

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

VALVE CORPORATION,
Petitioner,

v.

IMMERSION CORPORATION,
Patent Owner.

Case IPR2024-00556
U.S. Patent No. 9,748,507

**PATENT OWNER'S PRELIMINARY RESPONSE
UNDER 35 U.S.C. §§ 311-19 AND 37 C.F.R. § 41.100, ET SEQ.**

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	BACKGROUND	3
	A. Immersion Corporation – A Pioneer in Haptics Technology	3
	B. The Challenged ’507 Patent	6
	C. Prosecution History	11
III.	PERSON OF ORDINARY SKILL IN THE ART (POSA)	16
IV.	CLAIM CONSTRUCTION.....	17
V.	THE ASSERTED REFERENCES.....	19
	A. Astala (Ex. 1005).....	19
	B. The Shahoian Reference (Ex. 1004)	20
	C. The Keely Reference (Ex. 1007).....	21
	D. Kolmykov-Zotov Reference (Ex. 1008)	22
VI.	ASTALA + SHAHOIAN DOES NOT DISCLOSE OR SUGGEST USING PRESSURE, CHANGE IN PRESSURE AND ELAPSED TIME TO “DETERMINE A PRESS”	24
	A. Astala + Shahoian does not teach determining an initial press of the touch sensitive input device as required by the claim language “determining a press”.	24
	B. Astala + Shahoian does not use a “change in pressure” to determine an initial press.....	27
VII.	NEITHER KEELY NOR KOLMYKOV-ZOTOV DISCLOSE OR TEACH “DETERMIN[ING] A PRESS” OR “A CHANGE IN PRESSURE THRESHOLD” AND THEREFORE DO NOT RENDER THE CLAIMS UNPATENTABLE	35
	A. Keely and Kolmykov-Zotov do not teach “determining a press” as required by all challenged claims, but rather describe identifying gestures that simulate mouse inputs.	35
	B. The Petition does not identify evidence relating to “determining a press” in the first instance but rather whether a the “hold” portion of a press-and-hold event has occurred.....	37

VIII. INSTITUTION SHOULD BE DENIED UNDER 35 U.S.C. § 314(a) 43

A. Whether the Court Granted a Stay or Evidence Exists That One
May Be Granted if a Proceeding Is Instituted 45

B. Proximity of the Court’s Trial Date to the Board’s Projected
Deadline for a Final Written Decision 46

C. Investment in the Parallel Proceeding by the Court and the
Parties 47

D. Overlap Between the Issues Raised in the Petition and the
Parallel Proceeding.....48

E. Whether the Petitioner and the Defendant in the Parallel
Proceeding are the Same Party 49

F. Other Circumstances That Impact the Board’s Exercise of
Discretion, Including the Merits.....49

IX. CONCLUSION 49

TABLE OF AUTHORITIES

CASES

<i>Apple Inc. v. Fintiv, Inc.</i> , IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020).....	44
<i>Apple Inc. v. Immersion Corp.</i> , Case IPR2016-01371, Paper 7 (PTAB Jan. 11, 2017).....	3, 33, 36
<i>Arendi S.A.R.L. v. Apple Inc.</i> , 832 F.3d (Fed. Cir. 2016)	33
<i>Cisco Sys., Inc. v. Oyster Optics, LLC</i> , IPR2021-00238, Paper 10 (PTAB Jun. 1, 2021)	44, 48
<i>CommScope Technologies LLC, v. Dali Wireless, Inc.</i> , IPR2022-01242, Paper 23 (PTAB Feb. 27, 2023).....	42
<i>In re. Am. Acad. of Sci. Tech. Ctr.</i> , 367 F.3d (Fed. Cir. 2004).....	33
<i>Nidec v. Zhongshan</i> , 868 F.3d (Fed. Cir. 2017).....	18
<i>Zhuhai Cosmx Battery Co., Ltd. v. Ningde Amperex Technology Limited</i> , IPR2023-00587, Paper 12 (PTAB Sept. 22, 2023).....	43

STATUTES

35 U.S.C. § 314(a)	42
--------------------------	----

REGULATIONS

77 Fed. Reg. 48680-01 (Aug. 14, 2012)	47
---	----

EXHIBIT LIST

Exhibit No.	Exhibit Description
2001	Declaration of Craig Rosenberg, Ph.D. in Support of Immersion Corporation's Patent Owner Preliminary Response, dated May 15, 2024
2002	Curriculum Vitae of Craig Rosenberg, Ph.D.
2003	File History of U.S. Patent SN 10/723,778
2004	<i>Immersion Corp. v. Valve Corp.</i> , 2:23-cv-000712-TL, Order on Motion to Stay Pending <i>Inter Partes</i> Review, Dkt. # 69
2005	<i>Immersion Corp. v. Valve Corp.</i> , 2:23-cv-000712-TL, Case Scheduling Order, Dkt. # 46
2006	<i>Immersion Corp. v. Valve Corp.</i> , 2:23-cv-000712-TL, Valve Corp.'s Invalidity Contentions

I. INTRODUCTION

Patent Owner Immersion Corporation (“Immersion”) respectfully requests that the Board deny institution of this Petition for *inter partes* review as it fails to demonstrate a reasonable likelihood that Valve Corporation (“Valve”) will succeed in carrying its burden to show that the challenged claims of Immersion’s U.S. Patent No. 8,748,507 (Ex. 1001 or the “’507 Patent”) are unpatentable.

The challenged ’507 Patent teaches improved methods for detecting an initial touch or press of a touch screen input device. Capacitive and resistive touch devices at the time would typically detect an initial press or touch by measuring the increase in capacitance or resistance caused by a user’s finger or stylus on the surface of the device and approximate a touch pressure that the 507 Patent refers to as a “pseudo pressure.” To determine whether a user intended to operate a user interface element by touching the screen or whether the touch was merely accidental or incidental, conventional systems would compare this pseudo pressure against a predetermined threshold pressure. However, because different users would press the surface with different amounts of force, the capacitance or resistance would vary as the finger is deformed, and user’s finger anatomy can vary (larger or smaller fingers). Thus, a simple pressure comparison is prone to errors.

Instead, the ’507 Patent teaches a three-part test for determining whether a user intended to activate a UI element or whether the touch was accidental. In

addition to measuring absolute pressure and time, the '507 Patent further teaches comparing a change in pressure against a change in pressure threshold to address the issue relating to different users, anatomy and capacitance-resistance profiles. These features are expressly recited in all the independent claims of the '507 Patent: “determining a press if: the pressure is greater than a pressure threshold, the change in pressure is greater than a change in pressure threshold, and a first interval has elapses” Ex. 1001 at 10:38-42.

In contrast, the references asserted by the Petitioner to challenge the patentability of the '507 Patent are fundamentally different. Astala, Keely, and Kolmykov-Zotov all discuss methods for simulating traditional mouse inputs, such as left click, right click, single-click, double-click, and drag-and-drop operations using a touch sensitive input device. These references are concerned with discriminating between various actions, for example when does a user intend to make a left- versus right-click, a single- versus a double-click, or a selection versus a drag-and-drop operation using only a stylus or finger on a touch pad. Unlike the '507 Patent, these references do not teach or suggest determining whether an initial touch or press is intended or accidental, and instead typically assume an initial touch has occurred or use a rudimentary test to determine the initial touch such as whether the stylus is making contact with the surface of the touch device.

Not surprisingly, these fundamental differences between the disclosure and claims of the '507 Patent and the asserted references have not been bridged by the Petition, and as such, the Petitioner has not carried its burden to demonstrate at least one claim is unpatentable. Additionally, the '507 Patent has been subject to two previous IPRs, one asserting the same Astala and Shahoian references used in the present challenge. In both reviews the Board denied institution. During examination of the parent application, the Board of Patent Appeals and Interferences also reversed an examiner's rejection based in part on the same features of Astala cited by Petitioners in the present IPR. Ex. 2003 at 93-94, 98. Here, Petitioner relies on an expert declaration that is a nearly verbatim copy of the Petition, which caused the Board in the previous IPR to give little weight to the declaration or those arguments. *Apple Inc. v. Immersion Corp.*, Case IPR2016-01371, Paper 7 at 13-14 (PTAB January 11, 2017). As such, the Board should deny institution.

II. BACKGROUND

A. Immersion Corporation – A Pioneer in Haptics Technology

Immersion Corporation is a publicly-traded company, and since its founding 30 years ago, has been the global leader in developing haptic technology as well as licensing software solutions and intellectual property for enabling haptic interfaces in a broad array of product markets including wearable devices, mobile ads and video, mobile devices, medical applications, automotive interfaces, gaming and

virtual reality. Over 3 billion devices are licensed to use Immersion's haptic feedback software and intellectual property.

