

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent of: Michael S. Smith
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AND COMPUTER PROGRAM PRODUCT

SUPPLEMENTAL DECLARATION OF DR. ANDREW COCKBURN

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I. INTRODUCTION

1. I have been retained as a technical expert by counsel on behalf of Apple Inc. (“Apple”/“Petitioner”) in Case No. IPR2024-01091 with respect to U.S. Patent No. 10,936,114 (“the ’114 patent”) (APPLE-1001).

2. I understand that this declaration (“Supplemental Declaration”) will be submitted in support of Petitioner’s Reply and Petitioner’s Claim Construction Brief to Patent Owner’s Response to the Petition for *inter partes* review of the ’114 patent. This Supplemental Declaration supplements certain portions of my prior declaration in support of the Petition for this IPR Proceeding (APPLE-1003, “Prior Declaration”). In my Prior Declaration, I address many topics, including (but not limited to) my background and qualifications, the level of skill in art, an overview of the ’114 patent, a POSITA’s background knowledge, certain legal standards explained to me by counsel, and a detailed analysis of the prior art against the claim elements of the ’114 patent.

3. I maintain all of my earlier analysis and continue to hold the opinions expressed in my Prior Declaration. This Supplemental Declaration does not replace my Prior Declaration. These declarations are complementary and should be read in tandem. Accordingly, this Supplemental Declaration does not cover every topic addressed in my Prior Declaration.

4. In forming this Supplemental Declaration, I have considered the references listed in my original declaration (APPLE-1003, ¶15), my knowledge and experience in this field, including my research and work experience in the field, my experience working with others involved in the field, and the third-party documents cited throughout my analysis. *See* APPLE-1003, ¶¶1-14 (discussing qualifications), ¶¶26-27 (discussing the level of skill for a “POSITA”). In addition, I considered the transcript from the deposition of Dr. Madisetti (APPLE-1023).

5. Note that, unless I’ve indicated otherwise, all emphasis (bold/italics/underline) in any quoted text are ones I have added.

6. Although I cite and quote to selected portions of various references in this Supplemental Declaration, the reader should understand that these citations are representative examples. A POSITA would have viewed each reference in its entirety and in combination with other references. Accordingly, I intend the references identified in this Declaration to be viewed as incorporated in their entireties.

7. I am not, and never have been, an employee of Apple. I received no compensation for this Supplemental Declaration beyond my normal hourly compensation based on my time actually spent preparing this declaration. I will not receive any added compensation based on the outcome of any IPR or other proceeding involving the ’114 patent.

II. LEGAL PRINCIPLES

A. Anticipation

8. I have been informed that a patent claim is invalid as anticipated under 35 U.S.C. § 102 if each and every element of a claim, as properly construed, is found either explicitly or inherently in a single prior art reference. Under the principles of inherency, if the prior art necessarily functions in accordance with, or includes the claimed limitations, it anticipates.

9. I have been informed that a claim is invalid under 35 U.S.C. § 102(a) if the claimed invention was known or used by others in the U.S., or was patented or published anywhere, before the applicant's invention. I further have been informed that a claim is invalid under 35 U.S.C. § 102(b) if the invention was patented or published anywhere, or was in public use, on sale, or offered for sale in this country, more than one year prior to the filing date of the patent application (critical date). And a claim is invalid, as I have been informed, under 35 U.S.C. § 102(e), if an invention described by that claim was described in a U.S. patent granted on an application for a patent by another that was filed in the U.S. before the date of invention for such a claim.

B. Obviousness

10. I have been informed that a patent claim is invalid as "obvious" under 35 U.S.C. § 103 in light of one or more prior art references if it would have been obvious to a POSITA, taking into account (1) the scope and content of the prior art,

(2) the differences between the prior art and the claims, (3) the level of ordinary skill in the art, and (4) any so called “secondary considerations” of non-obviousness, which include: (i) “long felt need” for the claimed invention, (ii) commercial success attributable to the claimed invention, (iii) unexpected results of the claimed invention, and (iv) “copying” of the claimed invention by others. For purposes of my analysis above and because I know of no indication from the patent owner or others to the contrary, I have applied a date of August 5, 2011, as the date of invention in my obviousness analyses, although in many cases the same analysis would hold true even at an earlier time than August 5, 2011.

11. I have been informed that a claim can be obvious in light of a single prior art reference or multiple prior art references. To be obvious in light of a single prior art reference or multiple prior art references, there must be a reason to modify the single prior art reference, or combine two or more references, in order to achieve the claimed invention. This reason may come from a teaching, suggestion, or motivation to combine, or may come from the reference or references themselves, the knowledge or “common sense” of one skilled in the art, or from the nature of the problem to be solved, and may be explicit or implicit from the prior art as a whole. I have been informed that the combination of familiar elements according to known methods is likely to be obvious when it does

no more than yield predictable results. I also understand it is improper to rely on hindsight in making the obviousness determination.

