IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

IMMERSION CORPORATION,	§	
	§	
Plaintiff,	§	Civil Action No. 6:22-cv-00541-ADA
	§	
v.	§	
	§	
META PLATFORMS, INC., *f/k/a* FACEBOOK, INC.,	§	
	§	
	§	
Defendant.	§	
	§	
	§	

DEFENDANT'S THIRD SUPPLEMENTAL AND FINAL INVALIDITY CONTENTIONS

Defendant Meta Platforms, Inc. ("Defendant" or "Meta") by and through its counsel, hereby serves its Third Supplemental and Final Invalidity Contentions on Plaintiff Immersion Corporation ("Plaintiff" or "Immersion").

These contentions set forth Defendant's "Final" Invalidity Contentions with respect to the claims currently asserted by Plaintiff. In particular, these Third Supplemental and Final Invalidity Contentions address (1) additional prior art reference(s) based on Immersion's production of documents, (2) address additional information discovered relating to previously disclosed prior art systems, and (3) provide additional information regarding previously disclosed combinations of references. Counsel certifies that it undertook reasonable efforts to prepare its preliminary contentions and the amendment hereto is based on material identified after those preliminary contentions were served.

Discovery is ongoing and Defendant reserves the right to amend and/or supplement these Invalidity Contentions as the case proceeds. In particular, (1) Defendant is awaiting information from CyberGlove Systems, represented by Immersion's counsel, relating to a subpoena served in May of 2023, and (2) Immersion made source code and additional product information available for inspection as of July 18, 2023 (despite having been explicitly requested at least as early as April 14, 2023, and which were also responsive to Requests served February 8, 2023), which provided insufficient time to inspect and review in advance of the July 28, 2023 final invalidity contention deadline. Defendant also reserves the right to supplement the record with additional evidence authenticating any necessary records and deposition testimony regarding these prior art systems and references.

I. INTRODUCTION

A. Asserted Patents and Asserted Claims

Plaintiff's Complaint asserts the following patents: U.S. Patent Nos. 8,469,806 (the "'806 patent"), 8,896,524 (the "'524 patent"), 9,727,217 (the "'217 patent"), 10,248,298 (the "'298 patent"), 10,269,222 (the "'222 patent"), and 10,664,143 (the "'143 patent") (collectively "the Asserted Patents"). On August 15, 2022, Immersion served its Preliminary Infringement Contentions ("PICs"), and served a corrected version of the cover pleading and Exhibit C on August 18, 2022 ("Corrected PICs"). On October 25, 2022, Plaintiff served Amended Preliminary Infringement Contentions ("First Amended PICs"), and on December 5, 2022, Plaintiff served Second Amended Preliminary Infringement Contentions ("Second Amended PICs"). The Second Amended PICs list the following asserted claims (collectively the "Asserted Claims"):

- '806 patent: Claims 11, 12, and 15
- '524 patent: Claims 1, 2, 3, 4, 6, 7, 8, 11, 12, 13, and 14
- '217 patent: Claims 1, 2, 3, 4, 8, 10, 11, 17, 18, and 19
- '298 patent: Claims 1, 2, 5, 6, 9, 10, 13, 16, 17, 18, 21, 22, and 24
- '222 patent: Claims 1, 2, 5, 7, 10, 11, 15, 17, 18, 21, and 23
- '143 patent: Claims 1, 2, 3, 7, 8, 10, 14, 15, 17, and 20

B. Defendant's Contentions are Exemplary

Pursuant to the Scheduling Order (ECF No. 28 at 2, 3) and the Joint Notice of Current Schedule (ECF No. 90 at 5), Defendant serves invalidity contentions in the form of "(1) a chart setting forth where in the prior art references each element of the [A]sserted [C]laim(s) are found, (2) an identification of any limitations the Defendant contends are indefinite or lack written description under section 112, and (3) an identification of any claims the Defendant contends are

directed to ineligible subject matter under [35 U.S.C.] section 101." (ECF No. 28 at 2.) Consistent with the requirements of the Scheduling Order, these contentions do not include bases for unenforceability of the Asserted Patents that Defendant has outside of prior art or 35 U.S.C. §§ 101 and 112. Contemporaneously with these invalidity contentions, Defendant produces any additional information regarding previously disclosed prior art references and systems cited herein.

The following contentions are served in view of Defendant's current understanding of the Asserted Claims as applied in Plaintiff's Second Amended PICs and the Court's claim construction order. These Invalidity Contentions may reflect various potential and alternative positions regarding claim construction and scope. In many instances, Defendant's contentions as stated may reflect or imply a certain claim scope or claim interpretation, which is set forth in view of positions or interpretations suggested by Plaintiff's submissions to date, and in many instances Defendant's contentions may suggest different alternative claim interpretations. To the extent these contentions state, reflect, or suggest a particular interpretation or reading of any claim element, Defendant does not adopt, advocate, or acquiesce to such an interpretation or reading. Defendant's contentions therefore should not be relied upon as a statement of Defendant's claim interpretations and should not be relied upon as any admission regarding the proper scope of the claims. Nor do these Invalidity Contentions constitute any admission by Defendant that any accused products or services, including any current or past versions of those products or services, are covered by any Asserted Claim. Defendant does not take any position herein regarding the proper scope or construction of the Asserted Claims.

These Invalidity Contentions try to take into account and apply Plaintiff's apparent interpretations of the Asserted Claims. Accordingly, any assertion herein that a particular limitation is disclosed by a prior art reference or references may be based in part on Plaintiff's

apparent interpretation and is not intended to be, and is not, an admission by Defendant that any such construction is supportable or correct. To the extent the following contentions reflect constructions of claim limitations consistent with or implicit in Plaintiff's Second Amended PICs, no inference is intended, nor should any be drawn, that Defendant agrees with or concedes those claim constructions. Defendant expressly does not do so, and reserves its right to contest them.

To the extent that prior art cited for a particular limitation discloses functionality that is the same or similar in some respects to the alleged functionality in the accused products and/or services as set forth in Plaintiff's Second Amended PICs, Defendant does not concede that those limitations are in fact met by those accused functionalities. However, to the extent Plaintiff accuses the same or similar functionality as that disclosed in the prior art, Defendant contends such functionality is evidence of invalidity.

Defendant further reserves the right to supplement and amend these disclosures and associated document production based on further investigation, analysis, and discovery, Defendant's consultation with experts and others, and contentions or court rulings on relevant issues such as claim construction and priority dates. Further, as discussed below, Plaintiff has asserted certain alleged conception dates for each of the Asserted Patents. Defendant reserves the right to amend these Invalidity Contentions and/or modify its selection of prior art references if Plaintiff is permitted to allege any date of alleged conception and corroborating evidence prior to the dates identified below, or if Plaintiff is permitted to supplement its proffer of evidence to support those conception dates. Defendant also reserves the right to amend these Invalidity Contentions and/or to modify its selection of prior art references in the event that Plaintiff serves supplemental or modified infringement contentions.

Because Defendant is continuing its search for and analysis of relevant prior art, Defendant

reserves the right to revise, amend, and/or supplement the information provided herein, including identifying, charting, and/or relying upon additional prior art references, relevant disclosures, and bases for Invalidity Contentions. Additional prior art, disclosures, and invalidity grounds, whether or not cited in this disclosure and whether known or not known to Defendant, may become relevant as investigation, analysis, and discovery continue. Defendant is currently unaware of the extent, if any, to which Plaintiff will contend that limitations of the Asserted Claims are not disclosed in the prior art identified by Defendant; despite Defendant having sought such information in discovery, Plaintiff has to date not provided any such information. To the extent that such an issue arises, Defendant reserves the right to identify and rely upon other references or portions of references regarding the allegedly missing limitation(s).

Additionally, Defendant reserves the right to present additional prior art references and/or disclosures under 35 U.S.C. §§ 102(a), (b), (e), (f), and/or (g), and/or § 103, located during the course of discovery or further investigation, and to assert invalidity under 35 U.S.C. §§ 102(c), (d), or (f), to the extent that such discovery or investigation yields information forming the basis for such invalidity.

Additionally, Defendant reserves the right to use these disclosures as well as further discovery and disclosures relating to the alleged utility and advantages of the Asserted Claims over old modes and devices for purposes of any damages issues in the case.

Furthermore, to the extent Plaintiff asserts the doctrine of equivalents, a "doctrine of equivalents theory cannot be asserted if it will encompass or 'ensnare' the prior art." *Jang v. Boston Sci*., 872 F.3d 1275, 1285 (Fed. Cir. 2017). To the extent Plaintiff asserts the doctrine of equivalents for any of the claimed limitations, they would ensnare the prior art for the reasons and based on the evidence discussed below and in the accompanying charts. Defendant reserves the

right to use these disclosures as well as further discovery and disclosures for purposes of noninfringement.

None of the Asserted Claims are valid. As Plaintiff is aware, the prior art in the field of the Asserted Patents is rich and crowded. Defendant's invalidity contentions identify exemplary prior art, but Defendant reserves the right to further provide evidence as discovery continues and to show well-known principles from the prior art, the state of the art, old modes and devices, and additional charts in view of any additional allegations from Plaintiff that have not yet been revealed. Where a reference is cited below or in Defendant's charts as disclosing a certain claim limitation or feature, Defendant also contends that the reference renders obvious that limitation. Where a reference is cited below or in Defendant's charts as rendering obvious a certain claim limitation, Defendant does not admit that the limitation is not disclosed, and reserves the right to show that the limitation is disclosed as well as obvious. Moreover, nothing in these contentions should be viewed as an admission that other portions, sections, figures, or disclosures within a reference do not also disclose, teach, or otherwise suggest features of the Asserted Claims.

The prior art for the Asserted Claims is abundant, so much so, that these contentions are only intended to be exemplary, and non-limiting. Defendant reserves rights to rely on all prior art references, charts, theories, and disclosures known to Plaintiff, including Plaintiff's patents and Plaintiff's systems and products. Defendant incorporates by reference the file histories of the Asserted Patents and all prior art references and systems, invalidity arguments, and theories identified in Plaintiff's document production dated August 15, and 24, 2022.

C. Plaintiff's Priority Date Allegations

The Asserted Patents were filed and issued, as shown below:

Patent	Claimed Effective Filing Date	Filing Date	Issue Date
8,469,806	7/22/2009[1]	7/21/2010	6/25/2013
8,896,524	8/24/2012	8/24/2012	11/25/2014
9,727,217	9/30/2010[2]	6/2/2014	8/8/2017
10,248,298	9/30/2010	8/13/2018	4/2/2019
10,269,222	3/15/2013	7/24/2015	4/23/2019
10,664,143	9/30/2010	2/25/2019	5/26/2020

In its Second Amended PICs, Plaintiff asserts the following alleged "priority dates"[3] for each asserted claim, which Meta understands based on the OGP to mean "the earliest date of invention," i.e., the date of conception:

Patent	Alleged Priority (Invention) Date
8,469,806	3/26/2009
8,896,524	12/19/2011
9,727,217	7/27/2009
10,248,298	7/27/2009
10,269,222	4/23/2012
10,664,143	7/27/2009

(Second Amended PICs at 3.)

Plaintiff produced documents it alleges comprise "documents evidencing the conception

[1] The '806 Patent claims priority to U.S. Provisional Application No. 61/227,645, filed on July 22, 2009.
[2] Each of the '217 Patent, the '298 Patent, and the '143 Patent ultimately claim priority to U.S. Patent Application No. 12/895,161, filed September 30, 2010.
[3] Pursuant to the OGP, "priority date" here means "the earliest date of invention." OGP §II.2.

and reduction to practice of the inventions claimed in the Asserted Patents, of which Immersion is presently aware," and produced documents Bates labeled IMMRMET-00000001-2771. (Second Amended PICs at 4.) As an initial matter, the OGP requires Plaintiff produce "***all*** documents evidencing conception and reduction to practice for each claimed invention." OGP §II.2 (emphasis added). Plaintiff's qualifier "of which Immersion is presently aware" is inappropriate to the extent Plaintiff intends to produce any further documents to support its claim to these earlier invention dates. As the Plaintiff, original assignee of the Asserted Patents, and employer of the named inventors at the time of their alleged inventions, it has access to its own records and knew by filing in this Court that it would be required to produce all such documents. To the extent Plaintiff has completed its investigation and has in fact produced all documents on which it plans to rely to prove earlier invention dates (as required under the OGP), Plaintiff's production falls short of demonstrating conception and reduction to practice of the Asserted Patents as of the "priority dates" listed above for numerous reasons.

First, Plaintiff's document production fails to show conception as of the dates specified, as they fail to disclose each limitation recited in each asserted claim. *Taurus IP, LLC v. DaimlerChrysler Corp.*, 726 F.3d 1306, 1323 (Fed. Cir. 2013). Second, numerous of Plaintiff's documents are uncorroborated, undated, or bear a later date than that claimed for the invention, without corroborating evidence of any earlier date. *Id.* at 1323-24 (corroboration required for evidence to support an earlier invention date). Moreover, Plaintiff has provided little if any evidence of reduction to practice, nor of any diligence performed between the alleged conception of the Asserted Claims and the filing of the applications to which the Asserted Patents claim priority.

In view of the evidence produced by Plaintiff, nothing in these contentions constitutes an

admission concerning the priority dates asserted by Plaintiff. To the extent Plaintiff contends that any prior art is not prior art or any limitations are missing from the prior art, Defendant reserves the right to identify additional disclosures and teachings in the cited references or in other references. Defendant reserves the right to rely on all related family members of the prior art identified in these contentions, as well as additional evidence from third parties, including of any third party products and systems, which may reveal additional disclosures and/or earlier dates.

Defendant also reserves all rights to challenge the alleged effective filing dates. For example, in order for a patent to gain the benefit of the filing date of an earlier application, "each application in the chain leading back to the earlier application must comply with the written description requirement of 35 U.S.C. 112." *Zenon Env't, Inc. v. U.S. Filter Corp.*, 506 F.3d 1370, 1378 (Fed. Cir. 2007) (quoting *Lockwood v. Am. Airlines, Inc.*, 107 F.3d 1565, 1571 (Fed. Cir. 1997)); *Ariad Pharms., Inc. v. Eli Lilly & Co*., 598 F.3d 1336, 1348 (Fed. Cir. 2010) ("adding new matter to the claims has properly been held enforceable under § 112"); 35 U.S.C. § 112, ¶ 1; 35 U.S.C. § 132(a). Defendant specifically does not agree that U.S. Provisional Application No. 61/227,645 complies with the written description requirement of 35 U.S.C. 112 with respect to the '806 Patent, such that Defendant reserves the right to assert that the '806 Patent's effective filing date is July 21, 2010, and not July 22, 2009.

For purposes of these preliminary, exemplary contentions, Defendant has assumed *arguendo* the following priority dates based on claimed effective filing date:

- '806 patent - 7/22/2009
- '524 patent - 8/24/2012
- '217 patent - 9/30/2010
- '298 patent - 9/30/2010

- ’222 patent - 3/15/2013
- ’143 patent - 9/30/2010

Defendant understands that Plaintiff is asserting earlier dates of invention, which Defendant has considered in the alternative as appropriate with respect to prior art under 35 U.S.C. §102(a) and (e). However, Defendant does not limit its selection of 102(a) and (e) art based on Plaintiff’s alleged dates of invention at this time. Moreover, the alleged earlier dates of conception do not affect Defendant’s selection of prior art under 35 U.S.C. §102(b). Defendant reserves all rights to amend these contentions if Plaintiff modifies its priority date and invention date positions or is permitted to provide additional evidence regarding its alleged earlier dates of invention.

II. IDENTIFICATION OF PRIOR ART: THE ’806 PATENT

The concepts disclosed and claimed in each of the Asserted Patents are not new, and had been disclosed, used, offered for sale, sold, and practiced by others prior to the claimed priority date of the patents. The prior art identified herein and in Exhibits A-F, individually or in combination, invalidates the Asserted Claims under 35 U.S.C. §§ 102 (a), (b), (e), (g) and 103. Defendant expects to gather additional information about the identified prior art, and other prior art, through discovery of Plaintiff and third party discovery, and will thus amend and supplement these invalidity contentions once it obtains that discovery and has reasonable time to analyze it in a meaningful way.

As described in more detail below, claims of the Asserted Patents are also invalid under 35 U.S.C. §§ 101 and 112.

A. A Chart Setting Forth Where in the Prior Art References Each Element of the Asserted Claim(s) are Found.

The Asserted Claims of the ’806 patent are invalid under 35 U.S.C. §§ 102 and 103. Subject to Defendant’s reservation of rights, attached hereto as the Exhibits A-1 - A-27 series are

exemplary preliminary disclosures comprising claim charts providing an element-by-element analysis of where specifically, in each prior art item, each element of the Asserted Claims of the '806 patent is found. Any reference to a figure in cited text incorporates by reference the figure itself, and any citation to a figure incorporates by reference any description of that figure in a reference. Similarly, any reference to a cited part or portion of a document encompasses all figures and text within the cited page or portion.

As noted above, these claim charts are based on Defendant's current understanding of the claims and constructions applied by Plaintiff, even though Defendant does not necessarily agree with those interpretations, and reserves the right to dispute them. To the extent certain claim elements are indefinite under 35 U.S.C. § 112(2), as identified and described herein, the claim charts attempt to apply the prior art to the extent Defendant can understand the claim constructions applied by Plaintiff as found in Plaintiff's Corrected PICs. By doing so, however, Defendant does not concede that these claim elements are definite or that one of skill in the art would have been informed with reasonable certainty about the scope of the claim element under *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898 (2014). To the extent any limitation is deemed not to be met exactly by an item of prior art, Defendant contends that the difference would have been obvious to a person of ordinary skill in the art/or and within the knowledge of one skilled in the art at the time of the alleged invention, so that the claimed invention would have been obvious both in light of the single reference alone and/or in light of combined references. Defendant does not admit or concede that such element is not expressly or inherently disclosed by the reference at issue.

As a general matter, all portions of each prior art item are relied upon to support the disclosure of each patent claim limitation, as all portions provide general support. Supporting

citations are nevertheless provided, but do not necessarily represent every location where a particular claim element may be found in the prior art item. Defendant reserves the right to rely on additional, or different, portions of the prior art items other than those specifically cited in these claim charts, and to supplement and/or amend these charts. Defendant also reserves the right to amend its invalidity grounds or charts, or provide supplemental grounds or charts, based on any amendments to Plaintiff's Corrected PICs, or information or documents that may be obtained as discovery continues including third-party discovery.

The following chart summarizes the prior art claim chart exhibits for the '806 patent submitted herewith:

Exhibits	Reference(s)
A1	International Publication No. WO 2007/133251 to Thomas G. Anderson et al. ("Anderson 251")
A2	U.S. Patent No. 8,683,378 to William Bull et al. ("Bull")
A3	US. Patent Application Pub. No. 2010/0156818 A1 and U.S. Provisional Application No. 61/140,519 to Bobby Burrough et al. ("Burrough")
A4	U.S. Patent No. 5,796,354 to Michael C. Cartabiano et al. ("Cartabiano")
A5	U.S. Patent Application Pub. No. 2009/0167508 to Anthony Fadell et al. ("Fadell")
A6	Novint Falcon and Novint/Sandia 3D-Touch Software by Novint Technologies, et al. ("Falcon")
A7	U.S. Patent No. 7,292,151 to Kevin Ferguson et al. ("Ferguson")
A8	U.S. Patent No. 6,671,651 B2 to William Alexander Goodwin et al. ("Goodwin")
A9	U.S. Patent Application Pub. No. US 2009/0231271 A1 to Robert W. Heubel et al. ("Heubel")
A10	U.S. Patent Application Pub. No. US 2009/0191968 A1 to Ian Johnson et al. ("Johnson")
A11	U.S. Patent No. 6,972,734 to Toshikazu Ohshima et al. ("Ohshima")
A12	U.S. Patent Application Pub. No. 2009/0210568 A1 to Cody George Peterson et al. ("Peterson")
A13	Radica Airforce i-Combat system ("i-Combat")
A14	Radica i-Racer Virtual Vision Racing system ("i-Racer")
A15	Fishing Controller for Sega Dreamcast system ("Dreamcast Fishing Controller")
A16	U.S. Patent No. 7,616,192 to Dale W. Schroeder et al. ("Schroeder")
A17	U.S. Patent Application Pub. No. 2009/0326406 to Desney Tan et al.

Exhibits	Reference(s)
	("Tan")
A18	Nintendo Wii System ("Wii")
A19	U.S. Patent Application Publication No. 2002/0151337 to Akihisa Yamashita et al. ("Yamashita")
A20	U.S. Patent Application Pub. No. US 2007/0268248 A1 to Craig B. Zilles et al. ("Zilles")
A21	ARQuake system ("ARQuake")
A22	VPL DataGlove system ("DataGlove")
A23	A Hand Gesture Interface Device to Thomas G. Zimmerman et al. ("Zimmerman")
A24	U.S. Patent No. 6,162,123 to Thomas G. Woolston et al. ("Woolston")
A25	U.S. Patent No. 6,366,272 to Louis B. Rosenberg et al. ("Rosenberg")
A26	U.S. Patent No. 7,952,566 B2 to Ivan Poupyrev et al. ("Poupyrev 566")
A27	U.S. Patent Application Publication No. 2008/0064499 A1 to Danny A. Grant et al. ("Grant '499")

B. Identity of Each Item of Prior Art

Subject to Defendant's reservation of rights, Defendant identifies each item of prior art that anticipates or renders obvious one or more of the Asserted Claims in Section II.C, below, and in Exhibit G. To the extent that the references listed in Exhibit G are not identified as items of prior art that anticipate or render obvious an Asserted Claim, Defendant intends to rely on these references as background and as evidence of the state of the art at the time of Plaintiff's alleged invention.

Additionally, many of the prior art references are related patent applications and issued patents that contain substantially the same subject matter (e.g., published U.S. patent applications, and issued U.S. patents, foreign applications or issued patents). Any citation to or quotation from any of these patent applications or patents, therefore, should be understood as encompassing any parallel citation to the same subject matter in other related or corresponding applications or patents. Defendant also reserves the right to later rely upon all references or portions of references provided in Exhibit G to supplement or amend its disclosures contained herein. Also, to the extent not

expressly mentioned herein, Defendant incorporates by reference (1) any and all prior art contained or identified in documents produced thus far by Plaintiff to Defendant in this case; (2) any and all additional materials regarding invalidity that should have been produced to Defendant but have not been produced to date, to the extent that any exist; and (3) any prior art of which any named inventor of the Asserted Patent is aware and/or on which they contend the alleged invention of the Asserted Patent build upon or improve.

Each disclosed item of prior art is evidence of a prior invention and making of the invention in the United States by another under 35 U.S.C. § 102(g), as evidenced by the named inventor, authors, organizations, and publishers involved with each such reference, with the circumstances described and reflected in each reference including publications and system implementation references. Defendant further intends to rely on admissions of the named inventors concerning the prior art, including statements found in the Asserted Patent, its prosecution history, related patents and/or patent applications, any deposition testimony, and the papers filed and any evidence submitted by Plaintiff in conjunction with this litigation. For systems and products that are disclosed, Defendant also intends to rely on additional information describing those same systems and products, including information received from third-parties in response to subpoenas.

C. Obviousness Combinations and Motivations for Combining Prior Art

Each prior art reference may be combined with one or more other prior art references to render obvious the Asserted Claims in combination, as explained in more detail below. The disclosures of these references also may be combined with information known to persons skilled in the art at the time of the alleged invention, and understood and supplemented in view of the common sense of persons skilled in the art at the time of the alleged invention, including any statements in the intrinsic record of the Asserted Patent and related applications.

A person of ordinary skill would have been motivated to combine the identified prior art

based on the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art. The identified prior art references, including portions cited in the Prior Art Invalidity Charts, address the same or similar technical issues and suggest the same or similar solutions to those issues as the Asserted Claims. On such basis, on an element-by-element basis, Defendant expressly intends to combine one or more prior art items identified in Appendix A with each other to address any further contentions from Plaintiff that a particular prior art item supposedly lacks one or more elements of an Asserted Claim. In other words, Defendant contends that each charted prior art item can be combined with other charted prior art items when a particular prior art item lacks or does not explicitly disclose an element or feature of an Asserted Claim. The suggested obviousness combinations described below are not to be construed to suggest that any reference included in the combinations is not anticipatory. Further, to the extent that Plaintiff contends that any of the anticipatory prior art fails to disclose one or more limitations of the Asserted Claims, Defendant reserves the right to identify other prior art references that, when combined with the anticipatory prior art, would render the claims obvious despite an allegedly missing limitation. Defendant will further specify the motivations to combine the prior art, including through reliance on expert testimony, at the appropriate later stage of this lawsuit.