Started in 1993 by Louis Rosenberg, a pioneer in sensing interfaces and feedback technology, Immersion developed and commercialized haptic innovations beginning with its force feedback technology, allowing devices to provide tactile sensations and resistance to user interactions, such as force feedback in input devices like joysticks. Immersion was one of the first companies to release haptic joysticks, computer mice and steering wheels for video games. This technology has been widely used in gaming controllers, medical simulators, and other applications to enhance realism and user engagement.

Throughout the mid- to late-1990s, Immersion continued to develop its haptic technologies, eventually developing VR interfaces for specific medical procedures. Using Immersion's technology to provide realistic feedback, these systems are used in medical schools around that world to train physicians in surgical procedures in a realistic and safe virtual environment. Immersion also partners with manufacturers and systems integrators of actuator hardware. Through these partnerships, Immersion provides designs and guidance for the development of actuators that are required to implement advanced haptic features.

Immersion, over its 30-year history, has developed and licensed haptic products and IP across diverse applications, including gaming systems, medical

devices, automobiles, touchscreens, and mobile devices. Recently, a primary focus has been developing and implementing advanced haptic effects, including effects optimized for use in virtual and augmented reality (“AR/VR”) systems. Immersion also has a long history of developing advanced software. For example, Immersion’s TouchSense® 3000 software includes a driver package designed to operate an actuator, a haptic API that programmers can use to create, launch, and modulate haptic effects, a library containing more than 100 pre-defined effects, and user interface support. Video game industry leaders, including Nintendo, have recognized the value of Immersion’s technology and partnered with Immersion.¹

Immersion’s industry-defining technology is used in over three billion devices worldwide, including tablets, smartphones, wearables, gaming controllers, and automotive interfaces. The Institute of Electrical and Electronics Engineers (“IEEE”) has recognized Immersion in its annual IEEE Spectrum Patent Power scorecards, which evaluate the technology world’s most valuable patent portfolios by quantitative benchmarks. Immersion’s established and growing leadership in haptic technology is reflected by its consistent ranking in the top 20 in its industry segment.

¹<https://ir.immersion.com/news-releases/news-release-details/immersion-and-nintendo-enter-agreement-bring-immersions>

For Immersion's technological advances in the haptics space, Immersion has been awarded over 3,500 issued patents world-wide. Immersion's patents have been proven novel through multiple challenges over the years. Exclusive of those brought by Petitioner Valve, Immersion's patents have been challenged in 43 IPRs² of which only 2 cases have resulted in determinations of unpatentability.

B. The Challenged '507 Patent

The petition challenges U.S. Patent No. 8,749,507 titled "System and Methods for Adaptive Interpretation of Input from a Touch-Sensitive Input Device." The '507 Patent was filed on April 6, 2012, and claims priority to a November 26, 2003, application. Ex. 2001 at ¶ 50. The '507 Patent addresses a problem with sensing a user's intended input using conventional touchpad and touchscreen devices. *Id.* Touchpads, and in particular, touchscreens, allow users to interact with various controls displayed on the surface of the device, for example, to reposition a cursor or to actuate a control such as a click on a virtual button. *Id.*; Ex. 1001 at 1:46-53. Unlike other types of input devices such as mice, both "changes in position on the touchpad and in the pressure exerted on the surface of the touchpad must be used to

²10 of these IPRs were denied institution, 14 of them were terminated prior to an institution decision in light of settlements, while 19 of them were instituted with 17 of those terminated prior to a final written decision in light of settlements.

determine the user's intent." *Id.*; Ex. 1001 at 1:53-55. However, "conventional touchpads combine position and control functionality in a way that often masks the user's intent to make a positional change to provide control input." *Id.*; Ex. 1001 at 1:46-48. These conventional touch input devices could not accurately reflect when a user was intending to make a touch input, or when the contact with the touch device was accidental. *Id.*; Ex. 1001 at 1:55-60.

The reason for the above shortcomings of conventional touch devices stem from the way these devices sense inputs. "Touchpads work by utilizing resistance, capacitance, or membrane switches." Ex. 2001 at ¶ 51; Ex. 1001 at 2:55-56. These sensing technologies do not produce or measure pressure directly, but rather are used to sense a "pseudo pressure." Ex. 2001 at ¶ 51; Ex. 1001 at 2:54-55. "The pseudo pressure may not accurately represent the amount actually exerted on the touchpad." *Id.* at 3:19-21. For example, the difference in the size of different user's fingers, or the difference in the way they press on the device can cause a difference in pseudo pressure. Ex. 2001 at ¶ 51; Ex. 1001 at 3:40-42, 3:28-31. As explained by the '507 Patent, "the larger the surface of the conductor used on the touchpad 102, e.g. a user's finger, the larger the change in capacitance per amount of pressure exerted." *Id.* at 3:22-24. "[I]f a user presses heavily against the touchpad 102 with a fleshy part of the finger, the amount of the touchpad 102 covered by the finger is greater than when the same part of the finger is touching lightly" *Id.* at 3:24-28. Further,

“pseudo pressure, is also greater than when the user presses heavily with a bony part of a finger.” *Id.* at 3:28-31. The '507 Patent provided the following factors that affect sensing touch inputs:

Variables affecting the ability of a program to determine what a user is attempting to do include the following: the physical difference between users; the different angles at which a user may place their finger while using a touchpad; the variance in pressure between different users and between the same user; the movement of the finger across the touchpad while simultaneously attempting to perform actions on the touchpad.

Id. at 1:58-65.

The '507 Patent proposes solving these problems related to whether a user has intended to make a touch input:

Embodiments of the present invention address the difficulties faced in attempting to determine the intent of a user based on the X, Y, and Z parameters supplied by the touchpad 102. Examples of determining a user's intent include determining when a user is tapping or pressing on a specific portion of a touch-sensitive input device that corresponds to a control displayed on the input device or displayed on a separate, synchronized display.

Ex. 1001 at 4:56-63. The '507 Patent describes using adaptive thresholds for various measured values to determine when a user has intended to provide a control input via a touch sensitive device. Ex. 2001 at ¶ 54. These include “thresholds for pressure, pseudo pressure, pseudo-pressure change, velocity and other measures . . . Adaptive thresholds may rely on various parameters including, for example, the

length of time the input device has been active, the placement of the [finger] on the surface of the device and the current user of the device.” *Id.* at 5:11-20. The ’507 Patent describes these thresholds as adaptable, where the system can store separate sets of thresholds, can calculate and apply different thresholds on an ongoing basis, and can modify thresholds based on the identity of the user. Ex. 2001 at ¶ 54; Ex. 1001 at 5:44-48.

The ’507 Patent also describes using various measures of time to determine whether a user intended to make a gesture. Ex. 2001 at ¶ 55. An initial tick count is employed to ascertain how long a finger remains on a screen element, which is then integrated into different parts of the gesture recognition algorithm. Ex. 1001 at 6:9-13. After the start of the initial tick count, the processor (106) determines the finger position relative to the items displayed on the screen. *Id.* at 6:14-15.

The procedure includes checking the initial tick count to determine if the finger remains on the touch input device. *Id.* at 6:34-48. If the finger is still on the device, the system either sets a ‘move threshold’ and if not, sets a first threshold. “The threshold value is then compared to the change in pseudo pressure 222.” *Id.* The pressure or pseudo pressure is measured during the time period. *Id.* After the system determines that a press has been made, a release tick count is started:

In the process shown in FIG. 2, the first tick count is set when the finger goes from a non-touching to a touching state and is used to measure a time interval during which

a different (higher) set of thresholds is used because users typically push harder when they first touch a touchpad (102). The release tick count is used to measure a time interval following the detection of a press during which the finger is deemed to be pressing. During this interval, the processor (106) does not perform further press detection. In other words, the user cannot press again if the user is already pressing and the user cannot press any faster than some predetermined rate. Once the release tick count expires, even if the user is still pressing hard, the algorithm detects a press if the user presses even harder (provided there is still room to press harder). The use of these tick counts provides for the adaptability of the algorithm.

Id. at 6:58-7:6.

The claims of the '507 Patent cover the inventive features discussed above.

For example, Claim 1 includes the following language:

1. A method comprising:

[1A] receiving contact data from an input device;

[1B] determining an interaction with a displayed object on a screen based on the contact data;

[1C] responsive to determining the interaction, determining a gesture based on the contact data comprising:

[1D] **determining a pressure and a change in pressure based on the contact data, and**

[1E] **determining a press if:**

[1E1] **the pressure is greater than a pressure threshold,**

[1E2] **the change in pressure is greater than a change in pressure threshold, and**

[1E3] **a first interval has elapsed; and**

[1F] responsive to determining the gesture, outputting the haptic effect.

The language in bold expresses that the contact data is used to determine (1) a pressure, and (2) a change in pressure. Then the method uses that information plus the time measurement as discussed above to determine if a press has been deliberately made.

