

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.

Petitioner

v.

SMITH INTERFACE TECHNOLOGIES, LLC

Patent Owner

IPR2024-01091
Patent 10,936,114

PATENT OWNER RESPONSE

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	OVERVIEW OF THE '114 PATENT	4
A.	Multi-Part Pattern-Based Gestures.....	4
B.	Claims 1, 32, 34 and 64.....	10
C.	Claims 30 and 62.....	11
III.	LEVEL OF ORDINARY SKILL	11
IV.	OVERVIEW OF THE CITED ART	12
A.	Kim [EX1004].....	12
1.	<i>User gesture detected via “interrupt” in “selected mode” (i.e., non-zoom mode).....</i>	<i>13</i>
2.	<i>User gestures in “zoom mode”.....</i>	<i>14</i>
B.	Bowens [EX1005]	17
C.	Burrough [EX1007].....	19
V.	CLAIM CONSTRUCTION	21
A.	“Conditional” Limitations: Claims 1, 32, 34 and 64.....	21
1.	<i>[A] / [the] gesture and magnitude of [a] / [the] duration of the gesture.....</i>	<i>22</i>
2.	<i>The prior art must include logic that can be consistently mapped to meet each conditional limitation when the precondition is met.....</i>	<i>26</i>
3.	<i>Answers to the Board’s specific questions (Paper 10)</i>	<i>28</i>
VI.	CLAIMS 1, 32, 34 AND 64 - PETITIONER’S IMPROPER MAPPING OF “[A]/[THE] GESTURE BEING DETECTED”	31
A.	Petitioner’s Mapping of “The Gesture Being Detected” Limitations To Three Different Gestures Is Improper	31

B.	Petitioner’s Mapping Of The “Duration Of The Gesture” Limitation Is Improper	35
1.	<i>The plain meaning of “duration of the gesture”</i>	35
2.	<i>Petitioner’s mapping of “the duration of the gesture”</i>	40
3.	<i>Petitioner’s mapping of Limitations [1.g] and [1.i] does not result in performance of a “scaling” and performance of “another operation”</i>	42
C.	These “Gesture” and “Duration” Defects Are Present in All Grounds For Claims 1, 32, 34 and 64	45
VII.	CLAIMS 1, 32, 34 AND 64: “AN OPERATION/FUNCTION” AND “ANOTHER OPERATION/FUNCTION”	47
A.	The Petition Fails to Demonstrate that Performance of the Mapped “Operation/Function” Occurs “When”/“Based On”/“In Response To” “a Duration of the Gesture” “is Less Than A First Magnitude Threshold”	47
B.	The Petition Fails To Demonstrate That Performance of the Mapped “Another Operation/Function” Occurs “When”/“Based On”/“In Response To” “the Duration of the Gesture Being Detected” “is Greater Than a Second Magnitude Threshold”	50
1.	<i>Petitioner’s Ground 1 mapping fails</i>	52
2.	<i>Petitioner’s Ground 2 mapping fails</i>	54
C.	The “Second Magnitude Threshold” is Greater Than the “First Magnitude Threshold”	56
VIII.	CLAIMS 30 AND 62 (GROUNDS 1C, 1D, 2C AND 2D): PETITIONER FAILS TO IDENTIFY AN APPROPRIATE BASIS TO ADD HAPTIC FEEDBACK TO KIM’S DOUBLE TAP GESTURE	59
IX.	CONCLUSION.....	62

PATENT OWNER'S EXHIBIT LIST

Exhibit	Shorthand	Description
2001	Surati Dec.	Declaration of Rajeev Surati, Ph.D.
2002	Surati CV	CV of Rajeev Surati, Ph.D.
2003	JCC	Excerpts of Joint Claim Construction Chart
2004	Webster-Duration	“Duration.” Merriam-Webster’s Collegiate Dictionary, Eleventh Edition (2004)
2005	Oxford-Duration	“Duration.” New Oxford American Dictionary, Third Edition (2010)
2006	Stay Order	October 2, 2024 Order Granting in Part Apple’s Motion to Stay in <i>Smith Interface Technologies, LLC v. Apple Inc.</i> , 3-23-cv-01187, S.D. Cal (Dkt. No. 127).
2007	Licygiewicz Dec.	Declaration for <i>Pro Hac Vice</i> Admission of Arthur P. Licygiewicz
2008	Madisetti Dec.	Declaration of Dr. Vijay Madisetti
2009	Madisetti CV	CV of Dr. Vijay Madisetti
2010	’918 Provisional	Provisional Patent Application 61/581,918
2011	Webster-Remain	“Remain.” Merriam-Webster’s Collegiate Dictionary, Eleventh Edition (2004)
2012	Oxford-Remain	“Remain.” New Oxford American Dictionary Third Edition (2010)
2013	Deposition	Deposition of Andrew Cockburn, Ph.D.

I. INTRODUCTION

As the Board observed, claim construction “may be dispositive” for Petitioner’s challenges to Claims 1, 32, 34, and 64. Paper 10, 2.¹ That is because each of those claims recites logic to detect a “**gesture** on the touch screen on the [first] object” and then three logic operations that each require comparing a magnitude of a “duration of **the gesture**” to recited thresholds and performing actions when the recited precondition is met.² The plain language of the claims, thus, defines how to detect “**the gesture**”—a user touch on the touch screen on the [first] object—which, in turn, defines the “duration of **the gesture**” as beginning at that time. Yet, Petitioner fails to consistently map those three Limitations, pointing across the limitations to *different* gestures and “durations” that do not begin at the start of **the gesture** and, thus, cannot be the “duration of **the gesture.**” Without a legal basis that would permit Petitioner to ignore the plain language, Petitioner’s mappings fail. No such basis exists.

¹ Patent Owner appreciates the Board’s Order (Paper 10) permitting separate claim construction briefing. As Patent Owner has sufficient words to address the issues identified by the Board in this Paper, Patent Owner responds to each of the Board’s inquiries in this Paper. *See* Section V.A.

² All emphasis added unless otherwise indicated.

First, the Board asked “whether or not all of conditional limitations [1.f, 1.g, and 1.i] need to be met in order to satisfy the claim.” Paper 10, 6. All must be met. Limitations [1.f, 1.g., 1.i] collectively recite logic for detecting aspects of and acting upon what the specification describes as multi-part “pattern-based gestures.” EX1001, 75:24-26; EX2010, [00581]. By the very nature of programming code, this logic is intended to operate on numerous instances of user input. EX2008, ¶61. “[T]he plain and unambiguous language” of the claims requires that “to come within the claim” *each* Limitation, not just one, must be performed “*where their preconditions apply*.” See *Sierra Wireless, ULC v. Sisvel S.P.A.*, 130 F.4th 1019, 2025 U.S. App. LEXIS 5458, *5 (Fed. Cir. Mar. 10, 2025); EX2008, ¶62. Prior doctrine providing an exception to this rule does not apply. Method Claims 34 and 64 are not of the type addressed by *Ex Parte Schulhauser*, No. APPEAL 2013-007847, 2016 WL 6277792 (P.T.A.B. Apr. 28, 2016) (precedential). Even if they were, that does not impact “system claim[s]” Claims 1 and 32, which “still require[] structure for performing the function should the condition occur.” *Id.* at *7.

Second, the Board asked “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.” Paper 10, 6. The plain language does not permit pointing to “different gestures” or “durations” that start at a time other than the start of “the gesture” because that is not a “duration of the gesture.” EX2008, ¶66. Nor

does 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) justify ignoring the plain language. Rather, because the claims refer to the logic used to evaluate numerous instances of user input, it is not necessary that the prior art include logic where the preconditions for each Limitation would be met in response to a single user input, but the logic, to be applied to multiple user instances, must do what the claim says and analyze the “duration of the gesture,” not another time period. EX2008, ¶¶60-61. With no basis to ignore the plain language, Petitioner’s mappings of Claims 1, 32, 34, and 64 fail.

Next, Claims 30 and 62 do not simply recite “vibrat[ing] the apparatus”—they recite doing so at a specific point in time. Limitations [30.i] (“after at least a portion of the scale operation”), [62.j] (“subsequent to the performance of the scale operation”). Petitioner does not suggestion that Kim discloses any haptic feedback at all. Instead, Petitioner points to a second reference, Burrough. But following Burrough’s disclosure of *when* and *why* to use haptic feedback would result in a modification that does not meet the claims. Only hindsight using the claims as a roadmap would result in modifying Kim in a way that would match the claims.

Claims 1, 30, 32, 34, 62, and 64 therefore should be upheld.³

³ Petitioner also challenges Claims 27 and 59. In the DI, the Board “disagree[d] with Patent Owner” that the specification met the standard for lexicography of “touch

II. OVERVIEW OF THE '114 PATENT

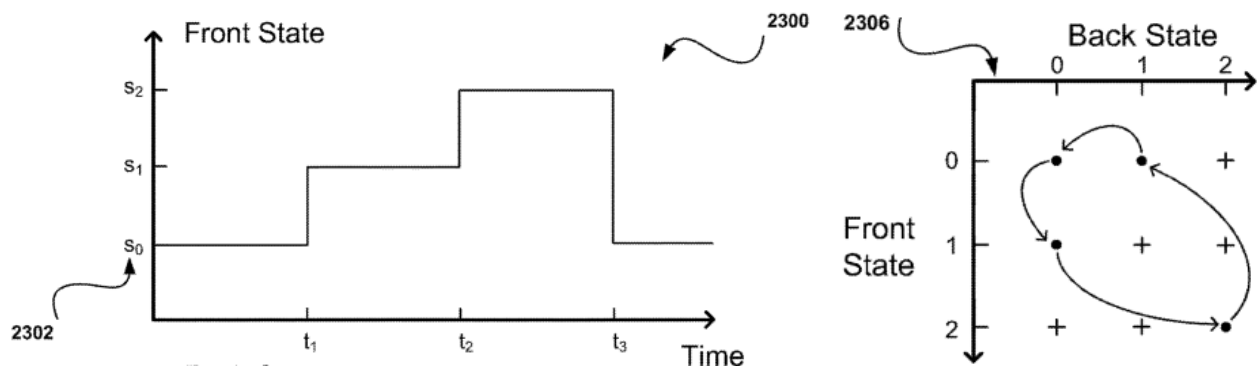
A. Multi-Part Pattern-Based Gestures

As of the priority date for the '114 Patent, touch screen mobile devices were becoming increasingly capable of performing complex tasks that required more control than was possible with the existing basic input methods. EX2008, ¶24. Further, limited screen real estate meant that input and output techniques used for more complex tasks on desktop computers could not be used on touch screen mobile devices. *Id.*, ¶26. The '114 Patent addresses this shortcoming by enabling users to

state.” DI, 16-18. Without agreeing with the Board’s legal findings, and accepting the Board’s explicit rejection of Patent Owner’s argument as negating any disavowal, Patent Owner intends to file a statutory disclaimer of Claims 27 and 59. *See Vertical Tank, Inc. v. Bakercorp*, No. 1:18-cv-145, 2019 WL 2207668, *11-12 (E.D. Cal. May 22, 2019) (“Courts have refused to find a disavowal was made where the purported disavowal was rejected by the patent office.”) (citing *Abbott Labs. & Surmodics, Inc. v. Church & Dwight Co.*, 2008 WL 5387848, at *8 (N.D. Ill. Dec. 22, 2008); *Southern Research Inst. v. Abon Pharm. LLC*, 2013 WL 4509925, at *7 (D.N.J. Aug. 22, 2013); *Bausch & Lomb Inc. v. Vitamin Health, Inc.*, 2015 WL 13574354, at *7 (W.D.N.Y. Jan. 15, 2015); *Raleigh v. Tandy Corp.*, 1997 WL 26299, at *4 (N.D. Cal. Jan. 10, 1997)).

operate new powerful mobile devices and their feature-rich applications through implementation of multi-part gestures where users can take successive actions and can receive feedback at each stage. *Id.*

The '114 Patent describes these multi-part, multi-action gestures as “pattern-based gestures” that “may be recognized in the form of an ordered sequence” by, for example, “using a decision tree.” EX1001, 75:24-26; EX2010, [00581]. The “pattern-based gesture” may be defined as “a path through a phase space of one or more dimensions.” EX1001, 73:27-29; EX2010, [00564]. Exemplary pattern-based gesture, “pattern-based gesture 2302,” is “described by a phase space path which represents the time evolution of the touch state associated with a contact point” on the touch screen. EX1001, 73:41-44; EX2010, [00566].