A person of skill in the art would have been motivated to combine the identified prior art items. As the United States Supreme Court held in *KSR International Company v. Teleflex, Inc.*, 550 U.S. 398, 416 (2007):"The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." The Supreme Court further held that, "[w]hen a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the

same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill." *Id*. at 417.

The Court has further held that "in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle." *Id.* at 420. It is sufficient that a combination of elements was "obvious to try" holding that, "[w]hen there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense." *Id.* at 421. "In that instance the fact that a combination was obvious to try might show that it was obvious under § 103." *Id*. Finally, the Supreme Court recognized that "[g]ranting patent protection to advances that would occur in the ordinary course without real innovation retards progress and may, in the case of patents combining previously known elements, deprive prior inventions of their value or utility." *Id*. at 419. All of the following rationales recognized in *KSR* support a finding of obviousness:

- Combining prior art elements according to known methods to yield predictable results;
- Simple substitution of one known element for another to obtain predictable results;
- Use of known technique to improve similar devices (methods, or products) in the same way;
- Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;
- "Obvious to try"—choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;

- Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations would have been predictable to one of ordinary skill in the art; and
- Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

Certain of these rationales are discussed more specifically below. The fact that others are not discussed more specifically should not be interpreted as an admission or concession that it does not apply. To the contrary, the discussion below simply provides more explanation of these specific rationales.

Defendant further contends that the prior art identified in these Invalidity Contentions is evidence of simultaneous or near-simultaneous independent invention by others of the alleged invention as recited in one or more of the Asserted Claims. Defendant reserves its right to rely on the simultaneous or near-simultaneous independent invention by others as further evidence of the obviousness of the Asserted Claims.

Each limitation of the Asserted Claims was well known to those of ordinary skill in the art before the filing dates of the respective non-provisional application to which each Asserted Patent claims priority, as detailed below and in the attached charts.

The elements recited in the Asserted Claims are mere combinations and modifications of these well-known elements. A person of ordinary skill in the art would be able, and motivated, to improve the existing technology in the same or similar manner by combining or modifying the individual elements that were already known in the art to yield predictable results.

Subject to the foregoing, Defendant identifies the following exemplary reasons that skilled

artisans would have combined elements of the prior art to render obvious the Asserted Claims. The fact that others are not discussed more specifically should not be interpreted as an admission or concession that it does not apply. To the contrary, the discussion below simply provides more explanation of these specific rationales.

1. Motivations Identified During Prosecution

Defendant hereby expressly incorporates by reference any statements and reasons set forth by the Examiner during prosecution of the '806 patent and related patent applications as to why it would have been obvious to modify or combine references to achieve the limitations of the Asserted Claims.

2. Combinations of References Through Citations

Numerous prior art references cite to, discuss, or build upon other references. Where one reference cites or discusses another reference, a person of ordinary skill in the art would have been motivated to consider their teachings in combination, as they would be understood to provide related teachings in a similar field.

3. Combinations of Related References

In some instances, multiple prior art publications and/or physical references discuss or address the same or substantially similar underlying system, software, or other project, such as commercial software products and successive versions thereof, or multiple publications discussing the same subject matter. Where multiple references discuss or relate to the same or related underlying projects, systems, or other subject matter, it was obvious to combine the discussions and disclosures of the references as they would be understood to describe features or potential features of the underlying project, system, technique, or other subject matter. Similarly, where one reference cites or discusses other references or their teachings, or references have one or more authors in common and a related area of subject matter, it was obvious to consider the teachings

of the references in combination with each other due to the express relationships and commonalities between the references.

Further, for each set of references that together refer to or describe the same system and/or potential improvements to the same system, it would have been obvious to combine such references. In particular, to the extent the items are commonly owned, they would be within the knowledge of the same company, and the company would be motivated to use elements from one reference to improve another seeking to solve the same or similar problems.

Where more than one references discuss a system, as listed below, or where references are owned by the same company, it would have been obvious to combine any such references that refer to and/or discuss the same system and/or are owned by the same company.

4. Obviousness Combination Groups and Further Motivations to Combine

In addition to combinations of references and motivations to combine identified elsewhere herein, including within claim charts, Defendant identifies combinations and motivations to combine based on references grouped by subject matter, in the manner approved by courts applying the Northern District of California Patent Local Rules regarding invalidity contentions, which notably have additional requirements with respect to identifying obviousness combinations beyond those of the Scheduling Order in this matter. *See, e.g.*, *Avago Techs. Gen IP PTE Ltd. v. Elan Micro. Corp.*, No. C04-05385 JW (HRL), 2007 U.S. Dist. LEXIS 97464, at *10-11 (N.D. Cal. Mar. 28, 2007) (organizing prior art references into "groups" and identifying combinations as a set of references "and/or" another set of references); *Keithley v. Homestore.com, Inc.*, 553 F. Supp. 2d 1148, 1150 (N.D. Cal. 2008) (following *Avago* – "Apple's grouping method is permissible under the Local Rules"); *see also Multimedia Patent Trust v. Apple Inc.*, Case No. 3:10-cv-02618-H (KSC), 2012 WL 12868250 (S.D. Cal. Nov. 5, 2012); *High Point Sarl v. Sprint*

Nextel Corp., 2011 U.S. Dist. LEXIS 111158, at *29-30 (D. Kan. Sept. 28, 2011). (*See also* ECF No. 17 at 2.)

Defendant identifies references in groups below, based on common subject matter relevant to the Asserted Claims, for the purpose of disclosing obviousness combinations and further disclosing motivations to combine. The absence of a particular reference from a group is not an admission or suggestion that the reference does not disclose any particular claim limitations.

a. Haptic Devices

Claim 11 of the '806 patent recites the elements of multiple "haptic stimulation[s]" generated by a "haptic device." Nothing about these claim limitations add anything novel or non-obvious over the prior art. To the contrary, using a haptic device to generate haptic stimulation was well-known, routine, conventional, and widely available long before the alleged invention of the '806 patent.

In addition, Immersion has admitted that "[p]rovision of haptic stimulation to users is known" and that "basic effects (e.g., vibrate) have been used in mobile and other computing devices" in the '806 patent, as of at least July 21, 2010. ('806 patent, *see* 1:25-47.)

In addition, haptic devices as disclosed below are typically computer operated and part of systems encompassing computers—either remote from or integrated with the haptic devices—and common computer parts. These computer parts include processors, memory, non-transitory computer readable media, displays, accessories, peripherals, and other parts. It would have been obvious to combine each of the below references discussing haptic devices with any of the references disclosed in the ***Generic Computer Parts*** bucket below.

The use of a haptic device to generate haptic stimulation would have been obvious to a person of ordinary skill in the art at least because doing so would have involved the combination of prior art elements according to known methods to yield predictable results, the simple

substitution of one known element for another to obtain predictable results, the application of a known technique to a known device ready for improvement to yield predictable results, and/or would have been obvious to try. Moreover, a person of ordinary skill in the art would have readily appreciated the well-known and widespread use of haptic devices and the associated benefits and advantages of their use. Persons of ordinary skill in the art would have been motivated to combine the teachings of the Haptic Devices references (as disclosed below) with any virtual reality, augmented reality, video game, interactive touchscreen, or related system, in order to enable the claimed haptics functionality.

As the attached claim charts demonstrate, generating haptic stimulation with a haptic device was disclosed in the prior art. Specific disclosures, which are purely exemplary, from charted references and additional prior art (collectively the ***Haptic Device*** references for the '806 patent) are set forth in **Exhibit H**, which include motivations to combine and disclosures of generating haptic stimulation with a haptic device.

b. Three-Part Control Gesture

Claims 11, 12, and 13 of the '806 patent recites or refer to a three-part "control gesture" that is "associated with a command input to the system" and includes an "initial portion, a first intermediate portion, and an ending portion." Claim 13 further explains the associated "command input" is a "single, discrete command." Nothing about these claim limitations add anything novel or non-obvious over the prior art. To the contrary, using multi-part control gestures as command inputs to a system, including as a single, discrete command, was well-known, routine, conventional, and widely available long before the alleged invention of the '806 patent.

The use of multi-part control gestures as command inputs to systems would have been obvious to a person of ordinary skill in the art at least because doing so would have involved the combination of prior art elements according to known methods to yield predictable results, the

simple substitution of one known element for another to obtain predictable results, the application of a known technique to a known device ready for improvement to yield predictable results, and/or would have been obvious to try. Moreover, a person of ordinary skill in the art would have readily appreciated the well-known and widespread use of multi-part control gestures as command inputs to systems and the associated benefits and advantages of their use. Persons of ordinary skill in the art would have been motivated to combine the teachings of the Three-Part Control Gesture references (as disclosed below) with any virtual reality, augmented reality, video game, interactive touchscreen, or related system, in order to enable the claimed control gesture functionality. In addition, the existence of two-part control gestures or four-part (or more) control gestures would further render the use of a three-part gesture obvious.

As the attached claim charts demonstrate, use of multi-part control gestures as command inputs to systems was disclosed in the prior art. Specific disclosures, which are purely exemplary, from charted references and additional prior art (collectively the ***Three-Part Control Gesture*** references for the '806 patent) are set forth in **Exhibit H**, which include motivations to combine and disclosures of multi-part control gestures as command inputs to a system, including as a single, discrete command.

c. Associating Control Gesture with Haptic Stimulation

Claim 11 of the '806 patent recites that "haptic stimulation" is "associated with performance of the control gesture," and that each of the "initial portion" and "intermediate portion" of the control gestures are associated with a haptic stimulation. Claim 12 further recites that the "ending portion" of the control gesture is associated with a haptic stimulation. Nothing about these claim limitations add anything novel or non-obvious over the prior art. To the contrary, associating haptic stimulation with a control gesture (or portion thereof) was well-known, routine, conventional, and widely available long before the alleged invention of the '806 patent.

The use of associating haptic stimulations with control gestures would have been obvious to a person of ordinary skill in the art at least because doing so would have involved the combination of prior art elements according to known methods to yield predictable results, the simple substitution of one known element for another to obtain predictable results, the application of a known technique to a known device ready for improvement to yield predictable results, and/or would have been obvious to try. Moreover, a person of ordinary skill in the art would have readily appreciated the well-known and widespread use of associating haptic stimulations with control gestures and the associated benefits and advantages of their use. Persons of ordinary skill in the art would have been motivated to combine the teachings of the ***Associating Control Gesture with Haptic Stimulation*** references (as disclosed below) with any virtual reality, augmented reality, video game, interactive touchscreen, or related system, in order to enable the claimed control gesture and haptic stimulation functionality.

As the attached claim charts demonstrate, associating haptic stimulations with control gestures was disclosed in the prior art. Specific disclosures, which are purely exemplary, from charted references and additional prior art (collectively the ***Associating Control Gesture with Haptic Stimulation*** references for the '806 patent) are set forth in **Exhibit H**, which include motivations to combine and disclosures of associating haptic stimulations with control gestures.

d. Differentiated Haptic Stimulation

Claim 11 of the ’806 patent recites that the claimed “haptic stimulation includes a first stimulation determined responsive to performance of the initial portion of the control gesture, and a second stimulation that is different from the first stimulation and is determined responsive to performance of the first intermediate portion of the control gesture.” Claim 12 further recites that “the haptic stimulation associated with the control gesture includes a third stimulation different from the first stimulation and the second stimulation that is determined responsive to performance of the ending portion of the control gesture.” Nothing about these claim limitations add anything novel or non-obvious over the prior art. To the contrary, associating different types of haptic stimulation with different actions or inputs (such as parts of a control gesture) was well-known, routine, conventional, and widely available long before the alleged invention of the ’806 patent.

The use of differentiated haptic stimulations for different actions or inputs would have been obvious to a person of ordinary skill in the art at least because doing so would have involved the combination of prior art elements according to known methods to yield predictable results, the simple substitution of one known element for another to obtain predictable results, the application of a known technique to a known device ready for improvement to yield predictable results, and/or would have been obvious to try. Moreover, a person of ordinary skill in the art would have readily appreciated the well-known and widespread use of differentiated haptic stimulation for different actions or inputs and the associated benefits and advantages of their use. Persons of ordinary skill in the art would have been motivated to combine the teachings of the ***Differentiated Haptic Stimulation*** references (as disclosed below) with any virtual reality, augmented reality, video game, interactive touchscreen, or related system, in order to enable the claimed haptic stimulation functionality.

As the attached claim charts demonstrate, differentiated haptic stimulation for different actions or inputs was disclosed in the prior art. Specific disclosures, which are purely exemplary, from charted references and additional prior art (collectively the ***Differentiated Haptic Stimulation*** references for the '806 patent) are set forth in **Exhibit H**, which include motivations to combine and disclosures of differentiated haptic stimulation for different actions or inputs.

e. Generic Computer Parts (All Asserted Patents)

All of the Asserted Patents variously claim elements such as the following: "computer-implemented method," "physical processors configured to execute computer program modules," "non-transitory computer-readable medium having instructions stored thereon that, when executed by a processor, cause the processor to" perform certain actions, "processor," "memory on which instructions executable by the processor are stored for causing the processor to" perform certain actions, "base device," "peripheral," "accessory," "memory device comprising program code that is executable by the processor to cause the processor to" perform certain actions, "electronic display," "electronic device," "non-transitory computer readable medium comprising program code that is executable by a processor to cause the processor to" perform certain actions, "display," and "device." (*See generally* Asserted Claims.) Nothing about these claim limitations add anything novel or non-obvious over the prior art. To the contrary, each of these are generic computer parts, which were well-known, routine, conventional, and widely available long before the alleged invention of the Asserted Patents, including in the context of haptic systems.

The use of these generic computer parts would have been obvious to a person of ordinary skill in the art at least because doing so would have involved the combination of prior art elements according to known methods to yield predictable results, the simple substitution of one known element for another to obtain predictable results, the application of a known technique to a known device ready for improvement to yield predictable results, and/or would have been obvious to try.

Moreover, a person of ordinary skill in the art would have readily appreciated the well-known and widespread use of these generic computer parts and the associated benefits and advantages of their use. Persons of ordinary skill in the art would have been motivated to combine the teachings of the ***Generic Computer Parts*** references (as disclosed below) with any virtual reality, augmented reality, video game, interactive touchscreen, or related system, in order to enable the claimed generic computer functionality.

As the attached claim charts demonstrate, generic computer parts were disclosed in the prior art. Specific disclosures, which are purely exemplary, from charted references and additional prior art (collectively the ***Generic Computer Parts*** references for the '806 patent) are set forth in **Exhibit H**, which include motivations to combine and disclosures of generic computer parts.

5. Obviousness Combinations

The charts below disclose combinations of reference demonstrating that the Asserted Claims of the '806 Patent would have been obvious in light of the prior art cited. This is done by reference to the particular categories identified above. For each instance in which such a category is referenced, one or more of the references cited in that category (as identified above) may supply the claim element to which the category applies. The discussion above accompanying each category sets forth the detailed rationale and motivation for combining each category's respective references with respect to the claimed features they disclose.

Defendant identifies references in groups below, based on common subject matter relevant to the Asserted Claims, for the purpose of disclosing obviousness combinations and further disclosing motivations to combine. The absence of a particular reference from a group is not an admission or suggestion that the reference does not disclose any particular claim limitations.

Asserted Claims	Application of Prior Art

Claims 11, 12, and 15	• Obvious over the combination of each reference from the following combination groups:
	  o Each Haptic Devices reference with one or more of the following:
	  ▪ Generic Computer Parts and/or
	  ▪ Three-Party Control Gesture and/or
	  ▪ Associating Control Gesture and/or
	  ▪ Differentiated Haptic Stimulations references
	  o Each Three-Party Control Gesture reference with one or more of the following:
	  ▪ Generic Computer Parts and/or
	  ▪ Associating Control Gesture and/or
	  ▪ Differentiated Haptic Stimulations references
	  o Each Associating Control Gesture reference with one or more of the following:
	  ▪ Generic Computer Parts and/or
	  ▪ Differentiated Haptic Stimulations references
	  o Each Differentiated Haptic Stimulations reference with one or more Generic Computer Parts references.

6. Secondary Considerations

Plaintiff bears the burden of establishing the existence of secondary considerations and the requisite nexus to the claimed inventions. To date, Plaintiff has not contended that any secondary considerations support any alleged non-obviousness of the Asserted Claims of the ’806 patent. To the extent that Plaintiff subsequently contends that any secondary considerations support a conclusion that any of the Asserted Claims of the ’806 patent are not obvious, Defendant reserves the right to respond, including to amend and/or supplement these Invalidity Contentions.

Moreover, as these Invalidity Contentions demonstrate, none of the Asserted Claims of the '806 patent address any need that was either long felt or unmet, nor were their results unexpected. To the contrary, the extensive invalidating prior art detailed above and in Defendant's charts show that before the patents-in-suit, the prior art techniques, designs, and systems were widely accepted, understood, and available. Finally, although secondary considerations may be relevant to the obviousness analysis, secondary considerations of nonobviousness cannot overcome the strong prima facie case of obviousness set forth in these Invalidity Contentions.

D. Invalidity Under § 101

The Supreme Court has articulated a two-step framework for determining patent eligibility. *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 573 U.S. 208, 217 (2014). At step one, the court determines "whether the claims at issue are directed to" a "patent-ineligible concept[,]" such as "laws of nature, natural phenomena, and abstract ideas . . . ." *Id.* This first step of the patent-eligibility inquiry has been "described . . . as looking at the 'focus' of the claims," or "their '"character as a whole . . . ."'" *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016).

If the claims are directed to one of those ineligible concepts, the step-two inquiry asks whether the claims contain an "inventive concept," or "an element or combination of elements that is sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself." *Alice*, 573 U.S. at 217-18 (quoting *Mayo Collaborative Servs. v. Prometheus Lab'ys, Inc.*, 566 U.S. 66, 72-73 (2012)) (alteration in original; internal quotation marks omitted). At step two, "well-understood, routine, conventional activit[ies]" are insufficient to confer an inventive concept. *Mayo*, 566 U.S. at 73. In the realm of computer-implemented inventions, merely adding "purely functional and generic" components does not "transform an abstract idea into a patent-eligible invention" because "[n]early every computer will include [such

components] capable of performing the basic . . . functions required by the . . . claims." *Alice*, 573 U.S. at 226. The asserted claims of the '582 patent fail to meet that standard.

***Alice* Step One**: The asserted claims of the '806 patent are directed to an abstract idea. "An abstract idea can generally be described at different levels of abstraction." *Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1240 (Fed. Cir. 2016). At a higher level of abstraction, the asserted claims of the '806 patent are directed to the abstract idea of providing at least three forms of haptic stimulation in response to differences in user activities. At a more granular level, the asserted claims are directed to the abstract idea of associating a user's three-part gesture with three specific types of haptic feedback, where the gesture ultimately results in a command. *See* '806 patent at claims 11, 12, and 15; *see also, e.g.*, *Alice*, 134 S. Ct. at 2354; *Chamberlain Grp., Inc. v. Techtronic Indus. Co.*, 935 F.3d 1341, 1346–47 (Fed. Cir. 2019), *cert denied* 141 S. Ct. 241 (2020); *ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759, 766 (Fed. Cir. 2019), *cert. denied*, 140 S. Ct. 983 (2020); *Bot M8 LLC v. Sony Corp. of Am.*, 4 F.4th 1342, 1358 (Fed. Cir. 2021); *Affinity Labs of Tex., LLC v. DirecTV, LLC*, 838 F.3d 1253, 1261 (Fed. Cir. 2016); *Elec. Comm'n Techs. v. ShoppersChoice.com*, 958 F.3d 1179, 1180–82 (Fed. Cir. 2020); *Yu v. Apple Inc.*, 1 F.4th 1040, 1044–45 (Fed. Cir. 2021); *Am. Axle & Mfg., Inc. v. Neapco Holdings LLC*, 939 F.3d 1355, 1366–67 (Fed. Cir. 2019), *cert denied*, 142 S. Ct. 2902 (2022); *Elec. Power Grp.*, 830 F.3d at 1354; *In re Smith*, 815 F.3d 816, 819 (Fed. Cir. 2016); *In re Marco Guldenaar Holding BV*, 911 F.3d 1157, 1161–62 (Fed. Cir. 2018); *O'Reilly v. Morse*, 56 U.S. 62, 119–20 (1853); *In re TLI Commc'ns LLC Patent Litig.*, 823 F.3d 607, 613 (Fed. Cir. 2016); *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1369 (Fed. Cir. 2015); *In re Killian*, 45 F.4th 1373, 1379–80 (Fed. Cir. 2022); *West View Research, LLC v. Audi AG*, 685 F. App'x 923, 926 (Fed. Cir. 2017); *Clarilogic, Inc. v. FormFree Holdings Corp.*, 681 F. App'x 950, 954 (Fed. Cir. 2017);

Automated Tracking Sols., LLC v. Coca-Cola Co., 723 F. App'x 989, 994–95 (Fed. Cir. 2018); *Planet Bingo, LLC v. VKGS, LLC*, 576 F. App'x 1005, 1008 (Fed. Cir. 2014); *Kroy IP Holdings, LLC v. Safeway, Inc.*, 107 F. Supp.3d 677, 704–705 (E.D. Tex. 2015), *aff'd*, 639 F. App'x 637 (Fed. Cir. 2016). The claims recite no specific technological solution for achieving their desired functional results that improves an underlying computer system. This is no different from everyday activities such as a user pressing on a brake pedal – the pedal and car will provide different types of haptic feedback depending on the user's initial pressing on a pedal, continual pressing on a pedal, or harder pressing on a pedal. This user activity will cause a car to slow down and then stop, and therefore is a command to the car. Another example is use of a nail gun, which provides different haptic feedback for initially engaging the gun with the surface to be nailed, pulling the trigger, and finally the recoil from successful insertion of the nail. Triggering a nail gun will cause the nail gun to insert a nail, thus making it a command to the nail gun.

***Alice* Step Two**: The Asserted Claims of the '806 patent do not recite an inventive concept sufficient to transform their subject matter into something more than the abstract idea. Each element in the asserted claims, as well as the ordered combination of the elements in the asserted claims, was well-understood, routine, and conventional as of the date of the '806 patent, as demonstrated by the references provided in Sections II.A–C and described in detail above. Defendant refers to the prior art references charted and/or disclosed with these contentions with respect to each element as evidence that each element was well-understood, routine, and conventional. The Asserted Claims of the '806 patent claim nothing significantly more than an abstract idea, rather than any specific inventive application of the idea. *See Affinity Labs*, 838 F.3d at 1262 (Fed. Cir. 2016). There are no "additional features" in the claims that account for more than "well-understood, routine, conventional activity." *See id.* (citations omitted).

As further illustration, the following exemplary features recited in the Asserted Claims of the ’806 patent were well-known, routine, and conventional, in the art prior to the alleged date of invention:

Claims 11, 12, and 15:

- “computer”
- “haptic stimulation(s)”
- “physical processors configured to execute computer program modules”
- “monitoring”
- “control gesture” including multiple parts
- “command input” and “single, discrete command”
- “determining . . . haptic stimulation”
- “generating . . . determined [haptic] stimulation”

As such, similar to *Affinity Labs*, where the Court found the claims ineligible under § 101, the claims and the shared specification do not contain an “‘inventive concept’ that transforms the abstract idea . . . into a patent-eligible application of that abstract idea.” *See Affinity Labs,* 838 F.3d at 1262. The asserted claims recite only generic components and/or insignificant post-solution activity, without any specific technical solution or improvement to existing technologies to implement the underlying idea, and thus add nothing inventive to the claims. This is insufficient to transform the claimed abstract idea into patent-eligible subject matter. *See, e.g.*, *Alice*, 573 U.S. at 225-26 (holding that “implement[ing] the abstract idea . . . on a generic computer” was not sufficient “to transform an abstract idea into a patent-eligible invention”); *Intell. Ventures I LLC v. Cap. One Fin. Corp.*, 850 F.3d 1332, 1341-42 (Fed. Cir. 2017) (holding that “using generic computer components and conventional computer data processing activities” was not sufficient to

find an "inventive concept"); *TLI,* 823 F.3d at 614 ("[G]eneric computer components [are] insufficient to add an inventive concept to an otherwise abstract idea."); *Two-Way Media Ltd. v. Comcast Cable Commc'ns, LLC*, 874 F.3d 1329, 1339 (Fed. Cir. 2017) ("Nothing in the claims or their constructions . . . requires anything other than conventional computer and network components operating according to their ordinary functions."). The dependent claims merely narrow the abstract idea, and thus also add nothing inventive. *See Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat'l Ass'n*, 776 F.3d 1343, 1349 (Fed. Cir. 2014) (dependent claims of narrower scope and using conventional techniques are non-inventive). Therefore, the asserted claims of the '806 patent are ineligible under § 101.