C. Prosecution History

The application that matured into the '507 Patent, U.S. Pat. App. S/N 13/41,108, was filed on April 6, 2012, and is a continuation of U.S. Pat. App. S/N 10/723,778 filed on November 26, 2003. Ex. 2001 at ¶ 58.

The Patent Office issued an Office Action on July 19, 2012, rejecting all claims. The Office action rejected original Claims 10-15 pursuant to 35 U.S.C. § 101 and all claims based on 35 U.S.C. § 112 because “the specification does not disclose how to determine a haptic effect based on the received contact data, therefore the application does not provide support for ‘receiving contact data from an input device; and determining whether to output a haptic effect based on the contact data’” Ex. 1002 at 53-54, Ex. 2001 at ¶59. With regard to prior art, the

Office Action rejected claims pursuant to 35 U.S.C. § 102(b) as anticipated by the Fujita reference, and rejected additional claims based on Fujita combined with Hsu. Ex. 1002 at 56; Ex. 2001 at ¶ 59.

In a Response dated March 19, 2012, the Applicant amended the claims to address the prior art rejections. Below is an exemplary amendment:

1. (Currently Amended) A method comprising:
receiving contact data from an input device;
determining an intent based on the contact data and a displayed object on a screen;
determining whether to output a haptic effect based on the intent-contact data; and
responsive to determining to output the haptic effect based on the intent, outputting the haptic effect ~~based on the contact data.~~

Ex.1002 at 67; Ex. 2001 at ¶ 60. The amendment argued that Fujita does not disclose “determining an intent based on the contact data and a displayed object on the screen.” Ex. 1002 at 73; Ex. 2001 at ¶ 60.

In a further Office Action dated December 11, 2012, the Patent Office maintained the § 112 rejection stating that the specification does not disclose “determin[ing] a haptic effect based on the intent and to output the haptic effect as a result thereof.” Ex. 2001 at ¶ 61. The Patent Office also maintained prior art rejections based on Fujita and Fujita combined with other references.

In a Response dated May 12, 2013, the Applicant amended the claims to address the prior art rejections. Ex. 2001 at ¶ 62. An exemplary amendment is show below:

1. (Currently Amended) A method comprising:
receiving contact data from an input device;
determining an interaction with a displayed object on a screen based on the contact data;
responsive to determining the interaction, determining a gesture based on the contact data
~~an intent-based comprising:~~
determining a pressure and a change in pressure based on the contact data, and
determining a press if:
the pressure is greater than a pressure threshold,
the change in pressure is greater than a change in pressure threshold, and
a first interval has elapsed; and ~~and a displayed object on a screen;~~
~~determining whether to output a haptic effect based on the intent; and~~
responsive to determining the gesture ~~to output the haptic effect based on the intent,~~
outputting the haptic effect.

Notably, this amendment added the test for determining whether the press was intended or accidental via the language “determining a press if” After filing a Terminal Disclaimer (Ex. 1002 at 398, 400), the claims were allowed. Ex. 2001 at ¶ 63.

During the prosecution of the parent application, U.S. Patent Application SN 10/723,778, the Board of Patent Appeals and Interferences directly considered whether the combination of Gillespie and Astala (the base reference for Ground 1 here) disclosed the limitation, “the change in pressure is greater than a change in pressure threshold” – the same limitation present in all challenged independent claims. Exhibit 2003 at 96; Ex. 2001 at ¶ 64. The examiner rejected claims with this limitation based on two sections of Gillespie disclosing “the Z signal exceeds the threshold Z_{tap} for at least some part of the stroke” (Gillespie at 35:28-30) and “[t]o perform the gesture, the finger is first brought near enough to cause cursor motion without causing a virtual button press. Next, the finger pressure increases past the threshold Z_{pushDown}, causing the virtual button to be pressed” (Gillespie at 49:8-12) arguing that these mentions of pressure “exceeding” and “increasing” taught this claim limitation. Ex. 2001 at 6; Ex. 2001 at ¶ 64.

Additionally, in the Examiner's Answer, the examiner cited the same embodiment of Astala cited in the present Petition, stating that “Astala is cited to teach outputting a press signal if the value of pressure of touch input is greater than a pressure threshold and a first interval has elapsed (col. 9, lines 24-35).” *Compare* Ex. 2003 at 78 (citing Astala at 9:24-35) *with* Pet. at 25 (citing Astala at 9:28-29, 9:32-34). In reply, Applicants argued that Gillespie did not disclose “the change in pressure is greater than a change in pressure threshold” and further noted “the

Examiner apparently does not dispute that Astala does not disclose such a feature.”

Ex. 2003 at 87-88.

The BPAI agreed with Appellants, and found that merely comparing a pressure value against a (single) threshold value is not the same as evaluating a change in pressure against a change in pressure threshold:

Gillespie teaches that as a finger pressure increases past a threshold, a virtual button is pressed. Gillespie 49:12-13. The Examiner found that this “increase” in pressure is the same as a change in pressure. Ans. 9. However, this description merely teaches comparing a pressure value against a threshold value. As argued by Appellants, this is not the same as evaluating a change in pressure against a change in pressure threshold.

(U.S. Patent Application SN 10/723,778 File History, Patent Board Decision) at 5.

Thus the BPAI found that the Examiner had failed to establish a prima facie case of obviousness for the Gillespie and Astala combination. *See id.* Specifically, the Examiner did not dispute that Astala does not disclose “the change in pressure is greater than a change in pressure threshold.” Nor did the BPAI find that Astala cured Gillespie’s deficiencies.

The ’507 Patent was previously challenged by Apple, Inc. in *Inter Partes* Review No. IPR2016-01777. Ex. 2001 at ¶ 66. In that IPR, the Board denied institution. *Id.* The challenges included two grounds: (1) Toda in combination with Shahoian, and (2) Morimura in combination with Shahoian. Ex. 1002 at 456; Ex.

2001 at ¶ 66. Although the Board expressly stated that it did not construe any terms (Ex. 1002 at 457), the Board found that the pressure comparisons in the independent claims must occur during the first interval of time:

In other words, in order to determine that a user is pressing, the following three conditions must be met: (1) the pressure exceeds the pressure threshold; (2) the change in pressure is greater than the change threshold; and (3) the first interval has elapsed. In the process described in Figure 3, the first two conditions must be maintained for the duration of the first interval, i.e., the user must continue to touch for the duration of the first interval, before a press is recognized.

Id. at 454. In denying institution, the Board found that neither combination met these requirements. Ex. 1002 at 462-463; Ex. 2001 at ¶ 66.

The '507 Patent was subsequently challenged in IPR2017-01310 by the same petitioner as for the -01777 matter, and uses the same art and arguments used in Ground 1 of the present Petition. However, after considering the *General Plastic* factors, the Board denied institution pursuant to Section 314(a). Ex. 1026 at 14.

III. PERSON OF ORDINARY SKILL IN THE ART (POSA)

Petitioner identifies a person of ordinary skill in the art (“POSA”) as one who would have possessed a bachelor’s degree in electrical engineering, computer science, or a related field, plus at least two years of industry or graduate level experience with software engineering, haptics programming, and/or human-computer interaction, including experience with user-interfaces and applications

involving touchscreens, touchpads, and related technologies. Pet. at 7 (citing Ward, ¶¶38-44).

Immersion submits that a POSA at the time of the '507 Patent would have had a bachelor's degree in electrical engineering or computer science (or an equivalent degree), and two years of practical or industry experience in the field of human computer interaction (HCI), including implementation of computer-based systems and software for providing haptic feedback effects to a user. Ex. 2001 at ¶¶ 33-4. Also, a person could have qualified as a POSA with more formal education and less practical or industry experience, or vice versa. *Id.* Immersion reserves the right to propose a different level of skill in the art if trial is instituted. In any event, the Petition fails to show that any challenged claim of the '507 Patent is unpatentable under either Petitioner's or Immersion's definition of a POSA.

IV. CLAIM CONSTRUCTION

In the current parallel district court proceeding, Petitioner has proposed constructions for the following terms, while Patent Owner maintains that the terms should be afforded their plain and ordinary meaning as understood by a POSA.

Claim Term	Petitioner's Proposed Construction in District Court
"determining a change in pressure"/"change in pressure threshold"	"computing the difference between the current pressure and a prior pressure"/"a threshold for the difference between the current pressure and a prior pressure"
"actual pressure"/"pseudo pressure"	"a direct measure of pressure"/"an indirect measure of pressure"

See EX2003 (Joint Claim Construction Statement).

