

**UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

SLYDE ANALYTICS LLC,

Plaintiff,

v.

SAMSUNG ELECTRONICS CO., LTD.
and SAMSUNG ELECTRONICS
AMERICA, INC.,

Defendants.

Case No. 2:23-cv-00083-RWS-RSP

JURY TRIAL DEMANDED

**DEFENDANTS' PATENT LOCAL RULE 3-3 DISCLOSURE
OF INVALIDITY CONTENTIONS AND SUBJECT ELIGIBILITY CONTENTIONS**

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I. Introduction

Defendants Samsung Electronics Co., Ltd. (“SEC”) and Samsung Electronics America, Inc. (“SEA”) (collectively, “Defendants” or “Samsung”) make the following Patent Local Rule 3-3 Disclosure of Invalidity Contentions and Subject Eligibility Contentions (“Invalidity Contentions”) to Plaintiff Slyde Analytics LLC (“Plaintiff” or “Slyde”) for Case No. 2-23-cv-00083-RWS-RSP.

Plaintiff has asserted U.S. Patent Nos. 9,804,678 (“the ’678 Patent”); 10,198,085 (“the ’085 Patent”); 8,588,033 (“the ’033 Patent”); and 9,651,922 (“the ’922 Patent”) (collectively, “the Asserted Patents” or “the Patents-in-Suit”) against Defendants. Complaint (E.D. Tex. 2:23-cv-00083-RWS-RSP, Dkt. 1). In Plaintiff’s Disclosures of Asserted Claims and Infringement Contentions (“Infringement Contentions”), served on August 22, 2023, Plaintiff has asserted the following claims against Defendants:

- Claims 1 through 15 of the ’678 Patent;
- Claims 1 through 10 of the ’085 Patent;
- Claims 1 through 19 of the ’033 Patent; and
- Claims 1 through 24 of the ’922 Patent.

Defendants’ Invalidity Contentions address only those claims asserted in Plaintiff’s Infringement Contentions. Defendants submit these Invalidity Contentions without waiving any argument about the sufficiency or substance of Plaintiff’s Infringement Contentions.

Based on its investigation to date, Defendants hereby: (a) identify each item of prior art that anticipates each asserted claim or renders it obvious; (b) specify whether each such item of prior art anticipates each asserted claim and/or renders it obvious and, if a combination of items of prior art makes a claim obvious, identify each such combination and the motivation to combine

such items; (c) submit a chart identifying where specifically in each item of prior art each element of each asserted claim is found, including for each element that is governed by 35 U.S.C. § 112 ¶ 6, the identity of the structure(s), act(s), or material(s) in each item of prior art that performs the claimed function; and (d) identify any grounds of invalidity of the asserted claims based on indefiniteness under 35 U.S.C. § 112 ¶ 2 or enablement or written description under 35 U.S.C. § 112 ¶ 1. Defendants also provide their contentions pursuant to the Court's Standing Order Regarding Subject Matter Eligibility Contentions.

On October 9, 2023, Defendants filed IPR2024-00002 before the Patent Trial and Appeal Board at the U.S.P.T.O. challenging the validity of every claim of the '922 Patent. Defendants incorporate herein by reference IPR2024-00002 in its entirety.

On October 16, 2023, Defendants filed IPR2024-00006 before the Patent Trial and Appeal Board at the U.S.P.T.O. challenging the validity of every claim of the '033 Patent. Defendants incorporate herein by reference IPR2024-00006 in its entirety.

On November 2, 2023, Defendants filed IPR2024-00040 before the Patent Trial and Appeal Board at the U.S.P.T.O. challenging the validity of every claim of the '678 Patent. Defendants incorporate herein by reference IPR2024-00040 in its entirety.

On November 2, 2023, Defendants filed IPR2024-00041 before the Patent Trial and Appeal Board at the U.S.P.T.O. challenging the validity of every claim of the '085 Patent. Defendants incorporate herein by reference IPR2024-00041 in its entirety.

In addition, pursuant to Patent Local Rule 3-4, and based on its investigation to date, Defendants have produced or are producing documents concurrently with these Invalidity Contentions.

II. Reservations

Defendants reserve the right to amend these Invalidity Contentions. The information and documents that Defendants produce are based on information available to date and are subject to further revision.

The information and documents that Defendants produce are based on Defendants' present understanding of Plaintiff's infringement theories as advanced by Plaintiff in its Infringement Contentions. Plaintiff's Infringement Contentions are deficient in numerous respects. For example, Plaintiff has failed to identify specifically where each element of each asserted claim is found within each accused instrumentality. If Plaintiff attempts or is permitted to cure such deficiencies, amends its contentions, or provides additional information regarding its infringement theories, doing so may lead to further grounds for invalidity, and thus Defendants specifically reserve the right to amend, or supplement its Invalidity Contentions.

Further, because discovery (including third party discovery) is at an early stage, Defendants reserve the right to amend or supplement these Invalidity Contentions. For example, Plaintiff has not produced prior art known to it, including information regarding any known prior art products. As discovery proceeds, Defendants may serve subpoenas on third parties believed to have knowledge, documentation, and/or corroborating evidence relating to invalidity and/or prior art, including, for example, the prior assignee of the Asserted Patents. It is therefore likely that Defendants will discover additional prior art or additional information relating to known prior art, and Defendants reserve the right to supplement these contentions after becoming aware of additional prior art or information. Defendants further reserve the right to introduce and use such supplemental materials at trial.

Defendants' claim charts in Exhibits A-D cite particular teachings and disclosures of the prior art as applied to limitations of the asserted claims. However, persons having ordinary skill

in the art may view an item of prior art generally in the context of other publications, literature, products, and understanding. Accordingly, the cited portions are only exemplary, and Defendants reserve the right to rely on uncited portions of the prior art references and on other publications and expert testimony as aids in understanding and interpreting the cited portions, as providing context thereto, and as additional evidence that a claim limitation is known or disclosed. Defendants reserve the right to establish what was known to a person having ordinary skill in the art through other publications, products, and/or testimony. Defendants also reserve the right to rely on uncited portions of the prior art references, other publications, and testimony to establish that a person of ordinary skill in the art (“POSITA”) would have been motivated to combine certain of the cited references so as to render the claims obvious. Citations to figures are inclusive of all discussion of those figures.

Defendants further reserve the right to argue that the asserted claims are invalid under 35 U.S.C. § 102(f) if discovery reveals that the named inventor of the Asserted Patents did not invent the subject matter recited in the asserted claims. If Defendants assert invalidity under Section 102(f), Defendants will provide the name of the person(s) from whom, and the circumstances under which, the invention or any part of it was derived.

Defendants further intend to rely on inventor admissions concerning the scope of the asserted claims or of the prior art relevant to the asserted claims found in, *inter alia*, the patent prosecution history and/or reexamination history for the Asserted Patents and related patents and/or patent applications; any deposition testimony of a named inventor of the Asserted Patents; and the papers filed and any evidence submitted by Plaintiff in conjunction with this litigation. Defendants reserve the right to contend that the asserted claims are invalid for failure to name

the correct inventor(s), and/or to contend that Plaintiff lacks standing to bring this litigation with respect to such patents.

Furthermore, nothing stated herein shall be treated as an admission or suggestion that Defendants agree with Plaintiff regarding the scope of any asserted claim or the claim constructions in its Infringement Contentions. To the extent that Defendants' Invalidity Contentions reflect claim constructions consistent with or suggested by Plaintiff's Infringement Contentions, no inference is intended nor should any be drawn that Defendants agree with Plaintiff's claim constructions. By applying any of Plaintiff's apparent claim constructions and interpretations, Defendants do not concede in any way that those constructions and interpretations are correct, but rather assert the fundamental principle that whatever infringes a claim if later in time anticipates if earlier in time. Defendants expressly reserve the right to propose alternative constructions to those that have been or may be advocated by Plaintiff.

Nor shall anything in these Invalidity Contentions be treated as an admission that Defendants' accused products meet any limitation of any asserted claim. Defendants deny that it infringes any claim of the Asserted Patents. To the extent that any prior art contains a claim element that is the same as or similar to an accused product, inclusion of that prior art in Defendants' Invalidity Contentions shall not be deemed a waiver by Defendants of any claim construction or non-infringement position. Defendants expressly reserve the right to contest any claim construction asserted by Plaintiff and expressly reserve all non-infringement arguments.

In its Infringement Contentions, Plaintiff contends that the asserted claims of the Asserted Patents are entitled to the following priority dates:

- The '678 Patent: October 18, 2011
- The '085 Patent: October 18, 2011

- The '033 Patent: March 30, 2010
- The '922 Patent: July 3, 2009

Defendants reserve the right to challenge Plaintiff's alleged priority dates or any alleged dates of conception or reduction to practice. Based on information gathered to date, Defendants specifically contend that the '085 Patent is entitled to a priority date no earlier than 10/12/12 (the filing of U.S. Patent Application No. 14/352,727). The '085 Patent is not entitled to the priority date of Swiss Patent Application No. 1689/11 (10/18/2011) ("911 Application"). The '085 Patent's claims are all directed to detecting a "wristturn." But the '911 Application contains no such disclosure and never uses the term. The '085 Patent discusses wristturn detection exclusively with respect to Figures 7a-7c, which it refers to as "another method for switching the wristwatch 1 from a first power mode to a second power mode." *See, e.g.*, '085 Patent at 3:41-43, 9:29-36. However, the '911 Application does not include Figures 7a-7c or any description of this second method. Thus, the '085 Patent is not entitled to this earlier priority date. Defendants further reserve the right to seek discovery regarding conception and reduction to practice, as appropriate, and to demonstrate earlier invention by other parties under 35 U.S.C. § 102(g), public use and/or the on-sale bar under 35 U.S.C. § 102(b), and/or applicants' failure to comply with 35 U.S.C. § 112. In addition, Defendants rely on Plaintiff's alleged priority dates in forming these Invalidity Contentions, and to the extent Plaintiff later argues, or it is determined that, any different priority date applies, Defendants reserve the right to amend these contentions accordingly.

III. U.S. Patent No. 8,588,033 (“the ’033 Patent”)¹

A. Identification of Prior Art

In addition to the prior art cited on the face of the ’033 Patent and related patents, the admitted prior art in the specifications of the ’033 Patent and related patents, the prior art cited in any file histories, reexaminations, inter partes review proceedings, reissue proceedings, or other examination or post-grant proceedings of the ’033 Patent and related patents, and the prior art cited in any invalidity contentions or expert reports submitted in any action or proceedings involving the ’033 Patent or related patents, Defendants identify the following prior art that anticipates each asserted claim or renders it obvious.

1. Prior Art Patents

The following patents and patent publications are prior art to the asserted claims under at least pre-AIA 35 U.S.C. §§ 102(a), (b), (e), and/or (g) and/or pre-AIA 35 U.S.C. § 103. The identification of any patent or patent publication shall be deemed to include any counterpart patent or application filed, published, or issued anywhere in the world.