Defendant further reserves its right to submit and rely upon expert testimony in support of its arguments regarding patent ineligibility.

III. IDENTIFICATION OF PRIOR ART: THE '524 PATENT

A. A Chart Setting Forth Where in the Prior Art References Each Element of the Asserted Claim(s) are Found.

The Asserted Claims of the '524 patent are invalid under 35 U.S.C. §§ 102 and 103. Subject to Defendant's reservation of rights, attached hereto as the Exhibits B-1 – B-24 series are exemplary preliminary disclosures comprising claim charts providing an element-by-element analysis of where specifically, in each prior art item, each element of the Asserted Claims of the '524 patent is found. Any reference to a figure in cited text incorporates by reference the figure itself, and any citation to a figure incorporates by reference any description of that figure in a reference. Similarly, any reference to a cited part or portion of a document encompasses all figures and text within the cited page or portion.

As noted above, these claim charts are based on Defendant's current understanding of the claims and constructions applied by Plaintiff, even though Defendant does not necessarily agree

with those interpretations, and reserves the right to dispute them. To the extent certain claim elements are indefinite under 35 U.S.C. § 112(2), as identified and described herein, the claim charts attempt to apply the prior art to the extent Defendant can understand the claim constructions applied by Plaintiff as found in Plaintiff's Corrected PICs. By doing so, however, Defendant does not concede that these claim elements are definite or that one of skill in the art would have been informed with reasonable certainty about the scope of the claim element under *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898 (2014). To the extent any limitation is deemed not to be met exactly by an item of prior art, Defendant contends that the difference would have been obvious to a person of ordinary skill in the art/or and within the knowledge of one skilled in the art at the time of the alleged invention, so that the claimed invention would have been obvious both in light of the single reference alone and/or in light of combined references. Defendant does not admit or concede that such element is not expressly or inherently disclosed by the reference at issue.

As a general matter, all portions of each prior art item are relied upon to support the disclosure of each patent claim limitation, as all portions provide general support. Supporting citations are nevertheless provided, but do not necessarily represent every location where a particular claim element may be found in the prior art item. Defendant reserves the right to rely on additional, or different, portions of the prior art items other than those specifically cited in these claim charts, and to supplement and/or amend these charts. Defendant also reserves the right to amend its invalidity grounds or charts, or provide supplemental grounds or charts, based on any amendments to Plaintiff's Corrected PICs, or information or documents that may be obtained as discovery continues including third-party discovery.

The following chart summarizes the prior art claim chart exhibits for the '524 patent

submitted herewith:

Exhibits	Reference(s)
B1	U.S. Patent Application Pub. No. 2008/0266066 A1 to Adam C. Braun et al. ("Braun")
B2	US. Patent Application Pub. No. 2010/0156818 A1 and U.S. Provisional Application No. 61/140,519 to Bobby Burrough et al. ("Burrough")
B3	U.S. Patent Application Pub. No. 2009/0167508 to Anthony Fadell et al. ("Fadell")
B4	Novint Falcon and Novint/Sandia 3D-Touch Software by Novint Technologies, et al. ("Falcon")
B5	U.S. Patent No. 7,292,151 to Kevin Ferguson et al. ("Ferguson")
B6	International Publication No. WO 2007/100204 A1 to Tae-Jeong Jang et al. ("Jang")
B7	U.S. Patent Application Publication No. 2002/0126026 to Sang-goog Lee et al. ("Lee")
B8	U.S. Patent Application Pub. No. 2009/0210568 A1 to Cody George Peterson et al. ("Peterson")
B9	PHANTOM Omni by SensAble Technologies, Inc. system ("PHANTOM")
B10	U.S. Patent No. 7,952,566 B2 to Ivan Poupyrev et al. ("Poupyrev 566")
B11	U.S. Patent No. 7,616,192 to Dale W. Schroeder et al. ("Schroeder")
B12	Fishing Controller for Sega Dreamcast system ("Dreamcast Fishing Controller")
B13	U.S. Patent No. 8,210,942 to Jorge L. Shimabukuro et al. ("Shimabukuro")
B14	U.S. Patent Application No. US 2009/0167704 A1 to Jeffrey J. Terlizzi et al. ("Terlizzi")
B15	U.S. Patent Application Publication No. 2002/0151337 to Akihisa Yamashita et al. ("Yamashita")
B16	U.S. Patent Application Pub. No. US 2007/0268248 A1 to Craig B. Zilles et al. ("Zilles")
B17	Nintendo Wii System ("Wii")
B18	International Publication No. WO 2007/133251 to Thomas G. Anderson et al. ("Anderson 251")
B19	Logitech Cordless Rumblepad System ("Rumblepad")
B20	U.S. Patent No. 6,366,272 to Louis B. Rosenberg et al. ("Rosenberg")
B21	U.S. Patent Application Publication No. 2009/0322498 A1 to Jue Byung Yun et al. ("Yun")
B22	U.S. Patent No. 6,169,540 to Louis B. Rosenberg et al. ("Rosenberg '540")
B23	Google Android operating system including products sold with Android ("Android")
B24	Immersion MOTIV including as sold and offered for sale in connection with consumer product vendors ("MOTIV")
B25	Immersion TouchSense including as sold and offered for sale in connection with consumer product vendors ("TouchSense"), and as embodied in documents produced by Immersion

B. Identity of Each Item of Prior Art

Subject to Defendant's reservation of rights, Defendant identifies each item of prior art that anticipates or renders obvious one or more of the Asserted Claims in Section III.C, below, and in Exhibit G. To the extent that the references listed in Exhibit G are not identified as items of prior art that anticipate or render obvious an Asserted Claim, Defendant intends to rely on these references as background and as evidence of the state of the art at the time of Plaintiff's alleged invention.

Additionally, many of the prior art references are related patent applications and issued patents that contain substantially the same subject matter (e.g., published U.S. patent applications, and issued U.S. patents, foreign applications or issued patents). Any citation to or quotation from any of these patent applications or patents, therefore, should be understood as encompassing any parallel citation to the same subject matter in other related or corresponding applications or patents. Defendant also reserves the right to later rely upon all references or portions of references provided in Exhibit G to supplement or amend its disclosures contained herein. Also, to the extent not expressly mentioned herein, Defendant incorporates by reference (1) any and all prior art contained or identified in documents produced thus far by Plaintiff to Defendant in this case; (2) any and all additional materials regarding invalidity that should have been produced to Defendant but have not been produced to date, to the extent that any exist; and (3) any prior art of which any named inventor of the Asserted Patent is aware and/or on which they contend the alleged invention of the Asserted Patent build upon or improve.

Each disclosed item of prior art is evidence of a prior invention and making of the invention in the United States by another under 35 U.S.C. § 102(g), as evidenced by the named inventor, authors, organizations, and publishers involved with each such reference, with the circumstances described and reflected in each reference including publications and system implementation

references. Defendant further intends to rely on admissions of the named inventors concerning the prior art, including statements found in the Asserted Patent, its prosecution history, related patents and/or patent applications, any deposition testimony, and the papers filed and any evidence submitted by Plaintiff in conjunction with this litigation. For systems and products that are disclosed, Defendant also intends to rely on additional information describing those same systems and products, including information received from third-parties in response to subpoenas.

C. Obviousness Combinations and Motivations for Combining Prior Art

Defendant incorporates by reference the reservation of rights, legal standard, and motivation to combine set forth in Section II.C, *supra*, as though fully set forth herein.

Each prior art reference may be combined with one or more other prior art references to render obvious the Asserted Claims in combination, as explained in more detail below. The disclosures of these references also may be combined with information known to persons skilled in the art at the time of the alleged invention, and understood and supplemented in view of the common sense of persons skilled in the art at the time of the alleged invention, including any statements in the intrinsic record of the Asserted Patent and related applications.

A person of ordinary skill would have been motivated to combine the identified prior art based on the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art. The identified prior art references, including portions cited in the Prior Art Invalidity Charts, address the same or similar technical issues and suggest the same or similar solutions to those issues as the Asserted Claims. On such basis, on an element-by-element basis, Defendant expressly intends to combine one or more prior art items identified in Appendix A with each other to address any further contentions from Plaintiff that a particular prior art item supposedly lacks one or more elements of an Asserted Claim. In other words, Defendant contends that each charted prior art item can be combined with other charted prior art items when

a particular prior art item lacks or does not explicitly disclose an element or feature of an Asserted Claim. The suggested obviousness combinations described below are not to be construed to suggest that any reference included in the combinations is not anticipatory. Further, to the extent that Plaintiff contends that any of the anticipatory prior art fails to disclose one or more limitations of the Asserted Claims, Defendant reserves the right to identify other prior art references that, when combined with the anticipatory prior art, would render the claims obvious despite an allegedly missing limitation. Defendant will further specify the motivations to combine the prior art, including through reliance on expert testimony, at the appropriate later stage of this lawsuit.

A person of skill in the art would have been motivated to combine the identified prior art items. As the United States Supreme Court held in *KSR International Company v. Teleflex, Inc.*, 550 U.S. 398, 416 (2007):"The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." The Supreme Court further held that, "[w]hen a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill." *Id*. at 417.

The Court has further held that "in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle." *Id.* at 420. It is sufficient that a combination of elements was "obvious to try" holding that, "[w]hen there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her

technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense." *Id.* at 421. "In that instance the fact that a combination was obvious to try might show that it was obvious under § 103." *Id*. Finally, the Supreme Court recognized that "[g]ranting patent protection to advances that would occur in the ordinary course without real innovation retards progress and may, in the case of patents combining previously known elements, deprive prior inventions of their value or utility." *Id*. at 419. All of the following rationales recognized in *KSR* support a finding of obviousness:

- Combining prior art elements according to known methods to yield predictable results;
- Simple substitution of one known element for another to obtain predictable results;
- Use of known technique to improve similar devices (methods, or products) in the same way;
- Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;
- "Obvious to try"—choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;
- Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations would have been predictable to one of ordinary skill in the art; and
- Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

Certain of these rationales are discussed more specifically below. The fact that others are not discussed more specifically should not be interpreted as an admission or concession that it does

not apply. To the contrary, the discussion below simply provides more explanation of these specific rationales.

Defendant further contends that the prior art identified in these Invalidity Contentions is evidence of simultaneous or near-simultaneous independent invention by others of the alleged invention as recited in one or more of the Asserted Claims. Defendant reserves its right to rely on the simultaneous or near-simultaneous independent invention by others as further evidence of the obviousness of the Asserted Claims.

Each limitation of the Asserted Claims was well known to those of ordinary skill in the art before the filing dates of the respective non-provisional application to which each Asserted Patent claims priority, as detailed below and in the attached charts.

The elements recited in the Asserted Claims are mere combinations and modifications of these well-known elements. A person of ordinary skill in the art would be able, and motivated, to improve the existing technology in the same or similar manner by combining or modifying the individual elements that were already known in the art to yield predictable results.

Subject to the foregoing, Defendant identifies the following exemplary reasons that skilled artisans would have combined elements of the prior art to render obvious the Asserted Claims. The fact that others are not discussed more specifically should not be interpreted as an admission or concession that it does not apply. To the contrary, the discussion below simply provides more explanation of these specific rationales.

1. Motivations Identified During Prosecution

Defendant hereby expressly incorporates by reference any statements and reasons set forth by the Examiner during prosecution of the ’524 patent and related patent applications as to why it would have been obvious to modify or combine references to achieve the limitations of the Asserted Claims.

2. Combinations of References Through Citations

Numerous prior art references cite to, discuss, or build upon other references. Where one reference cites or discusses another reference, a person of ordinary skill in the art would have been motivated to consider their teachings in combination, as they would be understood to provide related teachings in a similar field.

3. Combinations of Related References

In some instances, multiple prior art publications and/or physical references discuss or address the same or substantially similar underlying system, software, or other project, such as commercial software products and successive versions thereof, or multiple publications discussing the same subject matter. Where multiple references discuss or relate to the same or related underlying projects, systems, or other subject matter, it was obvious to combine the discussions and disclosures of the references as they would be understood to describe features or potential features of the underlying project, system, technique, or other subject matter. Similarly, where one reference cites or discusses other references or their teachings, or references have one or more authors in common and a related area of subject matter, it was obvious to consider the teachings of the references in combination with each other due to the express relationships and commonalities between the references.

Further, for each set of references that together refer to or describe the same system and/or potential improvements to the same system, it would have been obvious to combine such references. In particular, to the extent the items are commonly owned, they would be within the knowledge of the same company, and the company would be motivated to use elements from one reference to improve another seeking to solve the same or similar problems.

Where more than one references discuss a system, as listed below, or where references are owned by the same company, it would have been obvious to combine any such references that

refer to and/or discuss the same system and/or are owned by the same company.

4. Obviousness Combination Groups and Further Motivations to Combine

In addition to combinations of references and motivations to combine identified elsewhere herein, including within claim charts, Defendant identifies combinations and motivations to combine based on references grouped by subject matter, as discussed in Section II.C.4 above, which discussion and case law is incorporated herein by reference.

Defendant identifies references in groups below, based on common subject matter relevant to the Asserted Claims of the ’524 patent, for the purpose of disclosing obviousness combinations and further disclosing motivations to combine. The absence of a particular reference from a group is not an admission or suggestion that the reference does not disclose any particular claim limitations.

a. Haptic Device

Claims 1 and 11 of the ’524 patent recite limitations involving the generation of “a confirmation haptic effect” via an “actuator,” based on a “haptic signal” which is in turn based on one or more “haptic parameters.” Claims 2, 3, 4, 7, 12, and 14 further define aspects of the claimed haptic parameters. Nothing about these claim limitations add anything novel or non-obvious over the prior art. To the contrary, utilizing haptic parameters and haptic signals to cause actuators to generate haptic effects was well-known, routine, conventional, and widely available long before the alleged invention of the ’524 patent.

In addition, Immersion has admitted that "[p]rovision of haptic stimulation to users is known" and that "basic effects (e.g., vibrate) have been used in mobile and other computing devices" in the '806 patent, as of at least July 21, 2010. ('806 patent, *see* 1:25-47.) Immersion also discussed haptics and confirmation haptic effects in the "Background" section of the '524 patent. ('524 patent, *see* 1:11-26.)

In addition, haptic devices as disclosed below are typically computer operated and part of systems encompassing computers—either remote from or integrated with the haptic devices—and common computer parts. These computer parts include processors, memory, non-transitory computer readable media, displays, accessories, peripherals, and other parts. It would have been obvious to combine each of the below references discussing haptic devices with any of the references disclosed in the ***Generic Computer Parts*** bucket described in Section II.C.4.e above.

The use of haptic parameters and haptic signals to cause actuators to generate haptic effects would have been obvious to a person of ordinary skill in the art at least because doing so would have involved the combination of prior art elements according to known methods to yield predictable results, the simple substitution of one known element for another to obtain predictable results, the application of a known technique to a known device ready for improvement to yield predictable results, and/or would have been obvious to try. Moreover, a person of ordinary skill in the art would have readily appreciated the well-known and widespread use of haptic parameters and haptic signals to cause actuators to generate haptic effects, and the associated benefits and advantages of their use. Persons of ordinary skill in the art would have been motivated to combine the teachings of the ***Haptic Device*** references (as disclosed below) with any virtual reality, augmented reality, video game, interactive touchscreen, or related system, in order to enable the claimed haptic functionality.

As the attached claim charts demonstrate, haptic parameters and haptic signals to cause actuators to generate haptic effects was disclosed in the prior art. Specific disclosures, which are purely exemplary, from charted references and additional prior art (collectively the ***Haptic Device*** references for the '524 patent) are set forth in **Exhibit H**, which include motivations to combine and disclosures of haptic parameters and haptic signals to cause actuators to generate haptic effects.

b. Context Metadata

Claims 1 and 11 of the '524 patent recite limitations of "receiving context metadata associated with a user interaction of a user interface element, wherein the context metadata comprises at least one of: data indicating a functionality of the user interface element, or data indicating a history of the user interface element," which metadata is then mapped to haptic parameters. Claims 6 and 13 further describe this context metadata. Nothing about these claim limitations add anything novel or non-obvious over the prior art. To the contrary, use of metadata regarding a user interface element's functionality or history (including its use in haptic systems) was well-known, routine, conventional, and widely available long before the alleged invention of the '524 patent.

The use of metadata regarding a user interface element's functionality or history would have been obvious to a person of ordinary skill in the art at least because doing so would have involved the combination of prior art elements according to known methods to yield predictable results, the simple substitution of one known element for another to obtain predictable results, the application of a known technique to a known device ready for improvement to yield predictable results, and/or would have been obvious to try. Moreover, a person of ordinary skill in the art would have readily appreciated the well-known and widespread use of metadata regarding a user interface element's functionality or history and the associated benefits and advantages of their use. Persons of ordinary skill in the art would have been motivated to combine the teachings of the

Context Metadata references (as disclosed below) with any virtual reality, augmented reality, video game, interactive touchscreen, or related system, in order to enable the claimed context metadata functionality.

As the attached claim charts demonstrate, the use of metadata regarding a user interface element's functionality or history was disclosed in the prior art. Specific disclosures, which are purely exemplary, from charted references and additional prior art (collectively the ***Context Metadata*** references for the '524 patent) are set forth in **Exhibit H**, which include motivations to combine and disclosures of metadata regarding a user interface element's functionality or history.

c. User Input for Haptic Parameters

Claims 2 and 12 of the '524 patent recite limitations of "modifying the one or more haptic parameters based on user input." Claim 3 further recites limitations where the user input "comprises one or more multipliers defined by the user," and where each haptic parameter's value "is based on the one or more multipliers." And claim 4 adds that the "one or more multipliers are globally defined for all user interface elements." Nothing about these claim limitations add anything novel or non-obvious over the prior art. To the contrary, user modification of haptic parameters, including via multipliers applied globally, was well-known, routine, conventional, and widely available long before the alleged invention of the '524 patent.

Such user modification of haptic parameters would have been obvious to a person of ordinary skill in the art at least because doing so would have involved the combination of prior art elements according to known methods to yield predictable results, the simple substitution of one known element for another to obtain predictable results, the application of a known technique to a known device ready for improvement to yield predictable results, and/or would have been obvious to try. Moreover, a person of ordinary skill in the art would have readily appreciated the well-known and widespread ability for users to modify haptic parameters and the associated benefits

and advantages of their use. Persons of ordinary skill in the art would have been motivated to combine the teachings of the ***User Input for Haptic Parameters*** references (as disclosed below) with any virtual reality, augmented reality, video game, interactive touchscreen, or related system, in order to enable the claimed user input functionality.

As the attached claim charts demonstrate, the ability for users to modify haptic parameters was disclosed in the prior art. Specific disclosures, which are purely exemplary, from charted references and additional prior art (collectively the ***User Input for Haptic Parameters*** references for the '524 patent) are set forth in **Exhibit H**, which include motivations to combine and disclosures of user modification of haptic parameters.

d. Additional Context Metadata

Claims 6 and 13 of the '524 patent recite that the claimed context metadata also comprises one of either "data indicating one or more physical properties of the user interface element" or "sensor input data." Nothing about these claim limitations add anything novel or non-obvious over the prior art. To the contrary, the use of data regarding physical properties of a user interface element or data from sensors (including in haptic systems) was well-known, routine, conventional, and widely available long before the alleged invention of the '524 patent.

The use of data regarding physical properties of a user interface element or data from sensors would have been obvious to a person of ordinary skill in the art at least because doing so would have involved the combination of prior art elements according to known methods to yield predictable results, the simple substitution of one known element for another to obtain predictable results, the application of a known technique to a known device ready for improvement to yield predictable results, and/or would have been obvious to try. Moreover, a person of ordinary skill in the art would have readily appreciated the well-known and widespread use of data regarding physical properties of a user interface element or data from sensors and the associated benefits and

advantages of their use. Persons of ordinary skill in the art would have been motivated to combine the teachings of the ***Additional Context Metadata*** references (as disclosed below) with any virtual reality, augmented reality, video game, interactive touchscreen, or related system, in order to enable the claimed additional metadata functionality.

As the attached claim charts demonstrate, use of data regarding physical properties of a user interface element or data from sensors was disclosed in the prior art. Specific disclosures, which are purely exemplary, from charted references and additional prior art (collectively the ***Additional Context Metadata*** references for the '524 patent) are set forth in **Exhibit H**, which include motivations to combine and disclosures of use of data regarding physical properties of a user interface element or data from sensors.

e. Types of Haptic Parameters

Claims 7 and 14 of the '524 patent recite that the haptic parameters comprise at least one of the following types of parameters: "a magnitude haptic parameter, a frequency haptic parameter, a duration haptic parameter, an amplitude haptic parameter, or a waveform haptic parameter." Nothing about these claim limitations add anything novel or non-obvious over the prior art. To the contrary, each of magnitude, frequency, duration, amplitude, and waveform haptic parameters were well-known, routine, conventional, and widely available long before the alleged invention of the '524 patent.

The use of magnitude, frequency, duration, amplitude, and waveform haptic parameters would have been obvious to a person of ordinary skill in the art at least because doing so would have involved the combination of prior art elements according to known methods to yield predictable results, the simple substitution of one known element for another to obtain predictable results, the application of a known technique to a known device ready for improvement to yield predictable results, and/or would have been obvious to try. Moreover, a person of ordinary skill

in the art would have readily appreciated the well-known and widespread use of magnitude, frequency, duration, amplitude, and waveform haptic parameters and the associated benefits and advantages of their use. Persons of ordinary skill in the art would have been motivated to combine the teachings of the ***Types of Haptic Parameters*** references (as disclosed below) with any virtual reality, augmented reality, video game, interactive touchscreen, or related system, in order to enable the claimed haptic parameter functionality.

As the attached claim charts demonstrate, each of magnitude, frequency, duration, amplitude, and waveform haptic parameters were disclosed in the prior art. Specific disclosures, which are purely exemplary, from charted references and additional prior art (collectively the ***Types of Haptic Parameters*** references for the '524 patent) are set forth in **Exhibit H**, which include motivations to combine and disclosures of magnitude, frequency, duration, amplitude, and waveform haptic parameters.

5. Obviousness Combinations

The charts below disclose combinations of reference demonstrating that the Asserted Claims of the '524 Patent would have been obvious in light of the prior art cited. This is done by reference to the particular categories identified above. For each instance in which such a category is referenced, one or more of the references cited in that category (as identified above) may supply the claim element to which the category applies. The discussion above accompanying each category sets forth the detailed rationale and motivation for combining each category's respective references with respect to the claimed features they disclose.

Defendant identifies references in groups below, based on common subject matter relevant to the Asserted Claims, for the purpose of disclosing obviousness combinations and further disclosing motivations to combine. The absence of a particular reference from a group is not an admission or suggestion that the reference does not disclose any particular claim limitations.

