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UNITED STATES DISTRICT COURT

CENTRAL DISTRICT OF CALIFORNIA

E-VISION, LLC and E-VISION SMART OPTICS, INC., Plaintiff, v. LENOVO GROUP, LTD., LENOVO HOLDING CO., INC., and LENOVO (UNITED STATES), INC., Defendants.	Case No. 8:23-cv-01860-AB-(SHKx) **DEFENDANTS' PRELIMINARY INVALIDITY CONTENTIONS**

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I. INTRODUCTION

Pursuant to the April 18, 2024 Order Granting Joint Stipulation to Schedule Additional Dates (Dkt. 56) and Judge Guilford's Standing Patent Rule 2.5[1], Defendants Lenovo (United States), Inc. ("LUS") and Lenovo PC HK, Limited ("LPL") (collectively, "Lenovo" or "Defendants") hereby provide Defendants' Preliminary Invalidity Contentions for the following patents (collectively, "Asserted Patents") and claims (collectively, "Asserted Claims") identified as asserted in Plaintiffs' Disclosure of Asserted Claims and Infringement Contentions ("Infringement Contentions") served on May 17, 2024:

- U.S. Patent No. 8,708,483 ("the '483 Patent"), claims 1-6, 8, 10-11, 13-14, 16-24, 26, 28-29, 31-33, and 35-37;
- U.S. Patent No. 8,801,174 ("the '174 Patent"), claims 1-3, 5-6, 9, 13, and 14;
- U.S. Patent No. 8,905,541 ("the '541 Patent"), claims 1-6, 16, and 17;
- U.S. Patent No. 8,931,896 ("the '896 Patent"), claims 1-3, 5-10, 13-16, and 19-29;
- U.S. Patent No. 10,598,960 ("the '960 Patent"), claims 1-3, 6-8, 10-12, 14, 15, 20, and 21;
- U.S. Patent No. 10,795,411 ("the '411 Patent"), claims 1-23; and
- U.S. Patent No. 11,586,057 ("the '057 Patent"), claims 1-6, 10-17, 21, and 22.

Defendants address the invalidity of the Asserted Claims in these Preliminary Invalidity Contentions, concluding with an identification of additional reservations and explanations, as well as invalidity charts for the Asserted Patents. These

[1] Although not specifically adopted in this case, Judge Guilford's Standing Patent Rules were adopted by Judge Birotte in the related case *E-Vision Optics, LLC, et al. v. Luxottica Group S.p.A., et al.*, Case No. 8:23-cv-02013-AB-SHK. *See id.* at Dkt. 58. Accordingly, Defendants proceed under the same set of rules in this matter.

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Preliminary Invalidity Contentions are based on Defendants' current understanding of the Asserted Claims and the potential scope Plaintiffs attribute to those Asserted Claims in the Infringement Contentions, to the extent that Plaintiffs' positions can be deduced therefrom. Most notably, Plaintiffs' Infringement Contentions are deficient because the Asserted Claims are only mapped to a single accused product, the ThinkReality A3, which is indisputably non-representative of the three other accused products. Plaintiffs also merely recite the claim language for many elements of the Asserted Claims without attempting to identify any components or functionalities in the accused products.

II. GENERAL RESERVATIONS

These invalidity contentions are preliminary. Consistent with S.P.R. 2.5, Defendants reserve the right to revise or supplement these contentions in light of party and third-party discovery (such as prior art products or systems from third-parties), Plaintiffs' Infringement Contentions, any claim construction order issued by the Court, review and analysis by expert witnesses, and further investigation and discovery regarding the defenses asserted by Defendants. For example, Defendants expressly reserve the right to amend the Preliminary Invalidity Contentions after review of any supplements or amendments to the Infringement Contentions or any other of Plaintiffs' disclosures, after issuance of the claim construction order, or to the extent that Plaintiffs subsequently provide any information that they failed to provide previously.

Further, because discovery is ongoing, Defendants reserve the right to revise, amend, and/or supplement the information provided herein, including identifying, charting, and relying on additional references upon written notice for good cause shown. Further, Defendants reserve the rights to revise, amend, or supplement the Preliminary Invalidity Contentions when Plaintiffs provide additional discovery. Further, Defendants reserve the right to revise these contentions depending upon further and ongoing investigation or positions that Plaintiffs or expert witnesses may

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take concerning claim construction, infringement, and/or invalidity issues.

Defendants hereby incorporate by reference all invalidity-related materials produced by Plaintiffs, Defendants, defendants in the Related Cases, and any other party from prior litigations involving the Asserted Patents, including all expert declarations and reports, expert testimony, invalidity contentions, invalidity-related discovery responses, and prior art. Plaintiffs have not, to date, produced all invalidity-related materials in their possession, custody, or control despite requests to do so. Defendants reserve the right to rely on, and hereby incorporate by reference, any invalidity-related material later produced by Plaintiffs from any prior litigation, including, but not limited to, any expert declaration or report on invalidity, any expert testimony at deposition, trial, or other hearing, any invalidity contentions, any invalidity related discovery responses, and any prior art documents. Defendants also incorporate by reference the *inter partes* review petitions filed on June 21, 2024 by Luxottica of America, Inc. against the '483, '174, '541, and '960 Patents: *Luxottica of America Inc. v. E-Vision Optics, LLC*, PTAB Case Nos. IPR2024-01030, IPR2024-01070, IPR2024-01071, and IPR2024-01072.

Prior art not included in this disclosure, whether known or not known to Plaintiffs, may become relevant. In particular, Defendants are currently unaware of the extent, if any, to which Plaintiffs will contend that limitations of the Asserted Claims are not disclosed in the prior art identified by Defendants. To the extent that such an issue arises, Defendants reserve the right to chart and/or identify other references that would anticipate and/or render obvious the allegedly missing limitations of the claims. Defendants reserve the right to rely on any reference found in the prosecution histories of the applications leading to the Asserted Patents or otherwise identified in connection with this action, including any reference disclosed along with its preliminary infringement contentions.

To the extent that the following contentions reflect constructions of claim limitations consistent with or implicit in Plaintiffs' allegations or proposed claim

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constructions, no inference is intended nor should any be drawn that Defendants agree with Plaintiffs' allegations or claim constructions, and Defendants expressly reserve the right to contest such allegations and claim constructions. Defendants offer such contentions in response to Plaintiffs' infringement allegations and apparent interpretation of claim terms as reflected in Plaintiffs' contentions, and without prejudice to any position that Defendants may ultimately take as to any claim construction issues. Specifically, Defendants base these invalidity contentions at least in part upon the claim scope and certain claim constructions that are implicitly or explicitly asserted by Plaintiffs, and nothing herein should be construed or represented as evidencing any express or implied agreement with any of Plaintiffs' claim construction or positions.

Defendants' claim charts cite to particular teachings and disclosures of the prior art as applied to features of the Asserted Claims. However, persons having ordinary skill in the art generally may view an item of prior art in the context of other publications, literature, products, and understanding. As such, the cited portions are only examples, and Defendants reserve the right to rely on uncited portions of the prior art references and on other publications, expert testimony, and other evidence as aids in understanding and interpreting the cited portions, as providing context thereto, and as additional evidence that the prior art discloses a claim limitation or any of the Asserted Claims as a whole. Defendants further reserve the right to rely on uncited portions of the prior art references, other publications, and testimony, including expert testimony, to establish bases for combinations of certain cited references that render the Asserted Claims obvious.

The references discussed in the claim charts may disclose the elements of the Asserted Claims explicitly and/or inherently, and/or they may be relied upon to show the state of the art in the relevant timeframe. The suggested obviousness combinations are provided in addition to and/or in the alternative to Defendants' anticipation contentions and are not to be construed to suggest that any reference

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included in the combinations is not by itself anticipatory.

The following discussion and exhibits provide exemplary prior art citations and obviousness positions. The citations and discussion in the charts are organized by claim (and claim limitation) for convenience, but each limitation or claim section applies to the larger context of each claim, to any related dependent or independent claims, as well as all claims containing similar limitations or elements. For example, citations as to any recited limitation, step, or component in the claims apply wherever each such limitation, step, or component is repeated elsewhere in the claim or patent. Where Defendants cite to a particular drawing or figure in the attached claim charts, the citation encompasses the description of the drawing or figure, as well as any text associated with the drawing or figure. Similarly, where Defendants cite to particular text concerning a drawing or figure, the citation encompasses that drawing or figure as well. Relatedly, certain portions of patent or other prior art disclosures build upon other disclosures, even if they are referred to as a separate or alternative embodiment. Thus, Defendants' citations to structures or functions incorporate by reference all disclosures to related structures or functions, including any additional detail provided as to the operation or design of those structures or functions.

Discovery of the inventors is ongoing. Defendants reserve the right to assert that the Asserted Claims are invalid under 35 U.S.C. § 102(f) in the event Defendants obtain additional evidence that the inventors of the Asserted Patents did not invent the subject matter claimed therein. Should Defendants obtain such evidence, Defendants will provide the name of the person(s) from whom and the circumstances under which the alleged invention or any part of it was derived.

Defendants also reserve its rights to challenge any of the claim terms herein under 35 U.S.C. § 112 beyond the grounds outlined in its responses to interrogatories related to invalidity, including on the basis that they are indefinite, not supported by the written description, and/or not enabled. Nothing stated herein shall be construed as a waiver of any argument available under 35 U.S.C. §§ 101, 102, 103, and/or 112.

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Defendants also reserve the right to challenge each of the Asserted Patents under the doctrine of obviousness-type double patenting, based on any of the other Asserted Patents or any related patents which may not be currently asserted.

III. INVALIDITY CONTENTIONS

A. Level of Ordinary Skill

The ’483, ’174, ’541, ’960, ’411, ’057, and 896 Patents relate to electronic eyewear. Based on the relevant factors, *In re GPAC Inc*., 57 F.3d 1573, 1579 (Fed. Cir. 1995), a hypothetical person having ordinary skill in the art (“POSITA”) would have had at least a bachelor’s degree in mechanical or manufacturing engineering; mechatronics; electrical engineering plus coursework in mechanical engineering, manufacturing engineering, or mechatronics; or a similar technical degree. A POSITA would have also had at least 2 years of experience designing consumer electronics, such as eyewear with electronics. Work experience could substitute for formal education and additional formal education could substitute for work experience.

The invalidity of the claims does not turn on this specific definition of the level of ordinary skill. The claims would been obvious from the perspective of a POSITA under any reasonable definition.

B. ’483 Patent

The ’483 Patent reports on its face a filing date of December 24, 2012. Plaintiffs allege in the Infringement Contentions that the ’483 Patent is entitled at least to a priority date of May 4, 2007 based on the filing of Provisional Application No. 60/924,225. Based on Plaintiffs’ alleged priority date, Defendants identify the prior art patents, patent applications, publications, and systems in Section III.A.1, below, which anticipate and/or render obvious one or more of the Asserted Claims of the ’483 Patent under at least pre-AIA 35 U.S.C. §§ 102(a), (b), (e), (g), and/or 103, either expressly or inherently, as understood by a POSITA. Invalidity claim charts for these references with respect to the ’483 Patent are attached as Exhibits A1

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to A5.

1. Prior Art

Defendants identify the following prior art patents, patent applications, publications, and systems for the ’483 Patent:

— **Chen ’668**: Chinese Patent No. CN2739668Y, titled *Multifunctional Spectacles*, which was filed on December 24, 2004 and issued on November 9, 2005 to inventor Chen Li. *See* Ex. A1.

— **Chen ’162**: Korean Patent No. KR200417162Y1, titled *Multifunction Glasses*, which was filed on January 25, 2006 and issued on May 25, 2006 to inventor Chen Li. *See* Ex. A2.

— **Howell ’159**: US Publication No. US20090059159A1, titled *Eyewear with Radiation Detection System*, which was filed on March 11, 2005 and published on March 5, 2009 to inventors Thomas Howell, David Chao, C. Douglass Thomas, Peter Tong. *See* Ex. A3.

— **Howell ’596**: US Publication No. US20050230596, titled *Radiation Monitoring System*, which was filed on March 11, 2005 and published on October 20, 2005 to inventors Thomas Howell, David Chao, C. Douglass Thomas, Peter Tong. *See* Ex. A4.

— **Howell ’833**: US Patent No. 7,581,833, titled *Eyewear Supporting After-Market Electrical Components*, which was filed on October 11, 2006 and issued on September 1, 2009 to inventors Thomas Howell, David Chao, C. Douglass Thomas, Peter Tong. *See* Ex. A5.

— **Mullin ’164**: French Publication No. CH359164A, titled *Spectacle Branch Equipped with an Electro-Acoustic Device*, which was filed on April 28, 1959 and published on December 31, 1961 to inventors Davis Mullin Clayton and Frank Rose John. *See* Ex. A5.

— **Blum ’298**: European Publication No. WO2001006298A1, titled *Integrated method and system for communication*, which was filed on July

17, 2000 and published on January 25, 2001 to inventors Ronald D. Blum, Bradley J. Blum, Kevin P. Hines, Jack Loeb, Jr., and Dwight P. Duston. *See* Ex. A5.

— **Lewis '049**: UK Publication No. GB2405049, titled *Spectacles with Integral Hands Free Kit for Mobile Phone*, which was filed on August 14, 2003 and published on February 16, 2005 to inventor Gene Lee Cheyenne Lewis. *See* Ex. A5.

— **Jannard '868**: US Patent No. 5,760,868, titled *Unitary Hingeless Eyeglass Frame*, which was filed on June 27, 1996 and issued on June 2, 1998 to inventors James H. Jannard and Peter K. Yee. *See* Ex. A5.

— **Spitzer '546**: US Patent No. 6,091,546, titled *Eyeglass Interface System*, which was filed on October 29, 1998 and issued on July 18, 2000 to inventor Mark B. Spitzer. *See* Ex. A5.

— **Blum '741**: US Patent No. 6,857,741, titled *Electro-active Multi-Focal Spectacle Lens*, which was filed on April 24, 2003 and issued on Feb. 22, 2005 to inventors Ronald D. Blum, William Kokonaski, and Dwight P. Duston. *See* Ex. A5.

— **Ogren '344**: European Publication No. WO2005119344, titled *Eyeglass Connection System*, which was filed on June 3, 2005 and published on December 15, 2005 to inventors Steve Ogren and Carlos D. Reyes. *See* Ex. A5.

Defendants reserve the right to identify and rely upon systems that represent different versions or are otherwise related variations of the system(s) identified above. Defendants also reserve the right to rely upon any system, product, or public knowledge or use that embodies or otherwise incorporates any of the prior art patents and publications listed above. Defendants further reserve the right to identify and rely upon additional patent or publication references that describe or are otherwise related to the prior art systems identified below based on discovery.

2. Anticipation and Obviousness

Defendants identify the following primary prior art references now known to Defendants to anticipate the Asserted Claims of the '483 Patent indicated below under at least pre-AIA 35 U.S.C. §§ 102(a), (b), (e), and/or (g), either expressly or inherently as understood by a POSITA. In some instances, Defendants have treated certain prior art as anticipatory where certain elements are inherently present, and in particular where elements are inherently present based on the admissions in the patents specification and/or Plaintiffs' apparent construction of claim terms deduced from the Infringement Contentions.

— Howell '159 anticipates Asserted Claims 1, 2, 3, 6, 8, 10, 18, 19, 20, 24, 26, 28, 31, and 37;

— Howell '596 anticipates Asserted Claims 1, 2, 6, 8, 10, 18, 19, 20, 24, 26, 28, 31, and 37;

— Chen '162 anticipates Asserted Claims 1, 2, 6, 10, 14, 17, 19, 20, 24, 26, 28, 31, 33, and 37; and

— Chen '668 anticipates Asserted Claims 1, 2, 6, 10, 14, 17, 19, 20, 24, 26, 28, 31, 33, 37.