Here, Petitioner does not propose the above terms for construction as it did in the district court, but rather proposes a different term for construction, "determining a press if . . . a first interval has elapsed." See Pet. at 7-8. Petitioner argues that the Board's previous analyses of the three factors for determining a press were wrong. Pet. at 30. The claims, by their plain and ordinary language, require the determination of a press only *if* (1) the pressure is greater than a pressure threshold, (2) the change in pressure is greater than a change in pressure threshold, *and* (3) a first interval has elapsed. Petitioner argues that each of these three requirements can be tested individually, and unrelated to one another—an interpretation that would allow testing pressure caused by a press, then at some later time after the finger has been removed or even before the press occurs, determine some time interval has elapsed. Pet. at 8. The Board has previously found such an interpretation is incorrect. Ex. 1023 at 14-15. In any event, it does not appear that the Board needs

to resolve this term, because it does not matter to the resolution of the unpatentability question as explained in more detail below in relation to the Grounds. *Nidec v. Zhongshan*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (“we need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy’”); Ex. 2001 at ¶ 35.

For the purposes of this Preliminary Response, Patent Owner believes that all terms may be given their ordinary and customary meaning, as understood by a POSA, in the context of the patent specification, and that no argument herein requires a special construction for any particular term.

V. THE ASSERTED REFERENCES

A. Astala (Ex. 1005)

The Astala reference, titled “Touch Screen Drag and Drop Input Technique,” describes a method for detecting drag-and-drop gestures on a touch screen, to perform actions such as moving a file into a directory. Ex. 1005 at Abst.; Ex. 2001 at ¶ 68. Astala is not concerned with, and does not address, the main teaching of the ’507 Patent, namely determining whether a user intended to activate a GUI element using a touch sensitive device. *See* Ex. 1001 at 10:38-42 (Claim 1: “determining a press if . . .”); Ex. 2001 at ¶ 68. Rather, the object of Astala’s teachings is to distinguish between a drag versus a subsequent touch. Ex. 1005 at 2:2-8; Ex. 2001 at ¶68.

Astala uses the traditional technique of measuring time to distinguish between different actions. Ex. 2001 at ¶ 69. “For example, pressing a selection point for a first determined time period may correspond to a single clicking the left button on a mouse. On the other hand, pressing a selection point for a second predetermined period of time which is longer than the first predetermined period of time may correspond to double-clicking the left button on the mouse.” Ex. 1005 at 2:32-38.

The petition relies on and cites the descriptions in Astala beginning with Fig. 6 at col. 8, line 58. That section begins by describing that the system receives a touch input. “The process begins at step 700. At step 702, a touch screen input is detected. That is, the touch of an object, such as a finger or pointed stylus, on the touch screen 70 is detected.” Thus, unlike the '507 Patent, Astala does not teach or suggest any way to determine whether the user intended the touch or whether it was accidental. Astala assumes the user intended the touch as long as the touch meets a predetermined pressure level. Ex. 1005 at 9:26-35; Ex. 2001 at ¶ 70. All the other tests in Astala are used to determine whether the touch is a selection of a file, the dragging of the file to a different location on the GUI or the dropping of the file. *See* Ex. 1005 at 9:15-65; Ex. 2001 at ¶ 70.

B. The Shahoian Reference (Ex. 1004)

U.S. Patent Application Publication No. 2001/0033795 by Shahoian et al. describes a computer system having a touch sensitive input device and a haptic

actuator. Ex. 2001 at ¶ 71. This system generates haptic feedback in response to user interactions on the touch input device. Ex. 1004 at ¶ 8; Ex. 2001 at ¶ 71. The touch input device detects the touch and relays coordinate data to a processor. Ex. 1004 at ¶ 41; Ex. 2001 at ¶ 71. A local processor within the system receives input signals from the input device and outputs signals to actuators based on instructions from a host processor. Ex. 1004 at ¶ 66; Ex. 2001 at ¶ 71. In this manner the system provides haptic feedback to the user, in response to detection of user contact on the touch input device Ex. 1004 at ¶ 77; Ex. 2001 at ¶ 71.

The petition only cites the Shahoian reference for providing two limitations of the claims: the haptic response required by the independent claims, and the pseudo pressure for various dependent claims using that term. Thus, Petitioner does not argue that Shahoian provides any limitations related to the recited test “determine a press if”

C. The Keely Reference (Ex. 1007)

The Keely reference (Exhibit 1007) describes methods for simulating mouse gestures on touch-sensitive input devices such as trackpads or touchscreens used with a stylus. Ex. 1007 at Abst., ¶ 2, ¶ 4; Ex. 2001 at ¶ 79. “The present invention is directed generally to apparatus and methods for simulating various gestures of a pointing device with multiple switches, such as a two-button mouse in a computer system.” ¶ 2. *See also* Pet. at 42. As described in Keely, “[u]sing the tip of the

stylus-type device, there is presently no convenient way to simulate or distinguish between, for example, a right click as opposed to a left click as interpreted by the operating system.” Ex. 1007 at ¶ 5; Ex. 2001 at ¶ 79. Keely is directed to simulated mouse gestures with a stylus. *Id.* at ¶ 6; Ex. 2001 at ¶¶ 79, 81.

Keely proposes specific interactions to simulate mouse clicks: a left-click is mimicked by pressing and quickly lifting the stylus from the touch-sensitive surface without significant movement, while a right-click requires holding the stylus down until after a preset time has passed before lifting. Ex. 1007 at ¶ 8, Pet. at 43; Ex. 2001 at ¶ 80. Time is used to differentiate between left- and right-clicks, simplifying the execution of commands without additional mechanical inputs. *Id.* at ¶ 23; Ex. 2001 at ¶ 80.

However, the Keely reference primarily concentrates on the simulation of mouse functions and does not address methods for determining whether a user intended to operate a graphical user interface (GUI) element in the first place. This focus results in a detailed approach to replicating mouse functionality but stops short of addressing broader interactive dynamics or accidental touches.

D. Kolmykov-Zotov Reference (Ex. 1008)

Like Keely, the Kolmykov-Zotov reference is directed to discriminating between left and right mouse click actions when using a pen-based touch sensitive system. Ex. 2001 at ¶ 82. The title demonstrates the focus of this invention is on pen

systems: “Detection of a Dwell Gesture By Examining Parameters Associated with Pen Motion.” Kolmykov-Zotov describes the field of the invention as: “This invention generally relates to systems, methods, and computer-readable media for detecting a dwell gesture made using an electronic pen in a pen-based computing system and determine whether the gesture is intended to constitute a ‘press-and-hold’ action. A ‘press-and-hold’ action, in at least some pen-based computing systems, may be used to activate and/or access various functions of the computer operating systems, e.g. the functions of a conventional right mouse click.” Ex. 1008 at 1:7-15.

Kolmykov-Zotov describes tapping as a left mouse click (Ex. 1008 at 2:7-10), and press-and-hold as a right mouse click (*id.* at 2:29-39): “A press-and-hold action, however, also can be difficult for some users to perform because it can be difficult, for at least some, to hold a pen perfectly steady for a predetermined time period. . . If at any time during the press-and-hold determination time, the pen tip 10 strays outside of the predetermined area 14, the gesture is determined to not constitute a press-and-hold.” Ex. 1008 at 2:40-57; Ex. 2001 at ¶ 83.

The Kolmykov-Zotov reference identifies holding the pen sufficiently steady as a significant problem for users. Ex. 2001 at ¶ 84. The Kolmykov-Zotov reference refers to this as the “pen-steadiness factor” and proposes a “steadiness parameter measurement” as a solution. Ex. 1008 at 11:1-23; Ex. 2001 at ¶ 84. Notably, all this

occurs during the “pen-down” event to determine whether a press-and-hold event has occurred. Ex. 1008 at 11:6-11; Ex. 2001 at ¶ 84. “If a press-and-hold action is intended, typically the pen tip will not move much while the user is attempting to activate press-and-hold processing, although some amount of drift in the pen tip location can be expected, as some users may not be able to hold a pen perfectly still for an extended time period.” Ex. 1008 at 11:34-39. The proposed steadiness parameter is described as follows: “The ‘steadiness factor,’ or ‘S’ in this example simply constitutes the number or consecutive measurements in which the X and Y coordinates of the pen tip location did not change from the previous measurement.” Ex. 1008 at 11:58-61.