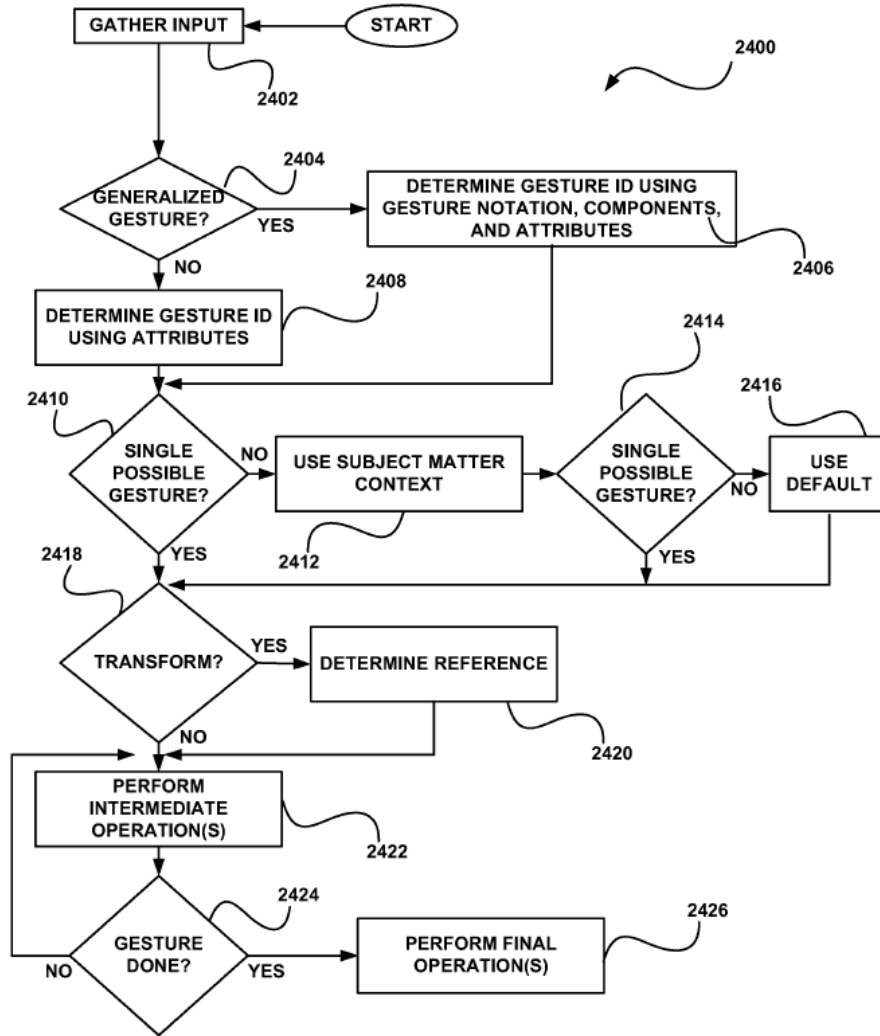


EX1001, FIG. 23; EX2010, FIG. 28.

Each state, and transition between states, may be defined by factors including “contact point changes” and “the time spent on each leg of the path through phase

space.” EX1001, 73:47-74:7; EX2010, [00567]-[00570]. Consistent with the “decision tree” aspect of these pattern-based gestures, multiple patterns may share the same starting (and intermediate) points. EX1001, 75:24-26; EX2010, [00581]; EX2008, ¶27.

To detect pattern-based gestures, the '918 Provisional, which the '114 Patent incorporates by reference (EX1001, 1:22-24), discloses “gesture differentiation,” which is distinguished from simply detecting a “basic user interaction (*i.e.*, button press, basic application interaction, etc.),” techniques. EX2010, [00498], [00502]. The process begins by “determin[ing] whether there is any meaningful user input,” including applying a “threshold above which user interaction may rise before it may be deemed meaningful.” *Id.*, [00501]-[00502]. Detecting the gesture may involve “gesture subject matter context,” including “objects displayed at or near the location of the gesture.” *Id.*, [00512]. For example, the starting point may be the beginning of a touch contact at a particular location of a specific object on the touch screen. *Id.*; EX2008, ¶28.



EX2010, FIG. 24.

As the flow chart shows, multiple complete patterns may share the same starting (and intermediate) points. EX2008, ¶29. Consistent with the multi-part nature, the device may perform “intermediate operations associated with the identified gesture.” EX2010, [00521]. “[E]ach execution of intermediate gesture operations may trigger a display update (*i.e.* rendering, etc.).” *Id.*, [00524]. One purpose of these intermediate gestures is so “a user may receive feedback on their gesture before terminating the interaction.” *Id.*, [00522].

A “gesture may be ended by ending one or more user inputs” or “by performing a different gesture” at which time “the final operations associated with the identified gesture are performed.” *Id.*, [00526]-[00528]; EX2008, ¶30. “For example, in one embodiment, a gesture which triggers the display of a pop-up menu and allows a user to cycle through menu items may have as a final operation the selection of the current menu item and removal of the pop-up menu.” EX2010, [00529].

Consistent with the '918 Provisional's disclosure of detecting multi-part pattern-based gestures through gesture differentiation, the '114 Patent describes a process by which a “gesture is identified from gesture input.” EX1001, 58:11; EX2010, [00385]; EX2008, ¶31. The process begins by “determin[ing] if a touch event has occurred.” EX1001, 58:6; EX2010, [00383]. “If it is determined that a touch event has occurred, then the initial touch event attributes are determined.” EX1001, 58:8-9; EX2010, [00384]. Touch event attributes may include “one or more measurable aspects of the user interaction which resulted in a touch event,” EX1001, 55:1-3; EX2010, [00359], including *e.g.*, “gesture input” from which “a gesture may be identified.” EX1001, 58:26-27; EX2010, [00388]; EX2008, ¶31. Such gesture inputs may include “touch event attributes” evaluated “both initial[ly] and over time.” EX1001, 58:20; EX2010, [00386]; EX2008, ¶31. Another example may include the “time to complete [a] gesture.” EX2010, [00403]; EX2008, ¶31.

The '114 Patent distinguishes between gestures that may be identified solely from initial touch event attributes and “gestures [that] may only be identified after the gesture has been performed for some period of time.” EX1001, 58:28-30; EX2010, [00388]; EX2008, ¶31.

The '114 Patent explains that, “[o]nce the gesture has been identified, the corresponding operation is performed.” EX1001, 58:50-51; EX2010, [00390]; EX2008, ¶32. Identification of a gesture may include “determin[ing] whether the gesture is meant to trigger some sort of transformation,” such as a “scale” operation. EX2010, [00518]; EX2008, ¶32. Such transformations may be a result of a gesture “associated with operations that are carried out as functions of the gesture input.” EX1001, 60:58-60; EX2010, [00402]; EX2008, ¶32. The identification may also perform “intermediate operations associated with the identified gesture.” EX2010, [00521]; EX2008, ¶32.

A corresponding operation may include “a gesture ... associated with the modification of one or more device attributes.” EX1001, 59:26-27; EX2010, [00393]; EX2008, ¶33. For example, “a device may have a status bar along one side of a display which indicates the status of device hardware, including ... Wi-Fi signal strength, cellular network type and signal strength, Bluetooth status (i.e., on, off, etc.), system volume, battery remaining, etc.” EX1001, 59:28-33; EX2010, [00393]; EX2008, ¶33.

B. Claims 1, 32, 34 and 64

Claims 1 and 32 are each directed to an “apparatus.” EX1001, 97:13, 107:40. Claims 34 and 64 are each directed to a “method.” EX1001, 107:40, 118:42. Claims 1, 32, 34 and 64 are similar to one another. EX2008, ¶34.

Claims 1, 32, 34 and 64 recite logic to process user gestures on a touch screen to recognize a set of gesture components that begin from a common starting point and perform operations upon recognizing various aspects of a gesture. EX2008, ¶35. Claims 1, 32, 34 and 64 each recite “detect[ing] [at least one component of] **a gesture** on the touch screen on the [first] object.” Limitations [1.e], [32.e], [34.f], [64.f]. Each claim then recites three logic operations:

- “[when]/[based on]/[in response to] a magnitude of a duration of **the gesture** being detected on the touch screen on the object is less than a first magnitude threshold, perform an [operation]/function],”
- “[when]/[based on]/[in response to] the magnitude of the duration of **the gesture** being detected on the touch screen on the object is greater than the first magnitude threshold, perform a scaling ... , **and**”
- “[when]/[based on]/[in response to] the magnitude of the duration of **the gesture** being detected on the touch screen on the object is greater than a second magnitude threshold, perform another [operation]/[function].”

Limitations [1.f, 1.g, 1.i], [32.f, 32.g, 32.i], [34.g, 34.h, 34.j], [64.g, 64.h, 64.j].

C. Claims 30 and 62

Claim 30 is directed to an “apparatus.” EX1001, 107:12. Claim 62 is directed to a “method.” EX1001, 118:16. Claims 30 and 62 are similar to one another. EX2008, ¶36.

Claims 30 and 62 each recite “detect[ing] **a gesture** on the touch screen on the first object,” “[during detecting of at least a portion of **the gesture** before a completion thereof is detected]/[in response to a detection of at least a portion of **the gesture**], perform[ing] a scale operation, based on a change in a duration of the gesture,” and “[after at least a portion of the scale operation]/[subsequent to the performance of the scale operation], vibrat[ing] the apparatus and performing an action.” Limitations [30.f, 30.g, 30.i], [62.g, 62.h, 62.j]; EX2008, ¶37.

III. LEVEL OF ORDINARY SKILL

At the time of the invention of the '114 Patent, a POSITA would have had at least a bachelor's degree in computer science, computer engineering, electrical engineering, 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) or equivalents thereof. Less work experience may be compensated by a higher level of education and vice versa. EX2008, ¶38. Dr. Cockburn's definition of a POSITA is overbroad to the extent it includes work experience in the design and development

of human-computer interfaces.⁴ *Id.*, ¶39. Patent Owner does not believe resolving differences in this level is necessary to resolve the issues before the Board. *Id.*

IV. OVERVIEW OF THE CITED ART

A. Kim [EX1004]

Kim discloses a mobile device and “touch-based zooming control method.” EX1004, Abstract. Kim discloses detecting gestures and taking responsive action across two modes: a “*selected mode*” “that allows displaying some kind of display target data outputted while a specific application selected at a user’s request runs in the mobile device,” including “a web page display mode,” and a “*zoom mode*” in which the device can perform a “zooming function” in response to further input. *Id.*, [0041], [0043]; EX2008, ¶40. Kim describes moving across these modes by, first, in a “select mode,” detecting “a long press event” for “activating a zoom mode” (EX1004, [0031], [0049]) and transitioning to zoom mode, then, in zoom mode, detecting “a hold event” for “execut[ing] a continuous zoom-in function” (*id.*, [0053], [0061]); and, while still in zoom mode, detecting “a double tap event” event and “returning to an initial state with a basic display size after a zoom-in or zoom-

⁴ Patent Owner’s expert, Dr. Vijay Madisetti, satisfies both parties’ definition of a POSITA and can opine on the perspective of a POSITA. EX2008, ¶39.

out action in a zoom mode” in the select mode (*id.*, [0031]). Kim discloses a separate algorithm for detecting user gestures in select mode and zoom mode. EX2008, ¶40.