Asserted Claims	Application of Prior Art

Claims 1, 8, and 11	• Obvious over the combination of each reference from the following combination groups:
	  ○ Each Haptic Devices reference with one or more of the following:
	  ▪ Generic Computer Parts and/or
	  ▪ Context Metadata references
	  ○ Each Context Metadata reference with one or more Generic Computer Parts references

Claims 2-4, 12	• Obvious over the combination of each reference from the following combination groups:
	  ○ Each Reference combination cited for Claims 1 and 11
	  ○ Each Reference combination cited for Claims 1 and 11 with one or more User Input for Haptic Parameters references
	  ○ Each User Input for Haptic Parameters reference with one or more Generic Computer Parts references

Claims 6 and 13	• Obvious over the combination of each reference from the following combination groups:
	  ○ Each Reference combination cited for Claims 1 and 11
	  ○ Each Reference combination cited for Claims 1 and 11 with one or more Additional Context Metadata references.
	  ○ Each Additional Context Metadata reference with one or more Generic Computer Parts references

Claims 7 and 14	• Obvious over the combination of each reference from the following combination groups:
	  ○ Each Reference combination cited for Claims 1 and 11
	  ○ Each Reference combination cited for Claims 1 and 11 with one or more Types of Haptic Parameters references

Asserted Claims	Application of Prior Art
	○ Each Types of Haptic Parameters reference with one or more Generic Computer Parts references

6. Secondary Considerations

Plaintiff bears the burden of establishing the existence of secondary considerations and the requisite nexus to the claimed inventions. To date, Plaintiff has not contended that any secondary considerations support any alleged non-obviousness of the Asserted Claims. To the extent that Plaintiff subsequently contends that any secondary considerations support a conclusion that any of the Asserted Claims are not obvious, Defendant reserves the right to respond, including to amend and/or supplement these Invalidity Contentions. Moreover, as these Invalidity Contentions demonstrate, none of the Asserted Claims address any need that was either long felt or unmet, nor were their results unexpected. To the contrary, the extensive invalidating prior art detailed above and in Defendant's charts show that before the patents-in-suit, the prior art techniques, designs, and systems were widely accepted, understood, and available. Finally, although secondary considerations may be relevant to the obviousness analysis, secondary considerations of nonobviousness cannot overcome the strong prima facie case of obviousness set forth in these Invalidity Contentions.

D. Invalidity Under § 101

The asserted claims of the '524 patent do not comply with the requirements of 35 U.S.C. § 101. Defendant incorporates by reference the legal discussion contained in Section II.D set forth above.

***Alice* Step One**: The Asserted Claims of the '524 patent are directed to an abstract idea. "An abstract idea can generally be described at different levels of abstraction." *Apple*, 842 F.3d at

1240. At a higher level of abstraction, the asserted claims are directed to the abstract idea of providing haptic feedback based on the context. At a more granular level, the asserted claims are directed to the abstract idea of providing haptic feedback based on function or use history. *See* '524 patent at claims 1-4, 6-8, 11-14; *see also, e.g.*, *Alice*, 134 S. Ct. at 2354; *Chamberlain Grp., Inc. v. Techtronic Indus. Co.*, 935 F.3d 1341, 1346–47 (Fed. Cir. 2019), *cert denied* 141 S. Ct. 241 (2020); *ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759, 766 (Fed. Cir. 2019), *cert. denied*, 140 S. Ct. 983 (2020); *Bot M8 LLC v. Sony Corp. of Am.*, 4 F.4th 1342, 1358 (Fed. Cir. 2021); *Affinity Labs of Tex., LLC v. DirecTV, LLC*, 838 F.3d 1253, 1261 (Fed. Cir. 2016); *Elec. Comm'n Techs. v. ShoppersChoice.com*, 958 F.3d 1179, 1180–82 (Fed. Cir. 2020); *Yu v. Apple Inc.*, 1 F.4th 1040, 1044–45 (Fed. Cir. 2021); *Am. Axle & Mfg., Inc. v. Neapco Holdings LLC*, 939 F.3d 1355, 1366–67 (Fed. Cir. 2019), *cert denied*, 142 S. Ct. 2902 (2022); *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1354 (Fed. Cir. 2016); *In re Smith*, 815 F.3d 816, 819 (Fed. Cir. 2016); *In re Marco Guldenaar Holding BV*, 911 F.3d 1157, 1161–62 (Fed. Cir. 2018); *O'Reilly v. Morse*, 56 U.S. 62, 119–20 (1853); *In re TLI Commc'ns LLC Patent Litig.*, 823 F.3d 607, 613 (Fed. Cir. 2016); *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1369 (Fed. Cir. 2015); *In re Killian*, 45 F.4th 1373, 1379–80 (Fed. Cir. 2022); *West View Research, LLC v. Audi AG*, 685 F. App'x 923, 926 (Fed. Cir. 2017); *Clarilogic, Inc. v. FormFree Holdings Corp.*, 681 F. App'x 950, 954 (Fed. Cir. 2017); *Automated Tracking Sols., LLC v. Coca-Cola Co.*, 723 F. App'x 989, 994–95 (Fed. Cir. 2018); *Planet Bingo, LLC v. VKGS, LLC*, 576 F. App'x 1005, 1008 (Fed. Cir. 2014); *Kroy IP Holdings, LLC v. Safeway, Inc.*, 107 F. Supp.3d 677, 704–705 (E.D. Tex. 2015), *aff'd*, 639 F. App'x 637 (Fed. Cir. 2016). The claims recite no specific technological solution for achieving their desired functional results that improves an underlying computer system. This is no different from everyday activities where the function a person is

carrying out changes the type of feedback they receive. For example, pressing down on a stapler will result in a different type of haptic feedback than pressing down on a ball of bread dough.

***Alice* Step Two**: The asserted claims of the '524 patent do not recite an inventive concept sufficient to transform their subject matter into something more than the abstract idea. Each element in the asserted claims, as well as the ordered combination of the elements in the asserted claims, was well-understood, routine, and conventional as of the dates of the '524 patent, as demonstrated by the references provided in Sections III.A–C and described in detail above. Defendant refers to the prior art references charted and/or disclosed with these contentions with respect to each element as evidence that each element was well-understood, routine, and conventional. The Asserted Claims of the '524 patent claim nothing significantly more than an abstract idea, rather than any specific inventive application of the idea. *See Affinity Labs*, 838 F.3d at 1262. There are no "additional features" in the claims that account for more than "well-understood, routine, conventional activity." *See id.* (citations omitted).

As further illustration, the following exemplary features recited in the Asserted Claims of the '524 patent were well-known, routine, and conventional, in the art prior to the alleged date of invention:

Claims 1, 11:

- "non-transitory computer-readable medium having instructions stored thereon"
- "computer"
- "processor"
- "generate"
- "confirmation haptic effect"
- "receiving context metadata"

- "user interaction of a user interface element"
- "data indicating a functionality of a user interface element"
- "data indicating a history of the user interface element"
- "mapping" data to parameters
- "haptic parameters"
- "generating a haptic signal based on . . . haptic parameters"
- "sending the haptic signal"
- "actuator"
- "generate the confirmation haptic effect"

Claims 2, 12:

- "modifying the one or more haptic parameters"
- "user input"

Claim 3:

- "multipliers defined by the user"
- "each value . . . is based on the one or more multipliers"

Claim 4:

- "multipliers are globally defined"

Claims 6, 13:

- "data indicating one or more physical properties of the user interface element"
- "sensor input data"

Claims 7, 14:

- "magnitude", "frequency", "duration", "amplitude", and "waveform" "haptic parameters"

Claim 8:

- "user interface element comprises" a "physical" or "virtual element of a device"

As such, similar to *Affinity Labs*, where the Court found the claims ineligible under § 101, the claims and the shared specification do not contain an "'inventive concept' that transforms the abstract idea . . . into a patent-eligible application of that abstract idea." *See Affinity Labs,* 838 F.3d at 1262. The asserted claims recite only generic components and/or insignificant post-solution activity, without any specific technical solution or improvement to existing technologies to implement the underlying idea, and thus add nothing inventive to the claims. This is insufficient to transform the claimed abstract idea into patent-eligible subject matter. *See, e.g.*, *Alice*, 573 U.S. at 225-26 (holding that "implement[ing] the abstract idea . . . on a generic computer" was not sufficient "to transform an abstract idea into a patent-eligible invention"); *Intell. Ventures I*, 850 F.3d at 1341-42 (holding that "using generic computer components and conventional computer data processing activities" was not sufficient to find an "inventive concept"); *TLI Commc'ns,* 823 F.3d at 614 ("[G]eneric computer components [are] insufficient to add an inventive concept to an otherwise abstract idea."); *Two-Way Media*, 874 F.3d at 1339 ("Nothing in the claims or their constructions . . . requires anything other than conventional computer and network components operating according to their ordinary functions."). The dependent claims merely narrow the abstract idea, and thus also add nothing inventive. *See Content Extraction & Transmission*, 776 F.3d at 1349 (dependent claims of narrower scope and using conventional techniques are non-inventive). Therefore, the Asserted Claims of the '524 patent are ineligible under § 101.

Meta further reserves its right to submit and rely upon expert testimony in support of its arguments regarding patent ineligibility.

IV. IDENTIFICATION OF PRIOR ART: THE ’217 PATENT, THE ’298 PATENT, AND THE ’143 PATENT

A. A Chart Setting Forth Where in the Prior Art References Each Element of the Asserted Claim(s) are Found.

The Asserted Claims of the ’217 patent, the ’298 patent, and the ’615 patent are invalid under 35 U.S.C. §§ 102 and 103. Subject to Defendant’s reservation of rights, attached hereto as the Exhibits C-1 – C-33 series are exemplary preliminary disclosures comprising claim charts providing an element-by-element analysis of where specifically, in each prior art item, each element of the Asserted Claims of the ’217 patent is found; the Exhibits D-1 – D-39 series are exemplary preliminary disclosures comprising claim charts providing an element-by-element analysis of where specifically, in each prior art item, each element of the Asserted Claims of the ’298 patent is found; and the Exhibits F-1 – F-33 series are exemplary preliminary disclosures comprising claim charts providing an element-by-element analysis of where specifically, in each prior art item, each element of the Asserted Claims of the ’143 patent is found.

As noted above, these claim charts are based on Defendant’s current understanding of the claims and constructions applied by Plaintiff, even though Defendant does not necessarily agree with those interpretations, and reserves the right to dispute them. To the extent certain claim elements are indefinite under 35 U.S.C. § 112(2), as identified and described herein, the claim charts attempt to apply the prior art to the extent Defendant can understand the claim constructions applied by Plaintiff as found in Plaintiff’s Corrected PICs. By doing so, however, Defendant does not concede that these claim elements are definite or that one of skill in the art would have been informed with reasonable certainty about the scope of the claim element under *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898 (2014). To the extent any limitation is deemed not to be met exactly by an item of prior art, Defendant contends that the difference would have been obvious to a person of ordinary skill in the art/or and within the knowledge of one skilled in the

art at the time of the alleged invention, so that the claimed invention would have been obvious both in light of the single reference alone and/or in light of combined references. Defendant does not admit or concede that such element is not expressly or inherently disclosed by the reference at issue.

As a general matter, all portions of each prior art item are relied upon to support the disclosure of each patent claim limitation, as all portions provide general support. Supporting citations are nevertheless provided, but do not necessarily represent every location where a particular claim element may be found in the prior art item. Defendant reserves the right to rely on additional, or different, portions of the prior art items other than those specifically cited in these claim charts, and to supplement and/or amend these charts. Defendant also reserves the right to amend its invalidity grounds or charts, or provide supplemental grounds or charts, based on any amendments to Plaintiff's Corrected PICs, or information or documents that may be obtained as discovery continues including third-party discovery.

The following chart summarizes the prior art claim chart exhibits for the '217 patent submitted herewith:

Exhibits	Reference(s)
C1	U.S. Patent No. 7,312,786 to Paul Anderson et al. ("Anderson")
C2	U.S. Patent No. 2007/0035511 to Prashant Banerjee et al. ("Banerjee")
C3	U.S. Patent No. 8,054,289 to Jeffrey J. Berkley et al. ("Berkley")
C4	The Rutgers Master II – New Design Force Feedback Glove by Mourad Bouzit, et al ("Bouzit") published in IEEE/ASME Transactions on Mechatronics, Vol. 7, No. 2
C5	Novint Falcon and Novint/Sandia 3D-Touch Software by Novint Technologies, et al. ("Falcon")
C6	U.S. Patent No. 7,292,151 to Kevin Ferguson et al. ("Ferguson")
C7	EP 1 876 504 A1 to Patrick Helmer et al. ("Helmer")
C8	U.S. Patent No. 5,389,865 to Charles J. Jacobus et al. ("Jacobus")
C9	PCT International Publication No. WO 2007/100204 A1 to Tae-Jeong Jang et al. ("Jang")
C10	U.S. Patent No. 5,577,981 to Robert Jarvik et al. ("Jarvik")

Exhibits	Reference(s)
C11	U.S. Patent Application Pub. No. US 2009/0191968 A1 to Ian Johnson et al. ("Johnson")
C12	U.S. Patent No. 6,972,734 to Toshikazu Ohshima et al. ("Ohshima")
C13	PHANTOM Omni by SensAble Technologies, Inc. system ("PHANTOM")
C14	U.S. Patent No. 7,205,978 to Ivan Poupyrev et al. ("Poupyrev '978")
C15	International Publication Number WO 2006/054163 A2 to Fabio Salsedo et al. ("Salsedo")
C16	Fishing Controller for Sega Dreamcast system ("Dreamcast Fishing Controller")
C17	U.S. Patent No. 8,210,942 to Jorge L. Shimabukuro et al. ("Shimabukuro")
C18	U.S. Patent Application Pub. No. 2009/0326406 to Desney Tan et al. ("Tan")
C19	PCT International Publication No. WO 2007/091008 A1 to Mark Wright et al. ("Wright")
C20	U.S. Patent Application Publication No. 2002/0151337 to Akihisa Yamashita et al. ("Yamashita")
C21	U.S. Patent Application Pub. No. US 2007/0268248 A1 to Craig B. Zilles et al. ("Zilles")
C22	U.S. Patent No. 5,796,354 to Michael C. Cartabiano et al. ("Cartabiano")
C23	Nintendo Wii System ("Wii")
C24	ARQuake system ("ARQuake")
C25	U.S. Patent App. Pub. No. 2004/0012557 A1 to Tyler Jon Daniel ("Daniel")
C26	VPL DataGlove system ("DataGlove")
C27	A Hand Gesture Interface Device to Thomas G. Zimmerman et al. ("Zimmerman")
C28	International Publication No. WO 2007/133251 to Thomas G. Anderson et al. ("Anderson 251")
C29	U.S. Patent No. 6,424,333 to Mark R. Tremblay et al. ("Tremblay")
C30	Logitech Cordless Rumblepad system ("Rumblepad")
C31	U.S. Patent No. 6,162,123 to Thomas G. Woolston et al. ("Woolston")
C32	U.S. Patent No. 6,366,272 to Louis B. Rosenberg et al. ("Rosenberg")
C33	U.S. Patent Application Publication No. US 2009/0066725 A1 to Atsushi Nogami and Naoki Nishimura ("Nogami")

The following chart summarizes the prior art claim chart exhibits for the '298 patent submitted herewith:

Exhibits	Reference(s)
D1	U.S. Patent No. 7,312,786 to Paul Anderson et al. ("Anderson")
D2	U.S. Patent No. 2007/0035511 to Prashant Banerjee et al. ("Banerjee")
D3	The Rutgers Master II – New Design Force Feedback Glove by Mourad Bouzit, et al ("Bouzit") published in IEEE/ASME Transactions on Mechatronics, Vol. 7, No. 2
D4	U.S. Patent No. 8,054,289 to Jeffrey J. Berkley et al. ("Berkley")

Exhibits	Reference(s)
D5	Novint Falcon and Novint/Sandia 3D-Touch Software by Novint Technologies, et al. (“Falcon”)
D6	U.S. Patent No. 7,292,151 to Kevin Ferguson et al. (“Ferguson”)
D7	EP 1 876 504 A1 to Patrick Helmer et al. (“Helmer”)
D8	U.S. Patent No. 5,389,865 to Charles J. Jacobus et al. (“Jacobus”)
D9	PCT International Publication No. WO 2007/100204 A1 to Tae-Jeong Jang et al. (“Jang”)
D10	U.S. Patent No. 5,577,981 to Robert Jarvik et al. (“Jarvik”)
D11	U.S. Patent Application Pub. No. US 2009/0191968 A1 to Ian Johnson et al. (“Johnson”)
D12	22Moo YelloMosquito Qingbar GP300 system (“Qingbar GP300”)
D13	U.S. Patent No. 6,972,734 to Toshikazu Ohshima et al. (“Ohshima”)
D14	PHANTOM Omni by SensAble Technologies, Inc. system (“PHANTOM”)
D15	U.S. Patent No. 7,205,978 to Ivan Poupyrev et al. (“Poupyrev ’978”)
D16	Radica Airforce i-Combat system (“i-Combat”)
D17	Radica i-Racer Virtual Vision Racing system (“i-Racer”)
D18	International Publication Number WO 2006/054163 A2 to Fabio Salsedo et al. (“Salsedo”)
D19	Fishing Controller for Sega Dreamcast system (“Dreamcast Fishing Controller”)
D20	Sensics piSight system (“Sensics piSight”)
D21	U.S. Patent No. 8,210,942 to Jorge L. Shimabukuro et al. (“Shimabukuro”)
D22	U.S. Patent Application Pub. No. 2009/0326406 to Desney Tan et al. (“Tan”)
D23	3001 AD Trimersion HMD (“Trimersion HMD”)
D24	PCT International Publication No. WO 2007/091008 A1 to Mark Wright et al. (“Wright”)
D25	U.S. Patent Application Publication No. 2002/0151337 to Akihisa Yamashita et al. (“Yamashita”)
D26	U.S. Patent Application Pub. No. US 2007/0268248 A1 to Craig B. Zilles et al. (“Zilles”)
D27	U.S. Patent No. 5,796,354 to Michael C. Cartabiano et al. (“Cartabiano”)
D28	Immersion CyberGlove system (“CyberGlove”)
D29	International Publication No. WO 2007/133251 to Thomas G. Anderson et al. (“Anderson 251”)
D30	Nintendo Wii System (“Wii”)
D31	ARQuake system (“ARQuake”)
D32	U.S. Patent App. Pub. No. 2004/0012557 A1 to Tyler Jon Daniel (“Daniel”)
D33	VPL DataGlove system (“DataGlove”)
D34	A Hand Gesture Interface Device to Thomas G. Zimmerman et al. (“Zimmerman”)
D35	U.S. Patent No. 6,424,333 to Mark R. Tremblay et al. (“Tremblay”)
D36	U.S. Patent No. 6,162,123 to Thomas G. Woolston et al. (“Woolston”)
D37	Logitech Cordless Rumblepad System (“Rumblepad”)
D38	U.S. Patent No. 6,366,272 to Louis B. Rosenberg et al. (“Rosenberg”)

Exhibits	Reference(s)
D39	U.S. Patent Application Publication No. US 2009/0066725 A1 to Atsushi Nogami and Naoki Nishimura ("Nogami")

The following chart summarizes the prior art claim chart exhibits for the '143 patent submitted herewith:

Exhibits	Reference(s)
F1	U.S. Patent No. 7,312,786 to Paul Anderson et al. ("Anderson")
F2	U.S. Patent No. 2007/0035511 to Prashant Banerjee et al. ("Banerjee")
F3	U.S. Patent No. 8,054,289 to Jeffrey J. Berkley et al. ("Berkley")
F4	The Rutgers Master II – New Design Force Feedback Glove by Mourad Bouzit, et al ("Bouzit") published in IEEE/ASME Transactions on Mechatronics, Vol. 7, No. 2
F5	U.S. Patent No. 7,292,151 to Kevin Ferguson et al. ("Ferguson")
F6	Novint Falcon and Novint/Sandia 3D-Touch Software by Novint Technologies, et al. ("Falcon")
F7	EP 1 876 504 A1 to Patrick Helmer et al. ("Helmer")
F8	U.S. Patent No. 5,389,865 to Charles J. Jacobus et al. ("Jacobus")
F9	PCT International Publication No. WO 2007/100204 A1 to Tae-Jeong Jang et al. ("Jang")
F10	U.S. Patent No. 5,577,981 to Robert Jarvik et al. ("Jarvik")
F11	U.S. Patent Application Pub. No. US 2009/0191968 A1 to Ian Johnson et al. ("Johnson")
F12	U.S. Patent No. 6,972,734 to Toshikazu Ohshima et al. ("Ohshima")
F13	PHANTOM Omni by SensAble Technologies, Inc. system ("PHANTOM")
F14	U.S. Patent No. 7,205,978 to Ivan Poupyrev et al. ("Poupyrev '978")
F15	22Moo YelloMosquito Qingbar GP300 system ("Qingbar GP300")
F16	Radica Airforce i-Combat system ("i-Combat")
F17	Radica i-Racer Virtual Vision Racing system ("i-Racer")
F18	International Publication Number WO 2006/054163 A2 to Fabio Salsedo et al. ("Salsedo")
F19	Sensics piSight system ("Sensics piSight")
F20	U.S. Patent No. 8,210,942 to Jorge L. Shimabukuro et al. ("Shimabukuro")
F21	U.S. Patent Application Pub. No. 2009/0326406 to Desney Tan et al. ("Tan")
F22	3001 AD Trimersion HMD ("Trimersion HMD")
F23	PCT International Publication No. WO 2007/091008 A1 to Mark Wright et al. ("Wright")
F24	U.S. Patent Application Pub. No. US 2007/0268248 A1 to Craig B. Zilles et al. ("Zilles")
F25	Nintendo Wii System ("Wii")
F26	ARQuake system ("ARQuake")

Exhibits	Reference(s)
F27	U.S. Patent App. Pub. No. 2004/0012557 A1 to Tyler Jon Daniel ("Daniel")
F28	A Hand Gesture Interface Device to Thomas G. Zimmerman et al. ("Zimmerman")
F29	International Publication No. WO 2007/133251 to Thomas G. Anderson et al. ("Anderson 251")
F30	U.S. Patent No. 6,424,333 to Mark R. Tremblay et al. ("Tremblay")
F31	U.S. Patent No. 6,162,123 to Thomas G. Woolston et al. ("Woolston")
F32	U.S. Patent No. 6,366,272 to Louis B. Rosenberg et al. ("Rosenberg")
F33	U.S. Patent Application Publication No. US 2009/0066725 A1 to Atsushi Nogami and Naoki Nishimura ("Nogami")

B. Identity of Each Item of Prior Art

Subject to Defendant's reservation of rights, Defendant identifies each item of prior art that anticipates or renders obvious one or more of the Asserted Claims in Section IV.C, below, and in Exhibit G. To the extent that the references listed in Exhibit G are not identified as items of prior art that anticipate or render obvious an Asserted Claim, Defendant intends to rely on these references as background and as evidence of the state of the art at the time of Plaintiff's alleged invention.

Additionally, many of the prior art references are related patent applications and issued patents that contain substantially the same subject matter (e.g., published U.S. patent applications, and issued U.S. patents, foreign applications or issued patents). Any citation to or quotation from any of these patent applications or patents, therefore, should be understood as encompassing any parallel citation to the same subject matter in other related or corresponding applications or patents. Defendant also reserves the right to later rely upon all references or portions of references provided in Exhibit G to supplement or amend its disclosures contained herein. Also, to the extent not expressly mentioned herein, Defendant incorporates by reference (1) any and all prior art contained or identified in documents produced thus far by Plaintiff to Defendant in this case; (2) any and all additional materials regarding invalidity that should have been produced to Defendant but have

not been produced to date, to the extent that any exist; and (3) any prior art of which any named inventor of the Asserted Patent is aware and/or on which they contend the alleged invention of the Asserted Patent build upon or improve.

Each disclosed item of prior art is evidence of a prior invention and making of the invention in the United States by another under 35 U.S.C. § 102(g), as evidenced by the named inventor, authors, organizations, and publishers involved with each such reference, with the circumstances described and reflected in each reference including publications and system implementation references. Defendant further intends to rely on admissions of the named inventors concerning the prior art, including statements found in the Asserted Patent, its prosecution history, related patents and/or patent applications, any deposition testimony, and the papers filed and any evidence submitted by Plaintiff in conjunction with this litigation. For systems and products that are disclosed, Defendant also intends to rely on additional information describing those same systems and products, including information received from third-parties in response to subpoenas.

C. Obviousness Combinations and Motivations for Combining Prior Art

Defendant incorporates by reference the reservation of rights, legal standard, and motivation to combine set forth in Section II.C, *supra*, as though fully set forth herein.

Each prior art reference may be combined with one or more other prior art references to render obvious the Asserted Claims in combination, as explained in more detail below. The disclosures of these references also may be combined with information known to persons skilled in the art at the time of the alleged invention, and understood and supplemented in view of the common sense of persons skilled in the art at the time of the alleged invention, including any statements in the intrinsic record of the Asserted Patent and related applications.