To the extent that a primary reference is deemed, by itself, not to anticipate or render obvious a claim for failing to teach one or more limitations expressly or inherently, the claim would nonetheless have been obvious to a POSITA at the time of the invention by the combination of the primary reference with one or more other primary references and/or the knowledge of a POSITA. For example, a POSITA would have been motivated to combine any primary reference in Exhibit A1 to A4 with any other primary reference(s) in Exhibit A1 to A4. Such combinations would be achieved, for example, by combining the disclosures described in the respective claim charts for each reference.

Defendants also contend that any of the primary references (or combination of primary references) could be combined with any of the secondary references (or

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combination of secondary references) in Exhibit A5 to render obvious the Asserted Claims of the ’483 Patent identified below. Such combinations would be achieved by combining the disclosures described in the respective claim charts for each reference.

— Howell ’159 in combination with one or more of the other listed primary references or with one or more of the secondary references identified in Exhibit A5 renders obvious at least Asserted Claims 1-6, 8, 10-14, 16-24, 26, 28-29, 31-33, and 35-37;

— Howell ’596 in combination with one or more of the other listed primary references or with one or more of the secondary references identified in Exhibit A5 renders obvious at least Asserted Claims 1-6, 8, 10-14, 16-24, 26, 28-29, 31-33, and 35-37;

— Chen ’162 in combination with one or more of the other listed primary references or with one or more of the secondary references identified in Exhibit A5 renders obvious at least Asserted Claims 1-6, 8, 10-14, 16-24, 26, 28-29, 31-33, and 35-37; and

— Chen ’668 in combination with one or more of the other listed primary references or with one or more of the secondary references identified in Exhibit A5 renders obvious at least Asserted Claims 1-6, 8, 10-14, 16-24, 26, 28-29, 31-33, and 35-37.

Defendants’ inclusion of exemplary combinations does not preclude Defendants from identifying other invalidating combinations as appropriate. These exemplary combinations are alternatives to Defendants’ anticipation and single-reference obviousness contentions, and, thus, they should not be interpreted as indicating that any of the individual references included in the exemplary combinations are not by themselves invalidating prior art under §§ 102 and/or 103. Defendants reserve the right to identify additional combinations later in fact discovery, during expert discovery, and later stages of the case.

3. Motivation to Combine Prior Art References

To the extent a finder of fact finds that a primary prior art reference does not disclose one or more limitations of an asserted claim, the asserted claim is nevertheless obvious because the alleged missing limitations contain nothing beyond ordinary improvements. In other words, the asserted claim combines known elements to achieve predictable results or chooses between clear alternatives known to those of skill in the art, particularly in view of the state of the art as reflected in the relevant prior art.

Moreover, it would have been obvious to a person of skill in the art at the time of the alleged invention of the Asserted Claims to combine any primary reference with any combination of other primary references or secondary references so as to practice the Asserted Claims. To the extent that Plaintiff argues that any concept claimed in the Asserted Claims is not disclosed in a primary reference, it would, at a minimum, have been obvious to adapt the primary reference to include the concept or combine it with other primary references or secondary references that disclose the concept. Each concept described and claimed in the Asserted Patents was known to those of skill in the art as available design choices for electronic wristwatch with a high-resolution display. The Supreme Court has held that "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2007). "When 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." *Id*. at 417. As the Supreme Court made clear, "[f]or 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*.

To determine whether there is an apparent reason to combine the known elements in the fashion claimed by the patent at issue, a court can "look to interrelated

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teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art." *Id*. at 418. For example, obviousness can be demonstrated by showing "there existed at the time of invention a known problem for which there was an obvious solution encompassed by the patent's claims." *Id*. at 420. "[A]Ny need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed." *Id*. Common sense also teaches that "familiar items may have obvious uses beyond their primary purposes, and 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*.

However, the Supreme Court in *KSR* held that a claimed invention can be obvious even if there is no explicit teaching, suggestion, or motivation for combining the prior art to produce that invention. In summary, *KSR* holds that patents that are based on new combinations of elements or components already known in a technical field may be found to be obvious. *See, generally*, *KSR*, 550 U.S. 398. Specifically, the Court in *KSR* rejected a rigid application of the "teaching, suggestion, or motivation [to combine]" test. *Id*. at 418. "In determining whether the subject matter of a patent claim is obvious, neither the particular motivation nor the avowed purpose of the patentee controls. What matters is the objective reach of the claim." *Id*. at 419. "Under the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed." *Id*. at 420. A key inquiry is whether the "improvement is more than the predictable use of prior art elements according to their established functions." *Id*. at 417.

The rationale to combine or modify prior art references is significantly stronger when, as here, the references seek to solve the same problem, come from the same field, and correspond well to each other. *In re Inland Steel Co*., 265 F.3d 1354, 1362

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(Fed. Cir. 2001). The Federal Circuit has held that two references may be combined as invalidating art under similar circumstances, namely "[the prior art] focus[es] on the same problem that the . . . patent addresses: enhancing the magnetic properties of . . . steel. Moreover, both [prior art references] come from the same field . . . . Finally, the solutions to the identified problems found in the two references correspond well." *Id*. at 1364 (concerning patents and prior art relating to improving the magnetic and electrical properties of steel).

In view of the Supreme Court's *KSR* decision, the PTO issued a set of Examination Guidelines. Examination Guidelines for Determining Obviousness Under 35 U.S.C. §103 in view of the Supreme Court Decision in *KSR International Co. v. Teleflex, Inc*., 72 Fed. Reg. 57526 (October 10, 2007). Those Guidelines summarized the *KSR* decision and identified various rationales for finding a claim obvious, including those based on other precedents. Those rationales include:

(A) Combining prior art elements according to known methods to yield predictable results;

(B) Simple substitution of one known element for another to obtain predictable results;

(C) Use of known technique to improve similar devices (methods, or products) in the same way;

(D) Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results;

(E) "Obvious to try" – choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success;

(F) 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;

(G) 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.

Id. at 57529. The above rationales likewise apply in rendering obvious the Asserted Claims of the Asserted Patents.

The references disclosed herein, alone or in combination, contain an explicit and/or implicit teaching or motivation to combine them due to the following: (1) the knowledge generally available to a POSITA; (2) the prior art references as understood by a POSITA; (3) the nature of the problem to be solved; (4) the fact that each prior art reference addresses similar problems; and (5) the knowledge of those skilled in the art that the disclosed elements had been or could be used together.

The majority of the claims in the ’483 Patent are broadly directed to eyewear with electronics contained in a sealed, moisture-resistant module in the temple of an eyewear frame. And by at least the priority date of the ’483 Patent, incorporating electronics into the frame of eyewear or eyeglasses was well known. Indeed, almost every reference listed above discloses some form of eyewear that incorporates various electronic components. *See, e.g.*, Blum ’298 at 7:18-20 (“As can be seen, the eyewear 11 in this embodiment has a micro-optical display 12 located on the lens 18 of the eyewear 11.”); Blum ’741 at Abstract (“Electro-active multi-focal spectacles are disclosed.”); Chen ’162 at Abstract (“The multi-functional glasses according to the present invention have a dual circuit board with a music player body installed on one side, and a battery for driving the music player body is installed on the other side.”); Chen ’668 at Abstract (“The utility model provides a multifunctional spectacles, being provided with an MP3 music player.”); Howell ’159 at Abstract (“Eyewear having radiation monitoring activity is disclosed.”); Howell ’596 at Abstract (“the electronic circuit is provided within eyewear”); Howell ’833 at Abstract (“Techniques for providing eyewear with electrical components are disclosed.”); Lewis ’049 at Abstract (“A pair of spectacles incorporating and formed integrally with at least an earpiece 20, a microphone 22, a power source and a radio

communication circuit"); Mullin '164 at 5 ("The present invention relates to a spectacle branch equipped with an electro-acoustic device."); Spitzer '546 at Abstract ("An eyeglass interface system is provided which integrates interface systems within eyewear."). A POSITA would have understood that the frames of a pair of eyeglasses could be designed to incorporate a variety of known electrical components (*e.g.*, processors, sensors, power source, microphone, switch, etc.) in various combinations to achieve different functionalities.

Moreover, a POSITA would have known how to design eyewear with electro-active lenses and its supporting circuitry. *See, e.g.*, Blum '298 at 29:4–7 ("In still another embodiment, the lenses contained within the eyewear may be electro-active powered lenses which may change power and or tint electro-actively. In this alternative embodiment the user is able to actuate changes of the lenses' power or color through voice commands or manual switching."); Blum '741 at 5:56–60 ("FIG. 1 is a perspective view of an embodiment of electro-active phoropter/refractor system 100. Frames 110 contain electro-active lens 120, which are connected via a network of conductive wires 130 to an electro-active lens controller 140 and to an electrical power source 150.").

Moreover, a POSITA would have understood that electrical components could be made moisture-resistant through various well-known methods. *See, e.g.*, Chen '162 at 8. ("A waterproof seal is installed at the connection portion between the cover and the cell body of the cell, the connection portion between the conductor installed on the eyeglasses frame and the cell body, the connection portion between the USB connection terminal and the cell body, and the connection portion between the earphone and the cell body, and the function button Multifunctional glasses characterized by a waterproof button."); Chen '668 at [0033] ("The circuit board components are coated with moisture-proof paint or filled with glue to protect the components."). And a POSITA would have been motivated to apply these teachings in order to protect the electrical components, as electronic eyewear is likely to be

worn in a variety of circumstances under myriad conditions.

And a POSITA would have further understood that the circuit could be a flex circuit, which was known in the art. *See, e.g.*, Howell '159 at [0184] ("The UV detection system 1500 is build on a substrate 1502. The substrate 1502 can be a printed circuit board, a flexible tape or film (e.g., Kapton® polyimide film), ceramic, and the like, as known in the art. The UV detection system 1500 includes a power source 1504, an UV sensor 1506, electrical circuitry 1508 and a display device 1510 (e.g., LCD or LED).").

Lenovo incorporates by reference any statements and reasons set forth by the Examiner(s) during prosecution of the application leading to the '483 Patent and related patent applications as to why it would have been obvious to modify or combine references to achieve the limitations of the '483 Patent Asserted Claims.

Additionally, Lenovo incorporates, in full, IPR2024-01030 Petition for *Inter Partes* Review as filed by Luxottica on June 21, 2024.

4. Invalidity Under 35 U.S.C. § 112

The Asserted Claims recite elements that were already well known in the art and are therefore anticipated and/or obvious. If the claims are construed to recite some novel and/or nonobvious element or combination of elements, however, then the Asserted Patents fail to describe or enable the full scope of that element or combination, including, without limitation, how it differs from what was already known to POSITA.

As described below, the Asserted Claims are also invalid for failure to comply with the written description requirement because they offer no indication that the inventors of the Asserted Patents were in possession of certain features claimed in the patent. *See* 35 U.S.C. § 112(1). To satisfy the written description requirement, a patent specification must describe the claimed invention in sufficient detail that POSITA can reasonably conclude that the inventor had possession of the claimed invention at the time of filing the patent application. *See generally Ariad Pharm., Inc.*

v. Eli Lilly and Co., 598 F.3d 1336 (Fed. Cir. 2010) (*en banc*).

To be valid, a patent claim must "particularly point [] out and distinctly claim[] the subject matter which the inventor … regards as the invention." 35 U.S.C. § 112(b). The Supreme Court has held that a patent or claim is invalid for indefiniteness "if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention." *Nautilus, Inc. v. Biosig Instruments, Inc*., 134 S. Ct. 2120, 2124 (2014). The Supreme Court further explained that "a patent must be precise enough to afford clear notice of what is claimed, thereby apprising the public of what is still open to them." *Id*. at 2129. Indeed, to uphold claims—such as Plaintiffs'—that do not clearly define the scope of the invention would thwart the ultimate purpose of the patent laws. *See Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co*., 535 U.S. 722, 730 (2002). As the Supreme Court explained in *Festo*, a patent claim "is a property right; and like any property right, its boundaries should be clear. This clarity is essential to promote progress, because it enables efficient investment in innovation. A patent holder should know what he owns, and the public should know what he does not." *Id.*

Finally, many of Plaintiff's infringement theories and interpretations have created unresolved ambiguities regarding what certain claim terms refer to, and if construed so broadly as to cover Lenovo's products, that the term(s) may be invalid for failing to inform with reasonable certainty those skilled in the art about the scope of the invention. *Nautilus, Inc. v. Biosig Instruments, Inc*., 134 S. Ct. 2120 (2014)

Certain of the Asserted Claims suffer from similar fatal defects that render them indefinite, as listed below in non-limiting examples. Lenovo hereby identifies grounds of invalidity based on (1) lack of written description under 35 U.S.C. § 112, first paragraph; (2) lack of enablement under 35 U.S.C. § 112, first paragraph; and (3) indefiniteness under 35 U.S.C. § 112, second paragraph. These contentions shall not be construed as an admission that any claim construction advanced by Lenovo in

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this case is in any way inconsistent, flawed or erroneous. Nor should these contentions prevent Lenovo from advancing claim construction and/or non-infringement positions in lieu of, or in addition to, invalidity positions. Further, these contentions shall not be construed as an admission of or acquiescence to Plaintiffs' purported construction of the claim language or of other positions advanced by Plaintiff during the course of this litigation. Lenovo's Invalidity Contentions under 35 U.S.C. § 112 may depend, in part, on the Court's claim construction, as well as Plaintiffs' asserted claim scope. Consequently, Lenovo only identify the issues under 35 U.S.C. § 112 of which it is presently aware.

Lenovo contends that the following claim limitations render the claims invalid for lack of written description, lack of enablement, and/or indefiniteness:

— "electronics module"/"module" (Claims 1-3, 6, 8, 10-11, 13-14, 16-21, 24, 26, 28-29, 31-33, 35-37);

— "external device" (Claims 2-4, 20-21);

— "affixed directly to the frame" (Claims 10, 28); and

— "inductively rechargeable battery" (Claims 17, 36).

Discovery is still ongoing and Lenovo reserves the right to update these invalidity contentions accordingly.

5. Prosecution History Estoppel

"[W]hen the patentee unequivocally and unambiguously disavows a certain meaning to obtain a patent, the doctrine of prosecution history disclaimer narrows the meaning of the claim consistent with the scope of the claim surrendered." *Biogen Idec, Inc. v. GlaxoSmithKline LLC*, 713 F.3d 1090, 1095 (Fed. Cir. 2013). Prosecution disclaimer applies to a patentee's arguments made in IPR proceedings. *Aylus Networks, Inc. v. Apple Inc*., 856 F.3d 1353, 1364 (Fed. Cir. 2017).

Discovery and related IPR proceedings are still ongoing and Lenovo reserves the right to update these invalidity contentions accordingly.

C. ’174 Patent

The ’174 Patent reports on its face a filing date of February 13, 2012. Plaintiffs allege in the Infringement Contentions that the ’174 Patent is entitled at least to a priority date of February 11, 2011 based on the filing of Provisional Application No. 61/441,817. Based on Plaintiffs’ alleged priority date, Defendants identify the prior art patents, patent applications, publications, and systems in Section III.B.1, below, which anticipate and/or render obvious one or more of the Asserted Claims of the ’174 Patent under at least pre-AIA 35 U.S.C. §§ 102(a), (b), (e), (g), and/or 103, either expressly or inherently, as understood by a POSITA. Invalidity claim charts for these references with respect to the ’174 Patent are attached as Exhibits B1 to B6.

1. Prior Art

Defendants identify the following prior art patents, patent applications, publications, and systems for the ’174 Patent:

— **Arnell ’682**: European Publication No. WO1999013682A2, titled *Stereophonic Spectacles*, which was filed on March 19, 1998 and published on March 18, 1999 to inventors Peter Arnell, Thomas Ross, Marcus Liu, Steven Lee, Jean-Jacques L’Henaff, and Peter Poopat. *See* Ex. B1.