1. User gesture detected via “interrupt” in “selected mode” (i.e., non-zoom mode)

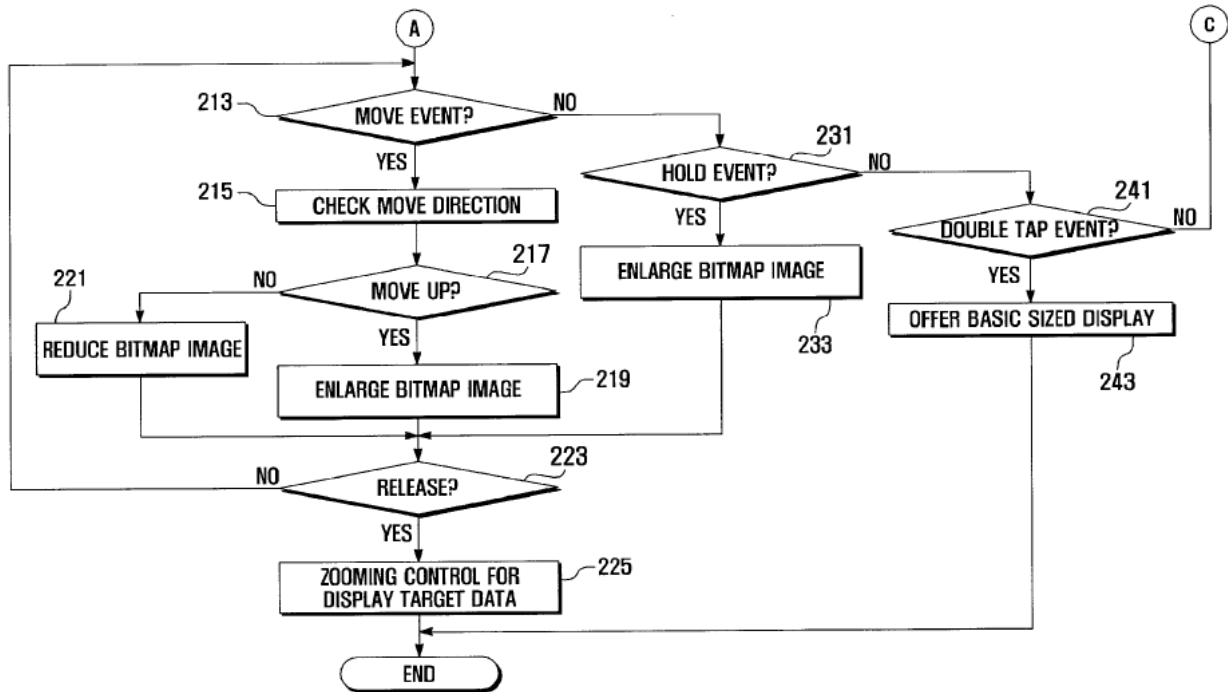
With reference to Figure 2A, Kim discloses detection of user gestures and responsive functions in “selected mode” upon detection of an “interrupt,” which Kim “refers to a signal or instructions, inputted through at least one of a touch screen and a special function key by a user, to stop the execution of a running application.” EX1004, [0048], FIG. 2A; EX2008, ¶41. In response to detecting “*a long press input*,” Kim “activat[es] the zoom mode.” EX1004, [0049]. Alternatively, upon detection of “an interrupt [that] is not a request for the activation of the zoom mode,” “perform[ing] some action in connection with an interrupt.” *Id.*, [0048]-[0050].

Kim describes three examples of actions in response to interrupts that do not activate zoom mode. These examples are: (a) “display[ing] the requested menu” in response to an unspecified input that indicates “a request for a specific menu,” (b) “launch[ing] and enable[ing] one of an application and a function which is assigned to the selected icon” in response to an unspecified input that indicates “a selection input for a specific icon,” and (c) entering “toggle mode” in response to a “double tap.” EX1004, [0044]-[0045], [0050], [0089]; EX2008, ¶42.

2. *User gestures in “zoom mode”*

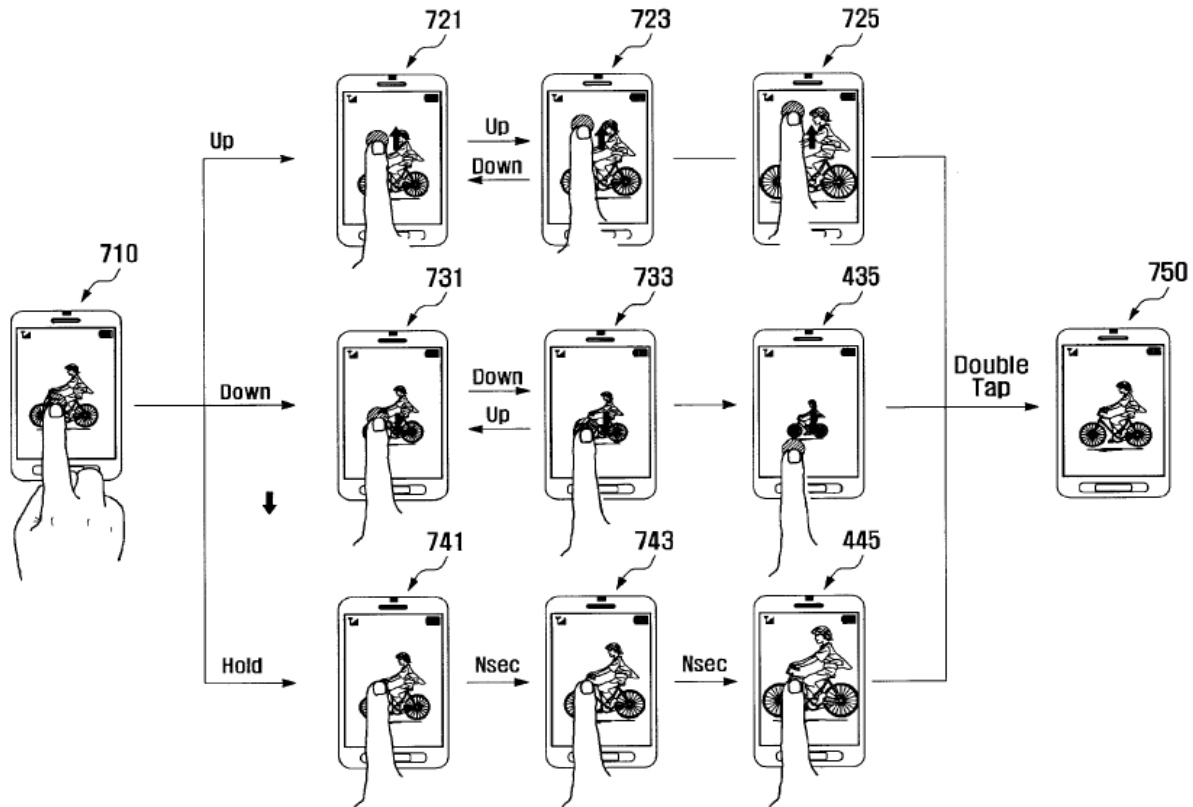
Figures 2B and 7 illustrate detection of user gestures and responsive functions in zoom mode. EX1004, [0046]; *see also id.*, [0093] (describing FIG. 7 as illustrating “a process of executing a zooming function depending on a user gesture while a zoom mode is activated”). Specifically, Kim explains that after the mobile device activates the zoom mode it “waits for a user input, especially based on a gesture.” *Id.*, [0051], FIG. 2a (211); EX2008, ¶43.

Upon detecting a user gesture while in zoom mode, the mobile device “determines **the type** of an input event,” including whether the gesture is “a move event,” “a hold event,” or “a double tap event.” EX1004, [0053]; *see also id.*, FIG. 2b (hold event, 231; double tap, 241). That is, Kim teaches—while in a zoom mode—performing a *different* function depending on *the type* of gesture—e.g., whether the gesture is “a move event,” “a hold event,” on one hand or “a double tap event” on the other hand. *See, e.g., id.*, FIG. 2b (213, 231, 241), FIG. 7; EX2008, ¶44.



EX1004, FIG. 2b.

Figure 7 illustrates “perform[ing] a continuous zooming function” through “a hold event” at steps 741, 743, and 745 (*id.*, [0061]–[0063], [0095], [0104]–[0106]); and “returning to an initial state with a basic display size” via “a double tap event” at step 750 (*id.*, [0031], [0106]); EX2008, ¶45.



EX1004, FIG. 7.

Separately, “*thereafter*, a user can invoke a double tap event on the screen.” *Id.*, [0106], FIG. 2b (241). “*Then*, in response to the double tap event, the mobile device displays target data with a given basic magnification value, as indicated by the reference number 750.” EX1004, [0106]; *see also id.*, FIG. 2b (243), [0064]; EX2008, ¶46.

Finally, Kim explains that, while in zoom mode, if the detected user gesture does not “correspond[] to” a “move event,” a “hold event,” or “a double tap event,” the mobile device “disregards the received input event and then proceeds to the previous step 211.” EX1004, [0053], FIGs. 2a, 2b. That is, Kim teaches

disregarding an unrecognized gesture once the device is already in zoom mode. *See id.*; EX2008, ¶47. A POSITA would not understand this disclosure to refer to a minimum threshold of an intentional user input. *Compare* EX2008, ¶47, *with* Pet., 25. Rather, this disclosure merely notes that there may be recognizable gestures (*e.g.*, a tap) for which no function is assigned in zoom mode and that such gestures are ignored. EX2008, ¶47.

B. Bowens [EX1005]

Petitioner does not rely on Bowens to alter the functionality disclosed by Kim. *See* Pet., 53. Rather, Petitioner asserts that “Kim leaves to well-informed POSITAs various specific implementation details pertaining to how the system identifies and differentiates the various touches and gestures” and Bowens provides such details by describing “various types of user actions and how each is identified.” *Id.*, 52-53.

In particular, Bowens discloses a “state machine gesture recognition algorithm for interpreting streams of coordinates received from a touch sensor.” EX1005, Abstract. Bowens discloses using a state machine to recognize gestures including “a tap,” which occurs “when the user quickly touches and releases the touch surface” (*id.*, [0056]); “a double tap,” which occurs “when the user quickly touches and releases the touch surface twice in quick succession” (*id.*, [0057]); and “a press,” which occurs “when the user touches and holds the touch surface” (*id.*, [0058]).

Bowens also discloses an “Idle state,” that “occurs whenever a user is not touching the touch surface.” EX1005, [0079]. Bowens explains that “no actions [are] triggered by entering” the Idle state, and “no actions [are] performed while” in that state. *Id.*; EX2008, ¶50.

Upon detecting a single-finger touch while in an Idle state, the state machine “transition[s] into a Touched state.” EX1005, [0079]. As soon as the Touched state is entered, “a timeout is started,” which is “used to distinguish between short duration gestures such as . . . taps and long duration gestures such as a press.” EX1005, [0080]; *see also id.*, FIG 1 (“entry/timer(t_{tap})” in “Touched” state); EX2008, ¶51.

“[I]f the timeout expires” while the user is touching the touch surface, “the state machine . . . generate[s] a press event and then enters the Pressed state.” EX1005, [0080]. But, “[i]f the user releases their touch [before the timeout expires], the state machine enters the Second Tap Pending state,” and “[s]ubsequent actions will determine if a tap, double tap, or other gesture is later generated.” *Id.* After the release of a tap, and entering the Second Tap Pending state, the “initial touch location is stored.” *Id.*, [0081]; EX2008, ¶52. The timeout “is used to decide if the user has made a [single] tap gesture,” whereas the initial touch location “is used to decide if the user is making a double tap gesture.” EX1005, [0081].

If the timeout expires before a second touch is detected, “a [single] tap event is generated and the state machine enters the Idle state.” *Id.* But “if the user touches the surface again before the timeout expires” and “the distance of the second touch from the first” is “less than a specified value,” the state machine “enters the Double Tap Pending state.” *Id.*; *see also* FIG. 1 (“press near tl [touch location]”); EX2008, ¶53.

Upon entering the Double Tap Pending state, “a timeout is started,” which “is used to decide if the user is making a double tap gesture.” EX1005, [0082]. Bowens explains that “if the user releases their touch” before the timeout expires, “the state machine generates a double tap event and enters the Idle state.” *Id.* But, if the timeout expires before the user releases their touch, “it is assumed that the user has tapped and then touched and held the surface,” so “tap and press events are generated and the state machine enters the Pressed state.” *Id.*; EX2008, ¶54.

C. Burrough [EX1007]

Burrough discloses “a multi-touch touch screen” “and identifying at least one multi-touch gesture based on the data from the multi-touch sensing device and providing an appropriate multi-haptic response.” EX1007, Abstract. Petitioner asserts that “Burrough teaches providing haptic feedback in response to user input, including zooming operations” (Pet., 46), but this overstates Burrough’s disclosure. EX2008, ¶55. The portions of Burrough to which Petitioner cites only disclose

providing haptic feedback *during* an ongoing “zoom gesture,” not as a response to the user entering into a zoom mode. EX1007, [0079]-[0081]; EX2008, ¶55.