A person of ordinary skill would have been motivated to combine the identified prior art based on the nature of the problem to be solved, the teachings of the prior art, and the knowledge

of persons of ordinary skill in the art. The identified prior art references, including portions cited in the Prior Art Invalidity Charts, address the same or similar technical issues and suggest the same or similar solutions to those issues as the Asserted Claims. On such basis, on an element-by-element basis, Defendant expressly intends to combine one or more prior art items identified in Appendix A with each other to address any further contentions from Plaintiff that a particular prior art item supposedly lacks one or more elements of an Asserted Claim. In other words, Defendant contends that each charted prior art item can be combined with other charted prior art items when a particular prior art item lacks or does not explicitly disclose an element or feature of an Asserted Claim. The suggested obviousness combinations described below are not to be construed to suggest that any reference included in the combinations is not anticipatory. Further, to the extent that Plaintiff contends that any of the anticipatory prior art fails to disclose one or more limitations of the Asserted Claims, Defendant reserves the right to identify other prior art references that, when combined with the anticipatory prior art, would render the claims obvious despite an allegedly missing limitation. Defendant will further specify the motivations to combine the prior art, including through reliance on expert testimony, at the appropriate later stage of this lawsuit.

A person of skill in the art would have been motivated to combine the identified prior art items. As the United States Supreme Court held in *KSR International Company v. Teleflex, Inc.*, 550 U.S. 398, 416 (2007):"The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." The Supreme Court further held that, "[w]hen a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in

the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill." *Id*. at 417.

The Court has further held that "in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle." *Id.* at 420. It is sufficient that a combination of elements was "obvious to try" holding that, "[w]hen there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense." *Id.* at 421. "In that instance the fact that a combination was obvious to try might show that it was obvious under § 103." *Id*. Finally, the Supreme Court recognized that "[g]ranting patent protection to advances that would occur in the ordinary course without real innovation retards progress and may, in the case of patents combining previously known elements, deprive prior inventions of their value or utility." *Id*. at 419. All of the following rationales recognized in *KSR* support a finding of obviousness:

- Combining prior art elements according to known methods to yield predictable results;
- Simple substitution of one known element for another to obtain predictable results;
- Use of known technique to improve similar devices (methods, or products) in the same way;
- Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;

- "Obvious to try"—choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;
- Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations would have been predictable to one of ordinary skill in the art; and
- Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

Certain of these rationales are discussed more specifically below. The fact that others are not discussed more specifically should not be interpreted as an admission or concession that it does not apply. To the contrary, the discussion below simply provides more explanation of these specific rationales.

Defendant further contends that the prior art identified in these Invalidity Contentions is evidence of simultaneous or near-simultaneous independent invention by others of the alleged invention as recited in one or more of the Asserted Claims. Defendant reserves its right to rely on the simultaneous or near-simultaneous independent invention by others as further evidence of the obviousness of the Asserted Claims.

Each limitation of the Asserted Claims was well known to those of ordinary skill in the art before the filing dates of the respective non-provisional application to which each Asserted Patent claims priority, as detailed below and in the attached charts.

The elements recited in the Asserted Claims are mere combinations and modifications of these well-known elements. A person of ordinary skill in the art would be able, and motivated, to

improve the existing technology in the same or similar manner by combining or modifying the individual elements that were already known in the art to yield predictable results.

Subject to the foregoing, Defendant identifies the following exemplary reasons that skilled artisans would have combined elements of the prior art to render obvious the Asserted Claims. The fact that others are not discussed more specifically should not be interpreted as an admission or concession that it does not apply. To the contrary, the discussion below simply provides more explanation of these specific rationales.

1. Motivations Identified During Prosecution

Defendant hereby expressly incorporates by reference any statements and reasons set forth by the Examiner during prosecution of the '806 patent and related patent applications as to why it would have been obvious to modify or combine references to achieve the limitations of the Asserted Claims.

2. Combinations of References Through Citations

Numerous prior art references cite to, discuss, or build upon other references. Where one reference cites or discusses another reference, a person of ordinary skill in the art would have been motivated to consider their teachings in combination, as they would be understood to provide related teachings in a similar field.

3. Combinations of Related References

In some instances, multiple prior art publications and/or physical references discuss or address the same or substantially similar underlying system, software, or other project, such as commercial software products and successive versions thereof, or multiple publications discussing the same subject matter. Where multiple references discuss or relate to the same or related underlying projects, systems, or other subject matter, it was obvious to combine the discussions and disclosures of the references as they would be understood to describe features or potential

features of the underlying project, system, technique, or other subject matter. Similarly, where one reference cites or discusses other references or their teachings, or references have one or more authors in common and a related area of subject matter, it was obvious to consider the teachings of the references in combination with each other due to the express relationships and commonalities between the references.

Further, for each set of references that together refer to or describe the same system and/or potential improvements to the same system, it would have been obvious to combine such references. In particular, to the extent the items are commonly owned, they would be within the knowledge of the same company, and the company would be motivated to use elements from one reference to improve another seeking to solve the same or similar problems.

Where more than one references discuss a system, as listed below, or where references are owned by the same company, it would have been obvious to combine any such references that refer to and/or discuss the same system and/or are owned by the same company.

4. Obviousness Combination Groups and Further Motivations to Combine

In addition to combinations of references and motivations to combine identified elsewhere herein, including within claim charts, Defendant identifies combinations and motivations to combine based on references grouped by subject matter, as discussed in Section II.C.4 above, which discussion and case law is incorporated herein by reference.

Defendant identifies references in groups below, based on common subject matter relevant to the Asserted Claims of the ’217, ’298, and ’143 patents, for the purpose of disclosing obviousness combinations and further disclosing motivations to combine. The absence of a particular reference from a group is not an admission or suggestion that the reference does not disclose any particular claim limitations.

a. Free Space Haptic Device

Claim 1 of the ’217 patent recites a “manipulatable input device movable through real space in at least three degrees of freedom, the manipulatable input device incorporating a haptic output device,” and claim 17 of the ’217 patent recites a “manipulatable input device in at least three degrees of freedom” wherein “the manipulatable input device incorporates a haptic output device.” In each of these claims, the haptic output device receives a “haptic signal configured to cause the haptic output device to output a haptic effect” according to a feedback parameter. Claims 1, 9, and 17 of the ’298 patent each recite a “haptic output device” that “output[s] haptic feedback” in accordance with feedback parameter(s). And claims 1, 8, and 15 of the ’143 patent each recite a “haptic output device” that is configured to receive a “haptic signal” and “output haptic feedback.” Nothing about these claim limitations add anything novel or non-obvious over the prior art. To the contrary, haptic devices, including those movable in three degrees of freedom, that could output haptic feedback based on haptic signals and parameters were well-known, routine, conventional, and widely available long before the alleged inventions of the ’217, ’298, and ’143 patents.

In addition, Immersion has admitted that “[p]rovision of haptic stimulation to users is known” and that “basic effects (e.g., vibrate) have been used in mobile and other computing devices” in the ’806 patent, as of at least July 21, 2010. (’806 patent, *see* 1:25-47.)

In addition, haptic devices as disclosed below are typically computer operated and part of systems encompassing computers—either remote from or integrated with the haptic devices—and common computer parts. These computer parts include processors, memory, non-transitory computer readable media, displays, accessories, peripherals, and other parts. It would have been obvious to combine each of the below references discussing haptic devices with any of the references disclosed in the ***Generic Computer Parts*** bucket described in Section II.C.4.e above.

The use of haptic devices (including those movable in three degrees of freedom) would have been obvious to a person of ordinary skill in the art at least because doing so would have involved the combination of prior art elements according to known methods to yield predictable results, the simple substitution of one known element for another to obtain predictable results, the application of a known technique to a known device ready for improvement to yield predictable results, and/or would have been obvious to try. Moreover, a person of ordinary skill in the art would have readily appreciated the well-known and widespread use of haptic devices (including those movable in three degrees of freedom) and the associated benefits and advantages of their use. Persons of ordinary skill in the art would have been motivated to combine the teachings of the ***Free Space Haptic Device*** references (as disclosed below) with any virtual reality, augmented reality, video game, interactive touchscreen, or related system, in order to enable the claimed haptic functionality.

As the attached claim charts demonstrate, haptic devices (including those movable in three degrees of freedom) were disclosed in the prior art. Specific disclosures, which are purely exemplary, from charted references and additional prior art (collectively the ***Free Space Haptic Device*** references for the '217, '298, and '143 patents) are set forth in **Exhibit H**, which include motivations to combine and disclosures of haptic devices (including those movable in three degrees of freedom).

b. Position Data

Claims 1 and 17 of the '217 patent recite the receipt of "one or more sensor signals indicating a position of the manipulatable input device in the at least three degrees of freedom," and claim 11 further recites "a position sensor configured to detect the position of the manipulatable input device in the at least three degrees of freedom and transmit a first sensor signal." Claims 1, 9, and 17 of the '298 patent recite detecting an interaction "based on a peripheral

being at a particular position in free space with respect to the virtual object." And claims 1, 8, and 15 of the '143 patent each recite a "position sensor" from which "sensor signals" are received to determine "a position of a peripheral in real space," while claim 2 recites that the "position sensor is positioned on the peripheral." In each of these claims, the position of a peripheral/device is also utilized in determining haptic feedback. Nothing about these claim limitations add anything novel or non-obvious over the prior art. To the contrary, the use of data from position sensors in haptic feedback systems, including where position trackers are located on peripherals, was well-known, routine, conventional, and widely available long before the alleged inventions of the '217, '298, and '143 patents.

The use of data from position sensors in haptic feedback systems would have been obvious to a person of ordinary skill in the art at least because doing so would have involved the combination of prior art elements according to known methods to yield predictable results, the simple substitution of one known element for another to obtain predictable results, the application of a known technique to a known device ready for improvement to yield predictable results, and/or would have been obvious to try. Moreover, a person of ordinary skill in the art would have readily appreciated the well-known and widespread use of data from position sensors in haptic feedback systems and the associated benefits and advantages of their use. Persons of ordinary skill in the art would have been motivated to combine the teachings of the ***Position Data*** references (as disclosed below) with any virtual reality, augmented reality, video game, interactive touchscreen, or related system, in order to enable the claimed haptic effect functionality.

As the attached claim charts demonstrate, the use of data from position sensors in haptic feedback systems was disclosed in the prior art. Specific disclosures, which are purely exemplary, from charted references and additional prior art (collectively the ***Position Data*** references for the

’217, ’298, and ’143 patents) are set forth in **Exhibit H**, which include motivations to combine and disclosures of the use of data from position sensors in haptic feedback systems.

c. Input Device Identification

Claims 1 and 12 of the ’217 patent recite the receipt of “an identification of the manipulatable input device,” claim 11 further recites “an identification sensor configured to identify the manipulatable input device and transmit a second sensor signal,” and claim 18 further recites identifying the device “from a plurality of manipulatable input devices based on the one or more sensor signals.” In each of these claims, the identification of the device is also utilized in determining haptic feedback. Claims 1, 9, and 17 of the ’298 patent each recite that a feedback parameter “depends on an identifier of the peripheral.” Nothing about these claim limitations add anything novel or non-obvious over the prior art. To the contrary, the use of device identification data in haptic feedback systems was well-known, routine, conventional, and widely available long before the alleged inventions of the ’217, ’298, and ’143 patents.

The use of device identification data in haptic feedback systems would have been obvious to a person of ordinary skill in the art at least because doing so would have involved the combination of prior art elements according to known methods to yield predictable results, the simple substitution of one known element for another to obtain predictable results, the application of a known technique to a known device ready for improvement to yield predictable results, and/or would have been obvious to try. Moreover, a person of ordinary skill in the art would have readily appreciated the well-known and widespread use of device identification data in haptic feedback systems and the associated benefits and advantages of their use. Persons of ordinary skill in the art would have been motivated to combine the teachings of the ***Input Device Identification*** references (as disclosed below) with any virtual reality, augmented reality, video game, interactive touchscreen, or related system, in order to enable the claimed haptic effect functionality.

Bluetooth was well-known for using device identification codes to facilitate communications between a designated receiver and transmitter. Wired connections, such as USB, likewise were well-known methods for identifying devices in connected computing systems. As the specification of the '217 patent explains: "Remote sensing of the identity of the peripheral 102 may include … wireless protocols (e.g., Bluetooth), wired connection and/or other remote sensing technologies." ('217 Pat. col. 5:15-21)

In addition, these claim elements would be obvious in any system that has multiple input devices, in order to distinguish the source of the input.

As the attached claim charts demonstrate, the use of device identification data in haptic feedback systems was disclosed in the prior art. Specific disclosures, which are purely exemplary, from charted references and additional prior art (collectively the ***Input Device Identification*** references for the '217, '298, and '143 patents) are set forth in **Exhibit H**, which include motivations to combine and disclosures of the use of device identification data in haptic feedback systems.

d. Visual Identification

Claim 19 of the '217 patent recites that the claimed identification sensor is "configured to identify the manipulatable input device based on a visual characteristic of the manipulatable input device." Nothing about this claim limitation adds anything novel or non-obvious over the prior art. To the contrary, identifying devices via visual characteristics was well-known, routine, conventional, and widely available long before the alleged inventions of the '217, '298, and '143 patents.

The use of identification of devices via visual characteristics would have been obvious to a person of ordinary skill in the art at least because doing so would have involved the combination of prior art elements according to known methods to yield predictable results, the simple

substitution of one known element for another to obtain predictable results, the application of a known technique to a known device ready for improvement to yield predictable results, and/or would have been obvious to try. Moreover, a person of ordinary skill in the art would have readily appreciated the well-known and widespread use of identification of devices via visual characteristics and the associated benefits and advantages of their use. Persons of ordinary skill in the art would have been motivated to combine the teachings of the ***Visual Identification*** references (as disclosed below) with any virtual reality, augmented reality, video game, interactive touchscreen, or related system, in order to enable the claimed identification functionality.

As the attached claim charts demonstrate, the use of identification of devices via visual characteristics was disclosed in the prior art. Specific disclosures, which are purely exemplary, from charted references and additional prior art (collectively the ***Visual Identification*** references for the '217, '298, and '143 patents) are set forth in **Exhibit H**, which include motivations to combine and disclosures of the use of identification of devices via visual characteristics.

e. Identification-Based Content

Claim 18 of the '217 patent recites that interactive content is adjusted "based at least in part on the identification of the manipulatable input device." Nothing about these claim limitations add anything novel or non-obvious over the prior art. To the contrary, adjusting interactive content based on a peripheral's identification was well-known, routine, conventional, and widely available long before the alleged inventions of the '217, '298, and '143 patents.

The use of adjustment of interactive content based on a peripheral's identification would have been obvious to a person of ordinary skill in the art at least because doing so would have involved the combination of prior art elements according to known methods to yield predictable results, the simple substitution of one known element for another to obtain predictable results, the application of a known technique to a known device ready for improvement to yield predictable

results, and/or would have been obvious to try. Moreover, a person of ordinary skill in the art would have readily appreciated the well-known and widespread use of adjustment of interactive content based on a peripheral's identification and the associated benefits and advantages of their use. Persons of ordinary skill in the art would have been motivated to combine the teachings of the ***Identification-Based Content*** references (as disclosed below) with any virtual reality, augmented reality, video game, interactive touchscreen, or related system, in order to enable the claimed adjusted content functionality.

Bluetooth was well-known for using device identification codes to facilitate communications between a designated receiver and transmitter, including providing content to a specific device based on its identity. Wired connections, such as USB, likewise were well-known methods for identifying devices in connected computing systems. As the specification of the '217 patent explains: "Remote sensing of the identity of the peripheral 102 may include … wireless protocols (e.g., Bluetooth), wired connection and/or other remote sensing technologies." ('217 Pat. col. 5:15-21)

As the attached claim charts demonstrate, the use of adjustment of interactive content based on a peripheral's identification was disclosed in the prior art. Specific disclosures, which are purely exemplary, from charted references and additional prior art (collectively the ***Identification-Based Content*** references for the '217, '298, and '143 patents) are set forth in **Exhibit H**, which include motivations to combine and disclosures of the use of adjustment of interactive content based on a peripheral's identification.

f. Feedback Parameter and Haptic Effect

Claims 1 and 17 of the '217 patent each recite determining "a feedback parameter," and a haptic signal that is "configured to cause the haptic output device to output a haptic effect according to the feedback parameter." Claims 1, 9, and 17 of the '298 patent each recite

determining "a first feedback parameter" and a "second feedback parameter," and a haptic signal that is "configured to cause a haptic output device to output haptic feedback in accordance with the first feedback parameter and the second feedback parameter." Claims 1, 8, and 15 of the '143 patent each recite a "haptic signal" that is transmitted to a haptic output device, which is "configured to receive the haptic signal and output haptic feedback." Nothing about these claim limitations add anything novel or non-obvious over the prior art. To the contrary, the use of haptic effects based on feedback parameters and signals was well-known, routine, conventional, and widely available long before the alleged inventions of the '217, '298, and '143 patents.

The use of haptic effects based on feedback parameters and signals would have been obvious to a person of ordinary skill in the art at least because doing so would have involved the combination of prior art elements according to known methods to yield predictable results, the simple substitution of one known element for another to obtain predictable results, the application of a known technique to a known device ready for improvement to yield predictable results, and/or would have been obvious to try. Moreover, a person of ordinary skill in the art would have readily appreciated the well-known and widespread use of haptic effects based on feedback parameters and signals and the associated benefits and advantages of their use. Persons of ordinary skill in the art would have been motivated to combine the teachings of the ***Feedback Parameter and Haptic Effect*** references (as disclosed below) with any virtual reality, augmented reality, video game, interactive touchscreen, or related system, in order to enable the claimed haptic effect functionality.

As the attached claim charts demonstrate, the use of haptic effects based on feedback parameters and signals was disclosed in the prior art. Specific disclosures, which are purely exemplary, from charted references and additional prior art (collectively the ***Feedback Parameter***

and Haptic Effect references for the ’217, ’298, and ’143 patents) are set forth in **Exhibit H**, which include motivations to combine and disclosures of haptic effects based on feedback parameters and signals.

g. Accessory/Wearable

Claims 2 of the ’217 patent recites that the manipulatable input device comprises “an accessory,” and claim 8 further recites that the accessory “comprises a wearable accessory or clothing.” Claims 16 and 24 of the ’298 patent each recite that the peripheral comprises “a wearable computer.” And claims 3, 10, and 17 of the ’143 patent each recite that the peripheral is “a wearable device.” Nothing about these claim limitations add anything novel or non-obvious over the prior art. To the contrary, accessories that were wearable devices such as computers were well-known, routine, conventional, and widely available long before the alleged inventions of the ’217, ’298, and ’143 patents.

The use of accessories that were wearable devices such as computers would have been obvious to a person of ordinary skill in the art at least because doing so would have involved the combination of prior art elements according to known methods to yield predictable results, the simple substitution of one known element for another to obtain predictable results, the application of a known technique to a known device ready for improvement to yield predictable results, and/or would have been obvious to try. Moreover, a person of ordinary skill in the art would have readily appreciated the well-known and widespread use of accessories that were wearable devices such as computers and the associated benefits and advantages of their use. Persons of ordinary skill in the art would have been motivated to combine the teachings of the ***Accessory/Wearable*** references (as disclosed below) with any virtual reality, augmented reality, video game, interactive touchscreen, or related system, in order to enable the claimed wearable functionality.

As the attached claim charts demonstrate, accessories that were wearable devices such as

computers were disclosed in the prior art. Specific disclosures, which are purely exemplary, from charted references and additional prior art (collectively the ***Accessory/Wearable*** references for the ’217, ’298, and ’143 patents) are set forth in **Exhibit H**, which include motivations to combine and disclosures of accessories that were wearable devices such as computers

h. Interactive Content

Claim 10 of the ’217 patent recites that the haptic effect is “further based on interactive content,” and claim 18 recites adjusting “interactive content output to a user via a content output appliance.” Claims 1, 8, and 15 of the ’143 patent recites outputting “first interactive content” and “second interactive content” that is “different from the first interactive content,” and that the haptic signal is ultimately based on the second interactive content. Nothing about these claim limitations add anything novel or non-obvious over the prior art. To the contrary, outputting interactive content to the user, including different interactive contents, and basing haptic effects in part on that content was well-known, routine, conventional, and widely available long before the alleged inventions of the ’217, ’298, and ’143 patents. Moreover, as interactive content is by its nature dynamic and responds to interaction by a user, that a user’s interaction or change in position would cause a “first interactive content” to change to a “second interactive content” (or a third or fourth interactive content) would also be obvious.

The use of outputting interactive content to the user including different interactive contents, and basing haptic effects in part on that content would have been obvious to a person of ordinary skill in the art at least because doing so would have involved the combination of prior art elements according to known methods to yield predictable results, the simple substitution of one known element for another to obtain predictable results, the application of a known technique to a known device ready for improvement to yield predictable results, and/or would have been obvious to try.

Moreover, a person of ordinary skill in the art would have readily appreciated the well-known and widespread use of outputting interactive content to the user and basing haptic effects in part on that content and the associated benefits and advantages of their use. Persons of ordinary skill in the art would have been motivated to combine the teachings of the ***Interactive Content*** references (as disclosed below) with any virtual reality, augmented reality, video game, interactive touchscreen, or related system, in order to enable the claimed interactive content functionality.

As the attached claim charts demonstrate, outputting interactive content to the user and basing haptic effects in part on that content was disclosed in the prior art. Specific disclosures, which are purely exemplary, from charted references and additional prior art (collectively the ***Interactive Content*** references for the '217, '298, and '143 patents) are set forth in **Exhibit H**, which include motivations to combine and disclosures of outputting interactive content to the user and basing haptic effects in part on that content.

i. Plurality of Peripherals

Claim 18 of the '217 patent recites identification of the input device "from a plurality of manipulatable input devices." Claim 7 of the '143 patent recites that the peripheral "is a first peripheral" and that the haptic output device "is positioned on a second peripheral that is separate from the first peripheral." Nothing about these claim limitations add anything novel or non-obvious over the prior art. To the contrary, use of a plurality of peripherals was well-known, routine, conventional, and widely available long before the alleged inventions of the '217, '298, and '143 patents. Moreover, the use of more than one peripheral would render any number of peripherals (such as two) obvious.

The use of a plurality of peripherals would have been obvious to a person of ordinary skill in the art at least because doing so would have involved the combination of prior art elements according to known methods to yield predictable results, the simple substitution of one known

element for another to obtain predictable results, the application of a known technique to a known device ready for improvement to yield predictable results, and/or would have been obvious to try. Moreover, a person of ordinary skill in the art would have readily appreciated the well-known and widespread use of a plurality of peripherals and the associated benefits and advantages of their use. Persons of ordinary skill in the art would have been motivated to combine the teachings of the ***Plurality of Peripherals*** references (as disclosed below) with any virtual reality, augmented reality, video game, interactive touchscreen, or related system, in order to enable the claimed peripheral functionality.

As the attached claim charts demonstrate, the use of a plurality of peripherals was disclosed in the prior art. Specific disclosures, which are purely exemplary, from charted references and additional prior art (collectively the ***Plurality of Peripherals*** references for the '217, '298, and '143 patents) are set forth in **Exhibit H**, which include motivations to combine and disclosures of use of the use of a plurality of peripherals.

j. Virtual/AR Environment

Claims 1, 9, and 17 of the '298 patent each recite displaying "a virtual environment." Claims 1, 8, and 15 of the '143 patent each recite that the first interactive content comprises "a virtual environment." Nothing about these claim limitations add anything novel or non-obvious over the prior art. To the contrary, virtual environments were well-known, routine, conventional, and widely available long before the alleged inventions of the '217, '298, and '143 patents.

In addition, Immersion has admitted that "[c]onventional game and/or virtual world systems that enable a user to control virtual equipment are known" in the '806 patent, as of at least July 21, 2010. ('806 patent, *see* 1:25-47.)

The use of virtual environments would have been obvious to a person of ordinary skill in the art at least because doing so would have involved the combination of prior art elements

according to known methods to yield predictable results, the simple substitution of one known element for another to obtain predictable results, the application of a known technique to a known device ready for improvement to yield predictable results, and/or would have been obvious to try. Moreover, a person of ordinary skill in the art would have readily appreciated the well-known and widespread use of virtual environments and the associated benefits and advantages of their use. Persons of ordinary skill in the art would have been motivated to combine the teachings of the ***Virtual/AR Environment*** references (as disclosed below) with any virtual reality, augmented reality, video game, interactive touchscreen, or related system, in order to enable the claimed virtual environments functionality.