III. OVERVIEW OF CONCLUSIONS FORMED

12. This declaration explains the conclusions that I have formed based on my analysis. To summarize those conclusions, based upon my knowledge and experience and my review of the prior art publications listed above, I believe that:

- Claims 1, 27, and 32 are anticipated and/or obvious over Kim
(Ground 1A)
- Claims 34, 59, and 64 are obvious over Kim in view of Lang (Ground 1B)
- Claim 30 is obvious over Kim in view of Burrough (Ground 1C)
- Claim 62 is obvious over Kim in view of Lang and Burrough (Ground 1D)
- Claims 1, 27, and 32 are obvious over Kim in view of Bowens
(Ground 2A)
- Claim 34, 59, and 64 are obvious over Kim in view of Bowens and Lang (Ground 2B)
- Claim 30 is obvious over Kim in view of Bowens and Burrough
(Ground 2C)

- Claim 62 is obvious over Kim in view of Bowens, Lang, and Burrough (Ground 2D)

IV. LEVEL OF ORDINARY SKILL IN THE ART

13. In my opinion, a person of ordinary skill in the art (“POSITA”) relating to, and at the time of, the purported invention of the ’114 Patent would have had at least a bachelor’s degree in computer science, computer engineering, electrical engineering, human-computer interaction, or a related field, and would have had at least two years of relevant work experience in the design and development of graphical user interfaces (GUIs), human-computer interfaces, or equivalents thereof. Less work experience may be compensated by a higher level of education and vice versa.

14. Based on my experiences, I have a good understanding of the capabilities of one of ordinary skill. Indeed, I have taught, participated in organizations, and worked closely with many such persons over the course of my career. Based on my knowledge, skill, and experience, I have an understanding of the capabilities of one of ordinary skill. Furthermore, I possess those capabilities myself.

V. INTERPRETATIONS OF THE ’114 PATENT CLAIMS AT ISSUE

15. I have been informed by Counsel and understand that the best indicator of claim meaning is its usage in the context of the patent specification as

understood by one of ordinary skill. I further understand that the words of the claims should be given their plain meaning unless that meaning is inconsistent with the patent specification or the patent's history of examination before the Patent Office. Counsel has also informed me, and I understand that, the words of the claims should be interpreted as they would have been interpreted by one of ordinary skill at the time of the invention was made (not today). I have been informed by Counsel that I should use August 5, 2011 as the point in time for claim interpretation purposes.

VI. Claim Construction

16. In view of all of the claims of the '114 Patent, Petitioner's position—that the Challenged Claims permit different detected gestures, each having its own duration magnitude, can satisfy the conditional limitations¹—is correct. On the other hand, Smith's positions are inconsistent with the language of the claims, claim construction rules, Smith's own infringement contentions, and its expert's testimony.

¹ The Board referred to claim limitations 1.f., 1.g, and 1.i (and their equivalents in other independent claims) as being the “conditional limitations.” I adopt that meaning throughout this declaration.

17. Smith’s argument rests on its contention that the use of the definite article “the” before “gesture” in the claims means that the same gesture must be evaluated across all conditions. However, Smith does not demand this same consistency as it relates to “the magnitude of the duration of the gesture,” to which it assigns two different interpretations. If Smith’s approach to the application of antecedent basis were correct, Smith would have applied it equally to both terms. Smith’s inconsistent approach is evidence of its flaws. 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. According to this correct interpretation, the claims permit *different* detected gestures, each having a *different* duration magnitude, to meet the conditional limitations.

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

18. For purposes of the IPR, the plain and ordinary meaning of “gesture” suffices. 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-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 example 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, disagreeing 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 below, Smith’s interpretations are inconsistent and flawed for numerous reasons. §VII, *infra*.

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

19. No express claim construction for this term is required. However, the following discussion provides insight as to the understanding of this term within the context of the 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.

20. *First*, as discussed in more detail below, “a magnitude of a duration of the gesture being detected”² should be interpreted as being broad enough to include 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. This interpretation is proper at least 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.

21. Smith appears to agree that a single duration magnitude of a single gesture cannot be both less than and greater than a first magnitude threshold. However, dispensing with its strict treatment of antecedent basis for the claim term “the gesture,” it offers two divergent constructions for a “magnitude.” For limitation [1.f], their construction includes a period of time “ending at the conclusion of the gesture,” but for limitations [1.g] and [1.i], they offer a different

² For brevity’s sake, this Declaration 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.

interpretation of the period of time as “ending at the time of the execution of the logic or at the conclusion of the gesture.” POR, 23-24.

22. As I describe further below, the claim architecture of the dependent claims refutes Smith’s divergent constructions, by contemplating situations in which more than one of the conditions limitations [1.f], [1.g], and [1.i] are met.⁴ See §§VII.A.4-6; *e.g.*, APPLE-1001, 98:10-32 (cl. 10), 108:4-13 (cl. 33), 109:14-30 (cl. 43), 119:6-14 (cl. 65).

23. 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], but these duration magnitudes should not be co-mingled with one another.

24. The term “a magnitude of a duration of the gesture” is best understood when also including the claim term “being detected.” That is, each independent claim refers to a gesture that is “underway of being detected,” as I testified. EX2013, 117:11-17. The full term is recited in each conditional limitation, so

⁴ I note that limitations equivalent to [1.f], [1.g], and [1.i] occur in each of the independent claims 32, 34, and 64, and that Smith applies the same arguments relating to the conditional limitations across these independent claims. POR, 26 n.9.

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* (i.e., at the time of the evaluation of 1.f, 1.g, and 1.i).

25. **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 I discuss in more detail below. §§VI.C-E. Namely, in discussing each of the three conditions, Smith 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).