— **Brunton ’598**: US Patent No. 2,915,598, titled *Spectacle Hearing Aid Mounting*, which was filed on December 14, 1954 and issued on December 1, 1959 to inventor D. L. Brunton. *See* Ex. B2.

— **Delorenzo ’701**: US Patent No. 3,883,701, titled *Eyeglass Frame with Hearing Aid*, which was filed on March 18, 1971 and issued on May 13, 1975 to inventor Anthony Delorenzo. *See* Ex. B6.

— **Eichelberger ’052**: US Patent No. 4,290,052, titled *Capacitative Touch Entry Apparatus Having High Degree of Personal Safety*, which was filed on October 26, 1979 and issued on September 15, 1981 to inventors Charles W. Eichelberger and Robert J. Wojnarowski. *See* Ex. B6.

— **Howell ’442**: US Publication No. US20070030442, titled *Eyeglasses*

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Having a Camera, which was filed on October 11, 2006 and issued on February 8, 2007 to inventors Thomas Howell, David Chao, C. Douglass Thomas, Peter Tong. *See* Ex. B6.

— **Kokonaski '999**: European Publication No. WO2010080999, titled *Electro-Active Spectacles and Associated Electronics*, which was filed on January 8, 2010 and published on July 15, 2010 to inventors William Kokonaski, Yongping Wang, Ronald Blum, Mark Graham, Claudio Dalla Longa, and S. Sambo He. *See* Ex. B3.

— **Martin '483**: US Patent No. 3,210,483, titled *Auditory Device*, which was filed on April 13, 1962 and issued on October 5, 1965 to inventors Richard T. Martin, and James L. Talmage. *See* Ex. B6.

— **Vogt '743**: US Patent No. 5,606,743, titled *Radio Eyewear*, which was filed on December 13, 1993 and issued on February 25, 1997 to inventors Paul A. Vogt and James D. Denney. *See* Ex. B4.

— **Waters '989**: US Publication No. US20110187989, titled *Illuminated Eyewear*, which was filed on February 10, 2011 and published on August 4, 2011 to inventor Michael Waters. *See* Ex. B5.

2. Anticipation and Obviousness

Defendants identify the following primary prior art references now known to Defendants to anticipate the Asserted Claims of the '483 Patent indicated below under at least pre-AIA 35 U.S.C. §§ 102(a), (b), (e), and/or (g), either expressly or inherently as understood by a POSITA. In some instances, Defendants have treated certain prior art as anticipatory where certain elements are inherently present, and in particular where elements are inherently present based on the admissions in the patents specification and/or Plaintiffs' apparent construction of claim terms deduced from the Infringement Contentions.

— Waters '989 anticipates Asserted Claims 1-2, 5-6, 9, and 13-14;

— Vogt '743 anticipates Asserted Claims 1-3, 5-6, 9, and 13-14;

— Arnell ’682 anticipates Asserted Claims 1-3, 9, and 13-14;

— Brunton ’598 anticipates Asserted Claims 1-3, 5, and 13-14;

— Kokonaski ’999 anticipates Asserted Claims 1-3, 5-6, 9, and 13-14.

To the extent that a primary reference is deemed, by itself, not to anticipate or render obvious a claim for failing to teach one or more limitations, the claim would nonetheless have been obvious to a POSITA at the time of the invention by the combination of the primary reference with one or more other primary references and/or the knowledge of someone skilled in the art. For example, a POSITA would have been motivated to combine any reference in Exhibits B1 to B5 with any other reference(s) in Exhibits B1 to B5. Such combinations would be achieved, for example, by merely combining the disclosures described in the respective claim charts for each reference.

Defendants also contend that any of the primary references (or combination of primary references) could be combined with any of the secondary references (or combination of secondary references) in Exhibit B6 to render obvious the Asserted Claims. Such combinations would be achieved by merely combining the disclosures described in the respective claim charts for each reference.

— Waters ’989 in combination with one or more of the other listed primary references or with one or more of the secondary references identified in Exhibit B6 renders obvious at least Asserted Claims 1-3, 5-6, 9, and 13-14;

— Vogt ’743 in combination with one or more of the other listed primary references or with one or more of the secondary references identified in Exhibit B6 renders obvious at least Asserted Claims 1-3, 5-6, 9, and 13-14;

— Arnell ’682 in combination with one or more of the other listed primary references or with one or more of the secondary references identified in Exhibit B6 renders obvious at least Asserted Claims 1-3, 5-6, 9, and 13-14;

— Brunton ’598 in combination with one or more of the other listed primary references or with one or more of the secondary references identified in

Exhibit B6 renders obvious at least Asserted Claims 1-3, 5-6, 9, and 13-14; and

— Kokonaski '999 in combination with one or more of the other listed primary references or with one or more of the secondary references identified in Exhibit B6 renders obvious at least Asserted Claims 1-3, 5-6, 9, and 13-14.

The obviousness combinations are provided in the alternative to Defendants' anticipation contentions and are not to be construed to suggest that any reference included in the combinations is not itself anticipatory.

3. Motivation to Combine Prior Art References

As laid out above in Section III.B.3, to the extent a finder of fact finds that a primary prior art reference does not disclose one or more limitations of an asserted claim, the asserted claim is nevertheless obvious because the alleged missing limitations contain nothing beyond ordinary improvements. In other words, the asserted claim combines known elements to achieve predictable results or chooses between clear alternatives known to those of skill in the art, particularly in view of the state of the art as reflected in the relevant prior art.

The '174 patent is generally directed to eyeglass frames with an electronics module in a temple with a conductive path to the lens housing. But, as discussed above in Section III.B.3, electronic eyeglasses were well known in the art. *See, e.g.*, Arnell '682 at 1:12 ("Examples of stereo spectacles in the prior art are almost too numerous to mention"); Brunton '598 at 1:24–27 ("Attempts have been made to incorporate elements of a hearing aid in temples of a pair of spectacles, particularly with the elements embedded in the material of the temples"); Kokonaski '999 at [0003] ("Electro-active lenses generally provide a region of adjustable optical power by changing the refractive index of an electro-active material (e.g., a liquid crystal material) by the application and removal of electrical power"). A POSITA would have understood there are various methods of incorporating circuitry into the frame of eyeglasses to support a variety of functions. And additionally, it has been known

for several decades to constrain electronic components in eyeglass temples using electrical conductors. *See, e.g.*, Waters '989 at Fig. 3; Kokonaski '999 at Fig. 5. A POSITA would have understood that electrical conductors connecting an electronics module to any circuitry could also be used to constrain the module.

Moreover, capacitive touch-sensors were well known in the art. *See* Eichelberger '052 at 1:10–13 ("It is known to provide arrays of at least one conductive touch pad sensor for controlling functions of an apparatus by contact of a portion of the user's personnel, such as a user's fingertip, to a touch contact area"). A POSITA would have known that such sensors exist and would have been able to combine a touch sensor with the various interchangeable sensors and circuitry disclosed by the electronic eyewear references.

Lenovo incorporates by reference any statements and reasons set forth by the Examiner(s) during prosecution of the application leading to the '174 Patent and related patent applications as to why it would have been obvious to modify or combine references to achieve the limitations of the '174 Patent Asserted Claims.

Additionally, Lenovo incorporates, in full, IPR2024-01070 Petition for *Inter Partes* Review as filed by Luxottica on June 21, 2024.

4. Invalidity Under 35 U.S.C. § 112

As addressed in Section III.B.4, above, Lenovo hereby identifies grounds of invalidity based on (1) lack of written description under 35 U.S.C. § 112, first paragraph; (2) lack of enablement under 35 U.S.C. § 112, first paragraph; and (3) indefiniteness under 35 U.S.C. § 112, second paragraph. These contentions shall not be construed as an admission that any claim construction advanced by Lenovo in this case is in any way inconsistent, flawed or erroneous. Nor should these contentions prevent Lenovo from advancing claim construction and/or non-infringement positions in lieu of, or in addition to, invalidity positions. Further, these contentions shall not be construed as an admission of or acquiescence to Plaintiffs' purported construction of the claim language or of other positions advanced by Plaintiff during

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the course of this litigation. Lenovo's Invalidity Contentions under 35 U.S.C. § 112 may depend, in part, on the Court's claim construction, as well as Plaintiffs' asserted claim scope. Consequently, Lenovo only identifies the issues under 35 U.S.C. § 112 of which it is presently aware.

— "electronics module"/"module" (Claims 1, 5, 9);

— "electrical conductor" (Claims 1-3, 13);

— "conductive path" (Claims 1, 13, 14);

— "touch switch" (Claim 6); and

— "electronics module is configured to be removably coupled to the first temple" (Claim 9).

Discovery is still ongoing and Lenovo reserves the right to update these invalidity contentions accordingly.

5. Prosecution History Estoppel

"[W]hen the patentee unequivocally and unambiguously disavows a certain meaning to obtain a patent, the doctrine of prosecution history disclaimer narrows the meaning of the claim consistent with the scope of the claim surrendered." *Biogen Idec, Inc. v. GlaxoSmithKline LLC*, 713 F.3d 1090, 1095 (Fed. Cir. 2013). Prosecution disclaimer applies to a patentee's arguments made in IPR proceedings. *Aylus Networks, Inc. v. Apple Inc.*, 856 F.3d 1353, 1364 (Fed. Cir. 2017).

During the prosecution of the '174 Patent, the applicant made clear that a device where each temple only provides a power terminal connection to the electronics does not meet "wherein the first electrical conductor is configured to couple the electronics module to the first temple" because "the specification at paragraphs [0074]-[0076] dearly defines a conductor that "couples" a module to the frame as physically securing or applying a force to the module, as opposed to simply providing an electrical connection." 08/23/2013 Applicant Arguments/Remarks Made in an Amendment at 7-8. For clarity, the claims were amended to require that the electrical conductors *constrain* the electronics module—*e.g.,* the conductors must

physically couple the components to the frame. *See* 03/26/2014 Applicant Arguments/Remarks Made in an Amendment at 7-8.

Discovery and related IPR proceedings are still ongoing and Lenovo reserves the right to update these invalidity contentions accordingly.

D. ’541 Patent

The ’541 Patent reports on its face a filing date of November 17, 2011. Plaintiffs allege in the Infringement Contentions that the ’541 Patent is entitled at least to a priority date of August 25, 2010 based on the filing of Provisional Application No. 61/376,719. Based on Plaintiffs’ alleged priority date, Defendants identify the prior art patents, patent applications, publications, and systems in Section III.C.1, below, which anticipate and/or render obvious one or more of the Asserted Claims of the ’541 Patent under at least pre-AIA 35 U.S.C. §§ 102(a), (b), (e), (g), and/or 103, either expressly or inherently, as understood by a POSITA. Invalidity claim charts for these references with respect to the ’541 Patent are attached as Exhibit C1 to C6.

1. Prior Art

Defendants identify the following prior art patents, patent applications, publications, and systems for the ’541 Patent:

— **Moscato ’296**: U.S. Publication No. US20090040296A1, titled *Head Mounted Display Assembly*, which was filed on June 27, 2008 and published on February 12, 2009 to inventor Jonathan Moscato. *See* Ex. C1.

— **Uchiumi ‘240**: Japanese Publication No. JP2001051240A, titled *Spectacles*, which was filed on August 13, 1999 and published on February 23, 2001 to inventors Uchiumi Toshiharu, Izumitani Yukihiro, and Sakai Yasushi. *See* Ex. C2.

— **Howell ’596**: U.S. Publication No. US20050230596, titled *Radiation Monitoring System*, which was filed on March 11, 2005 and published on October 20, 2005 to inventors Thomas Howell, David Chao, C. Douglass

Thomas, Peter Tong. *See* Ex. C3.

— **Kokonaski '166**: U.S. Publication No. US20080273166, titled *Electronic Eyeglass Frame*, which was filed on March 24, 2008 and published on November 6, 2008 to inventors William Kokonaski, Ronald Blum, Tiziano Tabacchi, Martin Boch, Massimo Pinazza, Scot Richman, Volkan Ozguz, and Joshua Haddock. *See* Ex. C4.

— **Kokonaski '999**: European Publication No. WO2010080999, titled *Electro-Active Spectacles and Associated Electronics*, which was filed on January 8, 2010 and published on July 15, 2010 to inventors William Kokonaski, Yongping Wang, Ronald Blum, Mark Graham, Claudio Dalla Longa, Sambo He, and Christian Krutzik. *See* Ex. C5.

— **Blum '918**: U.S. Publication No. US20070296918A1, titled *Electronic Adapter For Electro-Active Spectacle Lenses*, which was filed on June 11, 2007 and published on December 27, 2007 to inventors Ronald Blum, Joshua Haddock, and Dwight Duston. *See* Ex. C6.

— **Hattori '913**: Japanese Publication No. JP S58-113913, titled *Spectacles Provided with Display*, which was filed on DATE and published on July 7, 1983 to inventor Hatsutori Ichirou. *See* Ex. C6.

— **Howell '044**: U.S. Publication No. US20090296044A1, titled *Eyewear Supporting Electrical Components and Apparatus Therefor*, which was filed on July 31, 2009 and published on December 3, 2009 to inventors Thomas Howell, David Chao, C. Douglass Thomas, Peter Tong. *See* Ex. C6.

— **Howell '158**: U.S. Publication No. US20060023158, titled *Eyeglasses with Electrical Components*, which was filed on July 15, 2005 and pushed on February 2, 2006 to inventors Thomas Howell, David Chao, C. Thomas, and Peter Tong. *See* Ex. C6.

— **Howell '159**: U.S. Publication No. US20090059159A1, titled *Eyewear*

with Radiation Detection System, which was filed on March 11, 2005 and published on March 5, 2009 to inventors Thomas Howell, David Chao, C. Douglass Thomas, Peter Tong. *See* Ex. C6.

— **Kokonaski '277**: U.S. Publication No. US20100177277A1, titled *Electro-Active Spectacles And Associated Electronics*, which was filed on January 8, 2010 and published on July 15, 2010 to inventors William Kokonaski, Yongping Wang, Ronald D. Blum, Mark Graham, Claudio Dalla Longa, Sambo S. He, and Christian Krutzik. *See* Ex. C6.

— **Park '978**: U.S. Publication No. US20090256978A1, titled *Liquid Crystal Ski Goggles And Methods Of Manufacturing The Same*, which was filed on June 18, 2009 and published on October 15, 2009 to inventors Eui-yeul Park, Roy Miller, Tamas Kosa, and Bahman Taheri. *See* Ex. C6.

— **Weirich '210**: U.S. Patent No. US5682210A, titled *Eye Contact Lens Video Display System*, which was filed on December 8, 1995 and issued on October 28, 1997 to inventor John Weirich. *See* Ex. C6.

— **Yamaguchi '222**: Japanese Publication No. JP2008099222A, titled *Head-Mounted Display*, which was filed on November 16, 2006 and published on April 24, 2008 to inventors Yamaguchi Hiroshi and Shimizu Yoshie. *See* Ex. C6.

On information and belief, the system(s) identified below were publicly disclosed, used, sold, and/or offered for sale in the United States before the priority date of the Asserted Claims. Defendants' investigation of prior art systems is ongoing. Defendants' further investigation and/or discovery may reveal additional relevant prior art system and/or further information regarding the systems identified below. Defendants reserve the right to supplement these Preliminary Invalidity Contentions, based on subsequent investigation and discovery.

— **Kopin BDM-230K**: Fully Integrated Binocular Video Eyewear Subsystem. *See* Ex. C6.

2. Anticipation and Obviousness

Defendants identify the following primary prior art references now known to Defendants to anticipate the Asserted Claims of the ’541 Patent indicated below under at least pre-AIA 35 U.S.C. §§ 102(a), (b), (e), and/or (g), either expressly or inherently as understood by a POSITA. In some instances, Defendants have treated certain prior art as anticipatory where certain elements are inherently present, and in particular where elements are inherently present based on the admissions in the patents specification and/or Plaintiffs’ apparent construction of claim terms deduced from the Infringement Contentions.