As the attached claim charts demonstrate, virtual environments were disclosed in the prior art. Specific disclosures, which are purely exemplary, from charted references and additional prior art (collectively the ***Virtual/AR Environment*** references for the '217, '298, and '143 patents) are set forth in **Exhibit H**, which include motivations to combine and disclosures of virtual environments.

k. Virtual Objects

Claims 1, 9, and 17 of the '298 patent each recite a "virtual object," and claims 2, 10, and 18 each recite that the virtual object is "a three-dimensional virtual object." Nothing about these claim limitations add anything novel or non-obvious over the prior art. To the contrary, three-dimensional virtual objects were well-known, routine, conventional, and widely available long before the alleged inventions of the '217, '298, and '143 patents.

In addition, Immersion has admitted that "[c]onventional game and/or virtual world systems that enable a user to control virtual equipment are known" in the '806 patent, as of at least July 21, 2010. ('806 patent, *see* 1:25-47.)

The use of three-dimensional virtual objects would have been obvious to a person of

ordinary skill in the art at least because doing so would have involved the combination of prior art elements according to known methods to yield predictable results, the simple substitution of one known element for another to obtain predictable results, the application of a known technique to a known device ready for improvement to yield predictable results, and/or would have been obvious to try. Moreover, a person of ordinary skill in the art would have readily appreciated the well-known and widespread use of three-dimensional virtual objects and the associated benefits and advantages of their use. Persons of ordinary skill in the art would have been motivated to combine the teachings of the ***Virtual Objects*** references (as disclosed below) with any virtual reality, augmented reality, video game, interactive touchscreen, or related system, in order to enable the claimed virtual environment functionality.

As the attached claim charts demonstrate, three-dimensional virtual objects were disclosed in the prior art. Specific disclosures, which are purely exemplary, from charted references and additional prior art (collectively the ***Virtual Objects*** references for the '217, '298, and '143 patents) are set forth in **Exhibit H**, which include motivations to combine and disclosures of three-dimensional virtual objects.

l. Consumer Product

Claims 5, 13, and 21 of the '298 patent recite that the peripheral "is a consumer product." Nothing about these claim limitations add anything novel or non-obvious over the prior art. To the contrary, consumer product peripherals (including haptic devices) well-known, routine, conventional, and widely available long before the alleged inventions of the '217, '298, and '143 patents.

The use of consumer product peripherals in a haptic system would have been obvious to a person of ordinary skill in the art at least because doing so would have involved the combination of prior art elements according to known methods to yield predictable results, the simple

substitution of one known element for another to obtain predictable results, the application of a known technique to a known device ready for improvement to yield predictable results, and/or would have been obvious to try. Moreover, a person of ordinary skill in the art would have readily appreciated the well-known and widespread use of consumer product peripherals and the associated benefits and advantages of their use. Persons of ordinary skill in the art would have been motivated to combine the teachings of the ***Consumer Product*** references (as disclosed below) with any virtual reality, augmented reality, video game, interactive touchscreen, or related system, in order to enable the claimed haptic system functionality.

As the attached claim charts demonstrate, consumer product peripherals (including haptic devices) were disclosed in the prior art. Specific disclosures, which are purely exemplary, from charted references and additional prior art (collectively the ***Consumer Product*** references for the '217, '298, and '143 patents) are set forth in **Exhibit H**, which include motivations to combine and disclosures of consumer product peripherals (including haptic devices).

m. Display

Claims 1, 9, and 17 of the '298 patent each recite displaying a virtual environment via an "electronic display." Claims 1, 8, and 15 of the '143 patent each recite outputting content to "a display." Nothing about these claim limitations add anything novel or non-obvious over the prior art. To the contrary, using displays to display a virtual environment or output content was well-known, routine, conventional, and widely available long before the alleged inventions of the '217, '298, and '143 patents.

The use of displays would have been obvious to a person of ordinary skill in the art at least because doing so would have involved the combination of prior art elements according to known methods to yield predictable results, the simple substitution of one known element for another to obtain predictable results, the application of a known technique to a known device ready for

improvement to yield predictable results, and/or would have been obvious to try. Moreover, a person of ordinary skill in the art would have readily appreciated the well-known and widespread use of displays and the associated benefits and advantages of their use. Persons of ordinary skill in the art would have been motivated to combine the teachings of the ***Display*** references (as disclosed below) with any virtual reality, augmented reality, video game, interactive touchscreen, or related system, in order to enable the claimed display functionality.

As the attached claim charts demonstrate, displays were disclosed in the prior art. Specific disclosures, which are purely exemplary, from charted references and additional prior art (collectively the ***Display*** references for the '217, '298, and '143 patents) are set forth in **Exhibit H**, which include motivations to combine and disclosures of displays.

n. Head-Mounted Device

Claims 1 and 15 of the '143 patent each recite a "peripheral configured to be worn on a user's head," and claim 8 of the '143 patent recites a peripheral "associated with a user's head." Nothing about these claim limitations add anything novel or non-obvious over the prior art. To the contrary, head-mounted devices (such as head-mounted displays used in virtual and augmented reality) was well-known, routine, conventional, and widely available long before the alleged inventions of the '217, '298, and '143 patents.

The use of head-mounted devices would have been obvious to a person of ordinary skill in the art at least because doing so would have involved the combination of prior art elements according to known methods to yield predictable results, the simple substitution of one known element for another to obtain predictable results, the application of a known technique to a known device ready for improvement to yield predictable results, and/or would have been obvious to try. Moreover, a person of ordinary skill in the art would have readily appreciated the well-known and widespread use of head-mounted devices and the associated benefits and advantages of their use.

Persons of ordinary skill in the art would have been motivated to combine the teachings of the ***Head-Mounted Device*** references (as disclosed below) with any virtual reality, augmented reality, video game, interactive touchscreen, haptics device, or related system, in order to enable the claimed head-mounted functionality.

As the attached claim charts demonstrate, head-mounted devices were disclosed in the prior art. Specific disclosures, which are purely exemplary, from charted references and additional prior art (collectively the ***Head-Mounted Device*** references for the '217, '298, and '143 patents) are set forth in **Exhibit H**, which include motivations to combine and disclosures of head-mounted devices.

5. Obviousness Combinations

The charts below disclose combinations of reference demonstrating that the Asserted Claims of the '217, '298, and '143 patents would have been obvious in light of the prior art cited. This is done by reference to the particular categories identified above. For each instance in which such a category is referenced, one or more of the references cited in that category (as identified above) may supply the claim element to which the category applies. The discussion above accompanying each category sets forth the detailed rationale and motivation for combining each category's respective references with respect to the claimed features they disclose.

Defendant identifies references in groups below, based on common subject matter relevant to the Asserted Claims, for the purpose of disclosing obviousness combinations and further disclosing motivations to combine. The absence of a particular reference from a group is not an admission or suggestion that the reference does not disclose any particular claim limitations.

'217 Patent Asserted Claims	**Application of Prior Art**
Claims 1, 11, 17	• Obvious over the combination of each reference from the following combination groups:

’217 Patent Asserted Claims	Application of Prior Art
	○ Each Free Space Haptic Device reference with one or more of the following: ▪ Generic Computer Parts and/or ▪ Position Data and/or ▪ Input Device Identification and/or ▪ Feedback Parameter and Haptic Effect references ○ Each Position Data reference with one or more of the following: ▪ Generic Computer Parts and/or ▪ Input Device Identification and/or ▪ Feedback Parameter and Haptic Effect references ○ Each Input Device Identification reference with one or more of the following: ▪ Generic Computer Parts and/or ▪ Feedback Parameter and Haptic Effect references ○ Each Feedback Parameter and Haptic Effect reference with one or more Generic Computer Parts references.
Claims 2, 3, 4, and 8	• Obvious over the combination of each reference from the following combination groups: ○ Each Reference combination cited for Claim 1 ○ Each Reference combination cited for Claim 1 with one or more Accessory/Wearable references. ○ Each Accessory/Wearable reference with one or more Generic Computer Parts references.
Claim 10	• Obvious over the combination of each reference from the following combination groups: ○ Each Reference combination cited for Claim 1

’217 Patent Asserted Claims	Application of Prior Art
	○ Each Reference combination cited for Claim 1 with one or more Interactive Content references. ○ Each Interactive Content reference with one or more Generic Computer Parts references.
Claim 18	• Obvious over the combination of each reference from the following combination groups: ○ Each Reference combination cited for Claim 17 ○ Each Reference combination cited for Claim 17 with one or more of the following: ▪ Plurality of Input Devices/Peripherals and/or ▪ Interactive Content and/or ▪ Identification-Based Content references ○ Each Plurality of Input Devices/Peripherals reference with one or more of the following: ▪ Interactive Content and/or ▪ Identification-Based Content and/or ▪ Generic Computer Parts references ○ Each Interactive Content reference with one or more of the following: ▪ Identification-Based Content and/or ▪ Generic Computer Parts references ○ Each Identification-Based Content reference with one or more Generic Computer Parts references
Claim 19	• Obvious over the combination of each reference from the following combination groups: ○ Each Reference combination cited for Claim 11 ○ Each Reference combination cited for Claim 11 with one or more Visual Identification references.

’217 Patent Asserted Claims	Application of Prior Art
	○ Each Visual Identification reference with one or more Generic Computer Parts references

’298 Patent Asserted Claims	Application of Prior Art
Claims 1, 2, 9, 10, 17, 18	• Obvious over the combination of each reference from the following combination groups: ○ Each Free Space Haptic Device reference with one or more of the following: ▪ Virtual/AR Environment and/or ▪ Display and/or ▪ Virtual Object and/or ▪ Position Data and/or ▪ Input Device Identification and/or ▪ Feedback Parameter + Haptic Effect and/or ▪ Generic Computer Parts references ○ Each Virtual/AR Environment reference with one or more of the following: ▪ Display and/or ▪ Virtual Object and/or ▪ Position Data and/or ▪ Input Device Identification and/or ▪ Feedback Parameter + Haptic Effect and/or ▪ Generic Computer Parts references ○ Each Display reference with one or more of the following: ▪ Virtual Object and/or ▪ Position Data and/or ▪ Input Device Identification and/or

’298 Patent Asserted Claims	Application of Prior Art
	▪ Feedback Parameter + Haptic Effect and/or ▪ Generic Computer Parts references o Each Virtual Object reference with one or more of the following: ▪ Position Data and/or ▪ Input Device Identification and/or ▪ Feedback Parameter + Haptic Effect and/or ▪ Generic Computer Parts references o Each Position Data reference with one or more of the following: ▪ Input Device Identification and/or ▪ Feedback Parameter + Haptic Effect and/or ▪ Generic Computer Parts references o Each Input Device Identification reference with one or more of the following: ▪ Feedback Parameter + Haptic Effect and/or ▪ Generic Computer Parts references o Each Feedback Parameter + Haptic Effect with one or more Generic Computer Parts references
Claims 5, 13, 21	• Obvious over the combination of each reference from the following combination groups: o Each Reference combination cited for Claims 1, 9, and 17 o Each Reference combination cited for Claims 1, 9, and 17 with one or more Consumer Product references o Each Consumer Product reference with one or more Generic Computer Parts references
Claims 16, 24	• Obvious over the combination of each reference from the following combination groups:

’298 Patent Asserted Claims	Application of Prior Art
	○ Each Reference combination cited for Claims 9, and 17 ○ Each Reference combination cited for Claims 9, and 17 with one or more Accessory/Wearable references ○ Each Accessory/Wearable reference with one or more Generic Computer Parts references

’143 Patent Asserted Claims	Application of Prior Art
Claims 1, 2, 8, and 15	• Obvious over the combination of each reference from the following combination groups: ○ Each Free Space Haptic Device reference with one or more of the following: ▪ Position Data and/or ▪ Interactive Content and/or ▪ Display and/or ▪ Virtual / AR Environment and/or ▪ Head-Mounted Device and/or ▪ Feedback Parameter + Haptic Effect and/or ▪ Generic Computer Parts references ○ Each Position Data reference with one or more of the following: ▪ Interactive Content and/or ▪ Display and/or ▪ Virtual / AR Environment and/or ▪ Head-Mounted Device and/or ▪ Feedback Parameter + Haptic Effect and/or ▪ Generic Computer Parts references ○ Each Interactive Content reference with one or more of the following:

’143 Patent Asserted Claims	Application of Prior Art
	▪ Display and/or ▪ Virtual / AR Environment and/or ▪ Head-Mounted Device and/or ▪ Feedback Parameter + Haptic Effect and/or ▪ Generic Computer Parts references o Each Display reference with one or more of the following: ▪ Virtual / AR Environment and/or ▪ Head-Mounted Device and/or ▪ Feedback Parameter + Haptic Effect and/or ▪ Generic Computer Parts references o Each Virtual / AR Environment reference with one or more of the following: ▪ Head-Mounted Device and/or ▪ Feedback Parameter + Haptic Effect and/or ▪ Generic Computer Parts references o Each Head-Mounted Device reference with one or more of the following: ▪ Feedback Parameter + Haptic Effect and/or ▪ Generic Computer Parts references o Each Feedback Parameter + Haptic Effect and one or more Generic Computer Parts references
Claims 3, 10, 17	• Obvious over the combination of each reference from the following combination groups: o Each Reference combination cited for Claims 1, 8, and 15 o Each Reference combination cited for Claims 1, 8, and 15 with one or more Accessory/Wearable references

’143 Patent Asserted Claims	Application of Prior Art
	○ Each Accessory/Wearable reference with one or more Generic Computer Parts references
Claims 7, 14, 20	• Obvious over the combination of each reference from the following combination groups: ○ Each Reference combination cited for Claims 1, 8, and 15 ○ Each Reference combination cited for Claims 1, 8, and 15 with one or more Plurality of Peripherals references ○ Each Accessory/Wearable reference with one or more Plurality of Peripherals references

6. Secondary Considerations

Plaintiff bears the burden of establishing the existence of secondary considerations and the requisite nexus to the claimed inventions. To date, Plaintiff has not contended that any secondary considerations support any alleged non-obviousness of the Asserted Claims. To the extent that Plaintiff subsequently contends that any secondary considerations support a conclusion that any of the Asserted Claims are not obvious, Defendant reserves the right to respond, including to amend and/or supplement these Invalidity Contentions. Moreover, as these Invalidity Contentions demonstrate, none of the Asserted Claims address any need that was either long felt or unmet, nor were their results unexpected. To the contrary, the extensive invalidating prior art detailed above and in Defendant’s charts show that before the patents-in-suit, the prior art techniques, designs, and systems were widely accepted, understood, and available. Finally, although secondary considerations may be relevant to the obviousness analysis, secondary considerations of nonobviousness cannot overcome the strong prima facie case of obviousness set forth in these Invalidity Contentions.

D. Invalidity Under § 101

The Asserted Claims of the ’217, ’298, and ’143 patents do not comply with the requirements of 35 U.S.C. § 101. Defendant incorporates by reference the legal discussion contained in Section II.D set forth above.

***Alice* Step One**: The Asserted Claims of the ’217, ’298, and ’143 patents are each directed to an abstract idea. “An abstract idea can generally be described at different levels of abstraction.” *Apple*, 842 F.3d at 1240.

At a higher level of abstraction, the asserted claims of the ’217 patent are directed to the abstract idea of haptic feedback that depends on location. At a more granular level, the asserted claims of the ’217 patent are directed to the abstract idea of haptic feedback based on location in 3-dimensional space and identity. *See* ’217 patent at claims 1-4, 8, 10-12, 18-19; *see also, e.g.*, *Alice*, 134 S. Ct. at 2354; *Elec. Comm'n Techs. v. ShoppersChoice.com*, 958 F.3d 1179, 1180–82 (Fed. Cir. 2020); *Chamberlain Grp., Inc. v. Techtronic Indus. Co.*, 935 F.3d 1341, 1346–47 (Fed. Cir. 2019), *cert denied* 141 S. Ct. 241 (2020); *ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759, 766 (Fed. Cir. 2019), *cert. denied*, 140 S. Ct. 983 (2020); *Bot M8 LLC v. Sony Corp. of Am.*, 4 F.4th 1342, 1358 (Fed. Cir. 2021); *Affinity Labs of Tex., LLC v. DirecTV, LLC*, 838 F.3d 1253, 1261 (Fed. Cir. 2016); *Yu v. Apple Inc.*, 1 F.4th 1040, 1044–45 (Fed. Cir. 2021); *Am. Axle & Mfg., Inc. v. Neapco Holdings LLC*, 939 F.3d 1355, 1366–67 (Fed. Cir. 2019), *cert denied*, 142 S. Ct. 2902 (2022); *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1354 (Fed. Cir. 2016); *In re Smith*, 815 F.3d 816, 819 (Fed. Cir. 2016); *In re Marco Guldenaar Holding BV*, 911 F.3d 1157, 1161–62 (Fed. Cir. 2018); *O’Reilly v. Morse*, 56 U.S. 62, 119–20 (1853); *NantWorks, LLC v. Niantic, Inc.*, No. 20-cv-06262-LB, 2021 WL 24850, at *6 (N.D. Cal. Jan. 4, 2021); *Front Row Techs, LLC v. NB Media Ventures, LLC*, 204 F. Supp.3d 1190, 1269 (D.N.M. 2016), *aff’d, Front Row Techs. LLC v. MLB Advanced Media, L.P.*, 697 F. App’x 701 (Fed. Cir. 2017); *X One, Inc. v.*

Uber Techs., Inc., 239 F. Supp.3d 1174, 1185 (N.D. Cal. 2017); 239 F. Supp.3d 1174 *In re TLI Commc'ns LLC Patent Litig.*, 823 F.3d 607, 613 (Fed. Cir. 2016); *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1369 (Fed. Cir. 2015); *In re Killian*, 45 F.4th 1373, 1379–80 (Fed. Cir. 2022); *West View Research, LLC v. Audi AG*, 685 F. App'x 923, 926 (Fed. Cir. 2017); *Clarilogic, Inc. v. FormFree Holdings Corp.*, 681 F. App'x. 950, 954 (Fed. Cir. 2017); *Automated Tracking Sols., LLC v. Coca-Cola Co.*, 723 F. App'x 989, 994–95 (Fed. Cir. 2018); *Planet Bingo, LLC v. VKGS, LLC*, 576 F. App'x 1005, 1008 (Fed. Cir. 2014); *Kroy IP Holdings, LLC v. Safeway, Inc.*, 107 F. Supp.3d 677, 704–705 (E.D. Tex. 2015), *aff'd*, 639 F. App'x 637 (Fed. Cir. 2016). The claims recite no specific technological solution for achieving their desired functional results that improves an underlying computer system. This is no different from everyday activities such as navigating a dark hallway using touch—the haptic feedback will depend on the location in the hallway, as well as whether the person reaches out with their left or right hand.

At a higher level of abstraction, the asserted claims of the '298 patent are directed to the abstract idea of haptic feedback from interacting with an object. At a more granular level, the asserted claims of the '298 patent are directed to the abstract idea of haptic feedback from interacting with an object based on location and identity. *See* '298 patent at claims 1, 2, 5, 6, 9, 10, 13, 14, 1-18, 21, 22, 24; *see also, e.g.*, *Alice*, 134 S. Ct. at 2354; *ShoppersChoice.com*, 958 F.3d at 1180–82; *Chamberlain Grp.*, 935 F.3d at 1346–47; *ChargePoint*, 920 F.3d at 766; *Bot M8*, 4 F.4th at 1358; *Affinity Labs*, 838 F.3d at 1261; *Yu*, 1 F.4th at 1044–45; *Am. Axle*, 939 F.3d at 1366–67; *Elec. Power*, 830 F.3d at 1354; *Smith*, 815 F.3d at 819; *Marco Guldenaar Holding*, 911 F.3d at 1161–62; *Morse*, 56 U.S. at 119–20; *NantWorks*, 2021 WL 24850, at *6; *Front Row Techs*, 204 F. Supp.3d at 1269; *X One*, 239 F.Supp.3d at 1185; *TLI*, 823 F.3d at 613;

Intellectual Ventures I, 792 F.3d at 1369; *Killian*, 45 F.4th at 1379–80; *West View Research*, 685 F. App'x at 926; *Clarilogic*, 681 F. App'x at 954; *Automated Tracking*, 723 F. App'x at 994–95; *Planet Bingo*, 576 F. App'x. at 1008; *Kroy*, 107 F. Supp.3d at 704–705. The claims recite no specific technological solution for achieving their desired functional results that improves an underlying computer system. This is no different from everyday activities such as the tactile sensation of tossing a ball between hands, or of holding a frying pan in one hand and a spatula in the other.

At a higher level of abstraction, the asserted claims of the '143 patent are directed to the abstract idea of interacting with an environment. At a more granular level, the asserted claims of the '143 patent are directed to the abstract idea of haptic feedback from interacting with two different aspects of an environment based on position. *See* '143 patent at claims 1-3, 7, 8, 10, 14, 15, 17, 20; *see also, e.g.*, *Alice*, 134 S. Ct. at 2354; *ShoppersChoice.com*, 958 F.3d at 1180–82; *Chamberlain Grp.*, 935 F.3d at 1346–47; *ChargePoint*, 920 F.3d at 766; *Bot M8*, 4 F.4th at 1358; *Affinity Labs*, 838 F.3d at 1261; *Yu*, 1 F.4th at 1044–45; *Am. Axle*, 939 F.3d at 1366–67; *Elec. Power*, 830 F.3d at 1354; *Smith*, 815 F.3d at 819; *Marco Guldenaar Holding*, 911 F.3d at 1161–62; *Morse*, 56 U.S. at 119–20; *NantWorks*, 2021 WL 24850, at *6; *Front Row Techs*, 204 F. Supp.3d at 1269; *X One*, 239 F. Supp.3d at 1185; *TLI*, 823 F.3d at 613; *Intellectual Ventures I*, 792 F.3d at 1369; *Killian*, 45 F.4th at 1379–80; *West View Research*, 685 F. App'x at 926; *Clarilogic*, 681 F. App'x at 954; *Automated Tracking*, 723 F. App'x at 994–95; *Planet Bingo*, 576 F. App'x. at 1008; *Kroy*, 107 F. Supp.3d at 704–705. The claims recite no specific technological solution for achieving their desired functional results that improves an underlying computer system. This is no different from everyday activities that involve tactile interactions

with multiple aspects of one's surroundings, such as pulling up the blinds and opening the window, or stepping from carpet onto hardwood.

***Alice* Step Two**: The Asserted Claims of the '217, '298, and '143 patents do not recite an inventive concept sufficient to transform their subject matter into something more than the abstract idea. Each element in the asserted claims, as well as the ordered combination of the elements in the asserted claims, was well-understood, routine, and conventional as of the dates of the '217, '298, and '143 patents, as demonstrated by the references provided in Sections IV.B and IV.C and described in detail above. Defendant refers to the prior art references charted and/or disclosed with these contentions with respect to each element as evidence that each element was well-understood, routine, and conventional. The Asserted Claims of the '217, '298, and '143 patents claim nothing significantly more than an abstract idea, rather than any specific inventive application of the idea. *See Affinity Labs*, 838 F.3d at 1262. There are no "additional features" in the claims that account for more than "well-understood, routine, conventional activity." *See id.* (citations omitted).

