), and that the “magnitude of the duration of the gesture” must refer to “a period of time beginning at the start of the gesture” (Reply, §II.D.3); APPLE-1022, ¶26. Each of these issues is discussed in more detail in Petitioner’s Reply. Reply, §II.D.2.

C. Whether conditional limitations [1.f, 1.g. and 1.i] could be met by a single detected gesture; or whether conditional limitations [1.f, 1.g, and 1.i] present alternatives such that no magnitude of the duration of a single detected gesture could meet all three limitations;

As the Board correctly observed in its Institution Decision, no single detected gesture could meet all of limitations [1.f], [1.g], and [1.i]. *See* ID, 25-26. This is evident because any detected gesture is associated with various characteristics (i.e., inputs, flags, and signals), which would include its duration magnitude. APPLE-1022, ¶27. A single duration magnitude cannot meet the conditions of limitations [1.f], [1.g], and [1.i] because a single duration magnitude cannot meet mutually exclusive conditions—a single duration magnitude cannot be both greater than and less than a first magnitude threshold.

Indeed, the Board cited to claim 9⁴ as “inform[ing] the scope of claim 1” and “identif[y]ing an alternative for which only one of the three ‘when’ limitations in claim 1 would be met.” ID, 26. Claim 10, which is dependent on claim 1, further supports this point, reciting a first gesture that only meets limitation [1.f] and a second gesture that only meets limitation [1.g]. *See also* APPLE-1001, claims 11, 43. Thus, conditional limitations [1.f], [1.g], and [1.i] present alternatives such that

⁴ Despite the Board’s explicit reference to dependent claim 9, Dr. Madisetti’s consideration of dependent claims was limited to claim 8. *See, generally*, EX2008.

no single magnitude of the duration of a single detected gesture could meet all three limitations. APPLE-1022, ¶28.

Notably, Petitioner’s position is consistent with the claims’ recitation of antecedent basis. The Petition gives full effect to that basis, clarifying that each of limitations [1.f], [1.g], and [1.i] refers back to the gesture detected in limitation [1.e]—specifically, to the magnitude of the gesture’s duration as detected in limitation [1.e]. Pet., 18-26.

As discussed in Petitioner’s Reply, Smith’s and Dr. Madisetti’s position regarding the Board’s inquiry is evasive, inconsistent, and unclear. Reply, §II.B. Carefully avoiding usage of the Board’s terminology—pertaining specifically to a “*single detected gesture*,” Smith and Dr. Madisetti purposefully avoid usage of the same language, instead offering a response relating to whether “[a] *single instance of user input*” would meet the limitations. POR, 29-30; EX2008, ¶¶64-65. Dr. Madisetti’s deposition testimony on this point is similarly evasive. *See, e.g.*, APPLE-1023, 78:3-11, 84:5-85:16. Notably, despite the Board posing these questions, Dr. Madisetti was repeatedly unable or unwilling to provide even one example—either in the ’114 Patent itself or a real-life use case—that would meet the claim limitations, claiming it was not something he considered. APPLE-1023, 121:13-122:21.

Q. Does the ’114 patent provide an example of a single gesture having three different durations that result in three different actions?

A. I don't think I offered an opinion with respect to that issue... *it is not something I was looking for. I was not asked to do that. So, I don't have an answer.*

Id., 127:19-128:13. Surely consideration of whether a single detected gesture could meet the conditional limitations would have required such analysis. APPLE-1022, ¶49.

Nonetheless, Smith seemingly indicates that no single gesture⁵ would meet all of limitations [1.f], [1.g], and [1.i] (POR, 29, 35), while in contradictory fashion, claiming that it directed the Board to “written description that describes a single gesture having three different durations that result in three different actions”⁶ (POR, 21 n.6). Similarly inconsistent, despite its response that no single gesture would meet all limitations, Smith concludes that “[a]ll [limitations] must be met.” POR, 2.

Finally, Smith argues that “the fact that a single instance of user input that met Limitation [1.f] would not also meet [1.g] or [1.i] (and vice versa) [does not] justify

⁵ Smith discusses an “instance of user input,” not the Board’s language. POR, 29-30.

⁶ While alleging that it has provided such an example, it is unclear where Smith “has done so,” and Dr. Madisetti refused to provide such an example. POR, 21-22 n.6 (“Smith has done so in this Paper”); APPLE-1023, 127:19-128:22.

ignoring the plain language.”⁷ POR, 2-3. However, patent claims should be construed, if possible, to preserve validity of the claims. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1327-28 (Fed. Cir. 2005) (*en banc*). Smith’s position that “[a]ll [limitations] must be met” by the same gesture but no single gesture can meet all limitations would result in a nonsensical interpretation.