— Moscato ’296 anticipates Asserted Claims 1-3, 16, 17;

— Uchiumi ’240 anticipates Asserted Claims 1-6, 16, 17;

— Howell ’596 anticipates Asserted Claims 1-6, 16, 17;

— Kokonaski ’166 anticipates Asserted Claims 1-6, 16, 17; and

— Kokonaski ’999 anticipates Asserted Claims 1-6, 16, 17.

To the extent that a primary reference is deemed, by itself, not to anticipate or render obvious a claim for failing to teach one or more limitations, the claim would nonetheless have been obvious to a POSITA at the time of the invention by the combination of the primary reference with one or more other primary references and/or the knowledge of someone skilled in the art. For example, a POSITA would have been motivated to combine any reference in Exhibits C1 to C6 with any other reference(s) in Exhibits C1 to C6. Such combinations would be achieved, for example, by merely combining the disclosures described in the respective claim charts for each reference.

Defendants also contend that any of the primary references (or combination of primary references) could be combined with any of the secondary references (or combination of secondary references) in Exhibits C1 to C6 to render obvious the Asserted Claims. Such combinations would be achieved by merely combining the disclosures described in the respective claim charts for each reference.

— Moscato ’296 in combination with one or more of the secondary references identified in Exhibit C6 renders obvious at least Asserted Claims 1-6, 16, and 17;

— Uchiumi ’240 combination with one or more of the secondary references identified in Exhibit C6 renders obvious at least Asserted Claims 1-6, 16, and 17;

— Howell ’596 combination with one or more of the secondary references identified in Exhibit C6 renders obvious at least Asserted Claims 1-6, 16, and 17;

— Kokonaski ’166 combination with one or more of the secondary references identified in Exhibit C6 renders obvious at least Asserted Claims 1-6, 16, and 17; and

— Kokonaski ’999 combination with one or more of the secondary references identified in Exhibit C6 renders obvious at least Asserted Claims 1-6, 16, 17.

The obviousness combinations are provided in the alternative to Defendants’ anticipation contentions and are not to be construed to suggest that any reference included in the combinations is not itself anticipatory.

3. Motivation to Combine Prior Art References

As laid out above in Section III.B.3, to the extent a finder of fact finds that a primary prior art reference does not disclose one or more limitations of an asserted claim, the asserted claim is nevertheless obvious because the alleged missing limitations contain nothing beyond ordinary improvements. In other words, the asserted claim combines known elements to achieve predictable results or chooses between clear alternatives known to those of skill in the art, particularly in view of the state of the art as reflected in the relevant prior art.

The majority of the claims in the ’541 Patent are broadly directed to devices comprising lenses and a frame, e.g., eyewear, attached to which is an electronics

module containing one or more electronic components. And by at least the priority date of the ’541 Patent, it was well known to a POSITA to incorporate electronics into the frame of eyewear or eyeglasses. Indeed, almost every reference listed above discloses some form of eyewear incorporating various electronic components. *See, e.g.*, Moscato ’296 at [0085]-[0087] (“Preferably the present invention is comprised of a binocular micro-display and goggles. A housing is attached to the goggles visor and configured to provide the user with an unobstructed horizontal and below horizontal field of view. The housing is further configured to hold the binocular microdisplay so it provides an optical projection nominally normal to the user's upper line of sight…. An example of how the present invention can be used is to provide a digital rear view image to a vehicle operator by connecting the display assembly’s input signal to a digitally mirrored video camera.”); Uchiumi ’240 at [0011] (“As shown in FIG. 1, the glasses are composed of a lens 1 and a frame 2, and the frame 2 is composed of parts such as a lens frame 21, a nose pad 22, a hinge 23, a temple 24, and an earpiece 25. Here, a circuit module 3 in which a sensor, a light emitting element, a batter, and an energization control circuit are concentrated in a single unit … is built in the tip end side of the end piece portion.”); Howell ’596 at [0073] (“FIG. 1 is a perspective view of UV monitoring glasses 100 according to one embodiment of the invention. The UV monitoring glasses 100 include a frame and a pair of lenses 102. The frame has lens holders 104 that hold the lenses 102 in position. The frame also has a bridge 106. The UV monitoring glasses 100 also include a pair of temples (or arms) 108. The temples 108 are considered part of the frame.”); Howell ’596 at [0192] (“The eyewear housing 1670 includes a substrate 1502, such as a printed circuit board. The UV sensor 1506, more generally a radiation sensor, can be placed in an opening or indentation of the substrate 1502, or on the substrate 1502. The optical filter 1606 is provided proximate to the radiation sensor which is also adjacent to an opening 1672 in the eyewear housing 1670…. The electrical circuitry 1508 can also be attached to the substrate 1502. In this embodiment, the electrical circuitry

1508 includes an integrated circuit chip 1674 that is attached or bonded to a first side of the substrate 1502 (e.g., printed circuit board). As an example, the integrated circuit chip 1674 can be a microcontroller, such as the microcontroller 4402 illustrated in FIG. 14R. The display device 1510 can be attached to a second side of the substrate. For example, the display device 1510 can be an LCD panel…. [T]he radiation monitoring system could also typically include a power source, such as a battery or solar cell, one or more switches, and additional electrical circuitry 1508 (e.g., capacitor) besides the integrated circuit chip 1674."); Kokonaski '166 at [0073] ("FIGS. 1A-1C illustrate a specific embodiment of an eyeglass frame containing an electronic module 101. The module is specifically illustrated as a cylinder and a block section attached to the side of the cylinder in FIG. 1C. In some embodiments, the cylinder portion of the electronic module may contain both the power source and the drive circuit. The block portion may contain a sensing mechanism, for example a tilt switch. The module may also house an antenna, a receiver, a transmitter, a transceiver, a sensor, a range finder, a micro-processor, and a controller.").

Claims 3, 4, and 6 recite a housing module comprising a conductive material. But the prior art referenced here for the '541 Patent demonstrate that using a wide variety of materials—including a conductive material—in a frame or housing was well known to POSITA as of the '541 Patent's priority date. *See, e.g.*, Uchiumi '240 (housing module can be made of various materials); Yamaguchi '222 (head-mounted display with a housing 3 with a metallic portion, which is conductive). POSITA would have had a reasonable expectation of success in using the metal housings described in, e.g., Yamaguchi '222, with the systems described in, e.g., Moscato '296 or Howell '596. It also would have been obvious to modify, e.g., Uchiumi '240, to have included a conductive material housing module in order to allow for heat to be easily transferred and to allow for heat then to be dissipated to the outside. *See, e.g.*, Yamaguchi '222 at [0067].

Claims 1, 2, 4, and 5 recite an insulating layer as comprising or being disposed

between the housing module and/or the electronics module. The prior art referenced here for the ’541 Patent demonstrates that using an insulating layer to encapsulate the electronic and non-electronic components was well known as of the priority date of the ’541 Patent. *See, e.g.*, Howell ’158 at [0053]. For instance, POSITA would have been motivated to apply Howell 158’s insulating layer between Howell 596’s frame and the electronics and other components in its electronics module for several reasons. Howell ’158 incorporates by reference Howell ’596 and instructs POSITA to combine the two disclosures. POSITA would also have been motivated to add Howell ’158’s insulating layer to “prevent circuits from being shorted” and “reduce leakage current” in glasses with metallic frames. *See* Howell ’158 at [0053]. Moreover, it was standard practice to insulate electric components well before the ’541 Patent issued. *See, e.g.*, IPR2024-1071 at Ex. 1011 (2003 Generic Standard on Printed Board Design) at 57, 64 (explaining that metal-cased components should be “insulated from adjacent electrically conductive elements,” using, e.g., “[f]iber or plastic insulators”). Howell ’158 identifies several ways to incorporate such well-known insulating layers between a circuit board and eyewear frames in glasses similar to those in Howell ’596, particularly since Howell ’158 discloses only three materials for its eyeglass frames housing electrical components (metal, plastics, and rubber) and discusses the advantages of using metal frames. *See* Howell ’158 at [0051]-[0054]. POSITA would have been able to obtain predictable results (electrically insulating the electronics from the temple “to prevent circuits from being shorted or to reduce leakage current”) from the simple addition of one known element (insulating layer) to another known element (temple containing electronics), with a reasonable expectation of success. *See, e.g.*, *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 417 (2007); *ACCO Brands Corp. v. Fellowes, Inc.*, 813 F.3d 1361, 1367 (Fed. Cir. 2016) (holding each of a limited number of potential sensor arrangements was an obvious combination of prior-art elements).

Claim 17 recites a first temple comprising first and second portions, where the

housing module comprises the first portion of the first temple. POSITA would have been long aware that that electronics are beneficially housed in one of two separable portions of a temple to facilitate incorporating and accessing the electronics as well as enhancing "multifunctionality." *See, e.g.*, Hattori '913 at 68 and Fig. 5. Figure 5 of Hattori '913 disclosed in 1983 using two separable portions of an eyeglass temple, frame 11-a and frame 11-b. Hattori '913's portion 11-a is in the first portion of the temple and houses "electronic components 20 such as capacitors and transistors" within integrated circuit 18. The first portion 11-a is also coupled to second portion 11-b by hooked portion 26. As such, Portion 11-a is a housing module comprising the first portion of a first temple. A POSITA would have identified that one of a limited number of well-known suitable choices for incorporating Howell 596's two-portion temple would be to dispose the portions as two separate and connectable pieces.

Lenovo incorporates by reference any statements and reasons set forth by the Examiner(s) during prosecution of the application leading to the '541 Patent and related patent applications as to why it would have been obvious to modify or combine references to achieve the limitations of the '541 Patent Asserted Claims.

Additionally, Lenovo incorporates, in full, IPR2024-01071 Petition for *Inter Partes* Review as filed by Luxottica on June 21, 2024.

4. Invalidity Under 35 U.S.C. § 112

As addressed in Section III.B.4, above, Lenovo hereby identifies grounds of invalidity based on (1) lack of written description under 35 U.S.C. § 112, first paragraph; (2) lack of enablement under 35 U.S.C. § 112, first paragraph; and (3) indefiniteness under 35 U.S.C. § 112, second paragraph.

These contentions shall not be construed as an admission that any claim construction advanced by Lenovo in this case is in any way inconsistent, flawed or erroneous. Nor should these contentions prevent Lenovo from advancing claim construction and/or non-infringement positions in lieu of, or in addition to, invalidity

positions. Further, these contentions shall not be construed as an admission of or acquiescence to Plaintiffs' purported construction of the claim language or of other positions advanced by Plaintiff during the course of this litigation. Lenovo's Invalidity Contentions under 35 U.S.C. § 112 may depend, in part, on the Court's claim construction, as well as Plaintiffs' asserted claim scope. Consequently, Lenovo only identifies the issues under 35 U.S.C. § 112 of which it is presently aware.

— "first device" (Claims 1-6, 16, 17).

— "frame" (Claim 1);

— "housing module" (Claims 1, 2, 4, 6, 17);

— "electronics module" (Claims 1, 3-5);

— "structural member" (Claims 1, 16);

— "controller" (Claim 1);

— "insulating layer" (Claims 1, 2, 4, 5);

— "electronic components" (Claim 1); and

— "conductive material" (Claims 3, 4, 6).

5. Prosecution History Estoppel

"[W]hen the patentee unequivocally and unambiguously disavows a certain meaning to obtain a patent, the doctrine of prosecution history disclaimer narrows the meaning of the claim consistent with the scope of the claim surrendered." *Biogen Idec, Inc. v. GlaxoSmithKline LLC*, 713 F.3d 1090, 1095 (Fed. Cir. 2013). Prosecution disclaimer applies to a patentee's arguments made in IPR proceedings. *Aylus Networks, Inc. v. Apple Inc*., 856 F.3d 1353, 1364 (Fed. Cir. 2017).

Discovery and related IPR proceedings are still ongoing and Lenovo reserves the right to update these invalidity contentions accordingly.

E. '896 Patent

The '896 Patent reports on its face a filing date of February 27, 2013. Plaintiffs allege in the Infringement Contentions that the '896 Patent is entitled at least to a priority date of November 2, 2004 based on the filing of Provisional Application Nos.

60/623,947 and 60/623,946. Based on Plaintiffs' alleged priority date, Defendants identify the prior art patents, patent applications, publications, and systems in Section III.D.1, below, which anticipate and/or render obvious one or more of the Asserted Claims of the '896 Patent under at least pre-AIA 35 U.S.C. §§ 102(a), (b), (e), (g), and/or 103, either expressly or inherently, as understood by a POSITA. Invalidity claim charts for these references with respect to the '896 Patent are attached as Exhibits D1 to D4.

1. Prior Art

Defendants identify the following prior art patents, patent applications, publications, and systems for the '896 Patent:

— **Jannard '572**: U.S. Publication No. US20040160572A1, titled *Eyeglass with MP3 Player*, which was filed on July 28, 2003 and published on August 19, 2004 to inventors James Jannard, Davin Saderholm, Carlos Reyes, Colin Baden, Samner Bruns, Michael Webb, and Eric Daniels. *See* Ex. D1.

— **Kruegle '715**: U.S. Patent No. US5777715, titled Low Vision Rehabilitation System, which was filed on January 21, 1997 and published on July 7, 1998 to inventors Herman Kruegle and Allen Bluemental. *See* Ex. D2.

— **Fan '473**: World Publication No. WO1995011473A1, titled *Head-Mounted Display System*, which was filed on October 21, 1994 and published on April 27, 1995 to inventors John Fan, Ronald Gale, Jack Salerno, Jeffrey Jacobsen, Peter Ronzani, and Stephen Pombo. *See* Ex. D3.

— **Burzywoda '072**: German Publication No. DE10106072A1, titled *Representing Visual Information in Telecommunications Device Involves Projecting Visual Information in User's Field of View with Separate Portable Display Device*, which was filed on February 9, 2001 and published on August 14, 2002 to inventor Guenter Burzywoda. *See* Ex. D4.

— **Hong ’236**: World Publication No. WO2005022236A1, titled HMD Apparatus having a Memory Slot Built-In Thereof, which was filed on September 3, 2004 and published on March 10, 2005 to inventor Chul-Un Hong, Nam-Gyun Kim, and Yong-Jae Kim. *See* Ex. D4.

— **Ronzani ’486**: U.S. Publication No. US20020163486, titled *Head-Mounted Display System*, which was filed on May 16, 1997 and published on November 7, 2002 to inventors Peter Ronzani, Jeffrey Jacobsen, Ronald Gale, and Stephen Pombo. *See* Ex. D4.

— **Inasaka ’845**: U.S. Publication No. US20020094845A1, titled *Body Worn Display System*, which was filed on January 16, 2001 and published on July 18, 2002 to inventor Rei Inasaka. *See* Ex. D4.

— **Iwasaki ’972**: Japanese Publication No. JP2000249972A, titled *Display Device*, which was filed on February 25, 1990 and published on September 14, 2000 to inventor Iwasaki Tokao. *See* Ex. D4.

2. Anticipation and Obviousness

Defendants identify the following primary prior art references now known to Defendants to anticipate the Asserted Claims of the ’896 Patent indicated below under at least pre-AIA 35 U.S.C. §§ 102(a), (b), (e), and/or (g), either expressly or inherently as understood by a POSITA. In some instances, Defendants have treated certain prior art as anticipatory where certain elements are inherently present, and in particular where elements are inherently present based on the admissions in the patents specification and/or Plaintiffs’ apparent construction of claim terms deduced from the Infringement Contentions.