Burrough discloses providing haptic feedback to indicate the status of an ongoing zoom gesture where the feedback may change based on the distance traveled and pressure applied by multiple fingers engaging the ongoing zoom gesture. EX1007, [0079]-[0081]; EX2008, ¶56. Specifically, Burrough discloses that “[i]f the distance between the two fingers increases (spread[s] apart) at 1110, a zoom-in signal is generated,” and the “zoom-in signal, in turn, causes the haptic devices associated with the two fingers to provide a zoom-in haptic signal.” EX1007, [0080], FIG. 11 (1116). That is, Burrough discloses providing haptic feedback “*as* the distance between the two fingers increases [or decreases].” EX1007, [0080]; *see also id.*, [0081] (“In most cases, the amount of zooming and the associated haptic effect varies according to the distance between the two objects” associated with “the set down of the fingers.... [A]s the fingers spread apart or close[] together, the object zooms in or zooms out at the same time and the corresponding haptic effect will change.”); EX2008, ¶56.

V. CLAIM CONSTRUCTION

A. “Conditional” Limitations: Claims 1, 32, 34 and 64⁵

Limitations [1.f, 1.g and 1.i], [32.f, 32.g and 32.i], [34.g, 34.h and 34.j] and [64.g, 64.h and 64.j] collectively recite three actions to be performed “[when]/[based on]/[in response to]” a “[a]/[the] magnitude of [a]/[the] duration of **the** gesture being detected” meeting recited criteria of being “less than” or “greater than” a recited threshold. These Limitations collectively describe logical functions/steps to process instances of user input on a touch screen that *begin* at a common starting point—the detection of the “gesture on the touch screen on the object.” EX2008, ¶57. This is consistent with “decision-tree” and detection logic for detecting multi-part pattern-based gestures as described in connection with Figure 23 of the ’114 Patent and Figure 24 of the ’918 Provisional. *Id.*⁶

⁵ Patent Owner uses the term “conditional” to refer to limitations that recite an action to be performed when a precondition (*e.g.* detecting a gesture on the touchscreen) is met without conceding that such form is sufficient to meet any particular case law.

⁶ The Institution Decision states: “Patent Owner, however, has not directed us to any portion of the specification of the challenged patent that describes the subject matter of claim 1, much less a portion of the written description that describes a single gesture having three different durations that result in three different actions.” Paper

1. *[A] / [the] gesture and magnitude of [a] / [the] duration of the gesture*

The claim language itself defines the recited “gesture” as a user touch initially detected “on the touch screen at the object.” Limitations [1.e], [32.e], [34.f], [64.f]; EX2008, ¶58. As explained in Section II.A, above, “gestures” include multi-action “pattern-based gestures” that “may be recognized in the form of an ordered sequence” by, for example, “using a decision tree.” EX1001, 75:24-26; EX2010, [00581]. Accordingly, “component of the gesture being detected,” consistent with the specification and plain meaning, refers to one component of a multi-part gesture. EX2008, ¶58. In sum, a gesture may have multiple components, but the gesture repeatedly referenced in the claims is a user input that begins with detection of a touch on an object on the touch screen. *Id.* A user input that begins at an intermediate component of a multi-component gesture is not the gesture. *Id.*

8 (“D.I.”), 24. While Patent Owner has done so in this Paper, respectfully, it is not incumbent on Patent Owner to do so nor would the lack of any specific embodiment be a justification to ignore the plain language. As the Federal Circuit recently reaffirmed, “the patentee is free to choose a term and expect to obtain the full scope of its plain and ordinary meaning unless the patentee explicitly redefines the term or disavows its full scope.” *IQRIS Techs. LLC v. Point Blank Enters., Inc.*, 130 F.4th 998, 1004 (Fed. Cir. 2025).

The claim language itself also defines what is meant by a “duration of the gesture.” Specifically, the plain language conveys that a “duration of the gesture” is the magnitude of a period that begins when the gesture begins—which is upon detection of the touch on the touch screen on the object.⁷ EX2008, ¶59; EX2004 (“duration” means “the time during which something exists or lasts”); EX2005 (“duration” means “the time during which something continues”). A period that starts after the gesture is not a duration of the gesture. EX2008, ¶59. Applying this plain language to each of the three logical instances:

- “[when]/[based on]/[in response to] a magnitude of a duration of the gesture being detected on the touch screen on the object is less than a first magnitude threshold, perform an [operation]/function]” refers to logic determining that **the length of a period of time beginning at the start of the gesture and ending at the conclusion of the gesture is less than a first magnitude threshold.** EX2008, ¶59.⁸

⁷ A POSITA would understand that “magnitude of a duration” includes the length of the duration. EX2008, ¶59 n.3.

⁸ A POSITA would understand that that the “duration” in this first logical Limitation refers to a period from the start of the gesture to after the gesture has concluded because determining that a duration is *less* than a threshold requires the duration be

- “[when]/[based on]/[in response to] the magnitude of the duration of **the gesture** being detected on the touch screen on the object is greater than the first magnitude threshold, perform a scaling ...” refers to logic determining that **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 is greater than a first magnitude threshold.** EX2008, ¶59.
- “[when]/[based on]/[in response to] the magnitude of the duration of **the gesture** being detected on the touch screen on the object is greater than a second magnitude threshold, perform another [operation]/[function]” refers to logic determining that **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 is greater than a second magnitude threshold.** EX2008, ¶59.

With this context, the antecedent bases “the duration of” and “the gesture” indicate that evaluating the preconditions recited in each Limitation requires evaluating instances of user input beginning at a common starting point. EX2008,

concluded and fixed. EX2008, ¶59 n.4. This is reinforced by the plain language of Limitation [32.f], which refers to “cessation of the gesture being detected.” *Id.*

¶60. Here, the plain language of the claims defines that common starting point as the initial detection of a user touch “on the touch screen at the object.” Limitations [1.e], [32.e], [34.f], [64.f]; EX2008, ¶60. Accordingly, it is not sufficient, in collectively mapping the conditional Limitations, to point to logic in the prior art for detection of gestures that do not share the common starting point or that are determined based on “durations” starting at any point other than the common starting point. EX2008, ¶60.

At the same time, because the claims refer to the logic used to evaluate numerous instances of user input, it is not necessary that the prior art include logic where the preconditions for each Limitation would be met in response to a single user input. EX2008, ¶61. This is again consistent with “decision-tree” and detection logic for detecting multi-part pattern-based gestures as described in connection with Figure 23 of the ’114 Patent and Figure 24 of the incorporated-by-reference ’918 Provisional as further discussed in Section II.A, above. *Id.* It is also consistent with the fact that some, but not all, of the Limitations recite mutually-exclusive preconditions such that requiring all preconditions to be met in response to a single instance of user input is contrary to the plain claim language. *Id.* (describing the mutual exclusivity of Limitations [1.f] and [1.g]).

2. *The prior art must include logic that can be consistently mapped to meet each conditional limitation when the precondition is met*

Nothing relieves Petitioner from having to demonstrate that the alleged prior art includes **logic** that meets each Limitation such that each limitation will be performed when the precondition — detecting a gesture on the touchscreen — is met. Nothing in the language of Claims 1, 32, 34 and 64 suggests any of the recited conditional Limitations are optional or may be ignored in mapping the prior art. EX2008, ¶62.

As explained below, Limitation [1.f] will not be met during the same instance of a user touch as Limitations [1.g] or [1.i] (and vice versa)⁹, but that is not a basis, as a matter of law, to relieve Petitioner from demonstrating the alleged prior art combination includes **logic** meeting each Limitation such that each Limitation will be performed when presented with an instance of user input “where their preconditions apply.” *See Sierra Wireless*, 2025 U.S. App. LEXIS 5458 at *5.

As an initial matter, *Ex Parte Schulhauser* at best, applies only to Claims 34 and 64, which are method claims. No. APPEAL 2013-007847, 2016 WL 6277792 (applying BRI standard). “[A] **system claim** [reciting] structure that performs a function, which only needs to occur if a condition precedent is met, **still requires**

⁹ This is also true of the similar Limitations in Claims 32, 34, and 64.

*structure for performing the function should the condition occur.” Id., *7; see also Ex Parte John Rebstock & Christopher K. Schrichte*, No. APPEAL 2022-003164, 2023 WL 4643799, *4 (P.T.A.B. June 23, 2023) (“We construe the scope of the computer program product claim 17, as being such that the computer program has the capability of performing operations of both the alternatives”).

As to Claims 34 and 64, nothing in the plain language suggests any of the recited conditional Limitations are optional or may be ignored in mapping the prior art. Rather, “the plain and unambiguous language” of the claims requires that “to come within the claim” each element must be performed “where their preconditions apply.” *See Sierra Wireless*, 2025 U.S. App. LEXIS 5458 at *5. In *Sierra Wireless*, the Federal Circuit emphasized the “and” between two method steps that the Board had deemed “cannot both occur in response to the same set of stimuli” as indicating each step must be performed “where their preconditions apply.” *Id.*, *4-5. Like in *Sierra Wireless*, the claims here link the conditional limitations with “and,” indicating each Limitation must be performed where their preconditions apply. *See* Limitations [1.g], [32.g], [34.h], [64.h]. Further, Claims 34 and 64 more closely resemble the claim the Federal Circuit addressed in *Hytera Communications Co. v. Motorola Solutions, Inc.*, 841 F. App’x 210 (Fed. Cir. 2021), which distinguished *Schulhauser*. There, the Federal Circuit found the method claim at issue “requires that a specific action be taken in response to each of two alternative specified

conditions,” and the claim “is not met unless the TDMA system is configured to perform each claimed responsive action.” *Id.*, 216; *see also Ex Parte Brosius*, Appeal No. 2010-001734, 4-5 (BPAI January 19, 2012) (citing to *Altiris, Inc. v. Symantec Corp.*, 318 F.3d 1363 at 1372 (Fed. Cir. 2003) (holding that two conditional method “limitations (b) and (c) are not optional because if their condition is satisfied, these limitations *require* certain steps to be performed” (emphasis in original))).

The same is true here. Claims 34 and 64 include multiple conditional steps that specify different actions based on evaluation of the touch input against various criteria that must be performed when a precondition is met. EX2008, ¶62. Each condition leads to a different action, or set of actions, and understanding the claim fully requires evaluating all possible conditions and their corresponding actions. *Id.* Further, like the recitation of “in a TDMA system” in the *Hytera* claims, claims 34 and 64 here recite the context of the method being performed “at an apparatus including a watch [with] / [having] ... a touch screen” (Limitation [84.a]), which, as discussed above, connotes a group of logic all expected to be met when a given precondition applies. EX2008, ¶62.

3. *Answers to the Board’s specific questions (Paper 10)*

Section V.A.1 provides explicit definitions of “gesture,” “magnitude of a duration of the gesture,” and “component of a gesture” and explains the impact of

the antecedent basis “the” used with those terms. Sections II.A and V.A.1 identify relevant corresponding specification description. Section V.A.2 addresses the impact of “conditional” language on what is necessary to map the claims, including differences in statutory class. Applying that explanation:

“[W]hether conditional limitations [1.f, 1.g, and 1.i] could be met by a single detected gesture.” A single instance of user input that met Limitation [1.f] would not also meet [1.g] or [1.i] and, vice versa. EX2008, ¶64. A single instance of user input that met Limitation [1.g] may also, but need not, meet Limitation [1.i]. *Id.* This is fully consistent with the Claims’ recitation of logic used to evaluate numerous instances of user input all meeting the requirements of “**the** duration.” *Id.*

“[W]hether 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.” The Limitations present different logical components, each of which must be met when the recited precondition is met. EX2008, ¶65. A single instance of user input will not meet all three Limitations. *Id.* This is fully consistent with the Claims’ recitation of logic used to evaluate numerous instances of user input all meeting the requirements of “duration of **the** gesture.” *Id.*

“[W]hether 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.” The plain language does not permit pointing to “**different** gestures.”

EX2008, ¶66. The plain language permits different instances of user input each meeting a requirement of “duration of the gesture.” *Id.* The plain language defines the “gesture” as a user touch initially detected “on the touch screen at the object” that is the evaluated under the collective logic recited by the Limitations. *Id.*

“[W]hether 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.” As explained in Section V.A.2, the alleged prior art combination includes **logic** meeting each Limitation such that each Limitation will be performed when presented with an instance of user input “where their preconditions apply.” EX2008, ¶67. The only case law to the contrary, *Ex Parte Schulhauser* at best, applies only to Claims 34 and 64, which are method claims, and is distinguishable as discussed above.