26. **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” (§VII.A.4(a), *infra*), that cessation of the gesture is required for the condition of [1.f] to be met (§VII.A.4(b), *infra*), and that the “magnitude of the duration of the gesture” must

refer to “a period of time beginning at the start of the gesture” (§VII.A.4(c), *infra*).

I discuss each of these issues further below. §VII.A.4, *infra*.

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;

27. 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. 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.

28. Indeed, the Board cited to claim 9⁵ as “inform[ing] the scope of claim 1” and “identif[ying] 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

⁵ Despite the Board’s explicit reference to dependent claim 9, Dr. Madiseti’s consideration of dependent claims was limited to claim 8, failing to address claim 9. *See, generally*, EX2008.

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 no single magnitude of the duration of a single detected gesture could meet all three limitations.

29. 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.

30. Nonetheless, Smith seemingly indicates that no single gesture⁶ 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

⁶ Smith discusses an “instance of user input,” not the Board’s language. POR, 29-30.

actions”⁷ (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.

31. 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 ignoring the plain language.”⁸ POR, 2-3. However, I have been informed that patent claims should be construed, if possible, to preserve validity of the claims. 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;

32. I have been informed that the independent claims should be read to be broad enough to include the dependent claims. Therefore, because the independent

⁷ 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.

⁸ 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.

claims should 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.

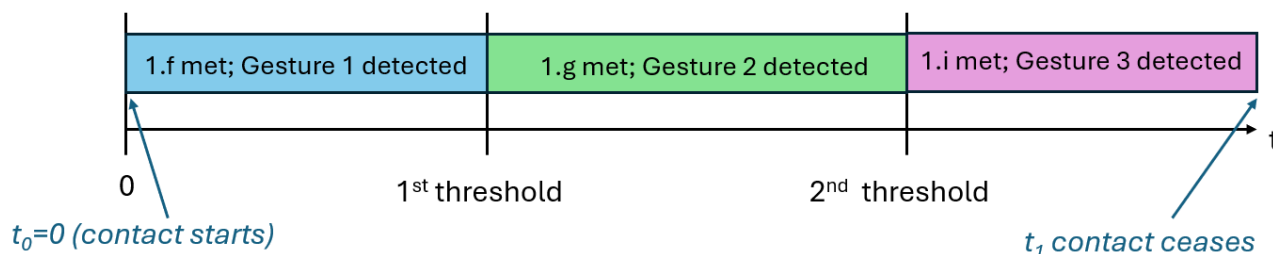
33. Indeed, claims 10 and 11 explicitly recite “a first gesture” that meets the conditions of [1.f], “a second gesture” that meets the conditions of [1.g], and a “third gesture” that meets the conditions of [1.i]. Claims 10 and 11 then explicitly provide an example scenario where a first gesture meets 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.

34. 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).

35. 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 (§VI.C), 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. 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.*



36. 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

37. I have been informed that, for apparatus claim 1, the prior art system must include the structure for performing the respective function for each of [1.f], [1.g], and [1.i] when each of the respective conditions is met. However, because no single magnitude of a single duration of a single gesture can meet all conditional limitations, as discussed in §VI.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.

F. Claim 32/“component of the gesture”

38. The responses to each of the issues the Board raised as to apparatus claim 1 equally applies to apparatus claim 32.⁹ 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]).

39. 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. Notably, Smith cites to the ’114 Patent 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]). 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). 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.*

G. Method Claims 34 and 64

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

40. 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, I have been informed by Counsel that, 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. 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 recited in the step is met.¹⁰ 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.

41. In view of the discussion in this Claim Construction section, the claims should be interpreted to permit different detected gestures, each having a different duration magnitude, to meet the conditional limitations.

¹⁰ 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.

VII. The Petition's Mapping of the Challenged Claims to the Prior Art Illustrate the Obviousness of the Challenged Claims

42. The Petition establishes that the alleged invention of '114 Patent is merely an obvious variant of the prior art. For the reasons discussed below, and in view of the proper claim construction, discussed above in §VI, the Petition's mappings are entirely proper and clearly show the obviousness of the Challenged Claims.

43. Ultimately, Smith's strained interpretation based on the use of "the" before "gesture" for each of the conditional limitations (limitations [1.f], [1.g], and [1.i]) breaks because Smith does not similarly require such an interpretation of the same "magnitude of a duration" of the gesture. In particular, Smith offers interpretations of limitations [1.f], [1.g], and [1.i] where it explicitly assigns different meanings to the "magnitude of the duration" to limitation [1.f] (i.e., requiring that the end of the duration is "at the conclusion of the gesture") than it does to limitation [1.g] and [1.i] (i.e., indicating that the end of the duration is "***at the time of the execution of the logic*** or at the conclusion of the gesture").

44. Significantly, any gesture that met the condition of limitation [1.f] would necessarily be a different gesture to a gesture that met the condition of limitation [1.g], for example, because gestures are "identified and parameterized" by the "inputs, flags, and signals" associated with them (APPLE-1001, 58:13-15),

and a gesture that met the [1.f] condition would at least have a different duration magnitude than a gesture that met the condition of [1.g].