— Jannard ’572 anticipates Asserted Claims 1-3, 5-10, 13-16, 19-29;

— Kruegle ’715 anticipates Asserted Claims 1-3, 5-10, 13-16, 19-21, 23-29; and

— Fan ’473 anticipates Asserted Claims 1-3, 5-10, 13-16, 19-27.

To the extent that a primary reference is deemed, by itself, not to anticipate or

render obvious a claim for failing to teach one or more limitations, the claim would nonetheless have been obvious to a POSITA at the time of the invention by the combination of the primary reference with one or more other primary references and/or the knowledge of someone skilled in the art. For example, a POSITA would have been motivated to combine any reference in Exhibits D1 to D4 with any other reference(s) in Exhibits D1 to D4. Such combinations would be achieved, for example, by merely combining the disclosures described in the respective claim charts for each reference.

Defendants also contend that any of the primary references (or combination of primary references) could be combined with any of the secondary references (or combination of secondary references) in Exhibit D4 to render obvious the Asserted Claims. Such combinations would be achieved by merely combining the disclosures described in the respective claim charts for each reference.

— Jannard ’572 in combination with one or more of the secondary references identified in Exhibit D4 renders obvious at least Claims 1-3, 5-10, 13-16, 19-29;

— Kruegle ’715 in combination with one or more of the secondary references identified in Exhibit D4 renders obvious at least Claims 1-3, 5-10, 13-16, 19-29; and

— Fan ’473 in combination with one or more of the secondary references identified in Exhibit D4 renders obvious at least Asserted Claims 1-3, 5-10, 13-16, 19-29.

The obviousness combinations are provided in the alternative to Defendants’ anticipation contentions and are not to be construed to suggest that any reference included in the combinations is not itself anticipatory.

3. Motivation to Combine Prior Art References

As laid out above in Section III.B.3, to the extent a finder of fact finds that a primary prior art reference does not disclose one or more limitations of an asserted

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claim, the asserted claim is nevertheless obvious because the alleged missing limitations contain nothing beyond ordinary improvements. In other words, the asserted claim combines known elements to achieve predictable results or chooses between clear alternatives known to those of skill in the art, particularly in view of the state of the art as reflected in the relevant prior art.

Claim 13 of the '896 Patent recites an electronic display, operably coupled to the docking station, to display information provided by the docked electronic component to a wearer of the eyewear. Fan '473 discloses such features. However, it would have been obvious to have combined Fan '473 with known prior art according to known methods which would yield predictable results. For example, Fujiwara '771 at [0031] shows a display unit with a connector, and a camera as a video source with a connector, and another video source 47 with a connector. Each is operably coupled to a docking station. POSITA would have been able to obtain predictable results (an electronic display, operably coupled to the docking station, displaying information from a docked electronic component) from the simple addition of one known element (a docked electronic display) to another known element (a docked video source), with a reasonable expectation of success.

Claim 16 of the '896 Patent recites that the frame separates at a bridge of the frame. Fan '473, alone or in combination with Iwasaki '972, discloses this feature. For example, Iwasaki '972 at Figure 18 and [0081] shows a frame separating at a bridge of a frame. It would have been obvious to have modified Fan '473 to have included such a configuration in order to allow for enhanced flexibility. Indeed, Fan '473 already discloses a "binocular head-mounted display" with "two display units 2500a' and 2500b'" that "are coupled together and fastened to the wearer's head by a support such as a headband," as shown in Figure 67. *See* Fan '473 at 71:6-10, Figure 67. POSITA would have been able to obtain predictable results (a frame that separates at the bridge) from the simple substitution of one known element (a front-separating eyeglass frame) for another known element (a frame comprising two

separate display units that are coupled together), with a reasonable expectation of success.

Lenovo incorporates by reference any statements and reasons set forth by the Examiner(s) during prosecution of the application leading to the ’896 Patent and related patent applications as to why it would have been obvious to modify or combine references to achieve the limitations of the ’896 Patent Asserted Claims.

4. Invalidity Under 35 U.S.C. § 112

As addressed in Section III.B.4, above, Lenovo hereby identifies grounds of invalidity based on (1) lack of written description under 35 U.S.C. § 112, first paragraph; (2) lack of enablement under 35 U.S.C. § 112, first paragraph; and (3) indefiniteness under 35 U.S.C. § 112, second paragraph. These contentions shall not be construed as an admission that any claim construction advanced by Lenovo in this case is in any way inconsistent, flawed or erroneous. Nor should these contentions prevent Lenovo from advancing claim construction and/or non-infringement positions in lieu of, or in addition to, invalidity positions. Further, these contentions shall not be construed as an admission of or acquiescence to Plaintiffs’ purported construction of the claim language or of other positions advanced by Plaintiff during the course of this litigation. Lenovo’s Invalidity Contentions under 35 U.S.C. § 112 may depend, in part, on the Court’s claim construction, as well as Plaintiffs’ asserted claim scope. Consequently, Lenovo only identify the issues under 35 U.S.C. § 112 of which it is presently aware.

Lenovo contends that the following claim limitations render the claims invalid for lack of written description, lack of enablement, and/or indefiniteness:

— “electronic docking station”/“docking station” (Claims 1, 3, 4, 13, 19-24, 26-29);

— “docking station configured to provide power” (Claim 1);

— “docking station configured to connect with a power charger” (Claim 3);

— “docked electrical component”/“electrical component”/“electronic device”

(Claims 1, 2, 7, 13, 15, 20, 22, 26, 28, 29);

— "electronic display operably coupled to" (Claim 13);

— "information provided by the docked electronic component" (Claim 13);

— "monocular display" (Claim 14);

— "binocular display" (Claim 14);

— "heads up display" (Claim 14);

— "frame separates at a bridge of the frame" (Claim 16);

— "power source, attached to the frame, to provide electrical power to the docked electronic component via the docking station" (Claim 20);

— "the tether" (Claim 21);

— "electrical connector, in electrical communication with the power sources, to provide an electrical connection from the power source to the docking station" (Claim 21)

— "power supply in electrical communication with the docking station to provide electrical power to the electronic device via the at least one pair of power terminal contacts" (Claim 26);

— "electro-active lens" (Claim 27); and

— "receiving audio information and/or video information … providing the audio information to … and providing the video information to …." (Claim 28).

5. Prosecution History Estoppel

"[W]hen the patentee unequivocally and unambiguously disavows a certain meaning to obtain a patent, the doctrine of prosecution history disclaimer narrows the meaning of the claim consistent with the scope of the claim surrendered." *Biogen Idec, Inc. v. GlaxoSmithKline LLC*, 713 F.3d 1090, 1095 (Fed. Cir. 2013). Prosecution disclaimer applies to a patentee's arguments made in IPR proceedings. *Aylus Networks, Inc. v. Apple Inc*., 856 F.3d 1353, 1364 (Fed. Cir. 2017).

During the prosecution of the '896 Patent, the applicant acceded to the

Examiner's determination that the application was not entitled to the priority date based on the Provisional Application No. 60/669,403, but instead was a continuation-in-part of its parent Application No. 11/261,035. *See* Applicant Amendment/Response to Office Action (June 17, 2014) at 8 ("According to pages 2 and 3 of the Office Action, the Office is treating the instant application as a continuation-in-part of U.S. Application No. 11/261,035 ('the '035 application'), which claims priority to and incorporates by reference U.S. Application No. 60/669,403 ('the '403 provisional'). In addition, the Office is affording the instant application a priority date of April 8, 2005-the filing date of the '403 provisional. Applicant respectfully submits that the instant application should be considered as a continuation rather than as a continuation-in-part of the '035 application because the material added by amendment to instant application was incorporated by reference in the '035 application."). As such, the '896 Patent is not entitled to a priority date earlier than April 8, 2005.

Discovery and related IPR proceedings are still ongoing and Lenovo reserves the right to update these invalidity contentions accordingly.

F. '960 Patent

The '960 Patent reports on its face a filing date of May 9, 2018. Plaintiffs allege in the Infringement Contentions that the '960 Patent is entitled at least to a priority date of January 6, 2012 based on the filing of Provisional Application No. 61/583,940. Based on Plaintiffs' alleged priority date, Defendants identify the prior art patents, patent applications, publications, and systems in Section III.E.1, below, which anticipate and/or render obvious one or more of the Asserted Claims of the '960 Patent under at least pre-AIA 35 U.S.C. §§ 102(a), (b), (e), (g), and/or 103, either expressly or inherently, as understood by a POSITA. Invalidity claim charts for these references with respect to the '960 Patent are attached as Exhibits E1 to E4.

1. Prior Art

— **Chen '332**: US Patent No. 7,306,332, titled *Eyewear Temple Assembly*,

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which was filed on November 14, 2005 and issued on December 11, 2007 to inventors Chien Pong Chen and Huang Ting Chen. *See* Ex. E4.

— **Howell '734**: US Publication No. US20110102734, titled *Eyeglasses with a Printed Circuit Board*, which was filed on July 1, 2010 and published on May 5, 2011 to inventors Thomas Howell, David Chao, C. Douglass Thomas, Peter Tong. *See* Ex. E1.

— **Jannard '740**: US Publication No. US20120105740, titled *Eyewear with Detachable Adjustable Electronics Module*, which was filed on August 2, 2011 and published on May 3, 2012 to inventors James J. Jannard and Carlos Reyes. *See* Ex. E2.

— **Miller '057**: US Publication No. US20030068057, titled *Information System Using Eyewear for Communication*, which was filed on October 6, 2001 and published on April 10, 2003 to inventors Eric C. Miller, Charles N. Wang, Erhan H. Gunday, and Albert M. Juergens. *See* Ex. E3.

— **Osterhout '082**: US Publication No. US20110214082, titled *Projection Triggering through an External Marker in an Augmented Reality Eyepiece*, which was filed on February 28, 2011 and published on September 1, 2011 to inventors Ralph F. Osterhout, John D. Haddick, Robert Michael Lohse, Kellie A. Wilder, Nicholas R. Polinko, and Robert W. King III. *See* Ex. E4.

— **Rosenblatt '846**: US Publication No. US20090006846, titled *Bluetooth Device as Security Access Key*, which was filed on June 27, 2007 and published on January 1, 2009 to inventor Michael Rosenblatt. *See* Ex. E4.

On information and belief, the system(s) identified below were publicly disclosed, used, sold, and/or offered for sale in the United States before the priority date of the Asserted Claims. Defendants' investigation of prior art systems is ongoing. Defendants' further investigation and/or discovery may reveal additional relevant prior art system and/or further information regarding the systems identified below. Defendants reserve the right to supplement these Preliminary Invalidity

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Contentions, based on subsequent investigation and discovery.

— **NEC Tele Scouter**: The Tele Scouter system was developed by NEC. On information and belief, the NEC Tele Scouter system was publicly disclosed by at least October 26, 2009 made available for purchase on public websites by at least December 26, 2011. *See* "NEC Offers World's First Ubiquitous Business Support System Using Retinal Imaging Displays and Wearable Computers," NEC, http://www.nec.co.jp/press/en/0910/2602.html (Accessed July 13, 2024); "NEC Launches the Latest Tele Scouter(R) 'Wearable Computer' to Support Field Operations," NEC, http://www.nec.co.jp/press/en/1110/1701.html (Accessed July 13, 2024); Tele Scouter Specification, NEC, https://web.archive.org/web/20111021051734/http:/www.nec.co.jp/press/ja/1110/images/1701-01-01.pdf (Accessed July 13, 2024); "new eyeglasses technology.flv," YouTube, https://www.youtube.com/watch?v=WjPuIRIrXPc (Accessed July 13, 2024).

— **Kopin Golden-i:** The Kopin Golden-i system was developed by Motorola. On information and belief, the NEC Tele Scouter system was publicly disclosed by at least and/or made available for purchase on public websites by at least 2010. *See* "Adeneo Embedded, Motorola and Kopin Offer First International Golden-i Users Conference," Electronic Specifier, https://www.electronicspecifier.com/news/analysis/adeneo-embedded-motorola-kopin-international-golden-i-users-conference (Accessed July 13, 2024); "What is a Golden-I," Kopin https://web.archive.org/web/20111114003310/http:/www.mygoldeni.com/overview (Accessed July 13, 2024); "Motorola Head-mounted Computer Gen.2 Kopin Golden-I," YouTube,

https://www.youtube.com/watch?v=uezGoh_oxss (Accessed July 13, 2024).

2. Anticipation and Obviousness

Defendants identify the following primary prior art references now known to Defendants to anticipate the Asserted Claims of the '960 Patent indicated below under at least pre-AIA 35 U.S.C. §§ 102(a), (b), (e), and/or (g), either expressly or inherently as understood by a POSITA. In some instances, Defendants have treated certain prior art as anticipatory where certain elements are inherently present, and in particular where elements are inherently present based on the admissions in the patents specification and/or Plaintiffs' apparent construction of claim terms deduced from the Infringement Contentions.

— Howell '734 anticipates Asserted Claims 1-3, 6-7, 10, 11, 14-15, and 20-21;

— Miller '057 anticipates Asserted Claims 1-3, 6-8, 10-11, 14-15, and 20; and

— Jannard '740 anticipates Asserted Claims 1-3, 6-8, 10-12, 14-15, and 20-21.

To the extent that a primary reference is deemed, by itself, not to anticipate or render obvious a claim for failing to teach one or more limitations, the claim would nonetheless have been obvious to a POSITA at the time of the invention by the combination of the primary reference with one or more other primary references and/or the knowledge of someone skilled in the art. For example, a POSITA would have been motivated to combine any reference in Exhibits E1 to E3 with any other reference(s) in Exhibits E1 to E3. Such combinations would be achieved, for example, by merely combining the disclosures described in the respective claim charts for each reference.

Defendants also contend that any of the primary references (or combination of primary references) could be combined with any of the secondary references (or combination of secondary references) in Exhibit E4 to render obvious the Asserted

Claims. Such combinations would be achieved by merely combining the disclosures described in the respective claim charts for each reference.

— Howell ’734 in combination with one or more of the other listed primary references or with one or more of the secondary references identified in Exhibit E4 renders obvious at least Asserted Claims 1-3, 6-8, 10-12, 14-15, and 20-21;

— Miller ’057 in combination with one or more of the other listed primary references or with one or more of the secondary references identified in Exhibit E4 renders obvious at least Asserted Claims 1-3, 6-8, 10-12, 14-15, and 20-21; and

— Jannard ’740 in combination with one or more of the other listed primary references or with one or more of the secondary references identified in Exhibit E4 renders obvious at least Asserted Claims 1-3, 6-8, 10-12, 14-15, and 20-21.

The obviousness combinations are provided in the alternative to Defendants’ anticipation contentions and are not to be construed to suggest that any reference included in the combinations is not itself anticipatory.

3. Motivation to Combine Prior Art References

As laid out above in Section III.B.3, to the extent a finder of fact finds that a primary prior art reference does not disclose one or more limitations of an asserted claim, the asserted claim is nevertheless obvious because the alleged missing limitations contain nothing beyond ordinary improvements. In other words, the asserted claim combines known elements to achieve predictable results or chooses between clear alternatives known to those of skill in the art, particularly in view of the state of the art as reflected in the relevant prior art.

The ’960 Patent discloses electronic eyewear that joins with application modules that provide eyewear with a variety of interchangeable electronic applications. But, again, as discussed above in Section III.B.3, electronic eyeglasses

were well known in the art. *See, e.g.*, Chen '332 at 1:28–31 ("However, as demonstrated by sunglasses that provide music playing and cell phone capabilities, consumer interest is growing in augmented eyewear, which offers functionalities that go beyond the obvious features."); Howell '734 at [0011] ("FIG. 1 shows one embodiment of the invention with a speaker in one of the temples of the glasses."); Jannard '740 at Abstract ("A detachable adjustable electronics module may be removably or permanently connected to eyewear."). A POSITA would have understood there are various methods of incorporating circuitry into the frame of eyeglasses to support a variety of functions. *See, e.g.*, Chen '332 at 1:32–34 ("One way to accomplish [offering functionalities] is for eyewear to incorporate detachable parts and concealable compartments, which can store or hold additional functional components."); Jannard '740 at Abstract ("A detachable adjustable electronics module may be removably or permanently connected to eyewear."); Howell '734 at [0060] ("Electrical signals can be coupled to an electrical component, such as a speaker, in a pair of glasses through a number of mechanisms.").