Finally, the Board asked the parties to identify any differences in application based on statutory class or individual claim language. As to statutory class, Patent Owner is aware of no differences beyond the inapplicability of *Ex Parte Schulhauser* to apparatus claims (and Patent Owner contends the facts here do not apply to method claims, either). Regarding differences in claim language across independent claims, Petitioner believes the differences identified below apply universally to each of Claims 1, 32, 34 and 64. Claims 1 and 32’s use of “when,” Claim 34’s use of “based on,” and Claim 64’s use of “in response to” all reflect the context of each of

those claims in applying programming logic and the causal-connection is a tenant of programming logic. EX2008, ¶68.

VI. CLAIMS 1, 32, 34 AND 64 - PETITIONER'S IMPROPER MAPPING OF "[A]/[THE] GESTURE BEING DETECTED"

A. Petitioner's Mapping of "The Gesture Being Detected" Limitations To Three Different Gestures Is Improper

Petitioner asserts that, via the use of the indefinite article "a" in "a gesture," in Limitations [1.e], [32.e], [34.f] and [64.f] that any gesture can meet those Limitations. Pet., 18-20; EX2013, 116:12-14. To meet the "a gesture" language in these Limitations, Petitioner identifies Kim's Figure 7 and states that "Kim describes 'a continuous zoom-in action depending on a hold event.'" Pet., 18 (quoting EX1004, [0104]). Petitioner also generally asserts that "Kim provides various examples of gestures detected on the touch screen." Pet., 19; *see also* Pet., 62 (identifying generally under Ground 2, Bowens' "different gesture inputs, such as a tap, a press, and a long press" (citations omitted)).

While the use of "a" in "a gesture" — without more — does not require that Petitioner identify only a single gesture for those Limitations that specify "a gesture," it is not determinative. It is the claims' subsequent use of the definite article "the" in "the gesture" that requires Petitioner to identify a single gesture to map against the remaining claim limitations. No less than three times in each of Claims 1, 32, 34 and 64, the plain claim language refers to "the gesture being

detected.” EX2008, ¶70. The references to “**the** gesture being detected” plainly refer back to the “**a** gesture” that was “detect[ed] ... on the touch screen on the object” in Limitations [1.e], [32.e], [34.f] and [64.f]. *Id.*; *see also* Paper 8, 25 (“[W]e agree with Patent Owner to the extent that [the] antecedent basis of ‘**the** gesture being detected on the touch screen on the object’ recited in Limitations [1.f, 1.g, and 1.i] refers to ‘**a** gesture on the touch screen on the object’ which is ‘detect[ed]’ in Limitation [1.e].”).

Yet, Petitioner ignores this in each instantiation of “**the** gesture being detected,” pointing instead to **three different** gestures for each of the three recitations of “**the** gesture” — *one* gesture that meets Limitations [1.f, 32.f, 34.g and 64.g], *another* gesture that meets Limitations [1.g, 32.g, 34.h and 64.h], and *yet another* gesture that meets Limitations [1.i, 32.i, 34.j and 64.j]. EX2008, ¶¶71-72. This approach, however, is contrary to law and renders each of Petitioner’s invalidity mappings meritless.

Petitioner identifies Kim’s “double tap event” as meeting “**the** gesture” in Limitations [1.f], [32.f], [34.g] and [64.g], under both Grounds 1 and 2. Pet., 20 (citing EX1004, [0031], [0064], [0099], [0103], [0106]); *see also* D.I., 24 (“Petitioner relies on a double-tap gesture for meeting Limitation [1.f]”) (citation omitted)); EX2013, 56:10-11 (explaining the gesture analyzed for Limitation [1.f] “is the double tap gesture”), 109:9-11. Petitioner then maps the “**the** gesture” of

Limitations [1.f], [32.f], [34.g] and [64.g] to Kim’s “double tap” gesture. Petitioner should have analyzed the same “double tap” gesture for Limitations, [1.g], [32.g], [34.h] and [64.h], but did not.

After identifying the double tap as “the gesture” in Limitations [1.f], [32.f], [34.g] and [64.g], Petitioner then identifies a different gesture, Kim’s “hold event” or long press, to meet the “the gesture” in Limitations [1.g], [32.g], [34.h] and [64.h]. *See* Pet., 21 (quoting EX1004, [0104]); D.I., 24 (“Petitioner relies on ... a hold event ... for meeting Limitation [1.g].”); EX2013, 99:17-100:1 (expressly confirming that under his “analysis of limitation [1.g] ... I’m analyzing how Bowens’ disclosures of a ‘tap and hold’ or ‘long press’ would satisfy the limitation” — not a double tap.”); 80:12-13 (explaining the analysis for Limitation [32.g] includes “no explicit mention of a double tap”).

Then, to meet the “the gesture” language of Limitations [1.i], [32.i], [34.j] and [64.j], Petitioner points to an unidentified “user gesture” or interrupt in Kim. Pet., 26 (citing EX1004, [0050], FIG. 2a; EX1003, ¶64); *see also* D.I., 24 (“Petitioner relies on ... a ‘user gesture’ requesting an ‘interrupt’ ... for Limitation [1.i].”). Petitioner, however, expressly recognizes that Kim’s “user gesture” is neither the hold event (or long press) mapped to Limitation [1.g] nor the double tap mapped to Limitation [1.f]: “A POSITA would have understood that such an interrupt would be caused by a gesture that is ... *shorter than the duration necessary for a long press*

threshold[] and a different gesture than a double tap gesture.” Pet., 26 (citing EX1003, ¶64).

For “the gesture” of Limitations [1.i], [32.i], [34.j], and [64.j] under Ground 2, the Petition identifies a simple “tap gesture” as described in Bowens. Pet., 68 (citing EX1003, ¶195). Petitioner’s expert confirmed that Bowens’ tap gesture is neither the hold event (or long press) mapped to Limitation [1.g] nor the double tap mapped to Limitation [1.f]: “To be clear, in [the analysis of Limitation [1.i]], I am not analyzing how Bowens’ disclosures of a press event or the pressed state would satisfy this limitation. Instead, I’m analyzing how Bowens’ disclosures of a *tap event* would satisfy the limitation.” EX2013, 100:11-17. Thus, after first identifying a double tap as “the gesture” corresponding to Limitation [1.f] and then identifying a hold event as “the gesture” corresponding to Limitation [1.g], the Petition now points to yet a different tap gesture to correspond to Limitation [1.i].

The plain meaning of the claim language, in accordance with well-established tenets of patent law, requires that each recitation of “the gesture” be the *same* gesture. EX2008, ¶73; *see also* Paper 10, 3 (“[t]he plain language of ... claim [1] recites detecting a *single* gesture” (footnote omitted)). Thus, under both Grounds 1 and 2 — for each of Limitations [1.f, 1.g, 1.i], [32.f, 32.g, 32.i], [34.g, 34.h, 34.j] and [64.g, 64.h, 64.j] — Petitioner improperly maps each recitation of “the gesture” to a different gesture.

**B. Petitioner's Mapping Of The "Duration Of The Gesture"
Limitation Is Improper**

1. The plain meaning of "duration of the gesture"

Limitations [1.f], [1.g] and [1.i] recite instructions to perform specified actions (*e.g.*, "an operation," "a scaling," "another operation") "when" it is determined that a user's contact with the touch screen satisfies certain conditions. Limitation [1.f] recites, in relevant part, "a duration of the gesture." The plain claim language, "detect a gesture on the touch screen on the object," coupled with the subsequent language, "a duration of the gesture," requires Petitioner to identify a gesture that begins upon the initial detection of the gesture. *See* Limitations [1.e], [1.f]; EX2008, ¶74; *see also* EX2013, 36:12-15 ("[A] person of skill in the art would understand that the initiation of contact could be one point at which time measurements begin."). That gesture, as already discussed, must then be evaluated throughout the remainder of the Challenged Claim.

a) Claim 1

The language, "a duration," defines a characteristic of "the gesture," and introduces a timing element to "the gesture" that is "detect[ed]" in Limitation [1.e]. EX2008, ¶75; *see also* Paper 10, 3 ("The plain language of the claim recites detecting a single gesture and, due to the antecedent basis in limitation [1.g and 1.i] that refer

to the duration recited in limitation [1.e],¹⁰ takes action when the duration of the detected gesture meets the criterion recited in the conditional limitations [1.f, 1.g, and 1.i].”). Even though the timing recited in Limitations [1.f] and [1.g] differs, Claim 1 still requires evaluating the specifically detected gesture to determine if it meets one of the timing requirements. EX2008, ¶75. Moreover, the plain meaning of “the duration of the gesture” in each of Limitations [1.g] and [1.i], requires that the subject of the analysis is “the duration” that was introduced in Limitation [1.f] of “the gesture” detected in Limitation [1.e]. *Id.* Hence, the duration of the gesture being evaluated must be evaluated from the same point in time. *Id.*

This interpretation is further confirmed when considering other language of Limitations [1.f], [1.g] and [1.i]. Specifically, those limitations recite that it is the gesture “being detected on the touch screen on the object” that is the subject of the analysis. Petitioner’s expert agrees that this active language (“being”) requires that it is the gesture that is currently being detected that is under evaluation: “[L]imitation [32.g] requires a second component of the gesture is detected where the magnitude of the duration of the gesture being detected -- so the limitation is clear that there is

¹⁰ The Board refers to “the duration recited in limitation [1.e]” as the antecedent “duration,” but Patent Owner notes that it is Limitation [1.f] that first introduces “duration.” Limitation [1.f]; *see* Paper 10, 3.

a gesture that is being detected. It is underway of being detected.” EX2013, 117:11-17. This language, “**being** detected,” requires that the gesture being evaluated is a single gesture. EX2008, ¶76. That is, the gesture being evaluated is a single continuous touch (or contact) “on the touch screen on the [first] object.” *Id.*

That each of Limitations [1.f], [1.g], and [1.i] may not be fully met in response to a single instantiation of a gesture is not inconsistent with a POSITA’s understanding that Claim 1 requires a single continuous interaction with the touch screen. EX2008, ¶77. For example, Limitation [1.f] recites “when ... **a** duration of **the** gesture being detected on the touch screen on the object is less than a first magnitude threshold, perform an action.” Limitation [1.g] recites “when ... **the** duration of **the** gesture being detected on the touch screen on the object is greater than the first magnitude threshold, perform a scaling in connection with at least the object.” A POSITA understands that the action recited in Limitation [1.f] is not performed at the same time as the action recited in Limitation [1.g]. *Id.* That is, a POSITA understands that the logic recited by Claim 1 includes at least two claimed paths that are distinguished from one another by the “first magnitude threshold.” *Id.*

Specifically, a POSITA understands that to “perform an operation” as recited in Limitation [1.f], the duration of the user’s single continuous touch must be “less than a first magnitude threshold.” EX2008, ¶78. A POSITA also understands that to “perform a scaling” as recited in Limitation [1.g], the duration of the user’s single

continuous touch must be “greater than the first magnitude threshold.” *Id.* A POSITA further understands that to “perform another operation” as recited in Limitation [1.i], the duration of the user’s single continuous touch must be greater than *both* the “first magnitude threshold” and the “second magnitude threshold.” *Id.*

Specifically, Limitation [1.f] requires that the action is performed “when” the user’s single continuous interaction with the touch screen, *i.e.* the gesture, is removed from the touch screen prior to the “first magnitude threshold.” *See* Limitation [1.f]; EX2008, ¶79. Whether or not the recited action in Limitation [1.f] is performed, the evaluation of the “duration of the gesture” in Limitation [1.f] must occur. EX2008, ¶79.

b) Claim 32

The “duration of the gesture” in Limitation [32.f] also requires that the action is performed “when” the user’s single continuous touch is removed from the touch screen prior to the “first magnitude threshold.” *See also* Limitation [1.f]; EX2008, ¶80. Limitation 32(f) expressly states that: “when a first component of the gesture is detected where a magnitude of a duration of the gesture being detected on the touch screen on the first object is less than a first magnitude threshold, perform a function upon a cessation of the gesture being detected.” *See also* Limitation [64.g] (“performing a function upon a cessation of the gesture being detected”).