As further illustration, the following exemplary features recited in the Asserted Claims of the '217 patent were well-known, routine, and conventional, in the art prior to the alleged date of invention:

Claims 1, 17:

- "manipulatable input device movable through real space in at least three degrees of freedom"
- "manipulatable input device incorporating a haptic output device"
- "memory on which instructions executable by the processor are stored"
- "processor"
- "receive" signals

- "sensor signals indicating a position of the manipulatable input device in the at least three degrees of freedom"
- "sensor signals indicating . . . an identification of the manipulatable input device"
- "establish a communication pathway" between a device and a processor
- "determine a feedback parameter" based on position and identification of the device
- "transmit a haptic signal to the haptic output device"
- "haptic signal configured to cause the haptic output device to output a haptic effect according to the feedback parameter"

Claim 2:

- "accessory"

Claim 3:

- "base device"

Claim 4:

- "base device comprises the haptic output device"

Claim 8:

- "wearable accessory or clothing"

Claim 10:

- "haptic effect" based on "interactive content"

Claim 11:

- "position sensor"
- "detect position of" a device "in at least three degrees of freedom"
- "identification sensor"
- "identify" a device
- "transmit a . . . sensor signal"

Claim 18

- "identifying" a device from multiple devices with "sensor signals"
- "adjusting interactive content" based on the identification of the device
- "interactive content output to a user via a content output appliance"

Claim 19

- "identification sensor" identifies the device "based on a visual characteristic"

As further illustration, the following exemplary features recited in the Asserted Claims of the '298 patent were well-known, routine, and conventional, in the art prior to the alleged date of invention:

Claims 1, 9, 17:

- "processor"
- "memory device comprising program code that is executable by the processor"
- "display a virtual environment"
- "electronic display"
- "detect an interaction with a virtual object" based on position
- "determine" a "feedback parameter" based on "an identifier of the peripheral"
- "determine" a "feedback parameter" based on position
- "transmit a haptic signal to cause a haptic output device to output haptic feedback" based on haptic parameters

Claims 2, 10, 18:

- "three-dimensional virtual object"

Claim 3:

- "augmented reality environment"

Claim 5, 13, 21:

- "consumer product"

Claim 6, 22:

- "electronic device that comprises the haptic output device"

Claim 16, 24:

- "wearable computer"

As further illustration, the following exemplary features recited in the Asserted Claims of the '143 patent were well-known, routine, and conventional, in the art prior to the alleged date of invention:

Claims 1, 8, 15:

- "position sensor"
- "processor"
- "a non-transitory computer-readable medium comprising program code that is executable by the processor"
- "output" multiple "interactive content[s] to a display"
- "content comprising a virtual environment"
- "receive . . . sensor signals"
- "determine a position of a peripheral in real space" based on sensor signals
- "peripheral configured to be worn on a user's head"
- content based on "position" of peripheral
- "determine a haptic signal" based on position and content
- "transmit the haptic signal to a haptic output device"
- "haptic output device" that is "configured to receive" a "haptic signal" and "output haptic feedback"

Claim 2:

- "position sensor is positioned on" a peripheral

Claim 3, 10, 17:

- "wearable device"

Claim 7, 14, 20:

- multiple peripherals
- peripheral on user's head separate from peripheral with "haptic output device"

As such, similar to *Affinity Labs*, where the Court found the claims ineligible under § 101, the claims and the shared specification do not contain an "'inventive concept' that transforms the abstract idea . . . into a patent-eligible application of that abstract idea." *See Affinity Labs,* 838 F.3d at 1262. The Asserted Claims of the '217, '298, and '143 patents recite only generic components and/or insignificant post-solution activity, without any specific technical solution or improvement to existing technologies to implement the underlying idea, and thus add nothing inventive to the claims. This is insufficient to transform the claimed abstract idea into patent-eligible subject matter. *See, e.g.*, *Alice*, 573 U.S. at 225-26 (holding that "implement[ing] the abstract idea . . . on a generic computer" was not sufficient "to transform an abstract idea into a patent-eligible invention"); *Intell. Ventures I*, 850 F.3d at 1341-42 (holding that "using generic computer components and conventional computer data processing activities" was not sufficient to find an "inventive concept"); *TLI Commc'ns,* 823 F.3d at 614 ("[G]eneric computer components [are] insufficient to add an inventive concept to an otherwise abstract idea."); *Two-Way Media*, 874 F.3d at 1339 ("Nothing in the claims or their constructions . . . requires anything other than conventional computer and network components operating according to their ordinary functions."). The dependent claims merely narrow the abstract idea, and thus also add nothing inventive. *See Content Extraction & Transmission*, 776 F.3d at 1349 (dependent claims of

narrower scope and using conventional techniques are non-inventive). Therefore, the Asserted Claims of the ’217, ’298, and ’143 patents are ineligible under § 101.

Meta further reserves its right to submit and rely upon expert testimony in support of its arguments regarding patent ineligibility.

E. Product-By-Process Claims Are Entitled to No Patentable Weight

Claims 5, 13, and 21 of the ’298 Patent are product-by-process claims that are entitled to no patentable weight. “It has long been established that one cannot avoid anticipation by an earlier product disclosure by claiming ... the product as produced by a particular process.” *Greenliant Sys., Inc. v. Xicor LLC*, 692 F.3d 1261, 1268 (Fed. Cir. 2012) (citations omitted). Accordingly, “[i]f the product in a product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” *In re Thorpe*, 777 F.2d 695, 697 (Fed. Cir. 1985). A product-by-process claim is only relevant as evidence of no anticipation—“not explicitly part of the claim”—if it “imparts ‘structural and functional differences’ distinguishing the claimed product from the prior art.” *Kamstrup A/S v. Axioma Metering UAB*, 43 F.4th 1374, 1381 (Fed. Cir. 2022) (quoting *Greenliant*, 692 F.3d at 1268).

Claims 5, 13, and 21 of the ’298 Patent recite that the “peripheral is a consumer product.” This is a product-by-process claim limitation that imparts no structural or functional differences between “consumer” products and other kinds of products. *See, e.g.*, ’298 Patent, 3:31–40; *Kamstrup*, 43 F.4th at 1381 (“The specification, the prosecution history, and any extrinsic evidence may enlighten whether structural and functional differences exist.”) (citations omitted). Accordingly, claims 5, 13, and 21 are squarely in the category of product-by-process claims—rendering them entitled to no patentable weight and irrelevant to, *e.g.*, whether the Asserted Claims are anticipated or obvious in light of the prior art. *See Kamstrup*, 43 F.4th at 1383. Nonetheless,

even if claims 5, 13, and 21 were entitled to patentable weight, they are invalid for the reasons outlined above.

V. IDENTIFICATION OF PRIOR ART: THE ’222 PATENT

A. A Chart Setting Forth Where in the Prior Art References Each Element of the Asserted Claim(s) are Found.

The Asserted Claims of the ’222 patent are invalid under 35 U.S.C. §§ 102 and 103. Subject to Defendant’s reservation of rights, attached hereto as the Exhibits E-1 – E-37 series are exemplary preliminary disclosures comprising claim charts providing an element-by-element analysis of where specifically, in each prior art item, each element of the Asserted Claims of the ’222 patent is found. Any reference to a figure in cited text incorporates by reference the figure itself, and any citation to a figure incorporates by reference any description of that figure in a reference. Similarly, any reference to a cited part or portion of a document encompasses all figures and text within the cited page or portion.

As noted above, these claim charts are based on Defendant’s current understanding of the claims and constructions applied by Plaintiff, even though Defendant does not necessarily agree with those interpretations, and reserves the right to dispute them. To the extent certain claim elements are indefinite under 35 U.S.C. § 112(2), as identified and described herein, the claim charts attempt to apply the prior art to the extent Defendant can understand the claim constructions applied by Plaintiff as found in Plaintiff’s Corrected PICs. By doing so, however, Defendant does not concede that these claim elements are definite or that one of skill in the art would have been informed with reasonable certainty about the scope of the claim element under *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898 (2014). To the extent any limitation is deemed not to be met exactly by an item of prior art, Defendant contends that the difference would have been obvious to a person of ordinary skill in the art/or and within the knowledge of one skilled in the

art at the time of the alleged invention, so that the claimed invention would have been obvious both in light of the single reference alone and/or in light of combined references. Defendant does not admit or concede that such element is not expressly or inherently disclosed by the reference at issue.

As a general matter, all portions of each prior art item are relied upon to support the disclosure of each patent claim limitation, as all portions provide general support. Supporting citations are nevertheless provided, but do not necessarily represent every location where a particular claim element may be found in the prior art item. Defendant reserves the right to rely on additional, or different, portions of the prior art items other than those specifically cited in these claim charts, and to supplement and/or amend these charts. Defendant also reserves the right to amend its invalidity grounds or charts, or provide supplemental grounds or charts, based on any amendments to Plaintiff's Corrected PICs, or information or documents that may be obtained as discovery continues including third-party discovery.

The following chart summarizes the prior art claim chart exhibits for the '222 patent submitted herewith:

Exhibits	Reference(s)
E1	The Rutgers Master II – New Design Force Feedback Glove by Mourad Bouzit, et al ("Bouzit") published in IEEE/ASME Transactions on Mechatronics, Vol. 7, No. 2
E2	U.S. Patent Application Pub. No. 2008/0266066 A1 to Adam C. Braun et al. ("Braun")
E3	Novint Falcon and Novint/Sandia 3D-Touch Software by Novint Technologies, et al. ("Falcon")
E4	U.S. Patent No. 7,292,151 to Kevin Ferguson et al. ("Ferguson")
E5	U.S. Patent No. 7,692,552 to Nathan J. Harrington et al. ("Harrington")
E6	PCT International Publication No. WO 2007/100204 A1 to Tae-Jeong Jang et al. ("Jang")
E7	U.S. Patent Application Pub. No. US 2009/0191968 A1 to Ian Johnson et al. ("Johnson")
E8	U.S. Patent No. 6,972,734 to Toshikazu Ohshima et al. ("Ohshima")

Exhibits	Reference(s)
E9	U.S. Patent Application Pub. No. 2009/0210568 A1 to Cody George Peterson et al. ("Peterson")
E10	PHANTOM Omni by SensAble Technologies, Inc. system ("PHANTOM")
E11	22Moo YelloMosquito Qingbar GP300 system ("Qingbar GP300")
E12	Radica Airforce i-Combat system ("i-Combat")
E13	Radica i-Racer Virtual Vision Racing system ("i-Racer")
E14	International Publication Number WO 2006/054163 A2 to Fabio Salsedo et al. ("Salsedo")
E15	Sensics piSight system ("Sensics piSight")
E16	U.S. Patent Application Pub. No. 2009/0326406 to Desney Tan et al. ("Tan")
E17	3001 AD Trimersion HMD ("Trimersion HMD")
E18	U.S. Patent Application Pub. No. US 2009/0263775 to Christopher Ullrich et al. ("Ullrich")
E19	U.S. Patent Application Publication No. 2002/0151337 to Akihisa Yamashita et al. ("Yamashita")
E20	Immersion CyberGlove system ("CyberGlove")
E21	International Publication No. WO 2007/133251 to Thomas G. Anderson et al. ("Anderson 251")
E22	Nintendo Wii System ("Wii")
E23	ARQuake system ("ARQuake")
E24	U.S. Patent No. 5,796,354 to Michael C. Cartabiano et al. ("Cartabiano")
E25	U.S. Patent App. Pub. No. 2004/0012557 A1 to Tyler Jon Daniel ("Daniel")
E26	VPL DataGlove system ("DataGlove")
E27	A Hand Gesture Interface Device to Thomas G. Zimmerman et al. ("Zimmerman")
E28	U.S. Patent No. 6,424,333 to Mark R. Tremblay et al. ("Tremblay")
E29	U.S. Patent No. 6,162,123 to Thomas G. Woolston et al. ("Woolston")
E30	Stefano Scheggi et al., "Shape and Weight Rendering for Haptic Augmented Reality," presented September 13-15, 2010 ("Scheggi")
E31	U.S. Patent No. 6,366,272 to Louis B. Rosenberg et al. ("Rosenberg")
E32	U.S. Patent No. 8,798,534 to Tony F. Rodriguez et al. ("Rodriguez")
E33	U.S. Patent No. 8,768,252 B2 to Charles S. Watson et al. ("Watson")
E34	U.S. Patent App. Pub. No. 2011/0270135 A1 to Christopher John Dooley et al. ("Dooley")
E35	U.S. Patent No. 9,728,006 B2 to Kenneth A. Varga ("Varga")
E36	U.S. Patent App. Pub. No. 2011/0148607 A1 to Charles Timberlake Zeleny ("Zeleny")
E37	U.S. Patent App. Pub. No. 2012/0249544 A1 to Giuliano Maciocci et al. ("Maciocci")

B. Identity of Each Item of Prior Art

Subject to Defendant's reservation of rights, Defendant identifies each item of prior art that anticipates or renders obvious one or more of the Asserted Claims in Section V.C, below, and in Exhibit G. To the extent that the references listed in Exhibit G are not identified as items of prior

art that anticipate or render obvious an Asserted Claim, Defendant intends to rely on these references as background and as evidence of the state of the art at the time of Plaintiff's alleged invention.

Additionally, many of the prior art references are related patent applications and issued patents that contain substantially the same subject matter (e.g., published U.S. patent applications, and issued U.S. patents, foreign applications or issued patents). Any citation to or quotation from any of these patent applications or patents, therefore, should be understood as encompassing any parallel citation to the same subject matter in other related or corresponding applications or patents. Defendant also reserves the right to later rely upon all references or portions of references provided in Exhibit G to supplement or amend its disclosures contained herein. Also, to the extent not expressly mentioned herein, Defendant incorporates by reference (1) any and all prior art contained or identified in documents produced thus far by Plaintiff to Defendant in this case; (2) any and all additional materials regarding invalidity that should have been produced to Defendant but have not been produced to date, to the extent that any exist; and (3) any prior art of which any named inventor of the Asserted Patent is aware and/or on which they contend the alleged invention of the Asserted Patent build upon or improve.

Each disclosed item of prior art is evidence of a prior invention and making of the invention in the United States by another under 35 U.S.C. § 102(g), as evidenced by the named inventor, authors, organizations, and publishers involved with each such reference, with the circumstances described and reflected in each reference including publications and system implementation references. Defendant further intends to rely on admissions of the named inventors concerning the prior art, including statements found in the Asserted Patent, its prosecution history, related patents and/or patent applications, any deposition testimony, and the papers filed and any evidence

submitted by Plaintiff in conjunction with this litigation. For systems and products that are disclosed, Defendant also intends to rely on additional information describing those same systems and products, including information received from third-parties in response to subpoenas.

C. Obviousness Combinations and Motivations for Combining Prior Art

Each prior art reference may be combined with one or more other prior art references to render obvious the Asserted Claims in combination, as explained in more detail below. The disclosures of these references also may be combined with information known to persons skilled in the art at the time of the alleged invention, and understood and supplemented in view of the common sense of persons skilled in the art at the time of the alleged invention, including any statements in the intrinsic record of the Asserted Patent and related applications.

A person of ordinary skill would have been motivated to combine the identified prior art based on the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art. The identified prior art references, including portions cited in the Prior Art Invalidity Charts, address the same or similar technical issues and suggest the same or similar solutions to those issues as the Asserted Claims. On such basis, on an element-by-element basis, Defendant expressly intends to combine one or more prior art items identified in Appendix A with each other to address any further contentions from Plaintiff that a particular prior art item supposedly lacks one or more elements of an Asserted Claim. In other words, Defendant contends that each charted prior art item can be combined with other charted prior art items when a particular prior art item lacks or does not explicitly disclose an element or feature of an Asserted Claim. The suggested obviousness combinations described below are not to be construed to suggest that any reference included in the combinations is not anticipatory. Further, to the extent that Plaintiff contends that any of the anticipatory prior art fails to disclose one or more limitations

of the Asserted Claims, Defendant reserves the right to identify other prior art references that, when combined with the anticipatory prior art, would render the claims obvious despite an allegedly missing limitation. Defendant will further specify the motivations to combine the prior art, including through reliance on expert testimony, at the appropriate later stage of this lawsuit.

A person of skill in the art would have been motivated to combine the identified prior art items. As the United States Supreme Court held in *KSR International Company v. Teleflex, Inc.*, 550 U.S. 398, 416 (2007):"The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." The Supreme Court further held that, "[w]hen a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill." *Id*. at 417.

The Court has further held that "in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle." *Id.* at 420. It is sufficient that a combination of elements was "obvious to try" holding that, "[w]hen there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense." *Id.* at 421. "In that instance the fact that a combination was obvious to try might show that it was obvious under § 103." *Id*. Finally, the Supreme Court recognized that "[g]ranting patent protection to advances that would occur in the ordinary course

without real innovation retards progress and may, in the case of patents combining previously known elements, deprive prior inventions of their value or utility." *Id*. at 419. All of the following rationales recognized in *KSR* support a finding of obviousness:

- Combining prior art elements according to known methods to yield predictable results;
- Simple substitution of one known element for another to obtain predictable results;
- Use of known technique to improve similar devices (methods, or products) in the same way;
- Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;
- "Obvious to try"—choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;
- Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations would have been predictable to one of ordinary skill in the art; and
- Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention.

Certain of these rationales are discussed more specifically below. The fact that others are not discussed more specifically should not be interpreted as an admission or concession that it does not apply. To the contrary, the discussion below simply provides more explanation of these specific rationales.

Defendant further contends that the prior art identified in these Invalidity Contentions is evidence of simultaneous or near-simultaneous independent invention by others of the alleged

invention as recited in one or more of the Asserted Claims. Defendant reserves its right to rely on the simultaneous or near-simultaneous independent invention by others as further evidence of the obviousness of the Asserted Claims.

Each limitation of the Asserted Claims was well known to those of ordinary skill in the art before the filing dates of the respective non-provisional application to which each Asserted Patent claims priority, as detailed below and in the attached charts.

The elements recited in the Asserted Claims are mere combinations and modifications of these well-known elements. A person of ordinary skill in the art would be able, and motivated, to improve the existing technology in the same or similar manner by combining or modifying the individual elements that were already known in the art to yield predictable results.

Subject to the foregoing, Defendant identifies the following exemplary reasons that skilled artisans would have combined elements of the prior art to render obvious the Asserted Claims. The fact that others are not discussed more specifically should not be interpreted as an admission or concession that it does not apply. To the contrary, the discussion below simply provides more explanation of these specific rationales.

1. Motivations Identified During Prosecution

Defendant hereby expressly incorporates by reference any statements and reasons set forth by the Examiner during prosecution of the ’222 patent and related patent applications as to why it would have been obvious to modify or combine references to achieve the limitations of the Asserted Claims.

2. Combinations of References Through Citations

Numerous prior art references cite to, discuss, or build upon other references. Where one reference cites or discusses another reference, a person of ordinary skill in the art would have been

motivated to consider their teachings in combination, as they would be understood to provide related teachings in a similar field.

3. Combinations of Related References

In some instances, multiple prior art publications and/or physical references discuss or address the same or substantially similar underlying system, software, or other project, such as commercial software products and successive versions thereof, or multiple publications discussing the same subject matter. Where multiple references discuss or relate to the same or related underlying projects, systems, or other subject matter, it was obvious to combine the discussions and disclosures of the references as they would be understood to describe features or potential features of the underlying project, system, technique, or other subject matter. Similarly, where one reference cites or discusses other references or their teachings, or references have one or more authors in common and a related area of subject matter, it was obvious to consider the teachings of the references in combination with each other due to the express relationships and commonalities between the references.

Further, for each set of references that together refer to or describe the same system and/or potential improvements to the same system, it would have been obvious to combine such references. In particular, to the extent the items are commonly owned, they would be within the knowledge of the same company, and the company would be motivated to use elements from one reference to improve another seeking to solve the same or similar problems.

Where more than one references discuss a system, as listed below, or where references are owned by the same company, it would have been obvious to combine any such references that refer to and/or discuss the same system and/or are owned by the same company.

4. Obviousness Combination Groups and Further Motivations to Combine

In addition to combinations of references and motivations to combine identified elsewhere herein, including within claim charts, Defendant identifies combinations and motivations to combine based on references grouped by subject matter, as discussed in Section II.C.4 above, which discussion and case law is incorporated herein by reference.

Defendant identifies references in groups below, based on common subject matter relevant to the Asserted Claims of the ’222 patent, for the purpose of disclosing obviousness combinations and further disclosing motivations to combine. The absence of a particular reference from a group is not an admission or suggestion that the reference does not disclose any particular claim limitations.

a. Haptic Device

Claims 1, 10, 15, and 17 of the ’222 patent each recite a “haptic output device” that provides haptic feedback signals. Nothing about these claim limitations add anything novel or non-obvious over the prior art. To the contrary, haptic devices that provide haptic feedback signals were well-known, routine, conventional, and widely available long before the alleged invention of the ’222 patent.

In addition, Immersion has admitted that “[p]rovision of haptic stimulation to users is known” and that “basic effects (e.g., vibrate) have been used in mobile and other computing devices” in the ’806 patent, as of at least July 21, 2010. (’806 patent, *see* 1:25-47.)

In addition, haptic devices as disclosed below are typically computer operated and part of systems encompassing computers—either remote from or integrated with the haptic devices—and common computer parts. These computer parts include processors, memory, non-transitory computer readable media, displays, accessories, peripherals, and other parts. It would have been

obvious to combine each of the below references discussing haptic devices with any of the references disclosed in the ***Generic Computer Parts*** bucket described in Section II.C.4.e above.

The use of haptic devices that provide haptic feedback signals would have been obvious to a person of ordinary skill in the art at least because doing so would have involved the combination of prior art elements according to known methods to yield predictable results, the simple substitution of one known element for another to obtain predictable results, the application of a known technique to a known device ready for improvement to yield predictable results, and/or would have been obvious to try. Moreover, a person of ordinary skill in the art would have readily appreciated the well-known and widespread use of haptic devices that provide haptic feedback signals and the associated benefits and advantages of their use. Persons of ordinary skill in the art would have been motivated to combine the teachings of the ***Haptic Device*** references (as disclosed below) with any virtual reality, augmented reality, video game, interactive touchscreen, or related system, in order to enable the claimed haptic functionality.

As the attached claim charts demonstrate, haptic devices that provide haptic feedback signals were disclosed in the prior art. Specific disclosures, which are purely exemplary, from charted references and additional prior art (collectively the ***Haptic Device*** references for the '222 patent) are set forth in **Exhibit H**, which include motivations to combine and disclosures of haptic devices that provide haptic feedback signals.

b. Wearable Device

Claims 1, 10, 15, and 17 of the '222 patent each recite a "wearable device," and claims 2, 11, and 18 further recite that a second device "is a second wearable device." Nothing about these claim limitations add anything novel or non-obvious over the prior art. To the contrary, wearable devices were well-known, routine, conventional, and widely available long before the alleged invention of the '222 patent.

The use of one or more wearable device would have been obvious to a person of ordinary skill in the art at least because doing so would have involved the combination of prior art elements according to known methods to yield predictable results, the simple substitution of one known element for another to obtain predictable results, the application of a known technique to a known device ready for improvement to yield predictable results, and/or would have been obvious to try. Moreover, a person of ordinary skill in the art would have readily appreciated the well-known and widespread use of wearable devices and the associated benefits and advantages of their use. Persons of ordinary skill in the art would have been motivated to combine the teachings of the ***Wearable Device*** references (as disclosed below) with any virtual reality, augmented reality, video game, interactive touchscreen, or related system, in order to enable the claimed wearable functionality.

As the attached claim charts demonstrate, wearable devices were disclosed in the prior art. Specific disclosures, which are purely exemplary, from charted references and additional prior art (collectively the ***Wearable Device*** references for the '222 patent) are set forth in **Exhibit H**, which include motivations to combine and disclosures of wearable devices.

c. Remote Device(s)

Claim 1 of the '222 patent recites a "second device remote from" the wearable device. Claim 10 recites a "wearable device remote from" an augmented reality device, and "a remote device remote from" the wearable device and augmented reality device. And claim 17 recites a "second device." Nothing about these claim limitations add anything novel or non-obvious over the prior art. To the contrary, use of multiple devices remote from each other was well-known, routine, conventional, and widely available long before the alleged invention of the '222 patent.

The use of multiple devices remote from each other would have been obvious to a person of ordinary skill in the art at least because doing so would have involved the combination of prior

art elements according to known methods to yield predictable results, the simple substitution of one known element for another to obtain predictable results, the application of a known technique to a known device ready for improvement to yield predictable results, and/or would have been obvious to try. Moreover, a person of ordinary skill in the art would have readily appreciated the well-known and widespread use of multiple devices remote from each other and the associated benefits and advantages of their use. Persons of ordinary skill in the art would have been motivated to combine the teachings of the ***Remote Device(s)*** references (as disclosed below) with any virtual reality, augmented reality, video game, interactive touchscreen, or related system, in order to enable the claimed haptic system functionality.

As the attached claim charts demonstrate, the use of multiple devices remote from each other was disclosed in the prior art. Specific disclosures, which are purely exemplary, from charted references and additional prior art (collectively the ***Remote Device(s)*** references for the '222 patent) are set forth in **Exhibit H**, which include motivations to combine and disclosures of the use of multiple devices remote from each other.

d. Control Signals Representative of Events

Claim 1 of the '222 patent recites a "first control signal" and a "second control signal" representative of a "first event" and a "second event" respectively. Claim 10 recites a "control signal" based on a "determined event." And claim 17 of the '222 patent recites a "control signal representative of an event" selected from "at least first and second available control signals, the first control signal representative of the event, the second control signal representative of a different event." Nothing about these claim limitations add anything novel or non-obvious over the prior art. To the contrary, using a control signal representative of an event was well-known, routine, conventional, and widely available long before the alleged invention of the '222 patent.