Patent or Publication Number	Country of Origin	Filing Date	Date of Issue or Publication
US20090196124A1 (“Mooring”)	United States of America	01/31/2008	08/06/2009
US8344998B2 (“Fitzgerald”)	United States of America	01/20/2009	01/01/2013
JP59-120497 (“Nakakuki”)	Japan	02/02/1983	08/14/1984
JP2005/242456 (“Satoshi”)	Japan	02/24/2004	09/08/2005
JPH01-165492U	Japan	10/5/1988	11/20/1989
JPS63-010481U	Japan	7/7/1986	1/23/1988
JP2006284365A (“Kita”)	Japan	3/31/2005	10/19/2006
KR2001-0010547	Korea	7/21/1999	2/15/2001

¹ Defendants further incorporate its IPR Petition IPR2024-00006 and accompanying exhibits.

Patent or Publication Number	Country of Origin	Filing Date	Date of Issue or Publication
US20080186808A1 ("Lee")	United States of America	02/06/2008	08/07/2008
US20080151700A1 ("Inoue")	United States of America	12/19/2007	06/26/2008
US20050122844A1 ("Ruchonnet")	United States of America	01/06/2005	06/09/2005
US20080168368A1 ("Louch")	United States of America	01/07/2007	07/10/2008
US7697376 ("Ruchonnet")	United States of America	07/09/2003	04/13/2010
US7859947 ("Kawai")	United States of America	10/30/2001	12/28/2010
US20080062207A1 ("Park")	United States of America	09/11/2007	03/13/2008
US8296684B2 ("Duarte")	United States of America	05/23/2008	10/23/2012
US8677285B2 ("Tsern")	United States of America	01/26/2009	03/18/2014
US2005/0276164 A1 ("Amron")	United States of America	06/12/2004	12/15/2005
US2005/0278757 ("Grossman")	United States of America	5/28/2004	12/15/2005
US2002/0099452 ("Kawai")	United States of America	10/30/2001	7/25/2002
US6714486 ("Biggs")	United States of America	6/29/2001	3/30/2004
US6449219 ("Hepp")	United States of America	7/4/1998	9/10/2002
EP2120110A2 ("Gruber")	Europe	3/31/2009	11/18/2009
US7751285 ("Cain")	United States of America	3/28/2006	7/6/2010
US2005/0052953 ("Kent")	United States of America	9/5/2003	3/10/2005
US5455808 ("Grupp")	United States of America	11/10/1994	10/3/1995
US2011/0026368 ("Relyea")	United States of America	4/22/2008	2/3/2011

Patent or Publication Number	Country of Origin	Filing Date	Date of Issue or Publication
US2006/0092769 ("Demas")	United States of America	10/30/2004	5/4/2006
US5931764 ("Freeman")	United States of America	6/24/1998	8/3/1999
US7079452 ("Harrison")	United States of America	3/14/2003	7/18/2006
US 2008/0048980 ("Love")	United States of America	2/20/2007	2/28/2008
US2010/0138766 ("Nakajima")	United States of America	12/3/2008	6/3/2010
US7298364 ("Matsuda")	United States of America	2/24/2004	11/20/2007
US2008/0198701 ("Lete")	United States of America	6/13/2006	8/21/2008
US2008/0074955 ("Golay")	United States of America	9/25/2007	3/27/2008
US2005/0124306 ("Cheng")	United States of America	12/5/2003	6/9/2005
US2007/021395 ("Ishida")	United States of America	12/11/2006	9/13/2007
US2007/0263491 ("Kim")	United States of America	5/10/2007	11/15/2007
WO2009/031789 ("Choi")	WIPO	9/1/2008	3/12/2009

2. Prior Art Non-Patent Publications

The following non-patent publications are prior art to the asserted claims under at least pre-AIA 35 U.S.C. §§ 102(a), (b), (e), and/or (g) and/or pre-AIA 35 U.S.C. § 103.

Title	Author/Publisher	Date of Publication
Physical-Based Simulation of Mechanical Watches and Clocks ("Tam")	L.C. Tam, Tom Kong, and R. Du,	2007

Title	Author/Publisher	Date of Publication
Geometry-Based Simulation of Mechanical Movements and Virtual Library, Chinese University of Hong Kong Master's Thesis ("Tam Thesis")	Lam Chi Tam	Aug. 2008
Virtual Library of Mechanical Watch Movements ("Tam Virtual Library")	L.C. Tam, Y. Fu. and R. Du	2007
Nikon Coolpix S60, CNET	Nikon	Dec. 19, 2008
Neonode N2 User Manual	Neonode	2007
Collector's Encyclopedia of Pendant and Pocket Watches 1500-1950 ("Bell")	C. Jeanenne Bell (Collector Books)	2004
Wristwatch Annual 2004: The Catalogue of Producers, Models, and Specifications ("Braun")	Peter Braun (Abbeville Press Publishers)	2004
Wristwatches: A Connoisseur's Guide ("Edwards")	Frank Edwards (Firefly Books)	1997
Pocketnow, LG GD910 Hardware and Software Review Pocketnow, YouTube (June 21, 2010), https://www.youtube.com/watch?v=_FAwzkc0gKo , ("Hardware and Software Review")	YouTube	06/21/2010
Stuff, LG GD910 Watchphone Hands On, YouTube (Aug. 27, 2009), https://www.youtube.com/watch?v=mGGRIQZvH34 , ("Watchphone Hands On")	YouTube	08/27/2009

Title	Author/Publisher	Date of Publication
IGN, CES 2009: The LG Watch Phone, YouTube (Jan. 9, 2009), IGN, CES 2009: The LG Watch Phone, YouTube (Jan. 9, 2009), https://www.youtube.com/watch?v=vB4zT0I1pkM , (“LG Watch Phone”)	YouTube	01/09/2009
LG GD910, Full Phone Specifications, (“Full Phone Specifications”)	GMSArena	No later than 2009
LG GD910, User Guide, (“User Guide”)	LG	2009
Linux Watch (WatchPad™) 1998-2004, Overview, Linux Watch, https://researcher.watson.ibm.com/researcher/view_group.php?id=6101 , (“Linux Watch, Overview”)	IBM	2004
Organic LED Watch 2000-2001, https://researcher.watson.ibm.com/researcher/view_group_subpage.php?id=6103 , (“OLED Watch”)	IBM	2001
Citizen Watch and IBM Research Collaboration – 2001, Watchpad 1.5, https://researcher.watson.ibm.com/researcher/view_group_subpage.php?id=6104 (“Watchpad 1.5”)	LinuxDevices Staff	10/11/2001
IBM’s Linux Watch: The Challenge of Miniaturization (“IBM’s Linux Watch”)	Chandra Narayanaswami, Noboru Kamijoh, Mandayam Raghunath, Tadanobu Inoue, Thomas Cipolla, Jim Sanford, Eugene Schlig	01/2002

Title	Author/Publisher	Date of Publication
Linux on a Wrist Watch 1998-2001, https://researcher.watson.ibm.com/researcher/view_group_subpage.php?id=6102 , (“Linux on a Wrist Watch”)	IBM	2001
IBM Search Report, What Would You Do with a Hundred MIPS on Your Wrist? (“IBM Search Report MIPS”)	Chandra Narayanaswami, M. T. Raghunath, Noboru Kamijoh, Tadonobu Inoue	01/22/2001
IBM Search Report, A Wristwatch-Computer Based Password-Vault (“IBM Search Report Password-Vault”)	Gabor Blasko, Chandra Narayanaswami, Mandayam Raghunath	03/10/2005
Application design for a smart watch with a high resolution display (“Application Design”)	Chandra Narayanaswami, M. T. Raghunath	08/06/2002
Multi-Purpose Data Displays as Wrist Watch Replacement (“Multi-Purpose Displays”)	Peter Hutterer	07/2004
User Interfaces for Applications on a Wrist Watch (“User Interfaces”)	M. T. Raghunath, Chandra Narayanaswami	2002
Energy trade-offs in the IBM wristwatch computer (“IBM Wristwatch computer”)	N. Kamijoh, T. Inoue, C.M. Olsen, M.T. Raghunath, C. Narayanaswami	08/07/2002
An Interaction System for Watch Computers Using Tactile Guidance and Bidirectional Segmented Strokes (“Tactile Guidance and Segmented Strokes”)	Gábor Blaskó, Steven Feiner	12/13/2004

Title	Author/Publisher	Date of Publication
Direct View Active Matrix VGA OLED-on-Crystalline-Silicon Display (“Active Matrix”)	James L. Sanford, Eugene S. Schlig	03/13/2001
Watch Report, Tissot High-T Video Watch Review, YouTube (Jan. 9, 2007), https://www.youtube.com/watch?v=SwgqV0Timh4 , (“Tissot Video”)	YouTube	01/09/2007
Tissot High T review: Tissot High T, CNET (“Tissot review”)	Patrick Houston	02/15/2005
Hight T User Manual (“User Manual”)	Tissot	No later than 2009
The Tissot T-Touch Expert (“T-Touch Expert”)	James Stacey	09/06/2008
T-Touch Expert User’s Manual (“T-Touch User’s Manual”)	Tissot	No later than 2009
IBM Research Report: A Wristwatch-Computer Based Password-Vault	Gabor Blasko, Chandra Narayanaswami, Mandayam Raghunath	3/10/2005
The Future of Watches	Giovanni Flammia	2003
It’s All on the Wrist	Michael Jay Geier	August, 2005
New Concepts for Future Wristwatch Design	Rachel Eardley, Richard Hull, Jenny Hyams, Michael Lamming, Rachel Murphy, Abigail Sellen	August 4, 2004
Multi-Purpose Data Displays as Wrist Watch Replacement	Peter Hutterer	July, 2004
Unraveling Flexible OLED Displays for Wearable Computing	Chandra Narayanaswami, M. T. Raghunath	6/3/2005
User Interfaces for Applications on a Wrist Watch	M. T. Raghunath and Chandra Narayanaswami	2002

3. Prior Art Systems

The following systems are prior art under at least 35 U.S.C. §§ 102(a), (b) and/or (g):

1. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to LG GD910, as exemplified in the claim chart in Exhibit C3. As part of these Invalidity Contentions, Defendants have produced documents relating to LG GD910. Based on information available to Defendants, Defendants believes that LG GD910 was conceived and/or reduced to practice by engineers at LG Electronics, including those identified in the claim chart and its cited publications, at least before March 30, 2010, without being abandoned, suppressed, or concealed, and it was known or used by others in this country or in public use or on sale on by the dates identified in the claim chart, which are no later than March 30, 2010. *See, e.g.*, LG GD910 watch (made available and shown in SAMS366-0015320-21).
2. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to Linux Watch, as exemplified in the claim chart in Exhibit C4. As part of these Invalidity Contentions, Defendants have produced documents relating to Linux Watch. Based on information available to Defendants, Defendants believes that Linux Watch was conceived and/or reduced to practice by engineers at IBM, including those identified in the claim chart and its cited publications, at least before March 30, 2010, without being abandoned, suppressed, or concealed, and it was known or used by others in this country or in public use or on sale on by the dates identified in the claim chart, which are no later than March 30, 2010.
3. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related Tissot Watch, as exemplified in the claim chart in Exhibit C5. As part of these Invalidity Contentions, Defendants have produced documents relating Tissot Watch. Based on information available to Defendants, Defendants believes Tissot Watch was conceived and/or reduced to practice by engineers at Tissot including those identified in the claim chart and its cited publications, at least before March 30, 2010, without being abandoned, suppressed, or concealed, and it was known or used by others in this country or in public use or on sale on by the dates identified in the claim chart, which are no later than March 30, 2010.