Moreover, a POSITA would have known how to design an application module that enables another device to recognize a wearer's presence or that wirelessly transmits a password. *See, e.g.*, Miller '057 at [0082] ("As the BLUETOOTH protocols in unit 200 and device 2114 identify each other as a physician wearing eyeglasses 100 comes within range of device 2114, specific information (e.g., name, general diagnosis) for a patient associated with device 2114 (e.g., a patient lying in a hospital bed near device 2114) is automatically sent to unit 200 and output to the physician."); Rosenblatt '846 at [0010] ("When a key is brought in proximity of a host device such that the host device is within the personal area network created by the key, the communications circuitry of the key and the transceiver of the host device may communicate data."). And a POSITA would have understood this could have been incorporated within a pair of electronic eyeglasses. *See, e.g.*, Miller '057 at [0037] ("Some well known mechanical and electrical components (e.g., hinges,

battery or photoelectric power supplies, electrical busses) have been omitted from the drawings so that embodiments may be more clearly shown and described . . . . Skilled artisans will understand that many variations of the described embodiments exist. In addition, the following disclosure describes machine functions such as voice recognition, voice operated command and control, and use of the BLUETOOTH communication protocol. Such functions are well known and skilled artisans will be able to easily modify commercially available software to operate in accordance with this disclosure.”).

Lenovo incorporates by reference any statements and reasons set forth by the Examiner(s) during prosecution of the application leading to the ’960 Patent and related patent applications as to why it would have been obvious to modify or combine references to achieve the limitations of the ’960 Patent Asserted Claims.

Additionally, Lenovo incorporates, in full, IPR2024-01072 Petition for *Inter Partes* Review as filed by Luxottica on June 21, 2024.

4. Invalidity Under 35 U.S.C. § 112

As addressed in Section III.B.4, above, Lenovo hereby identifies grounds of invalidity based on (1) lack of written description under 35 U.S.C. § 112, first paragraph; (2) lack of enablement under 35 U.S.C. § 112, first paragraph; and (3) indefiniteness under 35 U.S.C. § 112, second paragraph. These contentions shall not be construed as an admission that any claim construction advanced by Lenovo in this case is in any way inconsistent, flawed or erroneous. Nor should these contentions prevent Lenovo from advancing claim construction and/or non-infringement positions in lieu of, or in addition to, invalidity positions. Further, these contentions shall not be construed as an admission of or acquiescence to Plaintiffs’ purported construction of the claim language or of other positions advanced by Plaintiff during the course of this litigation. Lenovo’s Invalidity Contentions under 35 U.S.C. § 112 may depend, in part, on the Court’s claim construction, as well as Plaintiffs’ asserted claim scope. Consequently, Lenovo only identify the issues under 35 U.S.C. § 112

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of which it is presently aware.

— "application module" (Claims 1, 6-7, 10-11);

— "providing audio power to the at least one external device" (Claim 8);

— "voice recognition chip" (Claim 10);

— "configured to recognize a presence of a wearer of the eyewear based at least in part on communication with the wireless chip" (Claim 11);

— "recognizing the presence of the wearer, the wireless enabled device is configured to control light in the wearer's environment" (Claim 12);

— "recognizing the presence of the wearer, the wireless enabled device is configured to control an external audio" (Claim 14); and

— "recognizing the presence of the wearer, the wireless enabled device is configured to control an external video device" (Claim 15).

Discovery is still ongoing and Lenovo reserves the right to update these invalidity contentions accordingly.

5. Prosecution History Estoppel

"[W]hen the patentee unequivocally and unambiguously disavows a certain meaning to obtain a patent, the doctrine of prosecution history disclaimer narrows the meaning of the claim consistent with the scope of the claim surrendered." *Biogen Idec, Inc. v. GlaxoSmithKline LLC*, 713 F.3d 1090, 1095 (Fed. Cir. 2013). Prosecution disclaimer applies to a patentee's arguments made in IPR proceedings. *Aylus Networks, Inc. v. Apple Inc*., 856 F.3d 1353, 1364 (Fed. Cir. 2017).

Discovery and related IPR proceedings are still ongoing and Lenovo reserves the right to update these invalidity contentions accordingly.

G. '411 Patent

The '411 Patent reports on its face a filing date of June 27, 2019. Plaintiffs allege in the Infringement Contentions that the '411 Patent is entitled at least to a priority date of November 2, 2004 based on the filing of Provisional Application Nos. 60/623,947 and 60/623,946. Based on Plaintiffs' alleged priority date, Defendants

identify the prior art patents, patent applications, publications, and systems in Section III.F.1, below, which anticipate and/or render obvious one or more of the Asserted Claims of the ’411 Patent under at least pre-AIA 35 U.S.C. §§ 102(a), (b), (e), (g), and/or 103, either expressly or inherently, as understood by a POSITA. Invalidity claim charts for these references with respect to the ’411 Patent are attached as Exhibits F1 to F5.

1. Prior Art

— **Spitzer ’776**: U.S. Publication No. US20040212776A1, titled *Binocular Viewing System*, which was filed on September 5, 2003 and published on October 28, 2004 to inventors Mark Spitzer, Gregory Hunter, and Paul Zavracky. *See* Ex. F1.

— **Howell ’274**: U.S. Publication No. US20050078274A1, titled *Tethered Electrical Components for Eyeglasses*, which was filed on October 12, 2004 and published on April 14, 2005 to inventors Thomas Howell, David Chao, C. Douglas Thomas, and Peter Tong. *See* Ex. F2.

— **Ishibashi ’484**: U.S. Publication No. JP2002247484A, titled *Spectacles Type Video Display Device and Its System*, which was filed on February 22, 2001 and published on August 30, 2002 to inventors Ishibashi Junichi, Kobayashi Hiromasa, Tezuka Hisanori, Kobayashi Susumu. *See* Ex. F3.

— **Okoshi ’750**: Japanese Publication No. JPH11327750A, titled *Spectacle Type Picture Display*, which was filed on May 12, 1998 and published on November 30, 1999 to inventors Okoshi Yoshio and Sakamoto Akira. *See* Ex. F4.

— **Blum ’298**: European Publication No. WO2001006298A1, titled *Integrated Method and System for Communication*, which was filed on July 17, 2000 and published on January 25, 2001 to inventors Ronald Blum, Bradley Blum, Kevin Hines, Jack Loeb, and Dwight Duston. *See* Ex. F5.

— **Okada ’417**: U.K. Publication No. GB2169417A, titled *Liquid Crystal*

Lens Having Variable Focal Length, which was filed on December 20, 1985 and published on July 9, 1986 to inventors Takao Okada, Takeaki Nakamura, Kimihiko Nishioka, Hiroyuki Yamamoto, and Hideo Tamsbechi. *See* Ex. F5.

— **Kowel '616:** U.S. Patent No. 4572616, titled *Adaptive Liquid Crystal Lens*, which was filed on August 10, 1982 and issued on February 25, 1986 to inventors Stephen Kowel, Philipp Kornreich, and Dennis Clerverly. *See* Ex. F5.

— **Miller '057**: U.S. Publication No. US20030068057A1, titled *Information System Using Eyewear for Communication*, which was filed on October 6, 2001 and published on April 10, 2003 to inventors Eric Miller, Charles Wang, Erhan Gunday, and Albert Juergens. *See* Ex. F5.

— **Holakovsky '716**: U.S. Patent No. 5129716, titled *Stereoscopic Video Image Display Appliance Wearable on Head Like Spectacles*, which was filed on October 21, 1988 and issued on July 14, 1992 to inventors Laszlo Holakovszky, Karoly Endrei, Laszlo Kezi, Karolyne Endrei. *See* Ex. F5.

— **Grossman '101**: German Publication No. DE20209101U1, titled *Digital Vision Aid for Persons with Vision Defects e.g., for Motorists and Diabetics, Uses Miniature Digital Cameras Mounted on Spectacles Side Pieces*, which was filed on June 12, 2002 and published on March 13, 2003 to inventor Hans Dieter Grosmann. *See* Ex. F5.

— **Berreman '330**: U.S. Patent No. 4190330, titled *Variable Focus Liquid Crystal Lens System*, which was filed on December 27, 1977 and issued on February 26, 1980 to inventor Dwight Berreman. *See* Ex. F5.

— **Drisi '633**: European Publication No. WO2004003633A1, titled *Novel Method of Assembling Viewing Glasses and the Products Thus Obtained*, which was filed on June 11, 2003 and published on January 8, 2004 to inventor Omar Daoudi Drissi. *See* Ex. F5.

— **Huang '120**: Japanese Publication No. JPH09504120A, titled *Head Mounted Display System*, which was filed on October 21, 1994 and published on April 22, 1997 to inventors Zhiyong Shi Huang, Ronald P. Gale, Jacques P. Sarano, Jeffrey J. Jakobsen, Peter A. Ronzani, Stephen Pombo. *See* Ex. F5.

— **Fan '473**: European Publication No. WO1995011473A1, titled Head-Mounted Display System, which was filed on October 21, 1994 and published on April 27, 1995 to inventors John Fan, Ronald Gale, Jack Salerno, Jeffrey Jacobsen, Peter Ronzani, Stephen Pombo. *See* Ex. F5.

— **Kruegle '715**: U.S. Patent No. US5777715, titled Low Vision Rehabilitation System, which was filed on January 21, 1997 and issued on July 7, 1998 to inventors Herman Kruegle and Allen Bluemental. *See* Ex. D2.

On information and belief, the system(s) identified below were publicly disclosed, used, sold, and/or offered for sale in the United States before the priority date of the Asserted Claims. Defendants' investigation of prior art systems is ongoing. Defendants' further investigation and/or discovery may reveal additional relevant prior art system and/or further information regarding the systems identified below. Defendants reserve the right to supplement these Preliminary Invalidity Contentions, based on subsequent investigation and discovery.

— **MicroOptical Viewers**: The MicroOptical Viewer products (BV-3 Binocular Viewer, CV-3 Video Viewer, and SV-6 PC Viewer) were developed and sold by MicroOptical. On information and belief, one or more MicroOptical products were publicly disclosed before at least November 2, 2004. *See, e.g.*, https://web.archive.org/web/20031207045335/http://www.microopticalcorp.com/Products/HomePage.html; https://web.archive.org/web/20031204075119/http://www.microopticalco

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rp.com/Products/vga.html#SV6; https://web.archive.org/web/20031204075823/http://www.microopticalcorp.com/Products/video.html#; and https://web.archive.org/web/20031204080157/http://www.microopticalcorp.com/Products/kits.html#BV1. *See* Ex. F5.

2. Anticipation and Obviousness

Defendants identify the following primary prior art references now known to Defendants to anticipate the Asserted Claims of the '411 Patent indicated below under at least pre-AIA 35 U.S.C. §§ 102(a), (b), (e), and/or (g), either expressly or inherently as understood by a POSITA. In some instances, Defendants have treated certain prior art as anticipatory where certain elements are inherently present, and in particular where elements are inherently present based on the admissions in the patents specification and/or Plaintiffs' apparent construction of claim terms deduced from the Infringement Contentions.

— Spitzer '776 anticipates Asserted Claims 1-4, 7-15, 17, 20-23

— Howell '274 anticipates Asserted Claims 1-4, 7-17, 21-23;

— Okoshi '750 anticipates Asserted Claims 1-4, 7, 8, 11-17, 20-23; and

— Ishibashi '484 anticipates Asserted Claims 1-4, 7, 8, 11-15, 17, 20-23.

To the extent that a primary reference is deemed, by itself, not to anticipate or render obvious a claim for failing to teach one or more limitations, the claim would nonetheless have been obvious to a POSITA at the time of the invention by the combination of the primary reference with one or more other primary references and/or the knowledge of someone skilled in the art. For example, a POSITA would have been motivated to combine any reference in Exhibits F1 to F5 with any other reference(s) in Exhibits F1 to F5. Such combinations would be achieved, for example, by merely combining the disclosures described in the respective claim charts for each reference.

Defendants also contend that any of the primary references (or combination of

primary references) could be combined with any of the secondary references (or combination of secondary references) in Exhibit F5 to render obvious the Asserted Claims. Such combinations would be achieved by merely combining the disclosures described in the respective claim charts for each reference.

— Spitzer ’776 in combination with one or more of the secondary references identified in Exhibit F5 renders obvious at least Asserted Claims 1-23

— Howell ’274 in combination with one or more of the secondary references identified in Exhibit F5 renders obvious at least Asserted Claims 1-23;

— Okoshi ’750 in combination with one or more of the secondary references identified in Exhibit F5 renders obvious at least Asserted Claims 1-23; and

— Ishibashi ’484 in combination with one or more of the secondary references identified in Exhibit F5 renders obvious at least Asserted Claims 1-23.

The obviousness combinations are provided in the alternative to Defendants’ anticipation contentions and are not to be construed to suggest that any reference included in the combinations is not itself anticipatory.

3. Motivation to Combine Prior Art References

As laid out above in Section III.B.3, to the extent a finder of fact finds that a primary prior art reference does not disclose one or more limitations of an asserted claim, the asserted claim is nevertheless obvious because the alleged missing limitations contain nothing beyond ordinary improvements. In other words, the asserted claim combines known elements to achieve predictable results or chooses between clear alternatives known to those of skill in the art, particularly in view of the state of the art as reflected in the relevant prior art.

Claim 3 of the ‘411 Patent recites a tether that is removably attached to the enclosure. Both Okoshi ‘750 and Ishibashi ‘484 disclose a tether and an enclosure. Huang ‘120 at Figure 2 shows a tether removably attached to an enclosure. It would have been obvious to have included a tether removably attached to an enclosure in order to allow for physical coupling/decoupling as appropriate, as taught by Huang

’120.

Claim 11 of the ‘411 Patent recites a fixed lens removably coupled to the electronic lens. Kruegle ’715 discloses a “headset, having an anterior portion extending over a patient's eyes, and a posterior portion partially encircling the patient's head. The anterior portion of the headset contains a spacing means to allow the headset to be worn with the patient's prescription eyeglasses.” *See, e.g.*, Kruegle ’715 at 3:34-42; *see also id.* at 3:15-20 (“It is a further object of the invention to provide a vision rehabilitation system which can be used in conjunction with the patient's normal prescription eyewear and which improves the testing and rehabilitation of the patient's vision when working with a rehabilitation specialist.”). One of skill in the art would know how to add the spacing means disclosed by Kruegle ’715 to the frames disclosed by any of the Primary References to enhance the eyewear systems disclosed therein and permit their use with a removably attached set of fix-lens, prescription eyeglasses.

Claim 17 of the ‘411 Patent recites an electronic lens that comprises at least one of: an electro-chromic tinted lens, electro-active-lens, electro-fluid lens, electro-pressure lens, electromechanically moving lens, micro-optical display, spectacle lens, or a dynamic focusing lens. Okada ’417 discloses the use of liquid crystal lenses with focal lengths that can be electronically varied and controlled by the application of a changing voltage to the liquid crystal. *See, e.g.*, Okada ’417 at 1:6-84, Figures 5, 6. Kowel ’616 discloses a similar electrooptical cell. *See* Kowel ’616 at 2:29-42 (“lens system having at least one electrooptical cell containing a pair of spaced apart flat plates, a plurality of spaced apart transparent electrodes disposed inside the plates, a liquid crystal material contained between the plates in the electrode region, and control means for varying the voltage applied to each of the electrodes to provide point to point control over the index of refraction of the material to bring incoming light to focus at a plane.”). Likewise, Fan ‘473 discloses at column 4, lines 13-25, electro-active-lens. It would have been obvious to have used such electro-active lens

options as a display as taught by Fan '473, to allow for electric signals to be provided in order to allow for a display of an image to be overlaid and appropriately adjusted.