Indeed, Claim 32 expressly recognizes that the “function” recited in Limitation [32.f] and the “scale operation” recited in Limitation [32.g] will not be met during the same instantiation of the already detected gesture. *See* Limitations [32.f], [32.g]; EX2008, ¶81. That is, Claim 32 makes explicit what the Board recognized regarding Limitations [1.f] and [1.g]: “[T]wo of the three ‘when’ limitations — limitations [1.f and 1.g] — present mutually exclusive conditions because the duration of the gesture cannot be both less than and greater than the specified threshold. Paper 10, 3-4 (citing Paper 8, 26). That Limitation [32.f] expressly claims performing “a function” “upon a cessation of **the** gesture being detected,” but Limitations [32.g] and [32.i] contain no express mention of a “cessation” indicates that the actions recited in each of Limitations [32.g] and [32.i] may be performed in response to the single gesture, not just upon its cessation. EX2008, ¶81.

Specifically, the “scale operation” recited in Limitation [32.g] is performed “when” “**the** duration of **the** gesture being detected on the touch screen on the first object is greater than the first magnitude threshold.” And the “another function” recited in Limitation [32.i] is performed “when” “**the** duration of **the** gesture being detected on the touch screen on the first object is greater than a second magnitude threshold.” That is, the action recited in Limitation [32.g] and the action recited in Limitation [32.i] are performed sequentially in response to a single continuous

interaction with the touch screen satisfying the respective conditions. *See* Limitations [32.g], [32.i]; *see also* Limitations [64.h], [64.j]; EX2008, ¶82.

Accordingly, even if the Board finds that each reference to the gesture in a particular claim need not be the same gesture, Petitioner’s invalidity mapping still fails. It is not sufficient for Petitioner to point to logic in the prior art that detects gestures that do not share the same starting point. EX2008, ¶83. But, that is exactly what Petitioner does.

2. Petitioner’s mapping of “the duration of the gesture”

Petitioner identifies Kim’s “double tap event” that “return[s] to an initial state with a basic display size **after a zoom-in or zoom-out action**” to meet Limitation [1.f]. *See, e.g.*, Pet., 20; *see also* D.I., 21. However, instead of pointing to the duration of the first gesture (the hold gesture that causes the continuous zoom) as meeting the first duration limitation, Petitioner points to the later used double tap gesture that “comprises two short duration taps in quick succession” as the gesture that meets the first duration, instead of treating the double tap gesture as the corresponding second duration (since it is the later referenced gesture in Petitioner’s mapping). Pet., 20 (citations omitted).

To satisfy the “duration” requirement for Limitation [1.g], Petitioner references Kim’s Figure 7 and asserts that a “POSITA would have understood that Kim’s long press would be discriminated from a normal press based on the contact

being maintained (without moving) for longer than a threshold duration.” Pet., 22 (citing EX1004, [0140]; EX1003, ¶59). But, Petitioner’s mapping misses the mark. This second gesture depends on a duration that begins only after Kim’s device enters the zoom mode, at the start of the “long press” or “hold event.” See, e.g., EX1004, [0051]-[0053], [0095] (“*[a]fter* the zoom mode is activated, a user can ... perform a continuous zooming function”); EX2008, ¶85. Dr. Cockburn explicitly recognizes as much: “[A]t step 211, [Kim’s] device is waiting for subsequent user input ... in the zoom mode.” EX2013, 44:5-7. In other words, step 211 of Kim describes waiting for **another/different** gesture — *i.e.*, step 211 of Kim is not a continuation of the same gesture that activates the zoom mode. See *id.*; EX2008, ¶85.

Finally, Petitioner points to an unnamed third different gesture that occurs before the device enters the zoom mode to meet Limitation [1.i]. Because this third gesture can only happen before Kim’s mobile device enters the zoom mode (during which the first and second identified gestures occur), the duration of this third gesture necessarily ends before either of the first (“long press” or “hold event”) or second (“double tap”) gestures can begin. EX2008, ¶86.

3. *Petitioner's mapping of Limitations [1.g] and [1.i] does not result in performance of a "scaling" and performance of "another operation"*

a) **Ground 1 (Kim)**

As previously discussed, Petitioner maps the "scaling" of Limitation [1.g] to Kim's "continuous zoom-in action depending on a hold event." Then for the "first magnitude threshold" of Limitation [1.g], Petitioner identifies Kim's "threshold value associated with a hold event." Pet., 21. Petitioner then concludes that Kim performs a continuous zoom-in or zoom-out function (the "scaling") in response to the duration of the hold event (the "the gesture" limitation) surpassing the threshold associated with the hold event (the "first magnitude threshold"). But, Petitioner's mapping once again is not on point.

For the "another operation" of Limitation [1.i], Petitioner maps Kim's "'perform other action' (e.g., display[ing] requested menu)" in response to a user gesture or "interrupt [that] is not a request for the activation of the zoom mode." See Pet., 24-26. Petitioner then maps the "second magnitude threshold" of Limitation [1.i] to Kim's "minimum threshold to be deemed an intentional touch." Pet., 24. Petitioner then asserts that Kim displays a menu (the "another operation") in response to the duration of an interrupt (the "the gesture" limitation) surpassing the threshold associated with an intentional touch (the "second magnitude threshold").

But, Kim’s “continuous zooming” and “displaying a menu” functions cannot both occur “when” the preconditions recited in each of Limitations [1.g] and [1.i] are met by a single continuous gesture. EX2008, ¶89. The alleged gesture mapped to “the gesture” in Limitation [1.i] occurs **before** the device enters zoom mode. *Id.* And Kim’s zoom mode is a necessary predicate to the continuous zooming function mapped to “the gesture” of Limitation [1.g]. *Id.* Thus, even assuming “the gesture” of Limitation [1.g] can be a different gesture than “the gesture” mapped to Limitation [1.i], Petitioner’s mapping does not show a device that performs both a scaling and another operation when the respective preconditions in each of Limitations [1.g] and [1.i] are met by a single continuous gesture. *Id.*

Claim 1 includes a processor executing instructions that detect a single gesture and, first, evaluates whether the duration of that gesture is less than a first magnitude threshold and, when it is not, perform both a scaling and another function “when” the preconditions recited in Limitations [1.g] and [1.i] are respectively met. EX2008, ¶90. Because Petitioner has not shown that Kim’s device includes logic executing these functions in response to a single continuous gesture, Petitioner has not shown that Claim 1 is either anticipated or obvious over Kim. *See Schulhauser*, 2016 WL 6277792, at *7 (“[T]o show anticipation or obviousness of a claim reciting structure that performs a function tied to a condition precedent, the Examiner must cite prior art that discloses or renders obvious such structure.”).

b) Ground 2 (Kim-Bowens)

Petitioner's mapping for Limitation [1.g] is the same for Grounds 1 and 2. For Ground 2 of Limitation [1.i]), Petitioner identifies “perform[ing] another operation (activating the hyperlink)” when “the ‘timeout/tap’ transition from SecondTapPending to Idle” is reached. *See, e.g.,* Pet., 67-68. Thus, for Ground 2, Petitioner maps the “another [operation]/[function]” to “activating the hyperlink” and maps the “second magnitude threshold” to exceeding a “timeout/tap” threshold measured from the release of a first tap waiting to see if a second tap occurs. *Id.*; EX2008, ¶91.

But, Kim's “continuous zoom-in or zoom-out” and Bowens' “activating the hyperlink” cannot both occur “when” the preconditions recited in each of Limitations [1.g] and [1.i] are met. EX2008, ¶92. The Petition does not explain when or where this functionality would be present in the “Kim-Bowens-Device.” Pet., 53-62. But Kim explains that the gestures recognized during “zoom mode” are “move,” “hold,” and “double-tap,” and “[i]f the input event corresponds to none of them, the mobile device disregards the received input event.” EX1004, [0064]. Thus, a “tap” user input that causes activating a hyperlink could only occur when Kim's mobile device is not in the zoom mode. *Id.*; EX2008, ¶92.

Thus, under both Grounds 1 and 2, Claims 1, 32, 34 and 64 include a processor executing instructions that detect a single gesture and, first, evaluates whether the

duration of that gesture is less than a first magnitude threshold and, when it is not, perform both a scaling and another function “when” the preconditions recited in Limitations [1.g] [1.i] and the corresponding limitations in Claims 32, 34 and 64 are respectively met. EX2008, ¶93. Because Petitioner has not shown that Kim’s device includes logic executing these functions in response to a single continuous gesture, Petitioner has not shown that any one of Claims 1, 32, 34 and 64 is either anticipated or obvious over Kim. *See Schulhauser*, 2016 WL 6277792, at *7 (“[T]o show anticipation or obviousness of a [system] claim reciting structure that performs a function tied to a condition precedent, the Examiner must cite prior art that discloses or renders obvious such structure.”); *see also Sierra Wireless*, 130 F.4th at 1022 (“[T]he plain and unambiguous language of [method] claim 1 requires that a method, to come within the claim, must perform both limitations 1[c] and 1[d] where their preconditions apply.” (citation omitted)).

C. These “Gesture” and “Duration” Defects Are Present in All Grounds For Claims 1, 32, 34 and 64

The defects in Petitioner’s mappings detailed in connection with Ground 1A for Claim 1 are also present in Ground 2A for Claim 1. *See* Pet., 62 (for Limitation [1.e], referencing Ground 1A Limitation [1.e] and adding that Bowens teaches “different gesture inputs, such as a tap, a press, and a long press”), 64-66 (for Limitation [1.g], also identifying a “long press” as the gesture for a continuous zoom-in function when Kim’s device is in its zoom mode), 62-64 (for Limitation

[1.f], also identifying a “double tap” as the gesture to return to normal zoom state *after* completion of Kim’s “long press” and corresponding continuous zoom-in function), 67-68 (for Limitation [1.i], identifying a “tap” gesture, again, prior to Kim’s device entering its zoom mode); EX2008, ¶94.

These defects in Petitioner’s mappings are also present for:

- **Claim 32** in Grounds 1A and 2A. *See* Pet., 38 (for Ground 1A Limitation [32.e], referencing Ground 1A Limitation [1.e]), 39 (for Ground 1A Limitation [32.f], referencing Ground 1A Limitation [1.f]), 39-40 (for Ground 1A Limitation [32.g], referencing Ground 1A Limitation [1.g]), 41 (for Ground 1A Limitation [32.i], referencing Ground 1A Limitation [1.i]), 75-76 (for Ground 2A Limitation [32.e], referencing Ground 1A Limitation [32.e]), 76-77 (for Ground 2A Limitation [32.f], referencing Ground 2A Limitation [1.f]), 77-78 (for Ground 2A Limitation [32.g], referencing Ground 2A Limitation [1.g]), 78-79 (for Ground 2A Limitation [32.i], referencing Ground 2A Limitation [1.i]); EX2008, ¶95;
- **Claim 34** in Grounds 1B and 2B. *See* Pet., 43 (for Ground 1B Limitations [34.b]-[34.j], referencing Ground 1A Limitations [1.a]-[1.i]), 80 (for Ground 2B Limitations [34.b]-[34.j], referencing Ground 2A Limitations [1.a]-[1.i]); EX2008, ¶95; and

- **Claim 64** in Grounds 1B and 2B. *See* Pet., 44 (for Ground 1B Limitations [64.e]-[64.j], referencing Ground 1A Limitations [32.d]-[32.i]), 80 (for Ground 2B Limitations [64.e]-[64.j], referencing Ground 2A Limitations [32.d]-[32.i]); EX2008, ¶95.

Thus, for at least the foregoing reasons, Petitioner fails to show that any one of Claims 1, 32, 34 and 64 is unpatentable by a preponderance of the evidence.