D. Whether conditional limitations [1.f, 1.g, and 1.i] could be met by different gestures in which each gesture has a different duration that satisfies different alternatives;

Because the independent claims must be read to be broad enough to include the dependent claims (e.g., permitting a scenario where all three conditions are met in claim 33; further reciting cessation of the magnitude of the duration of the gesture being detected in claim 26) and because no single detected gesture can meet all three conditions (because *different duration magnitudes* are required), the independent claims must be interpreted to permit the conditional limitations to be met by different gestures, each having a duration that meets a different condition. Accordingly, Petitioner mapped the prior art to conditional limitations [1.f], [1.g], and [1.i] (and the corresponding elements of claims 32, 34, and 64) to different gestures each having a different duration magnitude that meets the respective condition. APPLE-

⁷ As described above, dependent claims 33 and 65 clearly show that the claims are sufficiently broad to include gestures that meet all three time threshold limitations.

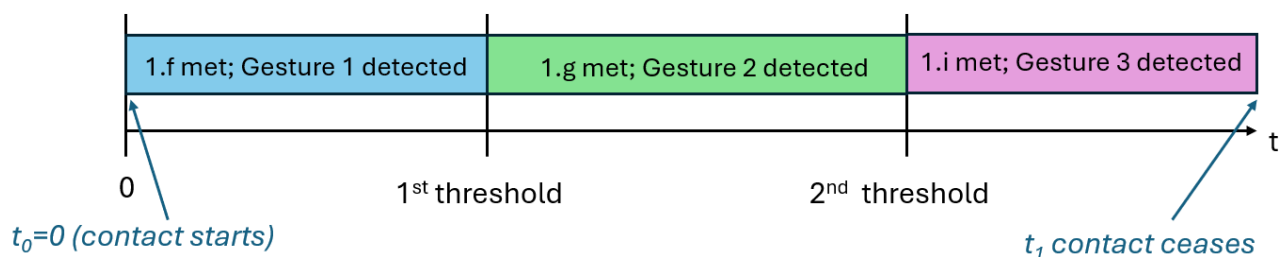
1022, ¶32.

Indeed, claims 10 and 11 explicitly recite “a first gesture” that meets the conditions of [1.f], “a second gesture” that meets the conditions of [1.g], and a “third gesture” that meets the conditions of [1.i]. Claims 10 and 11 then explicitly provide an example scenario where a first gesture meets condition [1.f], a second gesture meets condition [1.g], and a third gesture meets conditions [1.g] and [1.i]. APPLE-1001, 98:16-46; *see id.*, 109:14-44 (claims 43-44). Similarly, Petitioner’s mapping of Kim or Kim-Bowens to claim 1 involves a first gesture that meets [1.f], a second gesture that meets [1.g]., and a third gesture that meets [1.i]. Because dependent claim 10 must fall within the scope of claim 1, then claim 1 must necessarily also permit the limitations [1.f], [1.g], and [1.i] to be met by three different gestures. *See Wright Med. Tech., Inc. v. Osteonics Corp.*, 122 F.3d 1440, 1445 (Fed. Cir. 1997) (“[W]e must not interpret an independent claim in a way that is inconsistent with a claim which depends from it.”); APPLE-1022, ¶33.

Dependent claims 10 and 11 are sufficient to refute Smith’s argument that “[t]he plain language does not permit pointing to ‘**different** gestures’ or ‘durations’ that start at a time other than the start of ‘**the** gesture,’” given that claims 10 and 11 explicitly recited different gestures. *Compare* APPLE-1001, 98:16-62, *with* POR, 2 (emphasis in original). Notably, Smith appears to concede that multiple gestures are permitted, stating that claim 1 “refer[s] to the logic used to evaluate **numerous**

instances of user input.” POR, 3 (emphasis in the original); APPLE-1022, ¶34.

Dependent claims 33 and 65 further inform the meaning of the claims such that the independent claims should be interpreted broadly enough to permit a single user contact (which the device would detect as comprising *different gestures*) to meet the conditional limitations. Claims 33 and 65 recite scenarios where all three conditions are met, so their independent claims must also permit these scenarios. While all conditions cannot be met by a single detected gesture (§II.C, *supra*), all conditions could be met by a single user contact on the touchscreen that is maintained through both the first and second thresholds, as shown in the diagram below. APPLE-1022, ¶35. However, this single user contact (shown in blue, green, and pink) would necessarily comprise at least three separate detected gestures, each with a corresponding duration magnitude that meets the respective conditional limitation, and each causing performance of a respective operation. *Id.*



Thus, for the independent claims to be interpreted in a manner consistent with claims 33 and 65, they must permit multiple detected gestures to meet the conditions.

- E. Whether or not all of conditional limitations [1.f, 1.g, and 1.i] need to be met in order to satisfy the claim and, if not all,**

which ones need to be met

All of conditional limitations [1.f], [1.g], and [1.i] need to be met in order to satisfy claim 1. That is, for apparatus claim 1, the prior art system must include the “structure for performing the [respective] function” to the extent that each of the conditional limitations [1.f], [1.g], and [1.i] occur. *See Ex Parte Schulhauser*, Appeal No. 2013-007847, 2016 WL 6277792, 14-15 (PTAB Apr. 28, 2016) (precedential) (indicating that a system claim “is limited to the structure capable of performing all the recited functions”). However, because no single magnitude of a single duration of a single gesture can meet all conditional limitations, as discussed in §II.C, Petitioner has mapped each of [1.f], [1.g], and [1.i] to different gestures detected in limitation [1.e], each having its own duration magnitude. APPLE-1022, ¶37.