Defendants' investigation into publicly available prior art systems that teach and/or render obvious each element of any asserted claims is ongoing. Fact discovery is at an early stage, and Defendants may require discovery from third parties regarding publicly available prior art systems. Defendants reserve the right to amend its identification of prior art systems as

Defendants become aware of the existence, functionality, and/or characteristics of prior art systems as a result of its investigation and forthcoming discovery. In addition to the prior art products, components, systems, and methods described above, Defendants also reserve the right to rely on the documents and publications identified in the corresponding claim charts as prior art publications.

B. Primary References

Defendants contend that the primary prior art references identified below and described in the charts attached as Exhibits C1 to C5, by themselves, anticipate the asserted claims of the '033 Patent. To the extent that a primary reference is deemed not to anticipate a claim for failing to teach one or more limitations of that claim, Defendants contend that the claim would nonetheless have been obvious to a POSITA at the time of the invention in view of the prior art reference itself, as described in the attached charts. Defendants' prior art charts (attached as Exhibits C1 thru C6 set forth the particular claims that are anticipated under 35 U.S.C. § 102 and/or rendered obvious under 35 U.S.C. § 103 by each item of prior art and identify where specifically in each item of prior art, each element of each asserted claim is found.

Exhibit	Primary References
C1	U.S. Patent Application Publication No. 2009/0196124 ("Mooring")
C2	U.S. Patent No. 8,344,998 ("Fitzgerald")
C3	LG GD910 Product and related Publications, including each of the following individually as a primary reference: • Pocketnow, LG GD910 Hardware and Software Review Pocketnow, YouTube (June 21, 2010), https://www.youtube.com/watch?v=_FAwzkc0gKo, ("Hardware and Software Review") • Stuff, LG GD910 Watchphone Hands On, YouTube (Aug. 27, 2009), https://www.youtube.com/watch?v=mGGRIQZvH34, ("Watchphone Hands On")

Exhibit	Primary References
	• IGN, CES 2009: The LG Watch Phone, YouTube (Jan. 9, 2009), IGN, CES 2009: The LG Watch Phone, YouTube (Jan. 9, 2009), https://www.youtube.com/watch?v=vB4zT0I1pkM, (“LG Watch Phone”) • LG GD910, Full Phone Specifications, (“Full Phone Specifications”) • LG GD910, User Guide, (“User Guide”)
C4	Linux Watch Product and related Publications, including each of the following individually as a primary reference: • Linux Watch (WatchPad™) 1998-2004, Overview, Linux Watch, https://researcher.watson.ibm.com/researcher/view_group.php?id=6101, (“Linux Watch, Overview”) • Organic LED Watch 2000-2001, https://researcher.watson.ibm.com/researcher/view_group_subpage.php?id=6103, (“OLED Watch”) • Citizen Watch and IBM Research Collaboration – 2001, Watchpad 1.5, https://researcher.watson.ibm.com/researcher/view_group_subpage.php?id=6104 (“Watchpad 1.5”) • IBM’s Linux Watch: The Challenge of Miniaturization (“IBM’s Linux Watch”) • Linux on a Wrist Watch 1998-2001, https://researcher.watson.ibm.com/researcher/view_group_subpage.php?id=6102, (“Linux on a Wrist Watch”) • IBM Search Report, What Would You Do with a Hundred MIPS on Your Wrist? (“IBM Search Report MIPS”) • IBM Search Report, A Wristwatch-Computer Based Password-Vault (“IBM Search Report Password-Vault”) • Application design for a smart watch with a high resolution display (“Application Design”) • Multi-Purpose Data Displays as Wrist Watch Replacement (“Multi-Purpose Displays”) • User Interfaces for Applications on a Wrist Watch (“User Interfaces”) • Energy trade-offs in the IBM wristwatch computer (“IBM Wristwatch computer”) • An Interaction System for Watch Computers Using Tactile Guidance and Bidirectional Segmented Strokes (“Tactile Guidance and Segmented Strokes”) • Direct View Active Matrix VGA OLED-on-Crystalline-Silicon Display (“Active Matrix”)

Exhibit	Primary References
C5	Tissot Watch Product and related Publications, including each of the following individually as a primary reference: • Watch Report, Tissot High-T Video Watch Review, YouTube (Jan. 9, 2007), https://www.youtube.com/watch?v=SwgqV0Timh4, (“Tissot Video”) • Tissot High T review: Tissot High T, CNET (“Tissot review”) • Hight T User Manual (“User Manual”) • The Tissot T-Touch Expert (“T-Touch Expert”) • T-Touch Expert User’s Manual (“T-Touch User’s Manual”)
C6	U.S. Patent No. 7,751,285 (“Cain”)

C. Secondary References

Exhibit C-A lists secondary prior art references and identifies, on a limitation-by-limitation basis, where specifically each secondary reference teaches the limitations of the asserted claims. 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 of the references listed as disclosing those alleged missing limitations in Exhibit C-A.

D. Obvious Combinations

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 Exhibit 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 Exhibit C-A 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.

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.

1. Exemplary Combinations

Below are examples of prior art references that would have been combined by one of ordinary skill in the art at the time of the alleged invention. These combinations are merely examples.

It would have been obvious to combine two or more of any of the LG GD910 related publications identified in Exhibit C3, to combine two or more of any of the Linux Watch related publications identified in Exhibit C4, and to combine two or more Tissot Watch related publications identified in Exhibit C5. It would have been obvious to a POSITA to combine the publications relating to each product because the publications describe the same product. A POSITA would have been motivated to combine the related publications to understand the product's composition and function. In the proposed combinations below, the references to each of these products should be understood to refer to either (1) the prior art product itself or (2) any combination of publications relating to that product.

The asserted claims of the '033 Patent are also rendered obvious by the following combinations:

- Mooring in combination with any one of Satoshi or Nakakuki.
- Mooring in combination with any one of Satoshi or Nakakuki, in further view of Lee.
- Mooring in combination with any one of Satoshi or Nakakuki, in further view of Louch.
- Mooring in combination with any one of Satoshi or Nakakuki, in further view of (1) any one of Tam, Tam Thesis, and Tam Virtual Library and (2) any one of Inoue, Ruchonnet, Bell, Braun, and Edwards.
- Mooring in combination with Satoshi in further view of Lee, Tam, Inoue, and Ruchonnet.
- Mooring in combination with any one of Satoshi or Nakakuki, in further view of (1) Lee, (2) any one of Tam, Tam Thesis, and Tam Virtual Library and (3) any of Inoue, Ruchonnet, Bell, Braun, and Edwards.
- Mooring in combination with any one of Tam, Tam Thesis, and Tam Virtual Library.
- Mooring in combination with any one of Tam, Tam Thesis, and Tam Virtual Library, in further view of Lee.
- Mooring in combination with any one of Tam, Tam Thesis, and Tam Virtual Library, in further view of Louch.

- Mooring in combination with any one of Tam, Tam Thesis, and Tam Virtual Library, in further view of any one of Inoue, Ruchonnet, Bell, Braun, and Edwards.
- Mooring in combination with any one of Tam, Tam Thesis, and Tam Virtual Library, in further view of Lee and any of Inoue, Ruchonnet, Bell, Braun, and Edwards.
- Fitzgerald in combination with any one of Satoshi or Nakakuki.
- Fitzgerald in combination with any one of Satoshi or Nakakuki, in further view of Lee.
- Fitzgerald in combination with any one of Satoshi or Nakakuki, in further view of Louch.
- Fitzgerald in combination with any one of Satoshi or Nakakuki, in further view of (1) any one of Tam, Tam Thesis, and Tam Virtual Library and (2) any one of Inoue, Ruchonnet, Bell, Braun, and Edwards.
- Fitzgerald in combination with Satoshi in further view of Lee, Tam, Inoue, and Ruchonnet.
- Fitzgerald in combination with any one of Satoshi or Nakakuki, in further view of (1) Lee, (2) any one of Tam, Tam Thesis, and Tam Virtual Library and (3) any of Inoue, Ruchonnet, Bell, Braun, and Edwards.
- Fitzgerald in combination with any one of Tam, Tam Thesis, and Tam Virtual Library.
- Fitzgerald in combination with any one of Tam, Tam Thesis, and Tam Virtual Library, in further view of Lee.

- Fitzgerald in combination with any one of Tam, Tam Thesis, and Tam Virtual Library, in further view of Louch.
- Fitzgerald in combination with any one of Tam, Tam Thesis, and Tam Virtual Library, in further view of any one of Inoue, Ruchonnet, Bell, Braun, and Edwards.
- Fitzgerald in combination with any one of Tam, Tam Thesis, and Tam Virtual Library, in further view of Lee and any of Inoue, Ruchonnet, Bell, Braun, and Edwards.
- LG GD910 in combination with any one of Satoshi or Nakakuki.
- LG GD910 in combination with any one of Satoshi or Nakakuki, in further view of Lee.
- LG GD910 in combination with any one of Satoshi or Nakakuki, in further view of Louch.
- LG GD910 in combination with any one of Satoshi or Nakakuki, in further view of (1) any one of Tam, Tam Thesis, and Tam Virtual Library and (2) any one of Inoue, Ruchonnet, Bell, Braun, and Edwards.
- LG GD910 in combination with Satoshi in further view of Lee, Tam, Inoue, and Ruchonnet.
- LG GD910 in combination with any one of Satoshi or Nakakuki, in further view of (1) Lee, (2) any one of Tam, Tam Thesis, and Tam Virtual Library and (3) any of Inoue, Ruchonnet, Bell, Braun, and Edwards.
- LG GD910 in combination with any one of Tam, Tam Thesis, and Tam Virtual Library.