The use of control signals representative of events would have been obvious to a person of

ordinary skill in the art at least because doing so would have involved the combination of prior art elements according to known methods to yield predictable results, the simple substitution of one known element for another to obtain predictable results, the application of a known technique to a known device ready for improvement to yield predictable results, and/or would have been obvious to try. Moreover, a person of ordinary skill in the art would have readily appreciated the well-known and widespread use of control signals representative of events and the associated benefits and advantages of their use. Persons of ordinary skill in the art would have been motivated to combine the teachings of the ***Control Signals Representative of Events*** references (as disclosed below) with any virtual reality, augmented reality, video game, interactive touchscreen, or related system, in order to enable the claimed control signal functionality.

As the attached claim charts demonstrate, the use of control signals representative of events was disclosed in the prior art. Specific disclosures, which are purely exemplary, from charted references and additional prior art (collectively the ***Control Signals Representative of Events*** references for the ’222 patent) are set forth in **Exhibit H**, which include motivations to combine and disclosures of the use of control signals representative of events.

e. Haptic Signals Based on Separate Signals/Events

Claim 1 of the ’222 patent recites “a first haptic feedback signal and a second haptic feedback signal based on the first control signal and the second control signal,” where each signal is representative of an event (as discussed above). Nothing about these claim limitations add anything novel or non-obvious over the prior art. To the contrary, a one-to-one association between control signals and haptic feedback signals was well-known, routine, conventional, and widely available long before the alleged invention of the ’222 patent.

The use of one-to-one associations between control signals and haptic feedback signals would have been obvious to a person of ordinary skill in the art at least because doing so would

have involved the combination of prior art elements according to known methods to yield predictable results, the simple substitution of one known element for another to obtain predictable results, the application of a known technique to a known device ready for improvement to yield predictable results, and/or would have been obvious to try. Moreover, a person of ordinary skill in the art would have readily appreciated the well-known and widespread use one-to-one associations between control signals and haptic feedback signals and the associated benefits and advantages of their use. Persons of ordinary skill in the art would have been motivated to combine the teachings of the ***Haptic Signals Based on Separate Signals/Events*** references (as disclosed below) with any virtual reality, augmented reality, video game, interactive touchscreen, or related system, in order to enable the claimed haptic feedback functionality.

As the attached claim charts demonstrate, one-to-one associations between control signals and haptic feedback signals were disclosed in the prior art. Specific disclosures, which are purely exemplary, from charted references and additional prior art (collectively the ***Haptic Signals Based on Separate Signals/Events*** references for the '222 patent) are set forth in **Exhibit H**, which include motivations to combine and disclosures of one-to-one associations between control signals and haptic feedback signals.

f. Events Related to the Environment

Claim 1 of the '222 patent recites that each of the first and second events "occu[r] in an environment related to the wearable device and/or the second device," and claim 17 similarly recites "an event occurring in the environment related to a wearable device and/or a second device." Claim 10 recites "an event associated with the augmented reality environment." Nothing about these claim limitations add anything novel or non-obvious over the prior art. To the contrary, recognizing events occurring in an environment relating to a device was well-known, routine, conventional, and widely available long before the alleged invention of the '222 patent.

Recognizing events occurring in an environment relating to a device would have been obvious to a person of ordinary skill in the art at least because doing so would have involved the combination of prior art elements according to known methods to yield predictable results, the simple substitution of one known element for another to obtain predictable results, the application of a known technique to a known device ready for improvement to yield predictable results, and/or would have been obvious to try. Moreover, a person of ordinary skill in the art would have readily appreciated the well-known and widespread use of recognition of events occurring in an environment relating to a device and the associated benefits and advantages of their use. Persons of ordinary skill in the art would have been motivated to combine the teachings of the ***Events Related to the Environment*** references (as disclosed below) with any virtual reality, augmented reality, video game, interactive touchscreen, or related system, in order to enable the claimed event recognition functionality.

As the attached claim charts demonstrate, the use of recognition of events occurring in an environment relating to a device was disclosed in the prior art. Specific disclosures, which are purely exemplary, from charted references and additional prior art (collectively the ***Events Related to the Environment*** references for the '806 patent) are set forth in **Exhibit H**, which include motivations to combine and disclosures of recognition of events occurring in an environment relating to a device.

g. Communication Channel Between Devices

Claim 1 of the '222 patent recites that the wearable device and second device are "in communication" with each other, and claim 7 further recites "a communication port configured to establish a wireless or wired communication channel between the wearable device and the second device." Claim 10 of the '222 patent recites that the wearable device, the remote device, and the augmented reality device are "in communication" with each other. And claim 23 recites

"establishing a wireless or wired communication channel between the wearable device and the second device with a communication port." Nothing about these claim limitations add anything novel or non-obvious over the prior art. To the contrary, establishing communication channels between devices with communication ports was well-known, routine, conventional, and widely available long before the alleged invention of the '222 patent.

The use of communication channels between devices with communication ports would have been obvious to a person of ordinary skill in the art at least because doing so would have involved the combination of prior art elements according to known methods to yield predictable results, the simple substitution of one known element for another to obtain predictable results, the application of a known technique to a known device ready for improvement to yield predictable results, and/or would have been obvious to try. Moreover, a person of ordinary skill in the art would have readily appreciated the well-known and widespread use of communication channels between devices with communication ports and the associated benefits and advantages of their use. Persons of ordinary skill in the art would have been motivated to combine the teachings of the ***Communication Channel Between Devices*** references (as disclosed below) with any virtual reality, augmented reality, video game, interactive touchscreen, or related system, in order to enable the claimed communication functionality.

As the attached claim charts demonstrate, communication channels between devices with communication ports were disclosed in the prior art. Specific disclosures, which are purely exemplary, from charted references and additional prior art (collectively the ***Communication Channel Between Devices*** references for the '222 patent) are set forth in **Exhibit H**, which include motivations to combine and disclosures of communication channels between devices with communication ports.

h. Augmented Reality

Claim 10 of the ’222 patent recites an “augmented reality device configured to generate an augmented reality environment comprising an augmented reality space and a physical space,” where the augmented reality device’s processor is configured to “detect a plurality of events that occur in the environment related to a wearable device, the processor configured to generate the augmented reality space coincident with the physical space,” to “recognize at least one physical object in the physical space and augment the at least one physical object with one or more virtual objects in the augmented reality space,” and to “determine an event associated with the augmented reality environment.” Nothing about these claim limitations add anything novel or non-obvious over the prior art. To the contrary, each of these elements is associated with augmented reality applications and devices, which were well-known, routine, conventional, and widely available long before the alleged invention of the ’222 patent.

The use of augmented reality applications and devices would have been obvious to a person of ordinary skill in the art at least because doing so would have involved the combination of prior art elements according to known methods to yield predictable results, the simple substitution of one known element for another to obtain predictable results, the application of a known technique to a known device ready for improvement to yield predictable results, and/or would have been obvious to try. Moreover, a person of ordinary skill in the art would have readily appreciated the well-known and widespread use of augmented reality applications and devices and the associated benefits and advantages of their use. Persons of ordinary skill in the art would have been motivated to combine the teachings of the ***Augmented Reality*** references (as disclosed below) with any virtual reality, augmented reality, video game, interactive touchscreen, or related system, in order to enable the claimed augmented reality functionality.

As the attached claim charts demonstrate, augmented reality applications and devices was

disclosed in the prior art. Specific disclosures, which are purely exemplary, from charted references and additional prior art (collectively the ***Augmented Reality*** references for the '222 patent) are set forth in **Exhibit H**, which include motivations to combine and disclosures of augmented reality applications and devices.

i. Plurality of Haptic Signals from One Signal/Event

Claims 10 and 17 of the '222 patent recites that the haptic output device provides "a plurality of haptic feedback signals based on the control signal." Nothing about these claim limitations add anything novel or non-obvious over the prior art. To the contrary, providing multiple haptic feedback signals for a single control signal was well-known, routine, conventional, and widely available long before the alleged invention of the '222 patent.

The use of providing multiple haptic feedback signals for a single control signal would have been obvious to a person of ordinary skill in the art at least because doing so would have involved the combination of prior art elements according to known methods to yield predictable results, the simple substitution of one known element for another to obtain predictable results, the application of a known technique to a known device ready for improvement to yield predictable results, and/or would have been obvious to try. Moreover, a person of ordinary skill in the art would have readily appreciated the well-known and widespread use of providing multiple haptic feedback signals for a single control signal and the associated benefits and advantages of their use. Persons of ordinary skill in the art would have been motivated to combine the teachings of the ***Plurality of Haptic Signals from One Signal/Event*** references (as disclosed below) with any virtual reality, augmented reality, video game, interactive touchscreen, or related system, in order to enable the claimed haptic feedback functionality.

As the attached claim charts demonstrate, providing multiple haptic feedback signals for a single control signal was disclosed in the prior art. Specific disclosures, which are purely exemplary, from charted references and additional prior art (collectively the ***Plurality of Haptic Signals from One Signal/Event*** references for the '222 patent) are set forth in **Exhibit H**, which include motivations to combine and disclosures of providing multiple haptic feedback signals for a single control signal.

5. Obviousness Combinations

The charts below disclose combinations of reference demonstrating that the Asserted Claims of the '222 patent would have been obvious in light of the prior art cited. This is done by reference to the particular categories identified above. For each instance in which such a category is referenced, one or more of the references cited in that category (as identified above) may supply the claim element to which the category applies. The discussion above accompanying each category sets forth the detailed rationale and motivation for combining each category's respective references with respect to the claimed features they disclose.

Defendant identifies references in groups below, based on common subject matter relevant to the Asserted Claims, for the purpose of disclosing obviousness combinations and further disclosing motivations to combine. The absence of a particular reference from a group is not an admission or suggestion that the reference does not disclose any particular claim limitations.

'222 Patent Asserted Claims	Application of Prior Art
Claims 1, 2, 5, 7	• Obvious over the combination of each reference from the following combination groups: o Each Haptic Device reference with one or more of the following: ▪ Wearable Device and/or ▪ Remote Device(s) and/or

’222 Patent Asserted Claims	Application of Prior Art
	▪ Communication Channel Between Devices and/or ▪ Control Signals Representative of Events and/or ▪ Events Related to Environment and/or ▪ Haptic Signals Based on Separate Signals/Events and/or ▪ Generic Computer Parts references o Each Wearable Device reference with one or more of the following: ▪ Remote Device(s) and/or ▪ Communication Channel Between Devices and/or ▪ Control Signals Representative of Events and/or ▪ Events Related to Environment and/or ▪ Haptic Signals Based on Separate Signals/Events and/or ▪ Generic Computer Parts references o Each Remote Device(s) reference with one or more of the following: ▪ Communication Channel Between Devices and/or ▪ Control Signals Representative of Events and/or ▪ Events Related to Environment and/or ▪ Haptic Signals Based on Separate Signals/Events and/or ▪ Generic Computer Parts references o Each Communication Channel Between Devices reference with one or more of the following:

’222 Patent Asserted Claims	Application of Prior Art
	▪ Control Signals Representative of Events and/or ▪ Events Related to Environment and/or ▪ Haptic Signals Based on Separate Signals/Events and/or ▪ Generic Computer Parts references o Each Control Signals Representative of Events reference with one or more of the following: ▪ Events Related to Environment and/or ▪ Haptic Signals Based on Separate Signals/Events and/or ▪ Generic Computer Parts references o Each Events Related to Environment reference with one or more of the following: ▪ Haptic Signals Based on Separate Signals/Events and/or ▪ Generic Computer Parts references o Each Haptic Signals Based on Separate Signals/Events reference with one or more Generic Computer Parts references
Claims 10, 11, 15, 17, 18, 21, 23	• Obvious over the combination of each reference from the following combination groups: o Each Reference combination cited for Claim 1 o Each Reference combination cited for Claim 1 with one or more of the following: ▪ Augmented Reality and/or ▪ Plurality of Feedback Signals from One Control Signal references o Each Augmented Reality reference with one or more of the following: ▪ Plurality of Feedback Signals from One Control Signal and/or

’222 Patent Asserted Claims	Application of Prior Art
	▪ Generic Computer Parts references o Each Plurality of Feedback Signals from One Control Signal reference with one or more Generic Computer Parts references

6. Secondary Considerations

Plaintiff bears the burden of establishing the existence of secondary considerations and the requisite nexus to the claimed inventions. To date, Plaintiff has not contended that any secondary considerations support any alleged non-obviousness of the Asserted Claims. To the extent that Plaintiff subsequently contends that any secondary considerations support a conclusion that any of the Asserted Claims are not obvious, Defendant reserves the right to respond, including to amend and/or supplement these Invalidity Contentions. Moreover, as these Invalidity Contentions demonstrate, none of the Asserted Claims address any need that was either long felt or unmet, nor were their results unexpected. To the contrary, the extensive invalidating prior art detailed above and in Defendant’s charts show that before the patents-in-suit, the prior art techniques, designs, and systems were widely accepted, understood, and available. Finally, although secondary considerations may be relevant to the obviousness analysis, secondary considerations of nonobviousness cannot overcome the strong prima facie case of obviousness set forth in these Invalidity Contentions.

D. Invalidity Under § 101

The Asserted Claims of the ’222 patent do not comply with the requirements of 35 U.S.C. § 101. Defendant incorporates by reference the legal discussion contained in Section II.D set forth above.

***Alice* Step One**: The Asserted Claims of the '222 patent are directed to an abstract idea. "An abstract idea can generally be described at different levels of abstraction." *Apple*, 842 F.3d at 1240. At a higher level of abstraction, the asserted claims of the '222 patent are directed to the abstract idea of haptic feedback from two different events. At a more granular level, the asserted claims are directed to the abstract idea of haptic feedback from two events associated with a physical object. *See* '222 patent at claims 1, 2, 5, 7, 10, 11, 15, 17, 18, 21, 23; *see also, e.g.*, *Alice*, 134 S. Ct. at 2354; *Chamberlain Grp., Inc. v. Techtronic Indus. Co.*, 935 F.3d 1341, 1346–47 (Fed. Cir. 2019), *cert denied* 141 S. Ct. 241 (2020); *ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759, 766 (Fed. Cir. 2019), *cert. denied*, 140 S. Ct. 983 (2020); *Bot M8 LLC v. Sony Corp. of Am.*, 4 F.4th 1342, 1358 (Fed. Cir. 2021); *Affinity Labs of Tex., LLC v. DirecTV, LLC*, 838 F.3d 1253, 1261 (Fed. Cir. 2016); *Elec. Comm'n Techs. v. ShoppersChoice.com*, 958 F.3d 1179, 1180–82 (Fed. Cir. 2020); *Yu v. Apple Inc.*, 1 F.4th 1040, 1044–45 (Fed. Cir. 2021); *Am. Axle & Mfg., Inc. v. Neapco Holdings LLC*, 939 F.3d 1355, 1366–67 (Fed. Cir. 2019), *cert denied*, 142 S. Ct. 2902 (2022); *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1354 (Fed. Cir. 2016); *In re Smith*, 815 F.3d 816, 819 (Fed. Cir. 2016); *In re Marco Guldenaar Holding BV*, 911 F.3d 1157, 1161–62 (Fed. Cir. 2018); *O'Reilly v. Morse*, 56 U.S. 62, 119–20 (1853); *In re TLI Commc'ns LLC Patent Litig.*, 823 F.3d 607, 613 (Fed. Cir. 2016); *Intellectual Ventures I LLC v. Capital One Bank (USA)*, 792 F.3d 1363, 1369 (Fed. Cir. 2015); *In re Killian*, 45 F.4th 1373, 1379–80 (Fed. Cir. 2022); *West View Research, LLC v. Audi AG*, 685 F. App'x 923, 926 (Fed. Cir. 2017); *Clarilogic, Inc. v. FormFree Holdings Corp.*, 681 F. App'x 950, 954 (Fed. Cir. 2017); *Automated Tracking Sols., LLC v. Coca-Cola Co.*, 723 F. App'x 989, 994–95 (Fed. Cir. 2018); *Planet Bingo, LLC v. VKGS, LLC*, 576 F. App'x 1005, 1008 (Fed. Cir. 2014); *Kroy IP Holdings, LLC v. Safeway, Inc.*, 107 F. Supp.3d 677, 704–705 (E.D. Tex. 2015), *aff'd*, 639 F. App'x 637 (Fed. Cir. 2016). The claims

recite no specific technological solution for achieving their desired functional results that improves an underlying computer system. This is no different from everyday activities such as using a baseball glove to catch a baseball or tag a runner out, or wearing a glove while petting a dog or removing a tray from the oven.

***Alice* Step Two**: The Asserted Claims of the '222 patent do not recite an inventive concept sufficient to transform their subject matter into something more than the abstract idea. Each element in the asserted claims, as well as the ordered combination of the elements in the asserted claims, was well-understood, routine, and conventional as of the date of the '222 patent, as demonstrated by the references provided in Sections V.A–C and described in detail above. Defendant refers to the prior art references charted and/or disclosed with these contentions with respect to each element as evidence that each element was well-understood, routine, and conventional. The '222 patent claims nothing significantly more than this idea, rather than any specific inventive application of this idea. *See Affinity Labs*, 838 F.3d at 1262. There are no "additional features" in the claims that account for more than "well-understood, routine, conventional activity." *See id.* (citations omitted).

As further illustration, the following exemplary features recited in the Asserted Claims of the '222 patent were well-known, routine, and conventional, in the art prior to the alleged date of invention:

Claims 1, 2, 5, 11, 15, 17, 18, 21:

- "wearable device[s]"
- "device remote from" the wearable device
- multiple remote devices in communication
- "processor"

- "generate . . . control signal[s]" that are "representative of . . . event[s]"
- "event[s] . . . occurring in an environment related to" a device
- "haptic output device"
- "provide . . . haptic feedback signal[(s)] . . . based on . . . control signal[(s)]"

Claims 7, 23:

- "communication port"
- "establish a wireless or wired communication channel" between devices
- "receive . . . signal representative of . . . [multiple] events"
- "generate the control signal based on the received signal"

Claim 10 (*see also* Claim 1 *supra*):

- "augmented reality device"
- "augmented reality environment comprising an augmented reality space and a physical space"
- "detect a plurality of events that occur in the environment related to a wearable device"
- "generate the augmented reality space coincident with the physical space"
- "recognize . . . [a] physical object"
- "augment . . . [a] physical object with one or more virtual objects"
- "determine an event associated with the augmented reality environment"

As such, similar to *Affinity Labs*, where the Court found the claims ineligible under § 101, the claims and the shared specification do not contain an "'inventive concept' that transforms the abstract idea . . . into a patent-eligible application of that abstract idea." *See Affinity Labs,* 838 F.3d at 1262. The Asserted Claims of the '222 patent recite only generic components and/or

insignificant post-solution activity, without any specific technical solution or improvement to existing technologies to implement the underlying idea, and thus add nothing inventive to the claims. This is insufficient to transform the claimed abstract idea into patent-eligible subject matter. *See, e.g.*, *Alice*, 573 U.S. at 225-26 (holding that "implement[ing] the abstract idea . . . on a generic computer" was not sufficient "to transform an abstract idea into a patent-eligible invention"); *Intell. Ventures I*, 850 F.3d at 1341-42 (holding that "using generic computer components and conventional computer data processing activities" was not sufficient to find an "inventive concept"); *TLI Commc'ns,* 823 F.3d at 614 ("[G]eneric computer components [are] insufficient to add an inventive concept to an otherwise abstract idea."); *Two-Way Media*, 874 F.3d at 1339 ("Nothing in the claims or their constructions . . . requires anything other than conventional computer and network components operating according to their ordinary functions."). The dependent claims merely narrow the abstract idea, and thus also add nothing inventive. *See Content Extraction & Transmission,* 776 F.3d at 1349 (dependent claims of narrower scope and using conventional techniques are non-inventive). Therefore, the Asserted Claims of the '222 patent are ineligible under § 101.

Meta further reserves its right to submit and rely upon expert testimony in support of its arguments regarding patent ineligibility.

VI. EQUITABLE DEFENSES

Based on Meta's investigation to date, Immersion appears to have engaged in inequitable conduct before the U.S. Patent and Trademark Office and/or patent misuse. Therefore, Meta reserves the right, after it has been afforded an opportunity for discovery of Immersion, to plead inequitable conduct based on Immersion's failure to disclose material prior art, including Immersion and its affiliates' prior art patents, non-patent literature, systems, etc., during prosecution of the Asserted Patents. Intentionally failing to disclose prior art material to the PTO's

determination of patentability constitutes inequitable conduct. *See, e.g.*, *Therasense, Inc. v. Becton, Dickinson and Co.*, 649 F.3d 1276, 1290–91 (Fed. Cir. 2011). The art at issue includes, but is not limited to, all prior art assigned to Immersion Corporation or its affiliates at any time listed in Exhibit G.

Defendant also reserves the right, after it has been afforded an opportunity for discovery of Immersion, to plead patent misuse. "[A] court of equity will not lend its support to enforcement of a mis-user's patent." *Senza-Gel Corp. v. Seiffhart*, 803 F.3d 661, 668 (Fed. Cir. 1986). Among the forms of patent misuse courts have recognized are "attempts to broaden the physical or temporal scope of the patent monopoly." *Blonder-Tongue Labs., Inc. v. Univ. of Illinois Foundation*, 402 U.S. 313, 343 (1971).

Meta reserves the right to amend its pleadings regarding equitable defenses as discovery proceeds in the present case. Meta further reserves its right to submit and rely upon expert testimony in support of its arguments regarding equitable defenses.

VII. ADDITIONAL PRIOR ART AND INVALIDITY EVIDENCE

In addition to the prior art references charted, **Exhibit G**, which is incorporated herein in its entirety, identifies prior art references that disclose or describe the general state of the art and knowledge of one skilled in the art at the time of the purported inventions and the filings of the Asserted Patents, as well as those references described in Exhibits A-F and Sections II-V above. These references (without limitation) may be used to show the state of the art and/or may be used as supporting references in an obviousness combination.

Defendant also incorporates here by reference, whether or not cited in Exhibits A-F, all testimony and admissions of the named inventor(s) concerning the prior art, including statements found in the Asserted Patents, their prosecution histories, related patents and/or patent applications, and the papers filed and any evidence submitted by Plaintiffs in conjunction

with this litigation and any proceedings before the United States Patent & Trademark Office.

VIII. PRODUCTS AND SYSTEMS SUBJECT TO FURTHER DISCOVERY

Defendant's investigation into products and systems is ongoing. Defendant reserves all rights to pursue discovery of products and systems as discovery continues, and will amend or supplement these contentions with information to be provided by Plaintiffs and/or third parties. Defendant anticipates that further discovery will reveal confidential details and information about products and systems that invalidate the Asserted Claims.

IX. FURTHER RESERVATION OF RIGHTS

As noted above, the Asserted Claims are identified above. Should Plaintiff be permitted to assert more or different claims or any other patents than it does now, Defendant will identify additional/alternative invalidity grounds and prior art as appropriate and will amend or supplement these invalidity contentions accordingly. Nothing in these contentions constitutes an admission of validity as to any other non-Asserted Claims, or non-Asserted Patents.

X. DOCUMENT PRODUCTIONS

Meta Platforms' source code has been available for inspection at Cooley's Palo Alto office, under Meta's proposed protective order (sent October 10, 2022). Additionally, per the Scheduling Order, Defendant has produced or is concurrently producing: "(1) all prior art referenced in the invalidity contentions, and (2) technical documents, including software where applicable, sufficient to show the operation of the accused product(s)." (ECF No. 23 at 3.) Per Rule 26, Defendant has supplemented and will supplement, as appropriate and as discovery continues.

Dated: July 28, 2023

/s/ Heidi L. Keefe

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CERTIFICATE OF SERVICE

Pursuant to the Federal Rules of Civil Procedure and Local Rule CV-5, I hereby certify that, on July 28, 2023, all counsel of record who have appeared in this case are being served with a copy of the foregoing via email.

/s/ Heidi L. Keefe
Heidi L. Keefe