Kolmoykov-Zotov does not address whether the initial press by the user was intended or not. Ex. 2001 at ¶ 86. Like Keely, Klomoykov-Zotov is focused on discerning between various mouse actions such as left- or right-clicks, single- or double- clicks, or selection versus drag-and-drop actions when using a pen-style input device. Ex. 2001 at ¶ 86,

VI. ASTALA + SHAHOIAN DOES NOT DISCLOSE OR SUGGEST USING PRESSURE, CHANGE IN PRESSURE AND ELAPSED TIME TO “DETERMINE A PRESS”

- A. Astala + Shahoian does not teach determining an initial press of the touch sensitive input device as required by the claim language “determining a press”.**

As discussed above, all the independent claims of the '507 Patent recite “*detecting a press* if: the pressure is greater than a pressure threshold, the change in pressure is greater than a change in pressure threshold, *and* a first interval has elapsed.” Ex. 1001 at 10:38-42 (emphasis added). By the plain language of the claims themselves, the '507 Patent requires detection of whether presses are deliberate, not determination of whether the press was intended to be a single- versus double- mouse click, or a selection versus drag-and-drop operation. Ex. 2001 at ¶ 72. Astala nowhere describes or teaches determining whether a press was intentional or accidental, i.e. “determining a press,” as required by the '507 Patent's claims. *Id.*

These requirements are consistent with the teachings of the '507 Patent, and expressly distinguish Astala's methods for discriminating between gestures intended to indicate various mouse inputs. The '507 Patent is directed to determining whether a user's contact with a touchscreen is intended as a press, as opposed to an accidental touch or another incidental brush. Determining whether a user intended to make an input on a touch sensitive device presents a challenge due to a number of factors including the sensing technology (resistive, capacitive) and physical differences between users (finger shape). Ex. 2001 at ¶ 73. The '507 patent teaches using three criteria to determine whether a user's contact is intended to be a press: (1) the pressure is greater than a pressure threshold, (2) the change in pressure is greater than a change in pressure threshold, and (3) a first interval has elapsed. Ex. 1001 at

10:38-43; Ex. 2001 at ¶ 73. Astala, on the other hand, teaches how to discriminate between a selection versus a drag-and-drop operation or a single- versus double-mouse button click. Ex. 1005 at 2:1-8, 32-38. Unlike the '507 Patent, Astala does not address how to determine whether a singular press was intended by the user or accidental, and as such, does not “determin[e] a press” based on the combination of those three conditions (pressure threshold, change in pressure threshold, and time). *E.g.* Ex. 1001 at 10:38-42.

Moreover, to the extent that Astala discusses discriminating between a user's input gestures, Astala sets out a different approach than that claimed by the '507 Patent. At most, to determine a ***touch***, Astala looks at only ***two*** factors: the instant pressure and duration of contact. Ex. 2001 at ¶ 74. This was the standard method for interpreting the traditional mouse click in touch sensitive systems before the '507 Patent. *Id.*; Ex. 1005 at 2:32-38 (“For example, pressing a selection point for a first predetermined time period may correspond to single clicking the left button on a mouse.”). Astala suggests that this traditional method can be used for detecting the two touch inputs that begin and end a “drag and drop” motion on a touchscreen computer system. Ex. 1005 at 2:11-14, Figs. 1-2; 3:30-34; Ex. 2001 at ¶¶ 75-76. That is, Astala teaches a three-step process for users to “drag and drop” items displayed on the screen: (1) a first ***touch***, selecting an icon by applying pressure to it; (2) decreasing the pressure while ***dragging*** the icon across the screen; and (3) a

second *touch*, applying pressure again at the icon's destination. Ex. 1005 at 9:3-65; Ex. 2001 at ¶ 75. Thus, Astala does not disclose or suggest "determining a press" (i.e., a single press based on three conditions, pressure threshold, change in pressure threshold, and time) as required by all the independent claims of the '507 Patent. Ex. 2001 at ¶ 76.

B. Astala + Shahoian does not use a "change in pressure" to determine an initial press.

Additionally, Astala never discloses or suggests "determining a press" based on "the change in pressure." Ex. 2001 at ¶ 76. Rather, Astala teaches determining a drag and drop operation has occurred based only on the instant pressure and duration of a first starting and second ending touch. *Id.*; Ex. 1005 at 9:27-30 ("At step 710, a determination is made that the value of the pressure *z* of touch input 732 is greater than a predetermined value *Za* over the period of time."), 9:50-53 ("At step 716, a second touch input is detected by determining that the value of the pressure *z* of the object on the touch screen 70 is greater than a predetermined pressure value *zB* (which may be equal to *zA*) over a period of time."). All references in Astala relating to determining a touch input involves only those two criteria—the instant pressure and time. Ex. 2001 at ¶77; Ex.1005 at 9:27-30 (first touch input), 9:50-53 (second touch input), cl. 14 (two touch inputs described in Claim 14). Additionally, Astala assumes the touches were intended by the user to perform a command input and does

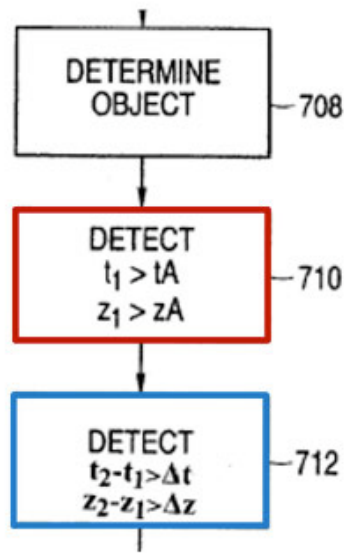
not use the three-part test the '507 Patent claims for “determining a press” in the first instance. Ex. 2001 at ¶ 77.

During the “drag” step, Astala senses a decrease in pressure for an entirely different purpose than the '507 Patent, and it is unrelated to “determining a press” in the first instance. Astala only observes this decrease in pressure *after* the first touch input has *already* been detected. Astala is *not* using this decrease in pressure to “determine a press” but rather to distinguish the user is initiating a “dragging” sequence as opposed to only a selection of an item. Ex. 2001 at ¶ 78; Ex. 1005 at Fig. 6(a) (step 712). The displayed item may then be “dragged across the face of the touch screen 70 at the reduced pressure” (step 714). Ex. 1103 at 9:40-42, Fig. 6(a); Ex. 2001 at ¶ 78. This reduced pressure, occurring *after* the initial touch, is the only instance in which a pressure change is considered in Astala and does not use the reduction in pressure for “determining a press”—since it has already determined a first touch. Moreover, Astala detects the “reduced pressure” only after the displayed icon has already been selected, i.e. after the initial press has occurred. Rosenberg Ex. 2001 at ¶ 78. Astala does not disclose or teach that a reduction in pressure is or should be considered to “determine a press” as in the 507 Patent.

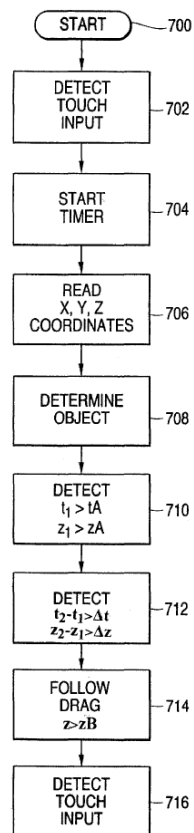
Additionally, even if Astala disclosed using the “reduction in pressure” to “determine a press” as required by the claims of the '507 Patent, this disclosure still does not meet the requirements of the claims. The claims specifically recite, “the

change in pressure *is greater than* the change in pressure threshold” (emphasis added). That is because a reduction in pressure would indicate that the user did *not* intend to press and instead had accidentally made contact—the problem the ’507 was trying to solve. Accordingly, reductions in pressure would not meet the change in pressure threshold and would thus be ignored. In contrast, Astala expressly teaches the sensing of a “reduced pressure,” as it indicates the *drag* part of a user’s gesture—*not* the initial “determine a press” portion, as a loss of pressure would indicate that a press had *not* happened. As such, Astala does not disclose that this “reduced pressure” is greater than a change in pressure threshold as recited in all independent claims.

Nothing in Astala supports Petitioner’s argument that measuring or comparing a reduced pressure is somehow part of the initial press i.e. “determining a press if” in the claims. *See* Pet. at 27-28. *Id.* Instead, Petitioner incorrectly crops Astala’s figure 6a as follows:



See Pet. at 25. The full unedited figure, however, clearly shows that the press is determined separate and apart from the comparing of pressure to determine in a drag has occurred. In the below figure, the system first check for a press in step 702 labelled, “DETECT TOUCH INPUT”:



Ex. 1005, Fig. 6a (excerpt of relevant portion of figure). According to Astala, “[a]t step 702, a touch screen input is detected. That is, the touch of an object, such as a finger or pointed stylus, on the touchscreen 70 is detected.” *Id.* at 9:15-18. By steps 712 and 714 where a reduction in pressure is detected and compared, the drag portion of the gesture is already occurring, and the system has *previously detected the initial press*. At step 712, the *dragging* action is initiated, when the reduction in pressure is detected. Ex. 1005 at 9:36-39; Ex. 2001 at ¶ 78. By step 714, the system is now in “drag mode” and the selected icon will “follow” the user’s dragging movement around the touch screen until the user “drops” the icon at a destination. Ex. 1005 at

9:40-42, Fig. 6b (illustrating “drag path 734” for the selected icon); Ex. 2001 at ¶ 78. Thus, reduction in pressure is not considered by Astala as a part of the initial touch input to “determine a press.” Rather it is only used to initiate a drag operation after a press has already been determined.