- LG GD910 in combination with any one of Tam, Tam Thesis, and Tam Virtual Library, in further view of Lee.
- LG GD910 in combination with any one of Tam, Tam Thesis, and Tam Virtual Library, in further view of Louch.
- LG GD910 in combination with any one of Tam, Tam Thesis, and Tam Virtual Library, in further view of any one of Inoue, Ruchonnet, Bell, Braun, and Edwards.
- LG GD910 in combination with any one of Tam, Tam Thesis, and Tam Virtual Library, in further view of Lee and any of Inoue, Ruchonnet, Bell, Braun, and Edwards.
- Cain in combination with any one of Satoshi or Nakakuki.
- Cain in combination with any one of Satoshi or Nakakuki, in further view of Lee.
- Cain in combination with any one of Satoshi or Nakakuki, in further view of Louch.
- Cain in combination with any one of Satoshi or Nakakuki, in further view of (1) any one of Tam, Tam Thesis, and Tam Virtual Library and (2) any one of Inoue, Ruchonnet, Bell, Braun, and Edwards.
- Cain in combination with Satoshi in further view of Lee, Tam, Inoue, and Ruchonnet.
- Cain in combination with any one of Satoshi or Nakakuki, in further view of (1) Lee, (2) any one of Tam, Tam Thesis, and Tam Virtual Library and (3) any of Inoue, Ruchonnet, Bell, Braun, and Edwards.
- Cain in combination with any one of Tam, Tam Thesis, and Tam Virtual Library.

- Cain in combination with any one of Tam, Tam Thesis, and Tam Virtual Library, in further view of Lee.
- Cain in combination with any one of Tam, Tam Thesis, and Tam Virtual Library, in further view of Louch.
- Cain in combination with any one of Tam, Tam Thesis, and Tam Virtual Library, in further view of any one of Inoue, Ruchonnet, Bell, Braun, and Edwards.
- Cain in combination with any one of Tam, Tam Thesis, and Tam Virtual Library, in further view of Lee and any of Inoue, Ruchonnet, Bell, Braun, and Edwards.
- Mooring alone or in combination with one or more of Fitzgerald, Cain, Nakakuki, Satoshi, Lee, Inoue, Ruchonnet, Biggs, Hepp, Amron, Grossman, Gruber, Kawai, Park, Tsern, Louch, Tam, Tam Thesis, Tam Virtual Library, Bell, Braun, Edwards, LG GD901, Linux Watch, Tissot Watch and Neocode N2.
- Fitzgerald alone or in combination with one or more of Mooring, Cain, Nakakuki, Satoshi, Lee, Inoue, Ruchonnet, Biggs, Hepp, Amron, Grossman, Gruber, Kawai, Park, Tsern, Louch, Tam, Tam Thesis, Tam Virtual Library, Bell, Braun, Edwards, LG GD901, Linux Watch, Tissot Watch and Neocode N2.
- LG GD910 alone or in combination with one or more of Mooring, Fitzgerald, Cain, Nakakuki, Satoshi, Lee, Inoue, Ruchonnet, Biggs, Hepp, Amron, Grossman, Gruber, Kawai, Park, Tsern, Louch, Tam, Tam Thesis, Tam Virtual Library, Bell, Braun, Edwards, Linux Watch, Tissot Watch and Neocode N2.
- Linux Watch alone or in combination with one or more of Mooring, Fitzgerald, Cain, Nakakuki, Satoshi, Lee, Inoue, Ruchonnet, Biggs, Hepp, Amron,

Grossman, Gruber, Kawai, Park, Tsern, Louch, Tam, Tam Thesis, Tam Virtual Library, Bell, Braun, Edwards, LG GD901, Tissot Watch and Neonode N2.

- Tissot Watch alone or in combination with one or more of Mooring, Fitzgerald, Cain, Nakakuki, Satoshi, Lee, Inoue, Ruchonnet, Biggs, Hepp, Amron, Grossman, Gruber, Kawai, Park, Tsern, Louch, Tam, Tam Thesis, Tam Virtual Library, Bell, Braun, Edwards, LG GD901, Linux Watch, and Neonode N2.
- Cain alone or in combination with one or more of Mooring, Fitzgerald, Nakakuki, Satoshi, Lee, Inoue, Ruchonnet, Biggs, Hepp, Amron, Grossman, Gruber, Kawai, Park, Tsern, Louch, Tam, Tam Thesis, Tam Virtual Library, Bell, Braun, Edwards, LG GD901, Linux Watch, Tissot Watch, and Neonode N2.

2. Motivations to Combine

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, as explained above, 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 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 (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.

As an example of those reasons and motivations to combine the references, Mooring,

Fitzgerald, Cain, Nakakuki, Satoshi, Lee, Inoue, Ruchonnet, Grossman, Gruber, Kawai, Hepp, Biggs, Tam, Louch, LG GD901, Linux Watch, Tissot Watch and Neonode N2 generally relate to electronic time pieces and, in particular, further advantages of improving clocks such as by displaying simulations of mechanical movements in order to indicate time. See Ex. C1 to C6 and C-A. The references disclose similar components and techniques relating to electronic watches. The attached charts in Ex. C1 to C6 and C-A provide additional reasons and motivations to combine the charted references as set forth in the prior art references themselves.

In addition, below are additional motivations to combine prior art for particular claim limitations. The following discussions of specific claim limitations are merely examples and are not limiting.

For example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach limitation 1[a] (“a watchcase”), it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses limitation 1[a] in Exhibits C1 to C6 or Exhibit C-A. For example, several prior art references explicitly describes or implicitly suggests having “a watchcase.” *See, e.g.*, Mooring, ¶37; Fitzgerald, 3:18-27 (“According to the exemplary embodiments, the module 12 includes a body 16 that houses a plurality of layers, including an integrated display 18”), 3:28-38 (“In one exemplary embodiment, the module 12 and the receptacle 22 in the case 14 are made industry standard sizes”); Inoue at [0112] (“the timepiece body 10 has a case member 11 (body)”), [0113] (“The case member 11 is not limited to a rectangular cylinder shape.”); Ruchonnet at [0015] (“a clockwork movement designed to be integrated in a wristwatch case”), [0030] (“The watch comprises a case 90 making it possible to case up the movement from the bottom, as will be seen.”). A POSITA would have been motivated to use a watch case to hold the components of an

electronic watch, such as the display and microcontroller, and to protect them from damage by external forces or elements. A POSITA would have had a reasonable expectation of success because the use of a watchcase was a technique that was well-known and had been implemented and refined over time.

For example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach limitations 1[b] or 2[a] (“an electronic display”), it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses limitations 1[b] or 2[a] in Exhibits C1 to C6 or Exhibit C-A. For example, several prior art references disclose “an electronic display,” as recited by limitations 1[b] or 2[a]. *See, e.g.*, Mooring at [0004], [0012], [0013], [0039], [0051], [0052], [0062], [0071], [0072]; Fitzgerald at 3:18-27, 3:53-62, 3:63-4:13, 4:22-25, 4:39-49, 4:50-55, 6:33-37, 7:27-46, 7:56-8:9, 8:23-36, Figs. 1B, 2, 5; Inoue at Abstract, [0015], [0115], [0116]; LG GD910 at Hardware and Software Review, Watchphone Hands On, Full Phone Specifications; Linux Watch at Linux Watch, Overview, OLED Watch, Watchpad 1.5; Tissot Watch at Tissot Video, User Manual at 3, 6; Neonode N2 at User Guide, 7. A person skilled in the art would have recognized that an electronic display is necessary to display a simulated mechanical watch movement. *See, e.g.*, Mooring at [0004], [0012], [0013], [0039], [0051], [0052], [0062], [0071], [0072]; Fitzgerald at 3:18-27, 3:53-62, 3:63-4:13, 4:22-25, 4:39-49, 4:50-55, 6:33-37, 7:27-46, 7:56-8:9, 8:23-36, Figs. 1B, 2, 5; Inoue at Abstract, [0015], [0115], [0116]; LG GD910 at Hardware and Software Review, Watchphone Hands On, Full Phone Specifications; Linux Watch at Linux Watch, Overview, OLED Watch, Watchpad 1.5; Tissot Watch at Tissot Video, User Manual at 3, 6; Neonode N2 at User Guide, 7. Thus, a POSITA would have been motivated to modify any of the primary references to include this feature. A POSITA would have also been motivated to use

an electronic display because it provide flexibility in that it is able to display many different things (such as a watch face and interfaces for other applications).

A POSITA would also have had a reasonable expectation of success because electronic displays had already been implemented in a variety of different mobile devices, such as mobile phone, PDA, and wristwatches. Thus, a POSITA would have expected an electronic display to work in a wristwatch.

For example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach limitations 1[c] or 16[d] (“a quartz oscillator”), it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses limitations 1[c] or 16[d] in Exhibits C1 to C6 or Exhibit C-A because, as recognized in the background of the ’033 Patent, a quartz oscillator was a known and widely recognized component for tracking time in electronic movements, and POSITAs were motivated to use quartz oscillator due to their “great accuracy” and “moderate costs.” ’033 Patent, 1:22-25. For example, several prior art references disclose “a quartz oscillator” as required by limitations 1[c] or 16[d]. *See, e.g.*, Mooring at [0002], [0003], [0039], [0058]; Fitzgerald, 5:37-47, Fig. 3; Inoue at [0121], [0123]; Ruchonnet at [0004]. Based on any of these references, it would have been obvious to a person of ordinary skill to utilize a quartz movement in an electronic watch, in accordance with the asserted claims.

A POSITA would also have had a reasonable expectation of success. A POSITA would have understood that quartz oscillators were already widely used and tested in a variety of devices (including wristwatch) for tracking time.

For example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach limitations 1[d] (“a microcontroller being arranged for reproducing on said

electronic display the simulation of a mechanical watch movement comprising a gear train, said simulation being visible so as to indicate the time”), limitation 16[e] (“a microcontroller being arranged for reproducing on said electronic display a simulation of a mechanical watch movement comprising a gear train visible so as to indicate the time”), and limitation 17[a] (“displaying on an electronic display of a simulated mechanical watch movement comprising a gear train and of time indicators so as to simulate a mechanical watch”), it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses limitations 1[d], 16[e], or 17[a] in Exhibits C1 to C6 or Exhibit C-A. For example, several prior art references disclose a microcontroller for reproducing on said electronic display the simulation of a mechanical watch movement. *See, e.g.*, Mooring at [0001], [0002], [0003], [0004], [0012], [0013], [0039], [0051], [0052],[0055], [0056], [0057]; Fitzgerald at 2:54-65, 4:50-55, 5:26-36, 5:37-47, 6:6-19, Figs. 3, 5; Nakakuki at 3, 4, 7, 9, Figs. 1, 2; Satoshi at [0004], [0040], [0042], [0103], Fig. 5; Ruchonnet at [0004], [0005], [0006], [0007], [0035]; LG GD910 at Hardware and Software Review, Watchphone Hands On, Full Phone Specifications; Linux Watch at Overview, OLED Watch; Tissot Watch at Tissot Video, User Manual at 3, 9-11. A POSITA would have been motivated to apply these teachings because, as the ’033 Patent admits, it was already known that users enjoy seeing the mechanical movement and other inner working of a mechanical watch. ’033 Patent, 1:35-46. In addition, Tam, Tam Thesis, Tam Virtual Library, and Satoshi teach the same. Tam, p. 1 (“Mechanical watches and clocks are intricate mechanical devices that fascinate millions of people around the world.”); Tam Thesis, p. 4 (“Although mechanical watches / clocks are fascinated by many people, engineers or non-engineers alike, few really understand their working.”); Tam Virtual Library, p. 1 (“The mechanical watch is one of the most intricate mechanical devices that men have ever

invented Today, it still fascinates people around the world.”); Satoshi, ¶4 (describes displaying gears “to enhance user interest”). Moreover, watches are generally associated with displaying time, and it would have been natural for a POSITA to want to view mechanical simulation of gears turning hour, minute, and second hands on a watch. Such “skeleton” watch designs have been present in mechanical watches for centuries and are still popular today, as demonstrated by Bell, Braun, and Edwards. *See, e.g.*, Bell at 157, 272; Braun at 85, 89, 108, 389-91; Edwards at 45-46, 95, 159. Thus, design incentives and market forces would have motivated a POSITA to simulate a mechanical watch movement comprising a gear train. Based on any of these references, it would have been obvious to a person of ordinary skill to utilize a microcontroller for reproducing on said electronic display the simulation of a mechanical watch movement in accordance with the asserted claims.