45. The '114 Patent includes dependent claims that explicitly call out different gestures satisfying the different conditional limitations (*see*, e.g., claims 10-11) or explicitly require that the conditions associated with each of the conditional limitations be met (*see*, e.g., claims 33 and 64). The only way these scenarios recited in the dependent claims could be met would be to permit different gestures to satisfy the conditional limitations. The Challenged Claims must be interpreted to permit the conditional limitations to be met by different gestures in which each gesture has a different duration that satisfies different alternatives.

46. In view of this clear and consistent approach to claim interpretation, the Board should find the Challenged Claims¹¹ obvious and unpatentable.

A. The Petition's mapping of "the gesture being detected" limitation to three different gestures is entirely proper (claims 1, 32, 34, 64)

1. The Petition's approach to claim construction is consistent and aligned with the '114 Patent

¹¹ The Petition challenged claims 1, 27, 30, 32, 34, 59, 62, and 64. Pet., 2. I have been informed that, since filing the Petition, Smith disclaimed claims 27 and 59. As such, I discuss only issues related to claims 1, 30, 32, 34, 62, and 64 in this declaration.

47. As discussed above in §VI, the Petition’s mappings and approach to claim construction are aligned with the ’114 Patent and consistent with the claims’ recitation of antecedent basis. §VI.

2. Smith’s position that the claim requires each conditional limitation to refer to the same gesture is inconsistent with the proper claim interpretation and results in a claim that cannot be met

48. Smith alleges that Petitioner must “identify a single gesture to map against the [conditional] claim limitations,” limitations [1.f]-[1i]. POR, 31.

However, in a contradictory fashion, Smith further appears to indicate that no single gesture (or “instance of user input”) would meet all of limitations [1.f], [1.g], and [1.i]. POR, 29-30, 35. That is fatal to Smith’s argument.

49. Smith interprets the limitations in a way that they cannot be met. Smith’s Response suggests that it provided an example of “a single gesture having three different durations that result in three different actions” (POR, 21-22 n.6), though it is unclear where Smith has “done so in [its] Paper.” Relatedly, Smith’s and Dr. Madisetti’s position regarding the relevant Board inquiry on “whether conditional limitations [1.f, 1.g. and 1.i] could be met by a single detected gesture” is evasive, inconsistent, and unclear. 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 specific 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, 127:19-128:13 (“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.*”). Surely consideration of whether a single detected gesture could meet the conditional limitations would have required such analysis.

50. In contrast, as discussed in Petitioner’s Claim Construction Brief, and as I discuss in §VI, Petitioner’s interpretation of the claims is consistent with the ’114 Patent’s disclosure and its recitation of antecedent basis and also result in a claim that can be met in a real-world example, as illustrated in Petitioner’s Grounds. The question of whether the ’114 Patent includes “written description that describes a single gesture having three different durations that result in three different actions” (POR, 21-22 n.6) remains unanswered.

51. Nonetheless, Smith seemingly indicates that no single gesture¹² would meet all of [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”¹³ (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.

3. Smith’s arguments regarding antecedent basis for “the gesture” is inconsistent with its position for “the magnitude of the duration”

52. Smith’s treatment of “the magnitude of the duration” 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 limitations. Stressing the significance of the antecedent bases of “the duration” and “the gesture,” Smith

¹² Smith discusses an “instance of user input,” not the Board’s language. POR, 29-30.

¹³ 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.

conveniently ignores the same “impact” of the antecedent basis of “the magnitude of the duration.” See POR, 22-25, 28-29. That is, if the “duration” and “gesture” referenced in each of limitations [1.f], [1.g], and [1.i] are the same, then the “magnitude of the duration” (e.g., same length of time) of the same gesture in the same limitations must be as well.

53. However, Smith does not equally apply the antecedent basis “the” to the claim’s recitation of “magnitude of the duration.” See POR, 22-25. It does not demand that each of the conditional limitations refers to the same “magnitude of the duration,” requiring only that “the magnitude of the duration” refers to “the gesture.” See *id.*, 23-24. Instead, Smith inexplicably applies *different* constructions to “[a/the] magnitude of [a/the] duration of the gesture.” This cannot be correct. 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). In other words, for limitation [1.f], Smith’s interpretation requires that the gesture ceases. Yet for limitations [1.g] and [1.i] its interpretation does not require that the gesture ceases (instead, offering an option based on the execution of the logic; an option that is inexplicably absent for limitation [1.f]).

4. Smith’s interpretation of “magnitude of a duration of the gesture” is inconsistent with dependent claims

- (a) Smith’s requirement of the duration “ending at the conclusion of the gesture” is inconsistent with dependent claims

54. Several dependent claims contradict Smith’s narrow interpretation of “the magnitude of a duration” in [1.f] as requiring that the duration “ending at the conclusion of the gesture.” Smith requires that the gesture’s duration “end[s] at the conclusion of the gesture” for [1.f] (and equivalents in claims 32, 34, and 64) so “[a] single instance of user input” that met [1.f] would not also meet [1.g] or [1.i] because the user input would have ceased. POR, 23 n.8, 26 n.9, 29; EX2008, ¶64. However, this position directly contradicts claim 33 (dependent on claim 32)¹⁴, which broadly recites instances where [1.f] and [1.g] conditions both occur, and where [1.f], [1.g], and [1.i] conditions all occur. APPLE-1001, 108, 4-13 (e.g., “the first, second, and third components of the gesture are detected in a third use case scenario”); *see id.*, 102:6-8 (claim 26 reciting “said gesture includes at least one of a combination of a touch gesture component and a press gesture component”). Smith’s and Dr. Madisetti’s narrow position that “a single instance of user input” could not meet [1.f], [1.g], and [1.i] directly contradicts the broad requirements of