Astala's disclosure makes clear that the reduction in pressure is required to determine whether a “drag” operation is occurring. Ex. 1005 at 9:40-42 (“[A] determination is made that the value of the pressure *z* of the object on the touch screen 70 has been reduced . . . [T]he object is dragged across the face of the touch screen 70 at the reduced pressure *z* of the object on the touch screen 70.”); Ex. 2001 at ¶ 78. Thus, Astala uses detection of a reduced pressure to signal a drag operation.

Petitioner argues that adding the requirement that a “change in pressure is greater than a change in pressure threshold” to Astala's press detection would have been obvious. Pet. at 28-29. For the reasons stated above, to the contrary, Astala teaches the opposite of detecting a press based on a change in pressure threshold because a *reduction* in pressure indicates *no* press. Despite this opposite teaching, Petitioner only identifies that a POSA would be familiar with techniques for identifying an initial press using “an increase in pressure.” But Petitioner never identifies nor explains how “using increasing pressure” involves anything more than testing the pressure against a pressure threshold, which tracks limitation 1E1 and not 1E2 that recites “the change in pressure is greater than a pressure threshold.” In fact,

the Petition argues that limitation 1E2 is somehow obvious given 1E1: “Furthermore, this Astala-Shahoian variation applies a known technique (interpreting a select gesture by *requiring a pressure increase exceeding a threshold*)” This statement ignores the distinction between limitation 1E1 and 1E2 and repeats the requirements of 1E1, i.e. “the pressure is greater than a pressure threshold” and does not suggest using change in pressure against a *change in pressure threshold*. Additionally, Petitioner does not identify a “change in pressure threshold” that the increasing pressure is compared against. Thus, Petitioner has not shown that Astala or Shahoian renders obvious the limitation 1E2 “the change in pressure is greater a change in pressure threshold.”

Additionally, Astala does not disclose sensing a “change in pressure [that] is greater than a change in pressure threshold” with respect to limitation 1E2, but rather only discloses sensing a “reduced pressure” to indicate a drag operation. Petitioner asserts without evidentiary support that a POSA would have modified the Astala system to instead do something entirely different and determine an initial press based on a “change in pressure greater than a change in pressure threshold”. However, Petitioner’s alleged motivation to modify should be given little weight. Petitioner cites the declaration of its expert, Dr. Ward, for support, but Dr. Ward’s declaration is merely a *verbatim copy* of the Petition in this regard. *Compare* Pet. at 28-29 with Ex. 1003 at ¶¶ 224-228. This circular citation, without any actual factual basis, lends

no weight to Petitioner's assertion that a POSITA would have been motivated to change the Astala system to instead do something entirely different and determine a press based on a change in pressure in addition to other criteria. *See Apple Inc. v. Immersion Corp.*, Case IPR2016-01371, Paper 7 at 13-14 (PTAB January 11, 2017) (disregarding expert testimony on obviousness where testimony is "simply a verbatim copy of the argument in the Petition"); *Arendi S.A.R.L. v. Apple Inc.*, 832 F.3d 1355, 1366 (Fed. Cir. 2016) (reversing finding of obviousness where PTAB relied on "conclusory statements and unspecific expert testimony"); *In re. Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1368 (Fed. Cir. 2004) ("[T]he Board is entitled to weigh the declarations and conclude that the lack of factual corroboration warrants discounting the opinions expressed in the declarations."). Thus, Petitioner has failed to show that a POSA would have a reason to modify Astala in this way.

Lastly, during the prosecution of the parent application, U.S. Patent Application SN 10/723,778, the Board of Patent Appeals and Interferences directly considered whether the combination of Gillespie and Astala (the base reference for Ground 1 here) disclosed the limitation, "the change in pressure is greater than a change in pressure threshold"—the same limitation present in all challenged independent claims. Exhibit 2003 at 96. In reply, Applicants argued that Gillespie did not disclose "the change in pressure is greater than a change in pressure threshold" and further noted "the Examiner apparently does not dispute that Astala

does not disclose such a feature.” Ex. 2003 at 87-88. The BPAI found that the Examiner had failed to establish a prima facie case of obviousness for the Gillespie and Astala combination. Ex. 2003 at 96. Specifically, the Examiner did not dispute that Astala does not disclose “the change in pressure is greater than a change in pressure threshold.” *Id.* Nor did the BPAI find that Astala cured Gillespie’s deficiencies.

The remaining claims challenged by Petitioner on the basis of Ground 1 are not obvious at least because they depend from independent Claims 1, 9, or 14 or which, as discussed above, Petitioner has failed to show a reasonable likelihood of success in showing that the claims are obvious.

VII. NEITHER KEELY NOR KOLMYKOV-ZOTOV DISCLOSE OR TEACH “DETERMIN[ING] A PRESS” OR “A CHANGE IN PRESSURE THRESHOLD” AND THEREFORE DO NOT RENDER THE CLAIMS UNPATENTABLE

A. Keely and Kolmykov-Zotov do not teach “determining a press” as required by all challenged claims, but rather describe identifying gestures that simulate mouse inputs.

Like Astala, Keely and Kolmykov-Zotov are directed to simulating actions traditionally performed with a pointing device such as a mouse. Ex. 2001 at ¶ 88. Keely describes “[a] method and apparatus for simulating a least one gesture of a pointing device such as a mouse. A left click, right click, left drag, right drag, and/or mouse movement may be simulated using a stylus in conjunction with a touch

sensitive display surface.” Ex. 1007 at Abst. Kolmykov-Zotov describes “[s]ystem, methods and computer readable media are used to determine whether specific electronic pen gestures with respect to pen-based computing systems should be processed as ‘press-and-hold’ gestures (e.g. to active right mouse button click actions.” Ex. 1008 at Abst. Unlike the ’507 Patent, both these references describe conventional methods for identifying whether a gesture indicates a selection activity or other mouse actions such as a right click or drag; the references do this by timing how long a stylus stays on the surface of a touch sensitive input device or by detecting movement across the surface. Ex. 1007 at ¶ 8; Ex. 1008 at 5:10-14; Ex. 2001 at ¶ 88.

In contrast, the ’507 Patent is related to determining whether a user intended to press a UI element using a touch sensitive device in the first instance. Ex. 1001 at Abst.; Ex. 2001 at ¶ 89. Unlike the Keely and Kolmykov-Zotov references, the ’507 Patent is not directed to discriminating between different types of actions, but rather, is concerned with determining whether a user intended the touch or whether it was incidental or accidental. *Id.* at 1:46-67. As explained by the ’507 Patent, “conventional touchpads are less accurate in determining and providing the pressure exerted on the touchpad . . . [T]he touchpad 102 shown does not sense actual pressure. Instead the pressure reading from the touchpad 102 is a pseudo pressure. The pseudo pressure may not accurately represent the amount of pressure actually

exerted on the touchpad 102.” *Id.* at 2:48-3:21. Notably, The Keely reference does not use the term “pressure” or “change in pressure” at all. Ex. 2001 at ¶81. Thus, changes . . . in the pressure exerted on the surface of the touchpad must be used to determine a user’s intent.” *Id.* at 1:53-54.

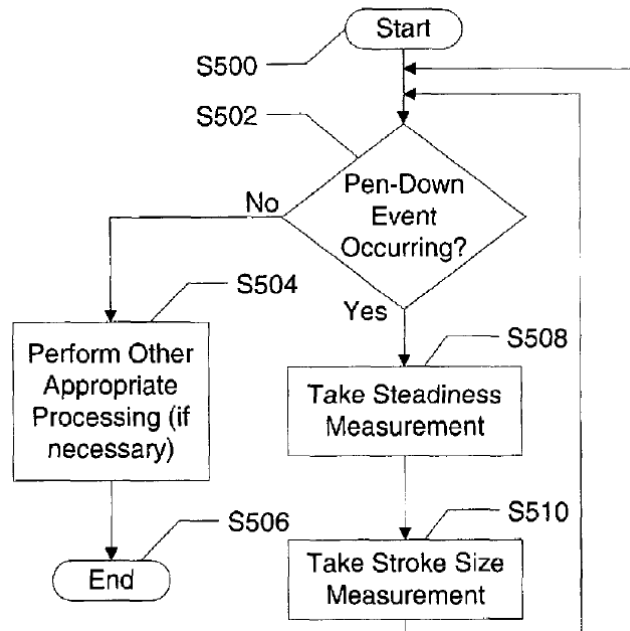
B. The Petition does not identify evidence relating to “determining a press” in the first instance but rather whether a the “hold” portion of a press-and-hold event has occurred.

Petitioner argues that “Keely+Kolmoykov-Zotov meets [1E] because it uses Kolmoykov-Zotov’s gesture-determination that determines a ‘press-and-hold’ gesture if limitations [1E1]-[1E3] are met.” Pet. at 53. This argument also lacks sufficient evidentiary support. Petitioner merely cites its expert declaration, but that declaration is a verbatim copy of the Petition and should be given little weight. *See Apple Inc. v. Immersion Corp.*, Case IPR2016-01371, Paper 7 at 13-14.