A POSITA would also have had a reasonable expectation of success. A POSITA would have understood that different electronic watch displays (analog or digital in Mooring; analog with gears in Satoshi) are programmable on standard microprocessors, displayable on standard LCD screens, and also interchangeable. A POSITA would have understood, therefore, that these references involving hardware or software control of an electronic display would have been amenable to various well-understood and predictable combinations to change the appearance or animation of the watch face or to provide more features and enhance user interest.

For example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach synchronization as recited in limitation 1[d] (“said microcontroller being further arranged for synchronizing the displayed time by said displayed mechanical movement with that of said quartz oscillator”), Claim 11 (“arranged for performing said synchronization periodically in an automatic manner”), Claim 12 (“means for entering and executing a request

for said synchronization by the user”), limitation 16[e] (“a microcontroller being arranged . . . for synchronizing the displayed time by said displayed mechanical movement with that of said quartz oscillator”) and limitation 18[i] (“the running of a quartz oscillator is synchronized periodically or upon request from the user with the time displayed by said mechanical movement”), it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses these limitations in Exhibits C1 to C6 or Exhibit C-A. For example, Satoshi teaches synchronizing the displayed time determined by a mechanical simulation with the “the current time . . . read from the clock function of the mobile phone.” Satoshi at [0087]. A POSITA would have understood that this accurate “clock function” in Satoshi corresponds to the accurate time determined by a quartz oscillator in an electronic clock movement. A POSITA would have realized that the timekeeping of the quartz oscillator is more precise than that of a simulation of a mechanical clock, and thus would have been motivated to (at least periodically) synchronize the displayed time with the time of the quartz oscillator. Moreover, a POSITA would have been motivated to keep the time displayed by the watch hands closer to the correct time (as determined by a quartz oscillator) by performing this synchronization periodically in an automatic manner (for example, once per minute, once per hour, or once per day). A POSITA would have realized that this periodic synchronization would provide a user with a realistic and authentic simulation of a mechanical watch movement and, by periodically synchronizing the displayed time with the more accurate time of the quartz oscillator, also mitigate the timing errors associated with mechanical watch movements to provide accuracy. Furthermore, a POSITA would have been motivated to include a user request for synchronization so that a user could update the displayed time to the more accurate time of the quartz oscillator. For example, if a user were trying to catch a train, the user would want the

ability to manually synchronize the time to have the most accurate time possible at that particular moment while still enjoying the traditional and authentic feel of a more traditional mechanical timepiece. A POSITA would also have had a reasonable expectation of success. A POSITA would have understood that these references disclose interrelated teachings—namely mobile devices with microprocessors. A POSITA would have understood that processors are amenable to modifications (such as programming) to implement various functionalities. For example, a POSITA would have had a reasonable expectation of success to either determine the display time based on a quartz oscillator or to synchronize the time of a simulated mechanical movement with another time determined by a quartz oscillator.

For example, to the extent that any primary reference is deemed not to teach modifying a mechanical watch movement as recited in limitation 2[b] (“the position of at least one component of said movement can be modified by pressing on the position of said electronic display corresponding to said component”) and Claim 3 (“said microcontroller is arranged for displaying the simulation of a movement and wherein the angular position of at least one element of said gear-train can be modified by pressing on said touch sensor”), it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses these limitations in Exhibits C1 to C6 or Exhibit C-A. For example, Lee describes using the touchscreen to adjust the position of watch hands. Lee at [0047]-[0049], Figures 6 and 7. It would have been obvious to apply the teachings of Lee to adjust the time any of the watch prior art, especially the prior art with a touchscreen (such as Mooring). A POSITA would have recognized that incorporating the additional touch-interactive components taught by Lee into a touchscreen wristwatch taught would appeal to watch users. *Id.* Thus, design incentives and market forces would have motivated a POSITA to apply the teachings of Lee. Moreover, it

would have been obvious that adjusting the watch hands, as taught in Lee, would also modify the “angular position of at least one element of said gear-train,” as recited in Element 3[b]. Based on any of these references, it would have been obvious to a person of ordinary skill to modify the mechanical watch movement as recited in Claims 2 and 3.

A POSITA would also have had a reasonable expectation of success. A POSITA would have understood that different gestures and user input can be interchangeably implemented on microcontroller-based touchscreens. A POSITA also would have understood that these references disclose interrelated teachings based on routine technologies that would have been amenable to various well-understood and predictable combinations. It would have been obvious to combine any primary reference with Lee.

As another example, to the extent that any primary reference is deemed not to teach selecting different mechanical movements as recited in Claim 14 (“said microcontroller being arranged for enabling different mechanical movements selectable by the user for display”), Claim 15 (“aid display being a display associated with a touch sensor enabling the displacements of at least one finger along at least two different directions to be detected, with the microcontroller being specifically arranged for interpreting signals from the touch sensor, for selecting one screen from among several available screens depending on these signals, and for displaying this screen on the entirety of said display, said microcontroller being further specifically arranged so as to cause screens to scroll by in order to replace durably the screen displayed initially by another screen, with the orientation and the direction of scrolling depending on the orientation and direction of said displacement, wherein at least two of said screens correspond to two distinct mechanical movements that can be selected by the user”), Claim 16 (“said microcontroller being further arranged for interpreting signals from the touch sensor, for selecting one screen from

among several available screens depending on these signals, and for displaying this screen on the entirety of said display, said microcontroller being further specifically arranged so as to cause screens to scroll by in order to replace durably the screen displayed initially by another screen, with the orientation and the direction of scrolling depending on the orientation and direction of said displacement, wherein at least two of said screens correspond to two distinct mechanical movements that can be selected by the user), and Claim 18 (“the user selects the mechanical movement displayed on said display from among several available mechanical movements to be chosen from”), it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses these limitations in Exhibits C1 to C6 or Exhibit C-A. For example, several prior art references disclose selecting different mechanical movements as recited in these claims. *See, e.g.*, Louch at [0035], [0049], [0067], [0080]; Duarte, 3:49-56, 3:62-4:3, 7:36-43; Tsern, 2:48-3:2, 3:3-8, 3:9-3:38, 3:40-54, 5:13-38, 5:39-6:6, 7:61-8:18, Fig. 3; Park [0044], [0055]; Neonode N2 User Guide, 7, 8, 13, 23; Nixon Coolpix S60; Satoshi at [0004]. It would have been obvious to apply these teachings to the primary reference to enable the selection of different mechanical movements as recited in Claims 14, 15, 16, and 18. For example, Louch, Duarte, and Tsern describe the use of swiping to scroll from one screen to another. A POSITA would have been motivated to apply this user interface to switch between different screen screens with clock movements or other applications. A POSITA would also have recognized that this user-friendly touch navigation would appeal to watch users, and thus, design incentives and market forces would have motivated to apply these user interface teachings.

A POSITA would also have had a reasonable expectation of success. A POSITA would have understood that these references disclose interrelated teachings based on routine

microcontroller-based, touch screen technologies that would have been amenable to various well-understood and predictable combinations.

For example, to the extent that any primary reference is deemed not to teach simulating various clock components as recited in Claims 4-10 and 18, it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses these limitations in Exhibits C1 to C6 or Exhibit C-A. For example, Tam, Tam Thesis, and Tam Virtual Library teach simulating internal mechanical watch components, such as the gear train and Swiss lever escapement (the most popular escapement for mechanical watches), to show the kinetics and dynamics of escapements. Tam, p. 1; Tam Thesis, p. 24; Tam Virtual Library, p. 5. Just as Tam discloses simulating this Swiss lever escapement, a POSITA would have understood that the other internal components of a watch can be simulated and displayed to enhance user interest. Thus, it would have been obvious to simulate and display internal components (such as the crown stem in Claim 4, the push-button element in Claim 5, the element of Claim 6, the oscillating mass of Claim 7, the regulating organ with a balance and/or a tourbillon in Claim 8, the regulating organ with a balance, a returning element and an escapement in Claim 9, the regulating organ in Claim 10, and all the same components in Claim 18) using the process described in Tam, Tam Thesis, and Tam Virtual Library. A POSITA would have been motivated to show the internal workings of a mechanical watch. The '033 Patent admits that it was already known that users enjoy seeing the mechanical movement and other inner working of a mechanical watch. '033 Patent, 1:35-46. Several prior art references teach the same. Tam, p. 1 (“Mechanical watches and clocks are intricate mechanical devices that fascinate millions of people around the world.”); Tam Thesis, p. 4 (“Although mechanical watches / clocks are fascinated by many people, engineers or non-engineers alike, few really

understand their working.”); Tam Virtual Library, p. 1 (“The mechanical watch is one of the most intricate mechanical devices that men have ever invented Today, it still fascinates people around the world.”); Satoshi [0004] (describes displaying gears “to enhance user interest”); Ruchonnet at [0031] (describing a “skeleton-type” watch in which the dial is glass or transparent material so that an observer “to check the movement’s running”). And moreover, “skeleton” watch designs have been present in mechanical watches for centuries and are still popular today, as demonstrated by Bell, Braun, and Edwards. *See, e.g.*, Bell at 157, 272; Braun at 85, 89, 108, 389-91; Edwards at 45-46, 95, 159. Thus, design incentives and market forces would have motivated a POSITA to apply the teaching of Tam, Tam Thesis, and Tam Virtual Library to simulate and display internal watch components.