¹⁴ The same is true for claim 65. Smith does not address either claim.

claim 33.¹⁵ POR, 29; EX2008, ¶¶ 61, 64; *Littelfuse, Inc. v. Mersen USA EP Corp.*, 29 F.4th 1376, 1380 (Fed. Cir. Apr. 4, 2022) (“an independent claim is broader than a claim that depends from it, so if a dependent claim reads on a particular embodiment of the claimed invention, the corresponding independent claim must cover that embodiment as well.”); *Baxalta Inc. v. Genentech, Inc.*, 972 F.3d 1341, 1346 (Fed. Cir. 2020).

(b) Cessation of the gesture is not a requirement of [1.f]

55. Furthermore, the dependent claims of claim 1 also show that cessation of the gesture is not a requirement of [1.f]. For instance, claim 26 recites “when the magnitude of the duration of the gesture being detected on the touch interface on the object is less than the first magnitude threshold ***includes upon a cessation*** of the magnitude of the duration of the gesture being detected on the touch interface on the object when the magnitude of the duration of the gesture being detected on

¹⁵ While only claims 32 and 64 have dependent claims (33 and 65) that explicitly permit these scenarios, Smith’s reasoning for why “[a] POSITA would understand that the ‘duration’ in this first logical Limitation [for claims 1, 32, 34, and 64] refers to a period from the start of the gesture to after the gesture has concluded,” Smith’s reasoning for this flawed position is directly reliant on the language of claim 32, thus being equally flawed for all claims to which Smith applies this flawed interpretation.

the touch interface on the object is less than the first magnitude threshold,” thus showing that claim 1 is broad enough to include a gesture that ceases before the first time threshold. APPLE-1001, 103:13-21. Yet claim 26 includes nine further limitations relating to the first magnitude threshold of [1.f], ***none of which*** mention any cessation of the gesture. *Id.*, 103:22-104:7. For example, claim 26 recites “when the magnitude of the duration of the gesture being detected on the touch interface on the object is less than the first magnitude threshold includes at least one point in time after the magnitude of the duration of the gesture being detected on the touch interface on the object is less than the first magnitude threshold.” *Id.*, 103:28-33. This limitation shows that [1.f] is at least broad enough to not require cessation of the gesture. More, the clause “includes at least one point in time ***after*** ... the gesture being detected ... is less than the first magnitude threshold” strongly suggests that the gesture satisfying [1.f] can persist beyond the first magnitude threshold.¹⁶

56. As another example of how the dependent claims of claim 1 show that cessation of the gesture is not a requirement of [1.f], claim 2, which recites performing the operation “after a cessation of the gesture is detected,” would be rendered moot by Smith’s requirement that a duration magnitude of the gesture be

¹⁶ Equivalent analysis applies to claim 34 (based on claim 58 at 114:38-43).

dependent on cessation of the gesture. APPLE-1001, 97:39-43. That is, if the magnitude of the duration of the gesture for [1.f] necessarily required a specific “conclusion of the gesture” as Smith posits, then performance of any of the functions of [1.f], [1.g], or [1.i] could not occur until cessation of the gesture, so claim 2’s requirement that performance of the operation occurs “after a cessation of the gesture is detected” is superfluous.

57. Additionally, Smith’s reliance on [32.f]’s recitation of “cessation of the gesture being detected” in support of the position that “determining that a duration is *less* than a threshold requires the duration to be concluded and fixed” is misplaced due to its failure to separate *detection* of a gesture and *performance of the resulting function*. See POR, 23-24 n.8. That is, [32.f] does not require *detection* of a gesture to occur “upon a cessation of the gesture being detected” but rather, it requires *performance* of the function to occur after cessation. In this way, claim 32 permits an ongoing detection of a gesture, which thereby *later* causes performance of the function after cessation of the gesture. The fact that claim 32 is sufficiently broad to include detecting the first gesture component without detecting cessation of the gesture is made clear from dependent claim 33, which includes “the first, second, and third components of the gesture are detected.” Any detection of the first, second *and* third gesture components would be impossible if detecting the first component required detecting cessation of the gesture.

Therefore, “perform a function upon cessation of the gesture being detected” in [32.f] can occur after detection of the first, second, and third gesture components. Smith’s construction that requires cessation of the gesture before the first time threshold is therefore clearly flawed.

58. That Smith’s constructions are inconsistent with the dependent claims is unsurprising given that Dr. Madisetti’s did not address those claims or rely on them to gain an understanding of the independent claims, despite his acknowledgement that scope of independent claim includes the scope of its dependent claims. APPLE-1023, 60:2-61:10, 62:8-11; EX2008, ¶¶58-61 (including no discussion of dependent claims with respect to the “magnitude” term).

- (c) The “magnitude of a duration of the gesture being detected” need not refer to “a period of time beginning at the start of the gesture”

59. Finally, Smith’s and Dr. Madisetti’s contention that the duration magnitude must refer to the period of time from the start of the gesture and not refer to a component of a gesture is clearly wrong in light of the dependent claims. *See* POR, 23-24; EX2008, ¶59. While Smith and Dr. Madisetti both provide divergent constructions for the duration magnitude of limitations [1.f], [1.g], and [1.i], each of these constructions defines the duration magnitude with reference to the beginning of the gesture – “the length of a period of time *beginning at the start of the gesture.*” POR, 23-24; EX2008, ¶59.