F. Claim 32/“component of the gesture”

The responses to each of the issues the Board raised as to apparatus claim 1 equally applies to apparatus claim 32.⁸ Claim 32 recites similar limitations as claim 1, with the most significant difference being the recitation of “a first component,” “a second component,” and “a third component” of the gesture ([32.f], [32.g], [32.i]).

Smith’s suggestion that a “component of the gesture” necessarily “refers to one component of a multi-part gesture” relies on an overly narrow interpretation of a “component.” POR, 22; APPLE-1022, ¶39. Notably, Smith cites to the ’114 Patent

⁸ Smith treats claims 32, 34, and 64 the same in its analysis. POR, 26 n.9.

and a provisional application as they relate to “multi-action ‘pattern-based gestures,’” but none of this supports the notion that a “component of a gesture” means that the gesture itself *must* be a “multi-part gesture,” as Smith alleges. POR, 22 (citing APPLE-1001, 75:24-26; EX2010, [00581]); APPLE-1022, ¶39. Rather, the ’114 Patent more broadly provides examples of components of a gesture (e.g., Contact 1, Contact 2 (including subcomponents pressure, touch, surface), Proximity 1, System). APPLE-1001, 81:61-66, FIG. 24 (element 2410); APPLE-1022, ¶39. In view of the ’114 Patent’s broad disclosure, a POSITA would have reasonably understood that a component of a gesture can include time or pressure. *Id.*; APPLE-1022, ¶39.

G. *Schulhauser* Applies to Method Claims 34 and 64

The above discussion for claim 1 (and 32) as it relates to a “gesture” and “a magnitude of a duration of the gesture” applies equally to claim 34 (and 64). However, claims 1 and 32 are directed to an apparatus while claims 34 and 64 are directed to a method, so the above answers to the Board’s questions vary between the statutory classes of the claims. Specifically, where a method claim recites steps having “mutually exclusive” conditions precedent, the prior art need only disclose one of the steps having a condition precedent. *See Ex Parte Schulhauser*, Appeal No. 2013-007847, *6-10 (PTAB Apr. 28, 2016) (precedential). Thus, unlike apparatus claims 1 and 32, which require that all conditional limitations be met to satisfy the

claim, method claims 34 and 64 require that the prior art need only disclose steps where the condition precedent recited in the step is met.⁹ *See Id.*, 2016 WL 6277792 at *6. Nonetheless, Petitioner mapped the prior art to scenarios where each of conditions [32.f], [32.g], and [32.i] are met. Pet., 20-26, 39-41, 62-68, 76-79.

Contrary to Smith’s assertion, claims 34 and 64 do not resemble those of *Hytera Communications Co. v. Motorola Solutions, Inc.*, 841 F. App’x 210, 216-218 (Fed. Cir. 2021). In *Hytera*, a method claim included a “selecting” step with alternative conditional language (“if...otherwise”) that rendered the claim incomplete if just the first condition was performed. *Id.*, 841 F. App’x at 216. To perform the “selecting” step, the claim required first “knowing a first set...and a second set” from which to select. *Id.*, 841 F. App’x at 217. Without performing both conditional steps, the “knowing” step would be largely unnecessary, “a clear indication that the method requires performance of the ‘selecting’ step in response to each of the two alternative conditions.” *Id.*; APPLE-1022, ¶¶40-41.

By contrast, claims 34 and 64 follow *Schulhauser* where “each alternative condition could reasonably be construed as a standalone method claim” and “nothing

⁹ As discussed above in §II.C, the conditions of [34.g]/[64.g], [34.h]/[64.h], and [34.j]/[64.j] cannot all be met at the same time by the same magnitude of the duration of the same gesture.

in the earlier steps of the claim suggest[] that the claimed method would be incomplete” after, for example, the operation is performed when the magnitude is less than a first magnitude threshold. *Id.*, 841 Fed. Appx. at 217. Unlike *Hytera*, “nothing in the earlier steps” of claims 34 and 64 “suggest[] that the claimed method would be incomplete,” for example, after the step of [34.g]. *Id.*, 841 Fed. Appx. at 217. Thus, when a condition is met and its corresponding function is performed, the functions associated with mutually exclusive conditions need not be performed. *Schulhauser*, 2016 WL 6277792 at *6.

III. Conclusion

In view of the discussion herein, the claims should be interpreted to permit different detected gestures, each having a different duration magnitude, to meet the conditional limitations.

Respectfully submitted,

Dated: August 5, 2025

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CERTIFICATE OF SERVICE

Pursuant to 37 CFR §§ 42.6(e)(1) and 42.6(e)(4)(iii), the undersigned certifies that on August 5, 2025, a complete and entire copy of this Claim Construction Brief were provided via email to the Patent Owner by serving the email correspondence addresses of record as follows:

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