Lenovo incorporates by reference any statements and reasons set forth by the Examiner(s) during prosecution of the application leading to the '411 Patent and related patent applications as to why it would have been obvious to modify or combine references to achieve the limitations of the '411 Patent Asserted Claims.

4. Invalidity Under 35 U.S.C. § 112

As addressed in Section III.B.4, above, Lenovo hereby identifies grounds of invalidity based on (1) lack of written description under 35 U.S.C. § 112, first paragraph; (2) lack of enablement under 35 U.S.C. § 112, first paragraph; and (3) indefiniteness under 35 U.S.C. § 112, second paragraph. These contentions shall not be construed as an admission that any claim construction advanced by Lenovo in this case is in any way inconsistent, flawed or erroneous. Nor should these contentions prevent Lenovo from advancing claim construction and/or non-infringement positions in lieu of, or in addition to, invalidity positions. Further, these contentions shall not be construed as an admission of or acquiescence to Plaintiffs' purported construction of the claim language or of other positions advanced by Plaintiff during the course of this litigation. Lenovo's Invalidity Contentions under 35 U.S.C. § 112 may depend, in part, on the Court's claim construction, as well as Plaintiffs' asserted claim scope. Consequently, Lenovo only identifies the issues under 35 U.S.C. § 112 of which it is presently aware.

— "electro-active lens" (Claim 1);

— "electronic lens" (Claims 1, 5, 11, 17, 18, 19, 22);

— "held in place at least in part by a bridge in a nose reason of the frame" / "held in place at least in part by the frame front" (Claims 1, 22);

— "to present a virtual image … as if the virtual image is floating in space in front of the wearer" (Claims 1, 22);

— "controller, operably coupled to the electronic lens" (Claims 1, 22);

— "optical characteristics of the electronic lens" (Claims 1, 22);
— "tether" (Claims 1, 22);
— "enclosure" (Claims 1, 22);
— "tinted region" (Claim 5);
— "fixed and embedded tint" (Claim 6)
— "a speaker associated with the frame" (Claims 7, 22);
— "magnetic member in the nose region of the frame" (Claim 10);
— "a fixed lens removably coupled to the electronic lens" (Claim 11);
— "configured to be communicatively coupled to" (Claim 16);
— "electronic lens comprises at least one of: an electro-chromic tinted lens, electro-active-lens, electro-fluid lens, electro-pressure lens, electromechanically moving lens, micro-optical display, spectacle lens, or a dynamic focusing lens" (Claim 17);
— "optical power … can be varied by application of an electrical signal" (Claim 18);
— "tint … can be varied by application of an electric signal" (Claim 19); and
— "virtual image is 3D" (Claim 20).

Discovery and related IPR proceedings are still ongoing and Lenovo reserves the right to update these invalidity contentions accordingly.

5. Prosecution History Estoppel

During the prosecution of the '441 Patent, the applicant made clear, in traversing the Examiner's rejection under § 103, that the "electronic lens" of claim 1 must be held in place "at least in part by a bridge in the nose region of the frame," which was not disclosed in the asserted prior art reference (Rallison). The applicant explained that the Rallison reference "discloses a 'head-mounted display (HMD)' including a strap 16 and a forehead brace 22," but not "a bridge in the nose region of the frame." Instead, Rallison's electronic lens was "contained in the main portion 12 of the apparatus, which is supported by the strap 16, forehead brace 22, and temple

pieces 14a, 14b2 but not a bridge in the nose region of the frame." 5/15/2020 Applicant Arguments/Remarks Made in an Amendment at 6-9. The applicant further explained that modifying Rallison's apparatus "to use a bridge in the nose region of the frame instead of the forehead brace" would change Rallison's aim "by shifting the weight of the apparatus from the user's forehead onto the nose bridge and/or temples," while also "eliminat[ing] the option for the user to wear eyeglasses while using the apparatus." *Id.* at 8.

Discovery and related IPR proceedings are still ongoing and Lenovo reserves the right to update these invalidity contentions accordingly.

H. '057 Patent

The '057 Patent reports on its face a filing date of December 5, 2019. Plaintiffs allege in the Infringement Contentions that the '057 Patent is entitled at least to a priority date of May 4, 2007 based on the filing of Provisional Application No. 60/924,225. Based on Plaintiffs' alleged priority date, Defendants identify the prior art patents, patent applications, publications, and systems in Section III.G.1, below, which anticipate and/or render obvious one or more of the Asserted Claims of the '057 Patent under at least pre-AIA 35 U.S.C. §§ 102(a), (b), (e), (g), and/or 103, either expressly or inherently, as understood by a POSITA. Invalidity claim charts for these references with respect to the '057 Patent are attached as Exhibits G1 to G3.

1. Prior Art

— **Durner '448**: US Publication No. US20070091448, titled *Electronic Spectacles, in Particular Night Vision Spectacles*, which was filed on November 30, 2004 and published on April 26, 2007 to inventors Andreas Durner and Andre Draheim. *See* Ex. G3.

— **Hoffman '378**: US Patent No. 5,353,378, titled *Sound and Light Emitting Face Apparel*, which was filed on April 16, 1993 and issued on October 4, 1994 to inventors Donald L. Hoffman and Neil M. Cohen. *See* Ex. G1.

— **Lipton '428**: US Patent No. 5,463,428, titled *Wireless Active Eyewear for*

Stereoscopic Applications, which was filed on February 8, 1994 and issued on October 31, 1995 to inventors Lenny Lipton, Jeffrey J. Halnon, Larry M. Mitchell, and Robert Hursey. *See* Ex. G2.

— **Mysliwiec '045**: US Patent No. 4,776,045, titled *Swimming Goggles Including a Timing Device*, which was filed on October 9, 1987 and issued on October 11, 1988 to inventors Jo Mysliwiec and Ted J. Ellis Jr. *See* Ex. G3.

— **Taba '722**: US Patent No. 5,685,722, titled *Electronic Timing Swimmer's Goggles*, which was filed on April 13, 1995 and issued on November 11, 1997 to inventor Serge Taba. *See* Ex. G3.

On information and belief, the system(s) identified below were publicly disclosed, used, sold, and/or offered for sale in the United States before the priority date of the Asserted Claims. Defendants' investigation of prior art systems is ongoing. Defendants' further investigation and/or discovery may reveal additional relevant prior art system and/or further information regarding the systems identified below. Defendants reserve the right to supplement these Preliminary Invalidity Contentions, based on subsequent investigation and discovery.

— **NIVIS-2 Night Vision Glasses**: The NIVIS-2 Night Vision Glasses system was developed by Cobra Optics. On information and belief, the NIVIS-2 Night Vision Glasses system was publicly disclosed and/or made available for purchase on public websites by at least October 19, 2003. *See* "NIVIS-2 Night Vision Glasses ," Cobra Optics, https://web.archive.org/web/20031019010448/http:/www.cobra-optics.co.uk/nivis.htm (Accessed July 13, 2024).

— **4.2 Eye-Trek FMD-700** : The 4.2 Eye-Trek FMD-700 system was developed by Olympus. On information and belief, the 4.2 Eye-Trek FMD-700 system was publicly disclosed and/or made available for purchase on public websites by at least May 24, 2000. *See* "Launch of New Eye-Trek

FMD-700*," Olympus, https://www.olympus-global.com/en/news/2000a/nr000524fmd700e.html (Accessed July 13, 2024).

2. Anticipation and Obviousness

Defendants identify the following primary prior art references now known to Defendants to anticipate the Asserted Claims of the '057 Patent indicated below under at least pre-AIA 35 U.S.C. §§ 102(a), (b), (e), and/or (g), either expressly or inherently as understood by a POSITA. In some instances, Defendants have treated certain prior art as anticipatory where certain elements are inherently present, and in particular where elements are inherently present based on the admissions in the patents specification and/or Plaintiffs' apparent construction of claim terms deduced from the Infringement Contentions.

— Hoffman '378 anticipates Asserted Claims 1-4, 6, and 12-14; and

— Lipton '428 anticipates Asserted Claims 1-6 and 12-14.

To the extent that a primary reference is deemed, by itself, not to anticipate or render obvious a claim for failing to teach one or more limitations, the claim would nonetheless have been obvious to a POSITA at the time of the invention by the combination of the primary reference with one or more other primary references and/or the knowledge of someone skilled in the art. For example, a POSITA would have been motivated to combine any reference in Exhibits G1 to G2 with any other reference(s) in Exhibits G1 to G2. Such combinations would be achieved, for example, by merely combining the disclosures described in the respective claim charts for each reference.

Defendants also contend that any of the primary references (or combination of primary references) could be combined with any of the secondary references (or combination of secondary references) in Exhibit G3 to render obvious the Asserted Claims. Such combinations would be achieved by merely combining the disclosures described in the respective claim charts for each reference.

— Hoffman ’378 in combination with one or more of the other listed primary references or with one or more of the secondary references identified in Exhibit G3 renders obvious at least Asserted Claims 1-6, 10-17 and 21-22; and

— Lipton ’428 in combination with one or more of the other listed primary references or with one or more of the secondary references identified in Exhibit G3 renders obvious at least Asserted Claims 1-6, 10-17 and 21-22.

The obviousness combinations are provided in the alternative to Defendants’ anticipation contentions and are not to be construed to suggest that any reference included in the combinations is not itself anticipatory.

3. Motivation to Combine Prior Art References

As laid out above in Section III.B.3, to the extent a finder of fact finds that a primary prior art reference does not disclose one or more limitations of an asserted claim, the asserted claim is nevertheless obvious because the alleged missing limitations contain nothing beyond ordinary improvements. In other words, the asserted claim combines known elements to achieve predictable results or chooses between clear alternatives known to those of skill in the art, particularly in view of the state of the art as reflected in the relevant prior art.

The ’057 Patent discloses electronic eyewear that includes multiple electronic modules with various components located in a water-resistant compartment in the frame front. But, again, as discussed above in Section III.B.3, electronic eyeglasses were well known in the art. *See, e.g.*, Hoffman ’378 at Abstract (“A sound-emitting face apparel includes electronic storage, selection and retrieval of sound signals.”); Lipton ’428 at 2:9–11 (“The present invention is an improvement in wireless active eyewear of the type used for viewing field-sequential stereoscopic images.”); Durner ’448 at [0005] (“A generic type of electronic spectacles, especially night-vision spectacles, is also known from DE 197 24 140 C2.”); Taba ’722 at 1:14–2:25 (listing various electronic eyewear configurations in the prior art). A POSITA would have

understood that various configurations of electronic components (*e.g.,* circuit board, sensors, switches, speakers, etc.) could be incorporated into eyewear. *See, e.g.*, Hoffman '378 at 2:56–61 ("The sound storage, selection and emitting feature includes one or more integrated circuit (IC) semiconductor chips 32 . . . selection buttons 34 and 36 mounted on panel 38 and speaker holes"); Taba '722 at 6:49–59 ("Fundamentally, when the swimmer is immobile on the podium he initializes the circuitry with the button 70 to start the electronics. At this time, all of the memory and sensors are at zero. The internal clock sends sampling accelerometer 108 pulse information to a signal processor which transforms that information into a positive value. This value is then stored in memory and the pulse value is displayed in the goggles on the display 66 in particular, that portion of pulse rate timer display 96."). And further would have understood that the electronics could be integrated in various locations, including in a compartment at the front of the frame. *See, e.g.*, Hoffman '378 at Figs. 1 and 3; Lipton '428 at Fig. 1.

A POSITA would have further known how to design electronic eyewear such that the electronic module is water-resistant. *See, e.g.*, Mysliwiec '045 at 4:25-27. ("A water-tight seal is provided between opening 30 and module 35 by O-rings 36. The module 35 is adjustable by pushing or pulling the unit in or out of the opening to focus the image.").

Lenovo incorporates by reference any statements and reasons set forth by the Examiner(s) during prosecution of the application leading to the '057 Patent and related patent applications as to why it would have been obvious to modify or combine references to achieve the limitations of the '057 Patent Asserted Claims.

4. Invalidity Under 35 U.S.C. § 112

As addressed in Section III.B.4, above, Lenovo hereby identifies grounds of invalidity based on (1) lack of written description under 35 U.S.C. § 112, first paragraph; (2) lack of enablement under 35 U.S.C. § 112, first paragraph; and (3) indefiniteness under 35 U.S.C. § 112, second paragraph. These contentions shall not

be construed as an admission that any claim construction advanced by Lenovo in this case is in any way inconsistent, flawed or erroneous. Nor should these contentions prevent Lenovo from advancing claim construction and/or non-infringement positions in lieu of, or in addition to, invalidity positions. Further, these contentions shall not be construed as an admission of or acquiescence to Plaintiffs' purported construction of the claim language or of other positions advanced by Plaintiff during the course of this litigation. Lenovo's Invalidity Contentions under 35 U.S.C. § 112 may depend, in part, on the Court's claim construction, as well as Plaintiffs' asserted claim scope. Consequently, Lenovo only identify the issues under 35 U.S.C. § 112 of which it is presently aware.

Lenovo contends that the following claim limitations render the claims invalid for lack of written description, lack of enablement, and/or indefiniteness:

— "back component piece, distinct and separate from the front component piece" (Claims 1, 14);

— "frame front cavity" (Claims 1, 13-14); and

— "electronic module" (Claims 1-6, 10-11, 14-17, 21-22).

Discovery is still ongoing and Lenovo reserves the right to update these invalidity contentions accordingly.

5. Prosecution History Estoppel

"[W]hen the patentee unequivocally and unambiguously disavows a certain meaning to obtain a patent, the doctrine of prosecution history disclaimer narrows the meaning of the claim consistent with the scope of the claim surrendered." *Biogen Idec, Inc. v. GlaxoSmithKline LLC*, 713 F.3d 1090, 1095 (Fed. Cir. 2013). Prosecution disclaimer applies to a patentee's arguments made in IPR proceedings. *Aylus Networks, Inc. v. Apple Inc*., 856 F.3d 1353, 1364 (Fed. Cir. 2017).

During the prosecution of the '057 Patent, the applicant (1) emphasized that claimed switch was specifically a manual switch (distinct from an automatic switch), (2) argued point-sensors (like range finders and eye trackers) are not image sensors,

(3) specifically defined an image sensor as "a sensor that detects and conveys information used to make an image" using an array of pixels, and (4) emphasized that the front and back components are distinct from one another. 6/8/2022 Applicant Arguments and Remarks Made in an Amendment at 14-18.

Discovery is still ongoing and Lenovo reserves the right to update these invalidity contentions accordingly.

IV. SECONDARY CONSIDERATIONS OF NON-OBVIOUSNESS

Secondary considerations of non-obviousness, also referred to as objective indicia of nonobviousness, "can include copying, long felt but unsolved need, failure of others, commercial success, unexpected results created by the claimed invention, unexpected properties of the claimed invention, licenses showing industry respect for the invention, awards or other industry praise for the invention, and skepticism of skilled artisans before the invention." *Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc*., 711 F.3d 1348, 1368 (Fed. Cir. 2013). "A nexus between the merits of the claimed invention and evidence of secondary considerations is required in order for the evidence to be given substantial weight in an obviousness decision." *Ruiz v. A.B. Chance Co*., 234 F.3d 654, 668 (Fed. Cir. 2000) (citation omitted). Moreover, even if a nexus exists, secondary considerations of non-obviousness "simply cannot overcome [a] strong prima facie showing of obviousness." *Sundance, Inc. v. DeMonte Fabricating Ltd*., 550 F.3d 1356, 1368 (Fed. Cir. 2008) (citations omitted).