60. Smith and Dr. Madisetti also state that “the plain language of the claim “duration *of the gesture*” cannot be replaced with “duration *of a component of the gesture*.” POR, 49; EX2008, ¶99. But Dr. Madisetti’s and Smith’s constructions and statements render certain dependent claims impossible, especially as it relates to a “component of the gesture.” For example, claim 23,¹⁷ which depends from claim 1, includes the limitation “*when the magnitude of the duration of the gesture* being detected on the touchscreen on the object *is continually reduced* before the magnitude of the duration of the gesture being detected on the touch screen on the object is greater than the second magnitude threshold.” It is clear that the duration magnitude can *only increase* if it is limited by an interpretation that requires that the duration magnitude begins at the start of the gesture, as Dr. Madisetti’s and Smith’s construction requires. A correct construction, however, which permits the duration magnitude to encompass the duration of a *component* of a gesture—a component of the gesture that is not limited from the start of the gesture—is consistent with the requirements of claim 23. For example, the time between an upcoming threshold and the time of a current gesture component will reduce as the gesture being determined approaches the

¹⁷ The same analysis applies to claim 55, which depends from claim 34.

threshold, and having passed the threshold, the duration magnitude between the same threshold and the current time of the gesture being determined will increase.

5. Smith's interpretation of a "gesture" is wrong

61. Preliminarily, Smith's overly narrow argument that the gesture must be a "single continuous touch" is inconsistent with its district court infringement contentions where it mapped [1.f] to a *tap* but then mapped [1.g] and [1.i] to a *long press*—separate from the tap. APPLE-1024, 6-9, 27-30; APPLE-1025, 6-9, 20-23; APPLE-1026, 5-8, 24-27. That is, Smith's own contentions mapped claims 1 and 32 to at least two discontinuous touches on the accused devices.

62. Moreover, Smith's apparent interpretation of "the gesture" is nonsensical and redundant. Applying what Smith's expert Dr. Madisetti claimed to be the "plain and ordinary meaning" (APPLE-1023, 64:20-65:21, 125:14-126:4), Smith's interpretation of "the gesture" as "a user touch on the touch screen on the [] object" (POR, 1) results in [1.e] reciting "detecting 'a user touch on the touch screen on the object' on the touch screen on the object." Thus, at a minimum, Smith's construction improperly imports features not required by the plain meaning of the claim term, yielding a redundant result. Smith's alleged "plain and ordinary meaning" erroneously limits "the gesture" to "a *single continuous touch (or contact)*" where neither the claim language nor the specification supports it. POR, 37 (emphasis in original); EX2008, ¶76. Indeed, the '114 Patent contradicts

Smith’s position, offering “a two finger, *double press*” as an example gesture.

APPLE-1001, 57:31-34.

63. Smith’s insistence that claim 1’s reference to “the gesture” must necessarily refer to the *same* gesture—which is inconsistent with its approach to a “magnitude of a duration”—is further inconsistent with dependent claim 10, which permits multiple gestures to meet the conditions: (1) when condition [1.f] is met by “a *first gesture*,” that “*only* the operation to be performed,” (2) when condition [1.g] is met by “a *second gesture*,” “the scaling *without* the operation nor the another operation being performed,” and (3) when condition [1.i] is met by “a *third gesture*,” “the scaling and the another operation being performed *without* the operation being performed.” APPLE-1001, 98:16-62; *see id.*, 109:14-30 (cl. 43).

64. That the ’114 Patent contradicts Smith’s position, however, is unsurprising, given that Dr. Madisetti neither cited nor considered those portions of the ’114 Patent in forming his understanding of “the plain and ordinary meaning of a gesture.” APPLE-1023, 149:21-150:19.

6. Under the proper interpretation of the claims, the Petition’s mapping of [1.g] and [1.i] satisfies the requirements of the claim

65. Smith’s arguments concerning the Petition’s mapping of limitations [1.g] and [1.i] are premised on the flawed understanding that claim 1 requires that

a “single continuous gesture”¹⁸ must meet the limitations. *See* POR, 43. As explained above in §§VI and VII.A.5, this understanding of a “gesture” is not supported by the ’114 Patent, is inconsistent with Smith’s infringement contentions, renders dependent claims impossible, and improperly imports features not required by the plain meaning of the claim. Paper §§VI, VII.A.5.

66. When properly construed, claim 1 does not require a “single continuous gesture” that meets “the respective preconditions in each of Limitations [1.g] and [1i] (POR, 41) as Smith alleges, but rather, permits the conditional limitations to be met by different detected gestures, each having a duration that meets a different condition, as presented in the Petition. §VI.D, *supra*. Based on this correct interpretation, Smith’s arguments concerning whether Kim’s device is in a zoom mode are irrelevant. *See* POR, 43 (alleging that “zoom mode” is a necessary predicate).

67. Finally, the prior combination renders obvious a device with structure capable of performing all the recited functions in the form of a mobile device that is configured to detect various gestures on its touch screen, such that, there exists

¹⁸ Smith also refers to the gesture as requiring a “single continuous touch (or contact).” POR, 37.

at least one detected gesture that meets each condition and the device responds by performing the respective operation/scaling. Pet., 62-68.