The Petition and the cited sections of Kolmykov-Zotov do not disclose “determining a press,” but rather, discuss testing for the “hold” portion of a “press-and-hold” event. The Kolmoykov-Zotov reference expressly defines a “press-and-hold” event as “[a] pen down event that last a sufficient time with a sufficient lack of pen positional change so as to activate predetermined processing by the computing system.” Ex. 1008 at 5:11-14. Thus, the Petition identifies a method of detecting the “hold” portion of a press-and-hold event, which is not the same as

“determining a press” as expressly required by the independent claims of the 507 Patent. Ex. 2001 at ¶ 90.

Notably, neither the Petition nor Kolmykov-Zotov identifies or describes what is used to determine the initial press has already occurred beyond that the pen has made “contact” or is in close “proximity” to the “digitizer.” Ex. 1008 at 4:59-5:10; Ex. 2001 at ¶¶ 90-91. Kolmykov-Zotov’s process of determining whether the “hold” portion of a press-and-hold event has occurred starts with an assumption that a pen-down event has occurred, but never explains how that initial determination is made, whether it uses pressure at all or some other form of contact detection. For example, none of the citations to Kolmoykov-Zotov appearing in the Petition on pages 52-55 (the sections describing limitation 1E1 and 1E2) describe or teach how the initial pen-down event is determined; rather, all explain how the “hold” portion is determined. In contrast, in describing “the process for determining whether a specific gesture constitutes a press-and-hold action,” Kolmoykov-Zotov provides no description of how the pen-down event is detected, just whether it is detected or not.



Ex. 1008, Fig. 7 (relevant portion showing Pen-Down Event processing). The accompanying description of step S502 does not mention pressure, pressure change or time at all as required by claim limitations 1E1-1E3, but instead only identifies “contact” or “proximity” to the touch surface: “As the procedure starts (S500), systems and methods according to this example of the invention determine whether a ‘pen-down’ event is occurring S502 (e.g. whether a pen has contacted or come proximate to the digitizer screen surface.” Ex. 1008 at 13:58-14:10; Ex. 2001 at ¶ 90. Kolmoykov-Zotov expressly defines a “Pen-Down Event” as follows:

An event that is initiated at the time a pen approaches proximate to, makes contact with, and/or otherwise interacts with a digitizer. Typically, a pen-down event will end at the time the pen leaves the digitizer surface, moves a distance away from the surface, and/or otherwise stops interacting with the digitizer (e.g., the digitizer may no longer sense the presence of the pen (also called a “pen-up event” in this specification). Because some pens are “active,” a pen-down event may begin before the pen contacts the digitizer surface (i.e., the digitizer may sense the presence of the pen as it approaches the digitizer surface and as it remains proximate to the digitizer surface). Additionally, a pen-down event may continue after the pen actually leaves the digitizer surface (i.e., the digitizer may sense the presence of the pen after it leaves the digitizer surface, while it remains in proximity to the digitizer surface). In some instances, or some systems, a pen-down event may require actual physical contact between the pen and the digitizer surface.

Ex. 1008 at 4:59-5:10. Perhaps Kolmykov-Zotov's touch sensing works this way due to the specific touch sensing technology described in this reference. Ex. 2001 at ¶ 91. The reference describes the pen interacting with an “electromagnetic pen digitizer” or “optical digitizer”, and those device may have been able to sense contact without the use of pressure or time measurements. Ex. 1008 at 9:28-33. But Kolmykov-Zotov doesn't teach how contact or proximity is determined. Thus, nowhere in Kolmoykov-Zotov does it describe or teach “determining a press” using pressure, pressure change and time as required by the independent claims of the 507 Patent. At best, it describes determining a pen-down event using contact or

proximity to the surface of a touch device but discloses nothing further. Ex. 2001 at ¶ 91.

Moreover, the “two parameters” identified by Petitioner are not used in determining whether a pen-down event has occurred in the first instance, but rather are specifically mentioned with respect to later determining a press-and-hold event. Pet. at 53. The portions of Kolmykov-Zotov identified in this section of the Petition all expressly discuss determining a “press-and-hold” event. Ex. 1008 at Abst. (“used to determine whether specific electronic pen gestures with respect to pen-based computing system should be processed as ‘press-and-hold’ gestures”), 6:8-43 (these a parameters used for “detecting a press-and-hold action” at 5:49-51), 13:27-57 (“a wide variety of parameters may be used in determining whether a specific gesture constitutes a press-and-hold action”), Claim 1, 19:45-46 (“determining whether the pen-down event constitutes a press-and-hold gesture), Claim 19 (“method according to claim 1”). Thus, the parameters identified by the Petition do not pertain to “determining a press” and as discussed above, the only disclosure in Kolmykov-Zotov involving something similar to a press, a “pen-down event” only discusses using contact or proximity to the touch surface as opposed to using the limitations, pressure (1E1), change in pressure (1E2) and elapsed time (1E3) as required by the claims of the 507 Patent. Ex. 2001 at ¶ 91.

Petitioner makes various obviousness arguments in discussing limitations 1E-1E3, but Petitioner *never* argues that Kolmykov-Zotov's press-and-hold detection renders the 507 Patent's "determining a press . . ." obvious. Instead, Petitioner contends without supporting argument that Kolmykov-Zotov literally meets it: "Keely+Kolmykov-Zotov's technique that meets [1E1]- [1E3] (*supra* §§VI.B.4.g-VI.B.4.h) determines a '*press*-and-hold gesture' (KZ, 19:45-52) which meets 'determining a press' in [1E]. KZ, 2:29-39 (press-and-hold emulates mouse click), 5:11-14, 6:44-46 (press-and-hold is a 'dwell gesture'); Ward, ¶359." Pet. at 56. As discussed above, the tests described in Kolmykov-Zotov that use pressure, change in pressure, and time all related to determining whether the "hold" or "dwell" portion of the action are used to determine that something after a press has occurred. Kolmykov-Zotov does not describe using anything other than contact or proximity to a surface to determine the initial press. As such, the portions Petitioner have cited from Keely+Kolmykov-Zotov in the Petition fail to demonstrate that any claim is unpatentable.

Petitioner also raises a third ground involving the combination of Keely and Kolmykov-Zotov with Shahoian to address various dependent claims. Pet. at 67-69. The Petition asserts that Shahoian provides various limitations of these dependent claims. *Id.* However, as explained above, the Keely + Kolmykov-Zotov combination fails to render any of the independent claims unpatentable, and because

Shahoian is only used against dependent claims, nothing in the Petition shows that Shahoian cures the issues with Keely + Kolmykov-Zotov, and as a result has not shown these dependent claims to be unpatentable.

VIII. INSTITUTION SHOULD BE DENIED UNDER 35 U.S.C. § 314(a)

As explained above, Petitioner fails to set forth evidence establishing even a reasonable likelihood that it will prevail, much less that such evidence is “compelling” under the Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation, PTO Director’s Memorandum (June 21, 2022) (“Interim Guidance”). As Director Vidal recently clarified, “the compelling merits standard is a higher standard than the standard for institution set by statute,” and is met only “if it is **highly likely** that the petitioner would prevail with respect to at least one challenged claim.” *CommScope Technologies LLC, v. Dali Wireless, Inc.*, IPR2022-01242, Paper 23, 3-4 (PTAB Feb. 27, 2023) (emphasis added). Moreover, a compelling merits inquiry is not a substitute for a full *Fintiv* analysis. *Id.* at 4.

Here, the merits of the Petition are not compelling. As discussed above in § VI, the Grounds asserted in the Petition suffer from several deficiencies fatal to the merits of Petitioner’s arguments, including, for example, the absence of any disclosure in the Astala, Shahoian, Keely or Kolmykov-Zotov references for

“determining a press” based on the three criterial recited in all the challenged independent claims.

In addition, under the Interim Guidance, a petition should not ordinarily be denied in accordance with the *Fintiv* factors where Petitioner has offered a *Sotera* stipulation “that if the IPR is instituted, the Petitioner will not pursue in the District Court Litigation any ground raised or that could have been reasonably raised in an IPR for the challenged patent.” The inverse is also true: if, as here, the Petitioner has not offered a *Sotera* stipulation, then the Board should exercise its discretion and deny institution on the basis that “Petitioner has not submitted a *Sotera*-type stipulation that would make discretionary denial inappropriate.” *Zhuhai Cosmox Battery Co., Ltd. v. Ningde Amperex Technology Limited*, IPR2023-00587, Paper 12 at 15, 27 (PTAB Sept. 22, 2023) (discretionarily denying institution where Petitioner stipulated not to re-raise same grounds in district court as in IPR but where stipulation “does not extend to any ground ‘that could have been reasonably raised,’ pursuant to *Sotera*.”)