Moreover, based on the teachings of Tam, Tam Thesis, and Tam Virtual Library, a POSITA would have understood that a realistic simulation and display of the internal components involves calculating the forces operating on those components. Tam teaches simulating the “kinetics” and “dynamics” of the internal watch components. Tam, p. 1. Tam’s simulation calculates the forces placed on the simulated internal watch components. For example, Tam simulates the movement of a Graham escapement. Tam, p. 2. Tam describes that this escapement includes a pendulum, which “requires a push to jump start.” *Id.* A POSITA would have realized that Tam calculates the force of the push and the force of gravity to simulate the movement and position of the pendulum. As another example, Tam states that for the Swiss lever escapement simulation, “a force input is added on the balance wheel to simulate the effect of hairspring.” Tam, p. 4. Tam Virtual Library also teaches that various forces are taken into account in the simulation of mechanical movements. Tam Virtual Library, p. 9 (“Note that the attention must be taken in dealing with the shocks, at which times, the escape wheel, the pallet fork and the

pendulum may change their motion, velocity and acceleration.”) Based on the teachings of Tam, Tam Thesis, and Tam Virtual Library, a POSITA would have been motivated to use an accelerometer (as known and disclosed in the other prior art such as Amron) to measure the forces caused by changes in motion (accelerations) and applied to the internal components. As taught in Tam, Tam Thesis, and Tam Virtual Library, a POSITA would have motivated to use the information from the accelerometer to calculate a more realistic simulation of the internal watch components. Thus, it would have been obvious to a POSITA to adjust the position and movement of the simulated internal components based on the information from the accelerometer.

Moreover, the various internal components recited in Claims 4-10 and 18 were known mechanical watch components. *See, e.g.*, Inoue [0125] (“crown or button for setting or operating the timepiece”); Ruchonnet at [0004] (“regulating organ . . . comprising an escapement and a sprung balance that determine the watch’s running”), 30 (oscillating mass); 44 (oscillating mass); 45 (stating the regulating organ may be a “tourbillon”); *see also* Bell at 157, 272; Braun at 85, 89, 108, 389-91; Edwards at 45-46, 95, 159. It would have been obvious to apply the teachings of Tam to simulate and display these known internal components of a mechanical watch.

A POSITA would also have had a reasonable expectation of success. A POSITA would have understood that these references disclose interrelated teachings based on routine technologies, including the simulation of watch components and examples of actual watch components in mechanical watches. Based on these interrelated teachings, a POSITA would have realized that it would have been possible to simulate the actual watch components shown in mechanical watches and to display the simulation on an electronic display. A POSITA would have also realized internal watch parts are of a size that they can be readily displayed on a electronic display for a watch.

By way of further example and application of the motivations to combine discussed above, Defendants provide the following additional motivations to combine certain references. These additional motivations are not intended to limit the combinations discussed above.

Mooring and Satoshi

In addition to the motivations discussed above, a POSITA would have been motivated to combine the teachings of Mooring and Satoshi and would have had a reasonable expectation of success in doing so because each relates to the same well-known technologies. Both are directed to clocks displayed on digital interfaces. Ex Mooring ¶¶22, 39; Satoshi ¶4. Both also describe electronic movements with LCD display screens. Mooring ¶4; Satoshi ¶¶2-4.

Mooring discloses a wristwatch with a touchscreen LCD capable of displaying an analog representation of time (i.e., with hour and minute hands). Mooring ¶¶22, 39. Satoshi also discloses an LCD device capable of displaying time using hour and minute hands. Satoshi ¶¶4, 11. Satoshi further discloses displaying gears that rotate in correspondence with the watch hands. *Id.* ¶4. It would have been obvious to a POSITA to apply the teachings of Satoshi to the wristwatch of Mooring to display gears that rotate in correspondence with watch hands. The '033 Patent admits that it was already known that users enjoy seeing the mechanical movement and other inner working of a mechanical watch. '033 Patent, 1:35-46. Satoshi teaches the same motivation to display the inner workings of a watch “to enhance user interest.” Satoshi ¶4. Moreover, watches are generally associated with displaying time, and it would have been natural for a POSITA to want to view Satoshi’s mechanical simulation of gears turning hour, minute, and second hands on a watch, as disclosed in Mooring. Thus, design incentives and market forces would have motivated a POSITA to apply the teachings of Satoshi to Mooring.

Satoshi also teaches that the rotation rate of the driving gear and gear ratios determines the movement of the watch hands and thus, the displayed time. Satoshi ¶4, 42. And Satoshi discloses the user can request to set the watch hands to the current clock time of the device, thereby synchronizing the mechanical simulation to the more accurate time maintained by Satoshi's phone. *Id.* ¶87. Because clock 620 in Mooring is based on a quartz oscillator (Mooring ¶¶3, 39, 58), it would have been obvious to a POSITA that Satoshi's user request in the combined Mooring-Satoshi system would result in synchronizing the time displayed by the watch hands with the clock time based on Mooring's quartz oscillator.

A POSITA would have had a reasonable expectation of success in combining Mooring and Satoshi. A POSITA would have understood that different electronic watch displays (analog or digital in Mooring; analog with gears in Satoshi) are programmable on standard microprocessors and displayable on standard LCD screens and are interchangeable. A POSITA would have understood, therefore, that these references disclose interrelated teachings based on routine technologies that would have been amenable to various well-understood and predictable combinations to provide more features and enhance user interest.

Mooring, Satoshi, and Lee

In addition to the motivations discussed above, a POSITA would have been motivated to combine the teachings of Mooring and Satoshi with the teachings of Lee and would have had a reasonable expectation of success in doing so because each relates to the same well-known technologies. All three references are directed to clocks displayed on microcontroller-based digital interfaces. Mooring ¶¶22, 39; Satoshi ¶4; Lee ¶2. All three references also describe electronic movements with LCD and/or touch-sensitive display screens. Mooring ¶4; Satoshi ¶¶2-4; Lee ¶5.

Lee further describes using the touchscreen to adjust the position of watch hands. Lee ¶47. Because the wristwatch in Mooring has a touchscreen and the method of adjusting time in Lee uses a touchscreen, it would have been obvious to a POSITA to apply the teachings of Lee to the wristwatch in Mooring. A user of the Mooring-Satoshi watch would have needed a way to adjust the time, such as when changing time zones or setting the time after a period of unuse. Thus, a POSITA would have been motivated to apply the teachings of Lee to adjust the time using the touchscreen of Mooring. In addition, a POSITA would have recognized that incorporating the additional touch-interactive components taught by Lee into the touchscreen wristwatch taught by Mooring-Satoshi would appeal to watch users. Thus, design incentives and market forces would have motivated a POSITA to apply the teachings of Lee to Mooring-Satoshi.

A POSITA would have had a reasonable expectation of success in combining Lee and Mooring-Satoshi. A POSITA would have understood that different gestures and user input can be interchangeably implemented on microcontroller-based touchscreens. A POSITA also would have understood that these references disclose interrelated teachings based on routine technologies that would have been amenable to various well-understood and predictable combinations.

Mooring, Satoshi, and Louch

In addition to the motivations discussed above, a POSITA would have been motivated to combine the teachings of Mooring-Satoshi with the teachings of Louch and would have had a reasonable expectation of success in doing so because each relates to the same well-known technologies. All three references include teachings directed to clocks displayed on microcontroller-based digital interfaces. Mooring ¶¶22, 39; Satoshi ¶4; Louch ¶67. They also describe electronic movements with LCD and/or touch-sensitive display screens. Mooring ¶4;

Satoshi ¶¶2-4; Louch ¶¶11-14, 114. Louch further describes various user interactions with widgets and dashboards on touch-sensitive displays, and in particular, on a watch with such a display. Louch ¶¶79-87.

As described above, it would have been obvious to a POSITA to implement the clockface animation described in Satoshi in the touchscreen of the wristwatch described in Mooring, as shown in this modified version of Figure 8 of Mooring.



Similarly, Louch discloses “a digital watch” with a touch sensitive display presenting widgets, or applications, as shown in Figure 1F. Louch ¶49. Louch’s “world clock” is an example of a widget that fills the entire display. *Id.* ¶67

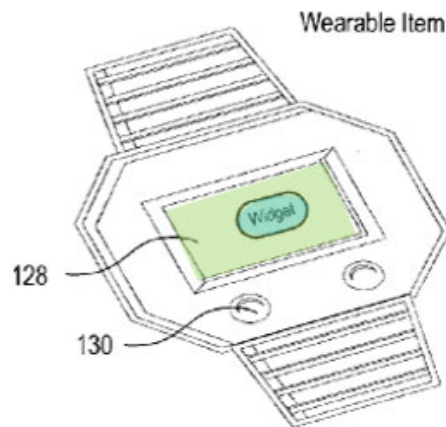


FIG. 1F

Louch allows a user to interact with the watch by scrolling through widgets, as shown below in Figure 5B below. *Id.* ¶80.

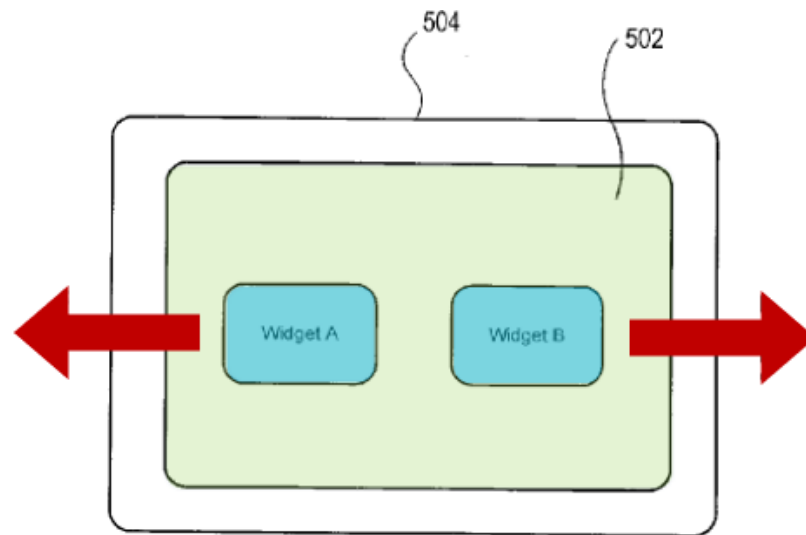


FIG. 5B

It would have been obvious to apply Louch's teachings regarding scrolling to the Mooring-Satoshi wristwatch. A POSITA would have been motivated to apply the scrolling of Louch to the touchscreen of Mooring to switch between different screen screens and clock movements, or, other applications. A POSITA would also have recognized that Louch's user-friendly touch navigation

would appeal to watch users. Thus, design incentives and market forces would have motivated a POSITA to apply the teachings of Louch to Satoshi and Mooring.

A POSITA would have had a reasonable expectation of success in combining Louch with Mooring and Satoshi. A POSITA would have understood that these references disclose interrelated teachings based on routine microcontroller-based, touch screen technologies that would have been amenable to various well-understood and predictable combinations.

Mooring, Satoshi, Tam, and Inoue

In addition to the motivations discussed above, it would have been obvious to combine Mooring and Satoshi for the reasons described above in “Mooring and Satoshi.” A POSITA would have been motivated to further apply the teachings of Tam and Inoue to Mooring-Satoshi, and would have had a reasonable expectation of success in doing so.