B. The Petition’s mapping of a(n) “operation”/“function” and “another operation”/“another function” is proper (claims 1, 32, 34, 64)

1. Kim and/or Kim-Bowens render obvious performance of an “operation”/“function” “when”/“based on”/“in response to” a magnitude of a duration of the gesture being detected is less than a first magnitude threshold

68. As discussed in Petitioner’s Claim Construction Brief, “a magnitude of a duration of the gesture being detected” should be interpreted as being broad enough to include the magnitude¹⁹ of the duration of *any* gesture, which includes the duration magnitude of any part of the inputs, flags, and signals that constitute the gesture being detected. §VI.B, *supra*. Based on this proper interpretation, Smith’s criticism relating to the duration of one tap of the double tap gesture has no basis.

69. Moreover, the Petitioner further asserted that “a POSITA would have understood that a double tap—a well-known user input by the Critical Date—comprises two short duration taps in quick succession, which individually and collectively have a duration shorter than a threshold duration associated with a

¹⁹ 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.

more persistent gesture (e.g., a hold).” Pet., 20 (citations omitted); APPLE-1003, ¶54 (citing APPLE-1009, 3; APPLE-1012, [0072]). Thus, to the extent that the “magnitude of the duration of the gesture being detected” is not interpreted to include the duration of each individual tap, the Petition establishes that the duration of the double tap gesture “collectively [has] a duration shorter than a threshold duration associated with a more persistent gesture (e.g., a hold).” *Id.*

2. Kim and/or Kim-Bowens render obvious performance of another “operation”/“function” “when”/“based on”/“in response to” the magnitude of the duration of the gesture being detected is greater than the second magnitude threshold

(a) Ground 1

70. Smith’s argument that Kim does not “reference or suggest utilizing a ‘minimum threshold of an intentional user input’” (POR, 52) ignores the Petition’s citation to corroborating references that support what a POSITA would have readily understood—that there would be no performance of the “other action” without input that caused the interrupt to be determined as intentional. Pet., 24-26; APPLE-1003, ¶¶62-64 (citing APPLE-1016, [0033]; APPLE-1014, [0049]).

71. Smith’s further criticism that “the reference ‘perform some action’ provides no mapping of ‘another [operation]/[function]’ because no specific action has been identified” (POR, 53) is likewise flawed. Indeed, the independent claims do not identify any “specific action”—only “another operation” or “another

function.” Limitation [1.i]’s lack of specificity is in contrast to, for example, limitation [1.g]’s recitation of “a scaling,” which does require identification of a specific action (i.e., scaling). *Compare* APPLE-1001, 97:35-38, *with id.*, 97:27-34. Smith also argues that “Kim does not associate [the action of displaying a requested menu] with *any* user gesture” (POR, 53 (emphasis in original)), seemingly criticizing Kim’s lack of a particular *label* for the intentional user input. A POSITA, however, would have readily understood such an intentional user input to be a detected gesture.

72. Additionally, Smith’s argument that “Kim is clear that steps 203 and 207 do not occur simultaneously nor when/based on/in response to the same event” appears to improperly import a “simultaneous” requirement into the claims where none is recited. *See* POR, 53-54. Not only do the claims not recite a “simultaneous” requirement, the dependent claims in fact *reject* any such requirement. For instance, claim 26 (dependent on claim 1) recites “each instance of said when includes at least one point in time *after* the magnitude of the duration changes to the corresponding magnitude threshold.” APPLE-1001, 102:59-61; *see also, e.g., id.*, 103:7-9, 114:1-3.

(b) Ground 2

73. For Ground 2, Smith argues that Petitioner does not demonstrate that the system takes an action based on the magnitude of the duration of the gesture

being greater than the second magnitude threshold, but rather that the system acts based on a duration of a period that begins after the tap gesture ends. POR, 55-56. Smith's argument, however, confuses the recitation of the claims, which considers "magnitude of the duration of the gesture being detected." That the Kim-Bowens-Device (KBD) device uses a timeout "to decide if the user has made a tap gesture" (Pet., 54 (quoting APPLE-1005, [0081])) does not change whether "the magnitude of the duration of the gesture being detected" is "greater than the second magnitude threshold." The Petition clearly establishes that the tap input detected by the KBD device has a duration magnitude greater than a second magnitude threshold, "the 'timeout/tap' transition from SecondTapPending to Idle," and the device performs another operation. Pet., 67-68; APPLE-1003, ¶195.

74. Finally, Smith's hindsight bias arguments are based on a flawed premise. As discussed in §VII.B.3, the independent claims do not offer any limitation as to the relationship between the "first magnitude threshold" and the "second magnitude threshold." §VII.B.3. Thus, the independent claims permit that the "first magnitude threshold" to be greater than or less than the "second magnitude threshold." *Id.* Based on this understanding, Smith's accusations of hindsight for "switch[ing] these thresholds" is unfounded.