Petitioner has not offered a *Sotera* stipulation—or even a weaker commitment not to assert duplicative grounds in the District Court proceeding—and thus the sound logic recognized in *Zhuhai* applies with even more force here. The Board should accordingly find that Petitioner’s decision not to offer a *Sotera* stipulation neutralizes the effects of the pre-institution stay recently entered by the District

Court, and under the circumstances merits denial under a holistic analysis of the *Fintiv* factors due to the duplication of the invalidity grounds asserted in the parallel District Court proceedings. *See Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential) at 2-3; *see also Cisco Sys., Inc. v. Oyster Optics, LLC*, IPR2021-00238, Paper 10 (PTAB Jun. 1, 2021) (Panel exercising discretion to deny institution after holistic analysis of *Fintiv* factors).

A. Whether the Court Granted a Stay or Evidence Exists That One May Be Granted if a Proceeding Is Instituted

The first *Fintiv* factor addresses the likelihood of a stay if this proceeding is instituted. Patent Owner recognizes that a stay of District Court proceedings, when coupled with a *Sotera* stipulation, can make discretionary denial under *Fintiv* inappropriate. But here, Petitioner has not offered a *Sotera* stipulation, and there is no reason to conclude that the District Court's stay reflects any analysis regarding the merits of Petitioners' invalidity defense. As such, the Board should not weigh the pre-institution stay against using its discretion to deny institution.

Here, the District Court in the Western District of Washington instituted a stay of proceedings despite the fact that (a) no institution decisions have been made on any of the seven patents asserted in the District Court litigation; (b) Petitioner did not offer a *Sotera* stipulation; (c) Petitioner has not asked the Board to construe any terms; and (d) contrary to Petitioner's insistence, in seeking the stay, that the mere

filing of its IPR petitions will inevitably simplify the District Court case, only 29 of the 463 patent claims owned by Immersion that have been subject to IPR proceedings have been canceled, and in each of those cases the Petitioner ultimately took a license to Immersion's patent portfolio.³ Because the District Court entered the stay (a) before the Board has made any institution decisions and (b) before the District Court had the opportunity to consider the merits of Petitioner's invalidity positions, and further (c) the District Court's order entering the stay contains no analysis of the merits of Petitioner's invalidity positions, there is no reason for the Board to infer that the District Court's entry of the stay reflects its assessment of the merits of Petitioner's invalidity positions. Ex 2004. The Board should thus give the stay little weight in its *Fintiv* analysis because if the Board denies institution and the stay is lifted, the litigation can resume status quo ante.

B. Proximity of the Court's Trial Date to the Board's Projected Deadline for a Final Written Decision

In the parallel Western District of Washington litigation, before the Court stayed the case the District Court set trial for June 2025 (Ex 2004 at 1),

³<https://www.businesswire.com/news/home/20180129005190/en/Immersion-Reaches-Global-Settlement-With-Apple>.

approximately 2 months before the expected Final Written Decision date of August 14, 2025, if the Board institutes proceedings. If the Board denies institution and the matter proceeds with an approximate delay of 3.5 to 4 months from the previous schedule, the District Court action will head to trial on or about December 2025. Moreover, the District Court can hear not only Petitioner's invalidity defense but can resolve infringement and damages as well. As such, especially in light of Petitioner's failure to offer a *Sotera* stipulation, it is more efficient to allow this matter to proceed in front of the District Court.

C. Investment in the Parallel Proceeding by the Court and the Parties

The third *Fintiv* factor addresses the District Court's and parties' investments into the parallel proceeding. Here, the parties have already invested time and effort in the District Court such that Institution would be inefficient. The parties served invalidity and infringement contentions over six months and two months ago respectively (Ex. 2005 at 1-2, Ex. 2006), and were in the midst of claim construction briefing when the Court stayed the case (Ex. 2005 at 2). Fact discovery in the parallel litigation was underway and could efficiently be resumed if the stay is lifted. *See* Ex. 2005.

In fact, Petitioner has already served nearly 2,000 pages of invalidity contentions including the same references that are asserted in this IPR, as well as

similar references with cumulative subject matter. *See* Ex. 2006 at 9-10. As a result of this overlap, and the absence of a *Sotera* stipulation, there will be no inefficiencies that result from resuming proceedings in front of the District Court.

D. Overlap Between the Issues Raised in the Petition and the Parallel Proceeding

The fourth *Fintiv* factor, which addresses the overlap between the issues raised in the Petition and the parallel proceeding, should also weigh in favor of denial. In the parallel litigation, Petitioner has attacked the validity of the challenged claims in view of the same prior art addressed in the Petition. *See, e.g.*, Ex. 2006 at 9-10.

By failing to offer a *Sotera* stipulation, Petitioner has not even indicated that it would reduce its invalidity assertions based on the outcome of the Board's institution decision. Petitioner is seeking two bites at the invalidity apple. This violates the fundamental tenet of IPRs, which is that a litigant cannot simply hedge its bets on the forum in which to pursue invalidity until it can better weigh its chances, but instead should make a concerted decision regarding where it wishes to litigate its invalidity challenges, and then honor that decision. *See* 77 Fed. Reg. 48680-01 (Aug. 14, 2012) (IPRs are intended "to create a timely, cost-effective **alternative** to litigation") (emphasis added). This factor weighs in favor of denial.

E. Whether the Petitioner and the Defendant in the Parallel Proceeding are the Same Party

The fifth *Fintiv* factors addresses whether the Petitioner and the defendant in the parallel proceeding are the same party. Petitioner admits that it is the defendant in the parallel litigation. Pet., 75. As a result, this factor weighs in favor of denial. *Cisco Sys., Inc. v. Oyster Optics, LLC*, IPR2021-00238, Paper 10 at 16-17.

F. Other Circumstances That Impact the Board's Exercise of Discretion, Including the Merits

Finally, the sixth *Fintiv* factor addresses other circumstances that impact the Board's exercise of discretion. As explained above, Patent Owner raises substantive reasons why the Petition should be denied on the merits and has demonstrated those merits are far from "compelling." These reasons also serve as factors relevant to discretionary denial under this sixth *Fintiv* factor.

IX. CONCLUSION

The Petition fails to show that there is a reasonable likelihood Petitioner will prevail with respect to at least one of the challenged claims under 35 U.S.C. § 314(a). As such, the Board should deny the Petition and decline to institute an *inter partes* review.

Patent Owner's Preliminary Response
IPR2024-00556 (U.S. Patent No. 8,749,507)

Respectfully Submitted,

Dated: May 15, 2024

/David D. Schumann /

David D. Schumann (Reg. No. 53,569)
Palani P. Rathinasamy (Reg. No. 63,541)
Moses Xie (Reg. No. 74,491)
Folio Law Group PLLC
1200 Westlake Ave. N., Suite 809
Seattle, WA 98109
Tel: (206) 206 880-1802
Email: david.schumann@foliolaw.com
palani@foliolaw.com
moses.xie@foliolaw.com

Timothy Dewberry (Reg. No. 62,947)
Folio Law Group PLLC
13492 Research Blvd.
Ste. 120, No. 177
Tel: (206) 206 880-1802
Email: timothy.dewberry@foliolaw.com

(Case No. IPR2024-00556)

Attorneys for Patent Owner

CERTIFICATION UNDER 37 C.F.R. § 42.24(d)

Under the provisions of 37 C.F.R. § 42.24(d), the undersigned hereby certifies that the word count for all portions of the foregoing Patent Owner's Preliminary Response totals 10,856 words per Microsoft Word, which complies with the requirement of 14,000 words allowed under 37 C.F.R. § 42.24(d).

Dated: May 15, 2024

/ David D. Schumann /
David D. Schumann (Reg. No. 53,569)
Folio Law Group PLLC
1200 Westlake Ave. N., Suite 809
Seattle, WA 98109
Tel: (206) 206 880-1802
Email: david.schumann@foliolaw.com

(Case No. IPR2024-00556)

Attorneys for Patent Owner

CERTIFICATE OF SERVICE

As authorized by Patent Owner's Mandatory Notice, I hereby certify that on May 15, 2024, a copy of this document has been served in its entirety by electronic mail on Petitioner's lead and backup counsel.

Richard F. Giunta
Rgiunta-PTAB@wolfgreenfield.com

Thomas F. Foley
TFoley-PTAB@wolfgreenfield.com

Nathan R. Speed
NSpeed@wolfgreenfield.com

Dated: May 15, 2024

/ David D. Schumann /
David D. Schumann (Reg. No. 53,569)
Folio Law Group PLLC
1200 Westlake Ave. N., Suite 809
Seattle, WA 98109
Tel: (206) 206 880-1802
Email: david.schumann@foliolaw.com

(Case No. IPR2024-00556)

Attorneys for Patent Owner