It would have been obvious to apply the teachings of Inoue to Mooring-Satoshi. Both Mooring and Satoshi disclose a wristwatch with a touchscreen LCD capable of displaying an analog representation of time (*i.e.*, with hour and minute hands). Mooring ¶¶22, 39; Satoshi ¶¶4, 11. Similarly, Inoue discloses a wristwatch with an LCD for displaying time Inoue ¶¶3, 15. Inoue further discloses that such a wristwatch may include a crown and push-buttons as input devices for changing the information displayed on the LCD. *Id.* ¶¶126, 159, 294.

It would have been obvious to a POSITA to apply Inoue’s teaching to use a crown and push-buttons to control a LCD display on a wristwatch to the LCD-wristwatch of Mooring-Satoshi. A POSITA would have recognized that a crown and push-buttons are common input and control devices on watches. Because users are already familiar with these types of input devices, a POSITA would have been motivated to apply them to control the LCD display of the wristwatch of Mooring-Satoshi (as Inoue teaches) to provide the convenience of familiar control elements.

For example, use of a crown to adjust the time or date has been a familiar feature of watches for decades. Moreover, both the challenged patent and Satoshi note the desirability of displaying the mechanical movement and inner workings of a watch, and providing push-buttons or a crown would enhance this realism and improve the user's experience. '033 Patent, 1:35-46; Satoshi ¶4.

It would have been obvious to a POSITA to further apply the teachings of Tam to the wristwatch of Mooring-Satoshi-Inoue. As stated in its title, Tam teaches "Physical-Based Simulations of Mechanical Watches and Clocks." Tam, p. 1. In particular, Tam teaches simulating internal mechanical watch components, such as the gear train and Swiss lever escapement (the most popular escapement for mechanical watches), to show the kinetics and dynamics of escapements. *Id.* Just as Tam discloses simulating this Swiss lever escapement, a POSITA would have understood that the other internal components of a watch can be simulated and displayed to enhance user interest. A POSITA would have understood that the crown on the outside of a watch case interacts with a crown stem inside the watchcase and that a push-button similarly interacts with internal components in a mechanical watch. Thus, it would have been obvious to simulate these internal components (the crown stem and elements with which the push-buttons interact) using the process described in Tam.

Tam further teaches displaying the simulated watch components, as shown below in Figure 7. Tam, p. 4.

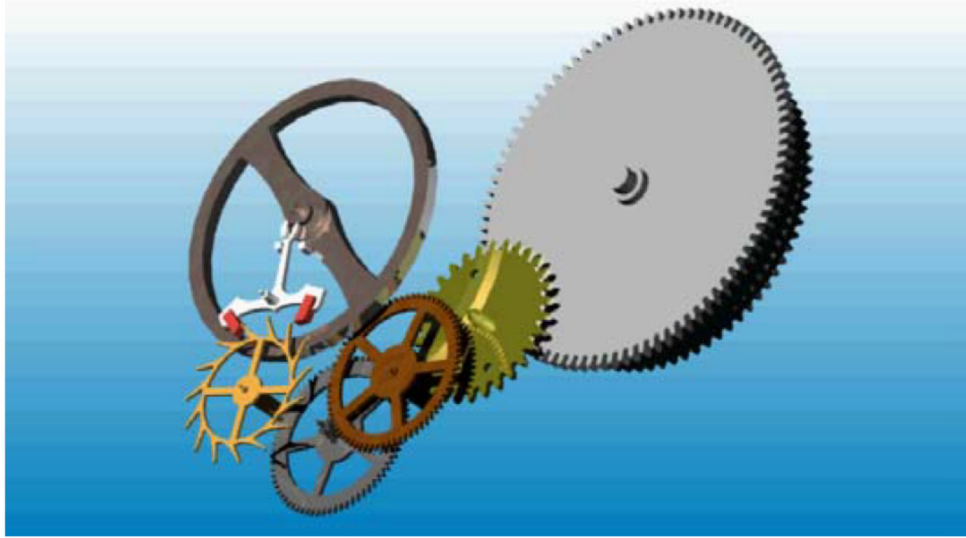


Fig. 7: The model of Swiss Lever Escapement connected to the gear train and the barrel. The escapement is on the left side while the barrel is on the right.

Based on Tam's teaching to display the simulated watch components, it would have been obvious to display the interior portions of the component (such as the portions of the crown stem and push-buttons elements that extend into the watch) on the LCD of the wristwatch of Mooring-Satoshi-Inoue. This would result in a more realistic simulated skeleton watch.

A POSITA would have been motivated to show the internal workings of a mechanical watch. The '033 Patent admits that it was already known that users enjoy seeing the mechanical movement and other inner working of a mechanical watch. '033 Patent, 1:35-46. Tam and Satoshi teach the same. Tam, p. 1 ("Mechanical watches and clocks are intricate mechanical devices that fascinate millions of people around the world."); Satoshi ¶4 (describes displaying gears "to enhance user interest"). Thus, design incentives and market forces would have motivated a POSITA to apply the teaching of Tam (to simulate and display internal watch components) to the combination of Mooring-Satoshi-Inoue, by displaying the inner workings of the crown and push-buttons on the LCD display.

A POSITA would have had a reasonable expectation of success in combining Mooring-Satoshi with Tam and Inoue. A POSITA would have understood that these references disclose interrelated teachings based on routine technologies that would have been amenable to various well-understood and predictable combinations.

Mooring, Satoshi, Tam and Ruchonnet

In addition to the motivations discussed above, it would have been obvious to combine Mooring and Satoshi for the reasons described above in “Mooring and Satoshi.” A POSITA would have been motivated to apply the teachings of Tam and Ruchonnet to Mooring-Satoshi, and would have had a reasonable expectation of success in doing so.

As indicated by its title, Tam teaches “Physical-Based Simulations of Mechanical Watches and Clocks.” Tam, p. 1. In particular, Tam teaches simulating internal mechanical watch components, such as the Swiss Lever Escapement shown below in Figure 7 below. Tam, p. 1, 4.

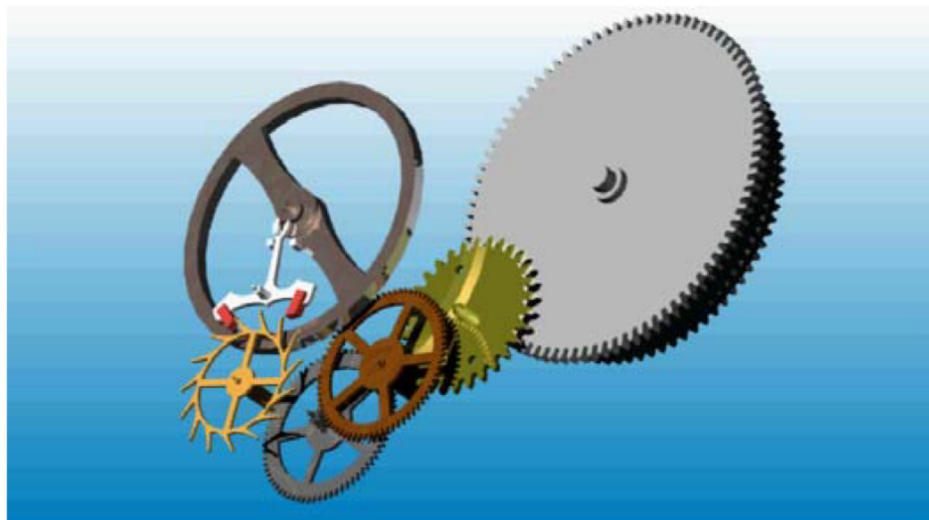


Fig. 7: The model of Swiss Lever Escapement connected to the gear train and the barrel. The escapement is on the left side while the barrel is on the right.

Based on Tam’s teaching to simulate and display internal watch components, it would have been obvious to simulate and display internal watch components on the LCD of the wristwatch of

Mooring-Satoshi. Ruchonnet describes a mechanical watch with various internal components, including a “gear train” (Ruchonnet ¶4), an “oscillating mass” (*Id.* ¶35), a “regulating organ” (*Id.* ¶4), a “balance” (*Id.*), a “tourbillon” (*Id.* ¶45), and a regulating organ with a balance, a returning element, and an escapement (i.e., “a regulating organ . . . comprising an escapement and a sprung balance”) (*Id.*). In view of Tam’s teachings to simulate and display internal components of a mechanical watch, including an escapement, it would have been obvious to simulate and display these additional internal components taught in Ruchonnet.

A POSITA would have been motivated to show the internal workings of a mechanical watch. The ’033 Patent admits that it was already known that users enjoy seeing the mechanical movement and other inner working of a mechanical watch. ’033 Patent, 1:35-46. Tam and Satoshi teach the same. Tam, p. 1 (“Mechanical watches and clocks are intricate mechanical devices that fascinate millions of people around the world.”); Satoshi ¶4 (describes displaying gears “to enhance user interest”). Thus, design incentives and market forces would have motivated a POSITA to combine the teachings of Mooring, Satoshi, Tam, and Ruchonnet to result in a wristwatch displaying on a touchscreen an authentic simulation of a mechanical watch movement, including internal watch components (such as an oscillating mass, a regulating organ, a balance, a tourbillon, and a regulating organ with a balance, a returning element, and an escapement).

Moreover, based on the teachings of Tam, a POSITA would have understood that a realistic simulation and display of the internal components involves calculating the forces operating on those components. Tam teaches simulating the “kinetics” and “dynamics” of the internal watch components. Tam, p. 1.² Tam’s simulation calculates the forces placed on the simulated internal

² The ’033 Patent assumes that simulating internal watch components is within the knowledge of a POSITA.

watch components. For example, Tam simulates the movement of a Graham escapement. Tam, p. 2. Tam describes that this escapement includes a pendulum, which “requires a push to jump start.” *Id.* A POSITA would have realized that Tam calculates the force of the push and the force of gravity to simulate the movement and position of the pendulum. As another example, Tam states that for the Swiss lever escapement simulation, “a force input is added on the balance wheel to simulate the effect of hairspring.” Tam, p. 4.

Based on the teachings a Tam, a POSITA would have been motivated to use the accelerometer (already in the wristwatch based on Mooring) to measure the forces caused by changes in motion (accelerations) and applied to the internal components. The wristwatch of Mooring-Satoshi includes an accelerometer, as shown below in Figure 6.