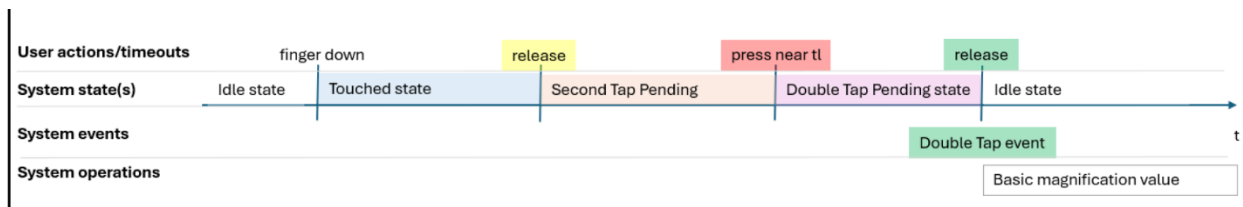
VII. CLAIMS 1, 32, 34 AND 64: “AN OPERATION/FUNCTION” AND “ANOTHER OPERATION/FUNCTION”

A. The Petition Fails to Demonstrate that Performance of the Mapped “Operation/Function” Occurs “When”/“Based On”/“In Response To” “a Duration of the Gesture” “is Less Than A First Magnitude Threshold”

Claims 1, 32, 34, and 64 each recite “perform[ing] an [operation]/[function]” “[when]/[based on]/[in response to]” “a magnitude of a duration of the gesture being detected on the touch screen ... is less than a first magnitude threshold.” Limitation [1.f], [32.f], [34.g], [64.g]. Petitioner maps “returning to an initial state with a basic display size after a zoom-in or zoom-out action” to the claimed “perform[ing] an operation.” *See, e.g.*, Pet., 20. Petitioner asserts that the two taps of the “double tap event” “collectively have a duration shorter than a threshold duration associated with a more persistent gesture (e.g., a hold).” *Id.* Petitioner thus determines “*the* gesture” in its mapping to be “a double tap” and the “first threshold” as “a threshold duration associated with a more persistent gesture (e.g., a hold).” *Id.* Having done so,

Petitioner’s own explanation confirms that neither Kim nor Kim-Bowens detect a “double tap” gesture based on the duration *of that double-tap gesture* being less than a “hold” threshold. EX2008, ¶96.

As explained above, Bowens discloses determining that a double-tap occurred by passing through a number of states, each associated with a different threshold and analysis. EX1007, [0080]–[0082]; *see also id.*, FIG. 1; EX2008, ¶97. Indeed, Petitioner’s own illustration confirms that recognizing a “double tap event” requires passing, in order, through three states:



Pet., 64 (citing EX1003, ¶190).

Petitioner asserts that this sequence is sufficient to meet the claim language because “the release must occur before the ‘timeout/ tap, press’ transition from the Double Tap Pending state to the Pressed state.” *Id.*, 63. But, by its own words, this is a measure of the time (duration) spent in the “Double Tap Pending state,” not the duration *of the double-tap gesture*, which began on the “finger down” when exiting the “Idle state” several states earlier. EX2008, ¶98. Plainly, this mapping does not meet the claim language.

Indeed, Petitioner acknowledges that to make this argument it is re-defining the gesture: “***The duration of each of the taps*** of the double tap gesture is ‘a duration of the gesture.’” Pet., 63. But, as discussed previously, “the duration of a tap” is not “the duration ***of the gesture***”—it is, at best, the duration of a component of the gesture. EX2008, ¶99. To excuse this failure to map the claim language, Petitioner asserts that a “POSITA would have understood that gesture recognition encompasses identification of multiple components of touch data.” Pet., 63. But, even if one were to accept this assertion as true, Petitioner is not free to ignore the plain language of the claim “duration ***of the gesture***” and replace it with “duration ***of a component of the gesture.***”

Petitioner has no difficulty using different words to discriminate these two concepts in its Petition. Pet., 39-41, 76-78. And, the Challenged Claims differentiate among “**the gesture**” and “**a component of the gesture**.” For example, Claim 32, in portions of the claim not at issue here, refers to “a first component of the gesture,” “a second component of the gesture,” and “a third component of the gesture.” But, it also separately refers to “***the*** duration of ***the*** gesture” — which is the element in dispute in Limitations [32.f], [32.g], [32.i]. Petitioner is not free to ignore this language in the claim and then treat the terms “**the gesture**” and “**a component of the gesture**” identically in its invalidity mapping. EX2008, ¶100.

B. The Petition Fails To Demonstrate That Performance of the Mapped “Another Operation/Function” Occurs “When”/“Based On”/“In Response To” “the Duration of the Gesture Being Detected” “is Greater Than a Second Magnitude Threshold”

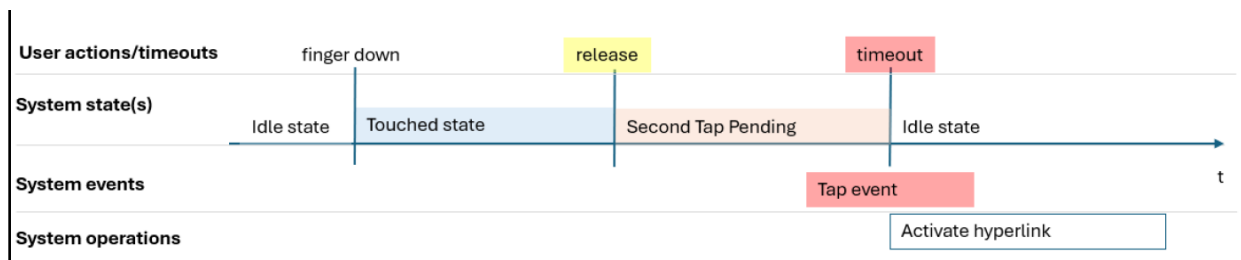
Claims 1, 32, 34 and 64 each recite “perform[ing] another [operation]/[function]” “[when]/[based on]/[in response to]” “the magnitude of the duration of the gesture being detected on the touch screen ... is greater than a second magnitude threshold. Limitation [1.i], [32.i], [34.g], [64.g]. As an initial matter, despite describing Bowens as merely adding implementation details to Kim, Petitioner provides different mappings of this element for Grounds 1 (Kim) and 2 (Kim-Bowens).

For Ground 1, Petitioner maps the claimed “perform[ing] another [operation]/[function]” to “‘perform[ing] other action’ (e.g., display[ing] requested menu)” “when the magnitude of the duration of the gesture is greater than a second magnitude threshold—specifically, a minimum threshold to be deemed an intentional touch.” *See, e.g., Pet.*, 24-26. Thus, for Ground 1, Petitioner maps the “another [operation]/[function]” to an unspecified group of functions including “display[ing] the requested menu” and maps the “second magnitude threshold” to “a minimum threshold to be deemed an intentional touch.” *Id.*; EX2008, ¶102.

For Ground 2, Petitioner identifies “perform[ing] another operation (activating the hyperlink)” when “the ‘timeout/tap’ transition from SecondTapPending to Idle” is reached. *See, e.g., Pet.*, 67-68. Thus, for Ground 2,

Petitioner maps the “another [operation]/[function]” to “activating the hyperlink” and maps the “second magnitude threshold” to exceeding a “timeout/tap” threshold measured from the release of a first tap waiting to see if a second tap occurs. *Id.*; EX2008, ¶103. Neither mapping meets the plain language of the claims.

Furthermore, Petitioner’s mappings of the “first magnitude threshold” and the “second magnitude threshold” for both Grounds 1 and 2 are infused with hindsight bias. There is no suggestion in either Kim or Bowens that the “*first* magnitude threshold” (which Petitioner maps to Bowens’ Timeout/Press) should be interpreted as the *second* threshold encountered when measuring duration. Likewise, there is no suggestion that the “*second* magnitude threshold” (which Petitioner maps to Bowens’ Timeout/Tap) should be interpreted as the *first* threshold encountered. EX2008, ¶104. Instead, Petitioner’s own charts confirm that the plain and ordinary meaning of “first” threshold is the threshold encountered first and that the “second” threshold is the one encountered second:



Pet., 68 (citing EX1003, ¶195). As discussed above, Bowens explains that the Timeout/Tap transition (which Petitioner maps to the claimed “second magnitude threshold”) illustrated in the above figure must occur in Bowens *before* the

Timeout/Press. EX2008, ¶104. Petitioner’s mapping plainly confirms that the only reason it switched these thresholds is to try to meet the claim limitations.

1. Petitioner’s Ground 1 mapping fails

The Petition asserts: “a POSITA would have understood that, for the detected interrupt (step 203) to be sufficient to cause the mobile device to ‘perform other action’ (step 207), a magnitude greater than a minimum threshold value (e.g., the minimum threshold of an intentional user input) is relied upon, or rendered obvious, by Kim.” Pet., 25-26. Setting aside that “perform other action” does not identify any specific action or any specific user gesture and that Kim does not reference or suggest utilizing a “minimum threshold of an intentional user input,”¹¹ Petitioner’s mapping confirms it does not meet the claim.

¹¹ Petitioner asserts that use of a “minimum threshold” “would have [been] understood” “[b]ased on Kim’s disclosure of ‘disregarding’ a received input.” Pet., 25-26. But, Kim discloses disregarding a received input event not because the gesture fails to meet a minimum threshold, but because: (a) the device is in “zoom mode” (not “selected mode” where “interrupts” occur) and (b) “the input event corresponds to none of” “a move event,” “a hold event,” or “a double tap event.” EX1004, [0053]; EX2008, ¶105 n.6. Thus, recognizing user gesture, but

Kim’s reference to “perform some action” discloses an alternative path from entering zoom mode that encompasses any other action. EX1004, [0043]-[0044], [0048]-[0050]. Thus, the reference “perform some action” provides no mapping of “another [operation]/[function]” because no specific action has been identified. EX2008, ¶106. Even if this reference is narrowed to the only specific action the Petition identifies—“e.g., display requested menu”—Kim does not associate that action with *any* user gesture. EX1004, [0050]; EX2008, ¶106. Rather, Kim states only: “if an interrupt is a request for a specific menu, the mobile device displays the requested menu.” EX1004, [0050]; *id.*, [0045] (same).

Petitioner asserts that “an interrupt would be caused by a gesture that is longer in duration than the second threshold” of “the minimum threshold of an intentional user input.” Pet., 26. That is, with reference to FIG. 2A, Petitioner asserts that a duration exceeding the mapped threshold causes *step 203 “Detect Interrupt.”* *Id.*; EX1004, FIG. 2A; EX2008, ¶107. But Petitioner does not map the claimed “another [operation]/[function]” to step 203; it maps it to *step 207 “performs other action” (e.g., display requested menu).* And, Kim is clear that steps 203 and 207 do not occur simultaneously nor when/based on/in response to the same event. EX2008,

disregarding it because it has no assigned function, does not suggest adding a “minimum threshold” to Kim. EX2008, ¶105 n.6.

¶107. Rather, “[*a*]*fter detecting an interrupt*, the mobile device” further analyzes the user gesture, determining “whether an interrupt is a request for activating the zoom mode (step 205)” and, if not, whether it is a request for some other action (step 207). EX1004, [0049]-[0050]; EX2008, ¶107.

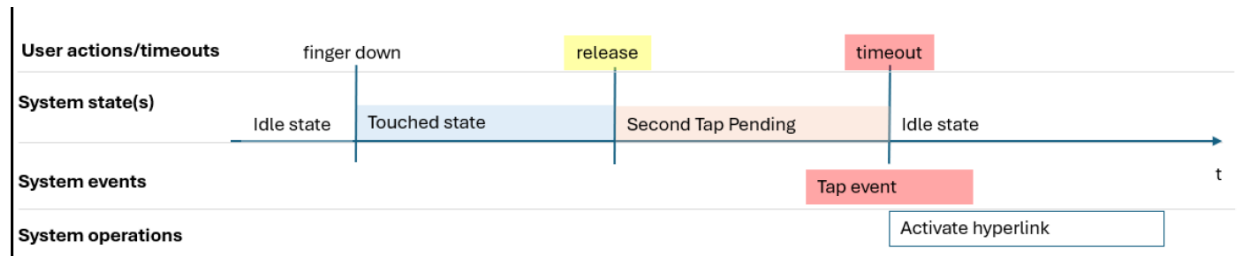
The claims require not just determining that “the magnitude of the duration of the gesture being detected on the touch screen ... is greater than a second magnitude threshold,” but “[*when*]/[*based on*]/[*in response to*]” that determination “perform[ing] another [operation]/[function].” Limitation [1.i], [32.i], [34.g], [64.g]. Here, Petitioner alleges only that Kim’s mobile device simply determines there has been an interrupt “[*when*]/[*based on*]/[*in response to*]” a determination that “a minimum threshold of an intentional user input” has been met. Pet., 24-26. Petitioner alleges only exceeding that threshold is required to detect an “interrupt.” *Id.* This does not meet the claims. EX2008, ¶108.