3. Smith's assertion that the "second magnitude threshold" must be greater than the "first magnitude threshold" is wrong

75. Smith’s argument that the “second magnitude threshold” is greater than the “first magnitude threshold” improperly imports unrecited limitations into the claims. Independent claims 1, 32, 34, and 64 are silent as to any relationship between the first and second magnitude thresholds. For instance, claim 1’s only mention of a “second magnitude threshold” is in limitation [1.i]’s condition of “when the magnitude of the duration of the gesture ... is greater than a second magnitude threshold.” Given this silence, the independent claims permit that the “first magnitude threshold” to be greater than or less than (or even equal to) the “second magnitude threshold,”²⁰ a position fully consistent with the dependent claims. *See* POR, 58-59.

²⁰ While some dependent claims provide more detail as to the relationship between the “first magnitude threshold” and the “second magnitude threshold,” these details do not limit the independent claims. Smith’s reliance on dependent claim 8 as allegedly supporting the position that the “second magnitude threshold” must be greater than the “first magnitude threshold” ignores the possibility that claim 1, as written, is broad enough to permit any relationship between the thresholds. A device could read on claim 1 and 8 (where the “second magnitude threshold” is greater), and another device could read only on claim 1 (where the “first magnitude threshold” is greater). The interpretation of claim 1 would be permitted in either case.

76. That the dependent claims offer further limitations regarding the relationship between the “first magnitude threshold” and the “second magnitude threshold” supports Petitioner’s broad interpretation of the claim, not Smith’s improper importation of unstated limitations. *See* POR, 58. For example, dependent claim 8, which depends from claim 1, references “when the magnitude of the duration of the gesture is detected ... to be greater than the first magnitude threshold, but is detected to remain less than the second magnitude threshold.” APPLE-1001, 98, 1:7. That is, the requirements of dependent claim 8 indicate that the first magnitude threshold is less than the second magnitude threshold—a requirement newly added to claim 8. *See id.* Indeed, I have been informed by Counsel that the presence of a dependent claim that adds a particular limitation raises a presumption that the limitation in question is not found in the independent claim, and that where the limitation that is sought to be ‘read into’ an independent claim already appears in a dependent claim, as it does here, “the doctrine of claim differentiation is at its strongest.” Smith itself highlights this fact. POR, 58-59 (referencing dependent claim 8 as it relates to the meaning of claim 1); *see also* APPLE-1001, 108:50-56, 109:6-13.

C. The Petition identifies a strong motivation for adding haptic feedback to Kim’s double tap gesture (claims 30, 62)

77. The Kim-Burrough Device (and in combination with Bowens and Lang) includes a device, per Kim, as modified by Burrough’s teaching relating to a

“haptic device (e.g., piezoelectric actuator assembly) that provides a ‘vibro-tactile response.’” Pet., 50-51; APPLE-1003, ¶151. Or more specifically, the combination incorporates Burrough’s teaching of a haptic device that “generate[s] a zoom out haptic signal” or “generate[s] a zoom in haptic signal.” *Id.*

78. The combination further incorporates Burrough’s teaching of generating a zoom out or zoom in haptic signal after generating a zoom out or zoom in signal, per FIG. 11 of Burrough. Pet., 50; APPLE-1003, ¶151 (“Burrough teaches ‘generate a zoom out haptic signal’ or ‘generate a zoom in haptic signal’ and thus inspiring haptic vibration after steps 1112/1114, which result in a zoom in or zoom out operation, thus rendering obvious haptic vibration after zooming or scaling”); APPLE-1007, FIG. 11. The Petition’s focus on this portion of Burrough’s teaching is reflected in excerpted FIG. 11 in the Petition. Pet., 45.

79. Smith’s arguments concerning combining Kim and Burrough mischaracterize the Petition’s combination. *See* POR, 59-62. Smith first improperly characterizes Burrough’s zoom operation as necessarily “ongoing” though it need not be so. *See* APPLE-1007, FIG. 11. Instead, Burrough’s teaching regarding generating haptic signals does not depend on whether a zoom gesture is ongoing. Rather, the zoom in/zoom out portions of FIG. 11 relied upon in the Petition (1112/1116 and 1114/1118) simply indicate that, as long as a zoom in/out signal is generated (1112/1114), that signal is followed by a zoom in/out haptic

signal 1116/1118. *Id.* Thus, the Kim-Burrough Device would generate a zoom in or zoom out signal (to return the display to a given basic magnification or default zoom level), per Kim, and following generating that zoom in/out signal, the device would generate a zoom in/out haptic signal, per Burrough.

80. Next, Smith claims there is no suggestion to combine Burrough's multi-touch detection algorithm with Kim's more simple touch surface. However, Smith's argument is a straw man—the Petition alleges no such combination. Rather, the Petition's motivation to combine was more general—including of “a haptic device and use of haptic feedback, per Burrough, ... to provide haptic feedback to improve the user experience with the touch screen,” a motivation unrelated to the number of touches associated with the input. Pet., 46.

81. Thus, Smith's criticisms of the combination are solely based on mischaracterizations of the combination itself and its understanding of Burrough. Thus, Smith's arguments necessarily fail.

VIII. CONCLUSION

I declare that all statements made in this Declaration of my own knowledge are true and that all statements made on information and belief are believed to be true. I further declare that these statements are made with the knowledge that willful false

statements and the like so made are punishable by fine or imprisonment, or both
(under Section 1001 of Title 18 of the United States Code).

Executed this 5th day of August, 2025.

A handwritten signature in black ink, appearing to read 'Andrew Cockburn', written in a cursive style.

Andrew Cockburn