Plaintiffs have not established the existence of any objective indicia of non-obviousness or secondary considerations. Lenovo reserves the right to supplement these contentions to respond to any such evidence should Plaintiffs raise them in the future. While discovery in this case is ongoing, and Lenovo's investigation continues (which will include expert discovery), to the extent Plaintiffs contend that one or more asserted claims is not obvious based on secondary considerations recognized by relevant authority, Lenovo contends that such allegations are without merit.

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V. DOCUMENT PRODUCTION ACCOMPANYING CONTENTIONS

Lenovo has provided and/or identified public information sufficient to show the operation of the products or devices accused by Plaintiff of infringement. In addition, Lenovo is concurrent producing documentation sufficient to show the operation of the products or devices accused by Plaintiff of infringement. Lenovo is also producing, where possible, copies of prior art identified in these invalidity contentions. These documents are labeled with production numbers LEN011-PROD001 and LEN011-PROD002. In addition, any confidential documents relating to the accused products will be produced, subject to the Protective Order that will be entered in this case.

VI. OTHER RESERVATIONS AND EXPLANATIONS

Nothing in these contentions constitutes an admission concerning the priority date, conception date, or date of reduction to practice of the Asserted Claims. If the Court finds that Plaintiffs are entitled to a different priority date from the earlier possible priority date, or if Plaintiffs clarify their position regarding the priority date, Defendants reserve the right to serve additional or modified invalidity contentions.

For prior art patents and prior art publications identified in these Invalidity Contentions, Defendants reserve the right to rely on the public use, offer for sale, sale, and/or actual products embodying the methods and systems described therein uncovered during discovery. Defendants also reserve the right to rely on any related patents and patent applications, foreign patent counterparts and foreign patent applications of U.S. patents identified in these Invalidity Contentions, and U.S. counterparts of foreign patents and foreign patent applications identified in these Invalidity Contentions.

The Court has not yet construed any of the terms in the Asserted Patents in this case. Accordingly, Defendants' Invalidity Contentions are based in part on Defendants' present understanding of the Asserted Claims and Plaintiffs' apparent interpretation of these claims as reflected in the Infringement Contentions. By

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including prior art that anticipates or renders obvious claims based on Plaintiffs' apparent claim interpretations, Defendants are not agreeing that Plaintiffs' claim interpretations are correct.

The accompanying invalidity claim charts provide examples of prior art that discloses, either expressly or inherently, every limitation of certain claims and/or teachings, suggestions and motivations through which a POSA at the time of the alleged invention would have considered the limitations obvious in view of the state of the art at the time, the differences between the claimed invention and the state of the art, and the foreseeability from a technical perspective and/or marketing and/or natural and expected evolution of the art. Where Defendants cite to a particular figure in a reference, the citation should be understood to encompass the caption and description of the figure and any text relating to the figure. Conversely, where Defendants cite to particular text referring to a figure, the citation should be understood to include the figure as well. As discovery progresses and the scope and focus of the liability issues become clearer, Defendants may rely on uncited portions of the prior art.

Defendants reserve the right to revise its ultimate contentions concerning the invalidity of asserted the Asserted Claims, which may change depending upon discovery taken in the case, the Court's construction of the Asserted Claims, any findings as to the priority date of the Asserted Claims, and/or positions that Plaintiffs or expert witness(es) may take concerning claim construction, infringement, and/or invalidity issues.

Defendants may rely on Plaintiffs' or any inventor's admissions concerning the scope of prior art relevant to the Asserted Patents; the patent prosecution histories for the Asserted Patents; any deposition testimony of the named inventors on the Asserted Patents; and the papers filed and any evidence submitted by Plaintiffs in connection with this litigation. For example, Defendants reserve the right to assert that the Asserted Claims are invalid under 35 U.S.C. § 102(f) in the event that

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Defendants obtain evidence that the named inventors did not invent (either alone or in conjunction with others) the subject matter claimed in the Asserted Patents. Should Defendants obtain such evidence, Defendants will provide the name(s) of the person(s) from whom and the circumstances under which the claimed invention or any part of it was derived.

Prior art not included in this disclosure, whether known or not known to Defendants, may become relevant. In particular, Defendants are currently unaware of the extent, if any, to which Plaintiffs will contend that limitations of the Asserted Patents are not disclosed in the prior art identified by Defendants. To the extent such an issue arises, Defendants reserve the right to identify other references that would render obvious the allegedly missing limitation(s) of the disclosed device or method. Further, because discovery is ongoing and because Defendants have not yet completed its search for or analysis of relevant prior art, Defendants reserve the right to revise, amend, update, and/or supplement the information provided herein, including identifying, charting, and relying on additional references, should Defendants' further search and analysis yield additional information or references, consistent with the Federal Rules of Civil Procedure.

Additionally, because third-party discovery is not yet complete, Defendants reserve the right to present additional items of prior art under 35 U.S.C. §§ 102(a), (b), (e), and/or (g), and/or § 103, located during the course of such 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. For example, Defendants expect to issue subpoenas to, and receive information from, third parties believed to have knowledge, documentation, and/or corroborating evidence concerning some of the prior art listed below and/or additional prior art. These third parties include, without limitation, the authors, inventors, vendors, or assignees of the references listed in these disclosures.

Defendants further reserve the right to modify or add contentions in the event

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that Plaintiffs provide amended infringement contentions and to the extent the Court orders or allows Plaintiffs to amend its infringement contentions.

In light of Plaintiffs' Infringement Contentions and accompanying claim charts, Defendants list in these Invalidity Contentions the prior art now known to it that it contend anticipates or renders obvious asserted the Asserted Claims. Although Defendants have identified at least one disclosure of a limitation for each prior art reference, each and every disclosure of the same limitation in the same reference is not necessarily identified. In an effort to focus the issues, Defendants' citations are only representative portions of an identified reference, even where a reference may contain additional support for a particular claim limitation. POSAs generally read an item of prior art as a whole and in the context of other publications and literature. Thus, to understand and interpret any specific statement or disclosure within a prior art reference, such persons would rely on other information within the reference, along with other publications and their general scientific knowledge. Defendants may rely on uncited portions of the prior art references and on other publications and expert testimony to provide context, and as aids to understanding and interpreting the portions that are cited.

Defendants incorporate in these Invalidity Contentions, in full, all prior art references cited in the Asserted Patents and their prosecution histories and any applicable post-grant proceedings, including inter partes reviews.

Subject to Defendants' reservation of rights, Defendants identify each item of prior art that anticipates and/or renders obvious the Asserted Claims. The patents/applications, publications, and systems identified are also relevant to show the state of the art and reasons and motivations for making improvements, additions, and combinations.

Defendants also contend that the Asserted Patents are invalid in view of public knowledge and uses and/or offers for sale or sales of products and services that are under 35 U.S.C. § 102(a) and/or 35 U.S.C. § 102(b) and/or prior inventions made in

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this country by other inventors who had not abandoned, suppressed, or concealed them under 35 U.S.C. § 102(g).

Defendants also reserve the right to rely on any system, public knowledge or use embodying or otherwise incorporating any of the prior art disclosed herein alone or in combination. Defendants further reserve the right to rely on any other documents or references describing any such system, knowledge or use.

Dated: July 19, 2024

Respectfully submitted,

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Appendix A – Exemplary Obviousness Combinations

’483 Exemplary Combinations (Exs. A1-A5)	Claims
Anticipated by Howell ’159 or rendered obvious by Howell ’159 in combination with the knowledge of POSITA	Claims 1, 2, 3, 6, 8, 10, 18, 19, 20, 24, 26, 28, 31, and 37
Anticipated by Howell ’596 or rendered obvious by Howell ’596 in combination with the knowledge of POSITA	Claims 1, 2, 6, 8, 10, 18, 19, 20, 24, 26, 28, 31, and 37;
Anticipated by Chen ’162 or rendered obvious by Chen ’162 in combination with the knowledge of POSITA	Claims 1, 2, 6, 10, 14, 17, 19, 20, 24, 26, 28, 31, 33, and 37
Anticipated by Chen ’668 or rendered obvious by Chen ’668 in combination with the knowledge of POSITA	Claims 1, 2, 6, 10, 14, 17, 19, 20, 24, 26, 28, 31, 33, 37.
Any one or more of the Primary References above in view of Spitzer ’546	Claims 3, 21
Any one or more of the Primary References above in view of Lewis ‘049	Claims 17, 36
Any one or more of the Primary References above in view of Blum ’741 or Blum ‘298	Claim 4
Any one or more of the Primary References above in view of Ogren ‘344	Claims 11, 29
Any one or more of the Primary References above in view of Mullin ‘164	Claims 13-14, 32-33

’174 Exemplary Combinations (Exs. B1-B6)	Claims
Anticipated by Waters ’989 or rendered obvious by Waters ’989 in combination with the knowledge of POSITA	1-2, 5-6, 9, and 13-14
Anticipated by Arnell ’682 or rendered obvious by Arnell ’682 in combination with the knowledge of POSITA	1-3, 9, and 13-14
Anticipated by Brunton ’598 or rendered obvious by Brunton ’598 in combination with the knowledge of POSITA	1-3, 5, and 13-14
Anticipated by Vogt ’743 or rendered obvious by Vogt ’743 in combination with the knowledge of POSITA	Claims 1-3, 5-6, 9, and 13-14
Anticipated by Kokonaski ’999 or rendered obvious by Kokonaski ’999 in combination with the knowledge of POSITA	1-3, 5-6, 9, and 13-14
Any one or more of the Primary References above in view of Howell ‘442	Claims 3, 9
Any one or more of the Primary References above in view of Martin ‘483	Claims 5
Any one or more of the Primary References above in view of Eichelberger ‘052	Claim 6
Any one or more of the Primary References above in view of Delorenzo ‘701	Claim 9

’541 Exemplary Combinations (Exs. C1-C6)	Claims
Anticipated by Moscato ’296 or rendered obvious by Moscato ’296 in combination with the knowledge of POSITA	Claims 1-3, 16, 17
Anticipated by Uchiumi ’240 or rendered obvious by Uchiumi ’240 in combination with the knowledge of POSITA	Claims 1-6, 16, 17
Anticipated by Howell ’596 or rendered obvious by Howell ’596 in combination with the knowledge of POSITA	Claims 1-6, 16, 17
Anticipated by Kokonaski ’166 or rendered obvious by Kokonaski ’166 in combination with the knowledge of POSITA	Claims 1-6, 16, 17
Anticipated by Kokonaski ’999 or rendered obvious by Kokonaski ’999 in combination with the knowledge of POSITA	Claims 1-6, 16, 17
Any one or more of the Primary References above in view of Blum ’918	Claims 1, 16, 17
Any one or more of the Primary References above in view of Hattori ’913	Claim 17
Any one or more of the Primary References above in view of Howell ’044	Claims 1, 17
Any one or more of the Primary References above in view of Howell ’158	Claim 1
Any one or more of the Primary References above in view of Howell ’159	Claims 1, 2, 4, 6, 17
Any one or more of the Primary References	Claims 1, 4, 5

above in view of Kokonaski ’277	
Any one or more of the Primary References above in view of Park ’978	Claims 1, 16, 17
Any one or more of the Primary References above in view of Weirich ’210	Claim 1
Any one or more of the Primary References above in view of Yamaguchi ’222	Claim 4
Any one or more of the Primary References above in view of BDM-230K	Claims 3

’896 Exemplary Combinations (Exs. D1-D4)	Claims
Anticipated by Jannard ’572 or rendered obvious by Jannard ’572 in combination with the knowledge of POSITA	Claims 1-3, 5-10, 13-16, 19-29
Anticipated by Kruegle ’715 or rendered obvious by Kruegle ’715 in combination with the knowledge of POSITA	Claims 1-3, 5-10, 13-16, 19-21, 23-29
Anticipated by Fan ’473 or rendered obvious by Fan ’473 in combination with the knowledge of POSITA	Claims 1-3, 5-10, 13-16, 19-27
Any one or more of the Primary References above in view of Burzywoda ’072	Claims 2, 7, 13, 22, 28
Any one or more of the Primary References above in view of Hong ’236	Claims 2, 4, 7, 13, 17, 20-22, 26, 28, 29
Any one or more of the Primary References above in view of Inasaka ’845	Claims 2, 4, 7, 13, 17, 20-22, 26, 28, 29
Any one or more of the Primary References above in view of Iwasaki ’972	Claim 16
Any one or more of the Primary References above in view of Ronzani ’486	Claims 3, 19

‘960 Exemplary Combinations (Exs. E1-E4)	Claims
Anticipated by Howell ’734 or rendered obvious by Howell ’734 in combination with the knowledge of POSITA	Claims 1-3, 6-7, 10, 11, 14-15, and 20-21
Anticipated by Miller ’057 or rendered obvious by Miller ’057 in combination with the knowledge of POSITA	Claims 1-3, 6-8, 10-11, 14-15, and 20
Anticipated by Jannard ’740 or rendered obvious by Jannard ’740 in combination with the knowledge of POSITA	Claims 1-3, 6-8, 10-12, 14-15, and 20-21
Any one or more of the Primary References above in view of Rosenblatt ‘846	Claims 2-3, 11-12, 14-15, 20
Any one or more of the Primary References above in view of Osterhout ‘082	Claim 10

’411 Exemplary Combinations (Exs. F1-F5)	Claims
Anticipated by Spitzer ’776 or rendered obvious by Spitzer ’776 in combination with the knowledge of POSITA	Claims 1-4, 7-15, 17, 20-23
Anticipated by Howell ’274 or rendered obvious by Howell ’274 in combination with the knowledge of POSITA	Claims 1-4, 7-17, 21-23
Anticipated by Ishibashi ’484 or rendered obvious by Ishibashi ’484 in combination with the knowledge of POSITA	Claims 1-4, 7, 8, 11-17, 20-23
Anticipated by Okoshi ’750 or rendered obvious by Okoshi ’750 in combination with the knowledge of POSITA	Claims 1-4, 7, 8, 11-15, 17, 20-23
Any one or more of the Primary References above in view of Blum ’298	Claim 1, 5, 8, 17-20, 22, 24
Any one or more of the Primary References above in view of Okada ’417	Claims 1, 17, 18, 22
Any one or more of the Primary References above in view of Kowel ’616	Claims 1, 22
Any one or more of the Primary References above in view of Miller ’057	Claims 1, 3-7, 9, 12-15, 21-23
Any one or more of the Primary References above in view of Holakovsky ’716	Claims 12-15, 19, 20, 22
Any one or more of the Primary References above in view of Grosmann ’101	Claims 1, 20, 23
Any one or more of the Primary References above in view of Berreman ’330	Claims 1, 18, 22

Any one or more of the Primary References above in view of Drissi ’633	Claims 1, 23
Any one or more of the Primary References above in view of Kruegle ’715	Claim 11
Any one or more of the Primary References above in view of MicroOptical Viewers (BV-3)	Claim 1, 22

‘057 Exemplary Combinations (Exs. G1-G3)	Claims
Anticipated by Hoffman ’378 or rendered obvious by Hoffman ’378 in combination with the knowledge of POSITA	Claims 1-4, 6, and 12-14
Anticipated by Lipton ’428 or rendered obvious by Lipton ’428 in combination with the knowledge of POSITA	Claims 1-6 and 12-14
Any one or more of the Primary References above in view of Taba ‘722	Claims 3-4, 10, 21
Any one or more of the Primary References above in view of Durner ‘448	Claim 3-5, 16-17
Any one or more of the Primary References above in view of Mysliwiec ’045	Claims 11, 22

CERTIFICATE OF SERVICE

The undersigned certifies that on July 19, 2024, all counsel of record are being served with a copy of this document by email.

/s/ Brian Treggs
Brian A. Treggs
Case Manager
O'Melveny