2. Petitioner’s Ground 2 mapping fails

For Ground 2, Petitioner maps the “another [operation]/[function]” to “activating the hyperlink” based on “the gesture” being “identified as a tap” and maps the “second magnitude threshold” to exceeding a “timeout/tap” threshold measured from the release of a first tap waiting to see if a second tap occurs. *See, e.g.*, Pet., 67-68; EX2008, ¶109. Having established *the* gesture as “a tap gesture,”

Petitioner’s own explanation confirms the duration and threshold it identifies is not the duration *of that tap gesture*. EX2008, ¶109.

As explained above, Bowens discloses determining that a single tap gesture is detected by, first, detecting a finger down and then a “release” and then waiting in a “second tap pending state” to determine if a second tap occurs (which would rule out a single tap event). EX1007, [0080]–[0082]; *see also id.*, FIG. 1; EX2008, ¶110. The Petition’s own illustration shows this sequence:



Pet., 68 (citing EX1003, ¶195).

Having established “*the* gesture” as a “tap gesture,” Petitioner must, then, demonstrate that the system takes action based on “the magnitude of *the* duration of *the*” tap gesture being “greater than a second magnitude threshold.” *See, e.g.*, Limitation [1.i]; EX2008, ¶111. Petitioner does not even purport to do so.

Petitioner confirms that the “tap gesture” “*ceased* at the time labeled ‘release,’ highlighted yellow” in the figure above. Pet., 67-68. Yet, Petitioner then focuses on a period of time *beginning after the tap gesture has ceased* labeled “Second Tap Pending.” *Id.* Petitioner points to the duration *beginning* at “release” when *the* tap gesture has ceased and continuing until exceeding “a second magnitude (the

“timeout/tap” transition from SecondTapPending to Idle).” *Id.* This period is, by Petitioner’s own admission, not *the* duration of *the* tap gesture as the claim language requires, but rather a duration of a period that begins after the tap gesture ends. EX2008, ¶112. This does not meet the plain language of the claims. *Id.* Rather, it uses hindsight bias is an attempt to rewrite “*the* duration of *the* gesture” to refer to any duration of any period used to identify a gesture. As discussed above, the plain language of the claims does not permit such a rewrite and Petitioner’s mapping fails.

C. The “Second Magnitude Threshold” is Greater Than the “First Magnitude Threshold”

In addition to the problems with Petitioner’s mappings of the “first magnitude threshold” and “second magnitude threshold,” Petitioner’s mapping of these thresholds is inconsistent with the plain meaning of the claims. EX2008, ¶113.

For Ground 1, Petitioner maps Kim’s “threshold value associated with a longer-lasting (i.e., hold) event” to the “first magnitude threshold” of Limitation [1.f and 1.g]. Pet., 20, 21; EX1003, ¶¶54, 56; *see also* D.I., 21. For the “second magnitude threshold” of Limitation [1.i], Petitioner maps Kim’s “minimum threshold to be deemed an intentional touch.” Pet., 24–26; EX1003, ¶¶62–64; *see also* D.I., 23. According to Petitioner, then Kim’s “minimum threshold to be deemed an intentional touch” *is less than* Kim’s “hold event threshold.” EX2008, ¶114. Petitioner acknowledges as much in that Kim’s “user gesture” mapped to “the gesture” of Limitation [1.i] is asserted to be “a gesture that is *longer in duration than*

the second threshold ... [and] shorter than the duration necessary for a long press.”

Pet., 26; *see also* EX1003, ¶64.

For Ground 2, Petitioner maps Bowens’ “timeout for the transition from Touched to Pressed” (i.e., the “timeout/press” transition from Bowens’ Fig. 1) to the “first magnitude threshold” of Limitation [1.f and 1.g]. Pet., 62, 66; *see also* EX1003, ¶¶190-92. For the “second magnitude threshold” of Limitation [1.i], Petitioner maps Bowens’ “timeout / tap’ transition from SecondTapPending to Idle” to Limitation [1.i]’s “second magnitude threshold.” Pet., 67–68; *see also* EX1003, ¶195. Again, Petitioner’s mapping results in the second magnitude threshold being less than the first magnitude threshold. EX2008, ¶115.

Petitioner’s mapping is facially deficient. Limitation [1.f] recites “perform *an* operation” “when a magnitude of a duration of **the** gesture ... is less than a first magnitude threshold.” And Limitation [1.i] recites “perform *another* operation” “when the magnitude of **the** duration of **the** gesture ... is greater than a second magnitude threshold.” In other words, Claim 1 sets forth a duration of the gesture for which “an” operation is performed and a *different* duration of the gesture for which “another” operation is performed. EX2008, ¶116.

But under Petitioner’s construction where the second magnitude threshold is less than the first magnitude threshold, the claim would allow for a duration of the gesture for which the apparatus would perform *both* “an” operation *and* “another”

operation in response to *the same duration of the gesture*. EX2008, ¶117. Specifically, the apparatus would perform “an” operation because the duration of the gesture is less than the first magnitude threshold and perform “another” operation because the duration of the gesture is greater than the second magnitude threshold (which, according to Petitioner, is less than the first magnitude threshold). *Id.* Such a construction is facially nonsensical and should be rejected for that reason alone. *See Becton, Dickinson & Co. v. Tyco Healthcare Grp., LP*, 616 F.3d 1249, 1255 (Fed. Cir. 2010) (“A claim construction that renders asserted claims facially nonsensical ‘*cannot be correct.*’” (quoting *Schoenhaus v. Genesco, Inc.*, 440 F.3d 1354, 1357 (Fed. Cir. 2006); citing *Bd. of Regents of the Univ. of Texas Sys. v. BENQ Am. Corp.*, 533 F.3d 1362, 1370 (Fed. Cir. 2008))).

Moreover, dependent claims confirm the understanding that, in Claim 1, the second magnitude threshold is greater than the first magnitude threshold. EX2008, ¶118. Claim 8, which depends from claim 1, supports that the most logical reading of the claim is that the “second magnitude threshold” of Limitation [1.i] is greater than the “first magnitude threshold” of Limitations [1.f and 1.g]:

The apparatus of claim 1, wherein the apparatus is configured such that the scaling is reverted ... 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.**

EX1001, 98:1-8. This reference to “remain” underscores that “the second magnitude threshold” and “the first magnitude threshold” of Claim 8 maintain the same relationship to each other that they have in Claim 1. EX2008, ¶118. This understanding is also consistent with the plain meaning of the claim term “remain.” *Id.*; EX2011 (“remain” means “to continue unchanged”); EX2012 (“remain” means “continue to possess a particular quality”).

Accordingly, it is plain for both Grounds 1 and 2, that Petitioner fails to map the cited art in accordance with “the duration of the gesture” that meets the plain language of Limitation [1.i]. EX2008, ¶119.

VIII. CLAIMS 30 AND 62 (GROUNDS 1C, 1D, 2C AND 2D): PETITIONER FAILS TO IDENTIFY AN APPROPRIATE BASIS TO ADD HAPTIC FEEDBACK TO KIM’S DOUBLE TAP GESTURE

Claim 30 recites “after at least a portion of the scale operation, vibrate the apparatus and perform an action.” Limitation [30.i]. Claim 62 recites “subsequent to the performance of the scale operation, vibrating the apparatus and performing an action.” Limitation [62.j].

Petitioner maps “the scale operation” to Kim’s “continuous zoom-out function” responsive to a “press and hold” gesture. *See, e.g.*, Pet., 50 (for Limitation [30.h], referring to mapping of Limitation [32.h]), 40 (for Limitation [32.h], referring to mapping of Limitation [1.h]), 23-24. Petitioner then maps “performing an action” to “display[ing] data with a given basic magnification” (*i.e.*, returning to

default zoom level) responsive to a subsequent “double tap” user input after the conclusion of “the scale operation.” Pet., 50. Petitioner does **not** assert that Kim discloses vibrating the apparatus upon recognition of a double tap user input or at any other time. *Id.*; EX2008, ¶120; *see also* EX1003, ¶254 (“Kim does not teach that any tactile feedback is provided to a user.”); EX2013, 124:9-12 (“[n]o direct reference to [tactile feedback]”). Rather, Petitioner asserts it would have been obvious for a POSITA to add haptic feedback, as taught by Burrough, upon recognition of the double tap user input. Pet., 50 (Ground 1), 82-83 (Ground 2). But even accepting this proposition, adding Burrough’s haptic feedback to Kim would not result in adding haptic feedback upon recognition of a double tap user input. EX2008, ¶120.

Petitioner asserts that “Burrough teaches providing haptic feedback in response to user input, including zooming operations” (Pet., 46), but this is an overgeneralization of Burrough’s disclosure. EX2008, ¶¶121. In the section Petitioner cites, Burrough discloses detecting a “zoom gesture” and providing haptic feedback **during** an ongoing “zoom gesture.” EX1007, [0079]-[0081]; *see also* D.I., 40 (“Patent Owner’s point is well taken that Burrough’s teaching is vibration during an ongoing zoom operation.”). “If the distance between the two fingers increases (spread[s] apart),” “a zoom in signal is generated.” EX1007, [0080]. “The zoom-in signal, in turn, causes the haptic device associated with the two fingers to provide a

zoom-in haptic signal,” which “can be, for example, faster (or slower) or more intense (or less intense) vibration as the distance between the two fingers increase[s].” *Id.* Additionally, “the vibro-tactile response for the two fingers can be different due to the varying pressure applied by each finger.” *Id.*, [0079].

Kim’s double-tap user input gesture, however, does not involve an ongoing zoom operation, much less ongoing changing movement or ongoing changing pressure. EX1004, [0079]-[0081]; EX2008, ¶122. Rather, upon detection of the double-tap, Kim instantaneously returns to the “basic magnification” level (which itself provides visual feedback to the user). EX2008, ¶122; *see also* D.I., 40 (“We also recognize [that] Patent Owner’s declarant’s other point — that Kim’s return of the zoomed object to basic magnification level occurs rapidly and visual feedback makes haptic feedback unnecessary — has merit.”). There is no ongoing zoom operation upon Kim’s double tap. EX1004, [0106]; EX2008, ¶122. Thus, even if a POSITA were motivated to apply Burrough’s disclosure to Kim, Burrough’s teachings would at most suggest adding haptic feedback **during** a continuous zoom-in or continuous zoom-out operation, not upon recognition of a double-tap user input gesture. EX2008, ¶122.

Further, there is no suggestion in Kim to combine a multi-touch detection algorithm as Burrough teaches with “a normal touch screen incapable of handling multi-touch input,” as Kim discloses. EX1004, [0008]; EX2008, ¶124. “[A] pinch

zoom technique ... , however, [is] based on a multi-touch input by means of two finger interactions. Therefore, this technique may not be applicable to a mobile device having a normal touch screen incapable of handling a multi-touch input.” EX1004, [0008]. Kim teaches “a mobile device and related method which allows a simpler and more convenient zooming function.” *Id.*, [0009]. Such a simpler and more convenient zooming function, as taught by Kim, is not directed to a device capable of handling multi-touch input. EX2008, ¶124; *see also* EX2013, 126:21-127:1 (“The specific disclosures of [Kim’s] embodiments do not rely on multi-touch sensing capabilities.”). Thus, a POSITA — recognizing that Burrough teaches vibration during an ongoing zoom operation in response to a multi-touch input — would read Kim as teaching away from implementing a multi-touch detection algorithm as Burrough describes. EX2008, ¶124.

And once again, Petitioner’s invalidity mapping fails.

IX. CONCLUSION

For the foregoing reasons, the Petition should be denied.

Dated: April 28, 2025

Respectfully submitted,

/Eagle H. Robinson/

Eagle H. Robinson

Reg. No. 61,361

Lead Counsel for Patent Owner

CERTIFICATE OF WORD COUNT

Pursuant to 37 C.F.R. § 42.24(a)(i), the undersigned certifies that this Paper—exclusive of the table of contents, exhibit list, certificate of service, and this certificate of word count—includes 13,537 words. The undersigned has relied upon the word count feature provided by Microsoft Word.

/Eagle H. Robinson/
Eagle H. Robinson (Reg. No. 61,361)

CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6(e), the undersigned certifies that on April 28, 2025, complete copies of foregoing Patent Owner Response and EX2008-EX2013 were served on Petitioner via email (by consent), at the following email address(s):

IPR50095-0171IP1@fr.com

/Eagle H. Robinson/
Eagle H. Robinson, Reg. No. 61,361