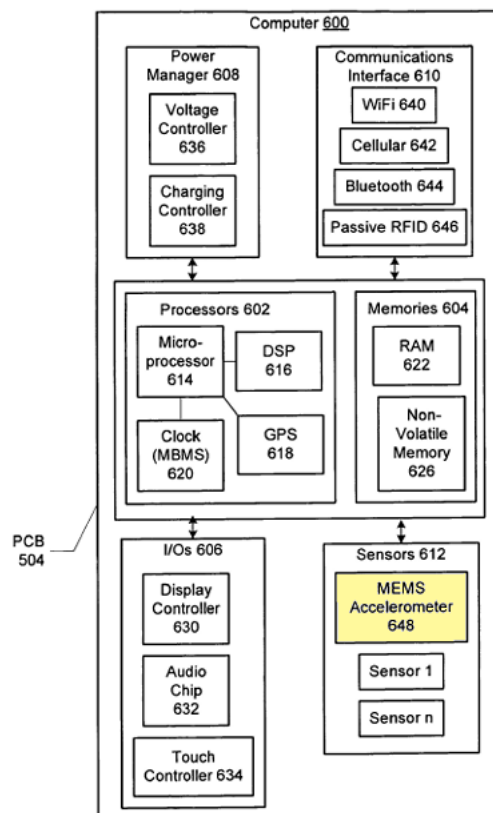


FIG. 6

Mooring states, “MEMS accelerometer 648 may be used to measure information such as position, motion, tilt, shock, and vibration for use by microprocessor 614.” Mooring ¶65. A POSITA would have understood that the accelerometer measures the forces caused by changes in motion (accelerations) and applied to the wristwatch of Mooring. As taught in Tam, a POSITA would have motivated to use the information from the accelerometer to calculate a more realistic simulation of the internal watch components. Thus, it would have been obvious to a POSITA to adjust the position and movement of the simulated internal components based on the information from the accelerometer.

Mooring, Satoshi, Lee, Tam, Inoue, and Ruchonnet

In addition to the motivations discussed above, it would have been obvious to apply the teaching of Lee to Mooring-Satoshi for the reasons described above in “Mooring, Satoshi, and Lee.” It would have been obvious to further apply the teachings of Tam and Inoue to Mooring-Satoshi for the reasons described above in “Mooring, Satoshi, Tam, and Inoue.” It would have been obvious to further apply the teachings of Tam and Ruchonnet to Mooring-Satoshi for the reasons described above in “Mooring, Satoshi, Tam and Ruchonnet.”

IV. U.S. Patent No. 9,651,922 (“the ’922 Patent”)³

A. Identification of Prior Art

In addition to the prior art cited on the face of the ’922 Patent and related patents, the admitted prior art in the specifications of the ’922 Patent and related patents, the prior art cited in any file histories, reexaminations, inter partes review proceedings, reissue proceedings, or other examination or post-grant proceedings of the ’922 Patent and related patents, and the prior art cited in any invalidity contentions or expert reports submitted in any action or proceedings

³ Defendants further incorporate its IPR Petition IPR2024-00002 and accompanying exhibits.

involving the '922 Patent or related patents, Defendants identify the following prior art that anticipates each asserted claim or renders it obvious.

1. Prior Art Patents

The following patents and patent publications are prior art to the asserted claims under at least pre-AIA 35 U.S.C. §§ 102(a), (b), (e), and/or (g) and/or pre-AIA 35 U.S.C. § 103. The identification of any patent or patent publication shall be deemed to include any counterpart patent or application filed, published, or issued anywhere in the world.

Patent or Publication Number	Country of Origin	Filing Date	Date of Issue or Publication
US20080168368A1 ("Louch")	United States of America	01/07/2007	07/10/2008
US8296684B2 ("Duarte")	United States of America	05/23/2008	10/23/2012
US8677285B2 ("Tsern")	United States of America	01/26/2009	03/18/2014
US20060170649A1 ("Kosugi")	United States of America	03/03/2004	08/03/2006
US20060097991A1 ("Hotelling")	United States of America	05/06/2004	05/11/2006
US6449219B1 ("Hepp")	United States of America	07/04/1998	09/10/2002
JP2005/242456 ("Satoshi")	Japan	02/24/2004	09/08/2005
US20080062207A1 ("Park")	United States of America	09/11/2007	03/13/2008
US6714486B2 ("Biggs")	United States of America	06/29/2001	03/30/2004
US2004/0100479A1 ("Nakano")	United States of America	05/09/2003	05/27/2004
US2005/0278757A1 ("Grossman")	United States of America	05/28/2004	12/15/2005
US7751285B1 ("Cain")	United States of America	03/28/2006	07/06/2010
EP2120110A2 ("Gruber")	Germany	03/31/2009	11/18/2009
US2006/0236014A1 ("Yin")	United States of America	04/19/2005	10/19/2006

Patent or Publication Number	Country of Origin	Filing Date	Date of Issue or Publication
US8564543B2 ("Chaudhri")	United States of America	06/22/2007	10/22/2013
CN1337607A ("Narayanaswami")	China	08/03/2001	06/08/2002
US2009/0051649A1 ("Rondel")	United States of America	07/21/2008	02/26/2009
US2008/0318636A1 ("Kim")	United States of America	09/03/2008	12/25/2008
US2009/0178008A1 ("Nakajima")	United States of America	09/30/2008	07/09/2009
US 2009/0225060A1 ("Rizoiu")	United States of America	02/17/2009	09/10/2009
US20100/029327A1 ("Jee")	United States of America	12/17/2008	02/04/2010
US4165575 ("Neilsen")	United States of America	03/31/1997	08/28/1979
US2009/0051649A1 ("Rondel")	United States of America	07/21/2008	02/26/2009
US2009/0059730A1 ("Lyons")	United States of America	03/26/2008	03/05/2009
US2009/0199130A1 ("Tsern")	United States of America	01/26/2009	08/06/2009
US2013/0254705A1 ("Mooring")	United States of America	03/20/2012	09/26/2013
US2009/0278806A1 ("Duarte")	United States of America	05/06/2008	11/12/2009
US8,562.489B2 ("Burton")	United States of America	04/26/2010	10/22/2013
US2009/0131880A1 ("Speziali")	United States of America	05/22/2006	05/21/2009
KR20010010547 ("Lee")	South Korea	07/21/1999	02/15/2001

2. Prior Art Non-Patent Publications

The following non-patent publications are prior art to the asserted claims under at least pre-AIA 35 U.S.C. §§ 102(a), (b), (e), and/or (g) and/or pre-AIA 35 U.S.C. § 103.

Title	Author/Publisher	Date of Publication
Nikon Coolpix S60, CNET	Joshua Goldman	12/19/ 2008
Novel Gesture for Wearables	Cheng Zhang	05/2018
Neonode N2 User Manual	Neonode	2007
iPod nano 4G	YouTube	2008
iPhone User's Guide	Apple	2007
Universal Armband	zCover.com	2007
Pocketnow, LG GD910 Hardware and Software Review Pocketnow, YouTube (June 21, 2010), https://www.youtube.com/watch?v=_FAwzkc0gKo , ("Hardware and Software Review")	YouTube	06/21/2010
Stuff, LG GD910 Watchphone Hands On, YouTube (Aug. 27, 2009), https://www.youtube.com/watch?v=mGGRIQZvH34 , ("Watchphone Hands On")	YouTube	08/27/2009
IGN, CES 2009: The LG Watch Phone, YouTube (Jan. 9, 2009), IGN, CES 2009: The LG Watch Phone, YouTube (Jan. 9, 2009), https://www.youtube.com/watch?v=vB4zT0I1pkM , ("LG Watch Phone")	YouTube	01/09/2009
LG GD910, Full Phone Specifications, ("Full Phone Specifications")	GMSArena	No later than 2009
LG GD910, User Guide, ("User Guide")	LG	2009

Title	Author/Publisher	Date of Publication
LG reveals GD910 Watch Phone to be released this year	Nicole Lee	01/07/2009
LG's New Watch Phone	YouTube	01/22/2009
Linux Watch (WatchPad™) 1998-2004, Overview, Linux Watch, https://researcher.watson.ibm.com/researcher/view_group.php?id=6101 , ("Linux Watch, Overview")	IBM	2004
Organic LED Watch 2000-2001, https://researcher.watson.ibm.com/researcher/view_group_subpage.php?id=6103 , ("OLED Watch")	IBM	2001
Citizen Watch and IBM Research Collaboration – 2001, Watchpad 1.5, https://researcher.watson.ibm.com/researcher/view_group_subpage.php?id=6104 ("Watchpad 1.5")	LinuxDevices Staff	10/11/2001
IBM's Linux Watch: The Challenge of Miniaturization ("IBM's Linux Watch")	Chandra Narayanaswami, Noboru Kamijoh, Mandayam Raghunath, Tadanobu Inoue, Thomas Cipolla, Jim Sanford, Eugene Schlig	01/2002
Linux on a Wrist Watch 1998-2001, https://researcher.watson.ibm.com/researcher/view_group_subpage.php?id=6102 , ("Linux on a Wrist Watch")	IBM	2001
IBM Search Report, What Would You Do with a Hundred MIPS on Your Wrist? ("IBM Search Report MIPS")	Chandra Narayanaswami, M. T. Raghunath, Noboru Kamijoh, Tadanobu Inoue	01/22/2001

Title	Author/Publisher	Date of Publication
IBM Search Report, A Wristwatch-Computer Based Password-Vault (“IBM Search Report Password-Vault”)	Gabor Blasko, Chandra Narayanaswami, Mandayam Raghunath	03/10/2005
Application design for a smart watch with a high resolution display (“Application Design”)	Chandra Narayanaswami, M. T. Raghunath	08/06/2002
Multi-Purpose Data Displays as Wrist Watch Replacement (“Multi-Purpose Displays”)	Peter Hutterer	07/2004
User Interfaces for Applications on a Wrist Watch (“User Interfaces”)	M. T. Raghunath, Chandra Narayanaswami	2002
Energy trade-offs in the IBM wristwatch computer (“IBM Wristwatch computer”)	N. Kamijoh, T. Inoue, C.M. Olsen, M.T. Raghunath, C. Narayanaswami	08/07/2002
An Interaction System for Watch Computers Using Tactile Guidance and Bidirectional Segmented Strokes (“Tactile Guidance and Segmented Strokes”)	Gábor Blaskó, Steven Feiner	12/13/2004
Direct View Active Matrix VGA OLED-on-Crystalline-Silicon Display (“Active Matrix”)	James L. Sanford, Eugene S. Schlig	03/13/2001
Watch Report, Tissot High-T Video Watch Review, YouTube (Jan. 9, 2007), https://www.youtube.com/watch?v=SwgqV0Timh4 , (“Tissot Video”)	YouTube	01/09/2007
Tissot High T review: Tissot High T, CNET (“Tissot review”)	Patrick Houston	02/15/2005
Hight T User Manual (“User Manual”)	Tissot	No later than 2009

Title	Author/Publisher	Date of Publication
The Tissot T-Touch Expert (“T-Touch Expert”)	James Stacey	09/06/2008
T-Touch Expert User’s Manual (“T-Touch User’s Manual”)	Tissot	No later than 2009
Review of the Tissot High-T MSN Direct Spot Watch	WatchReport	05/13/2005
Tissot creates the firstsmart watch with style	Gary Krakow	08/10/2004
An Investigation into Round Touchscreen Wristwatch Interaction	Daniel Ashbrook, Kent Lyons, Thad Starner	09/2/2008
Lightweight User Interfaces for Watch Based Displays	Peter Hutterer, Mark T. Smith, Bruce H. Thomas, Wayne Piekarski, and John Ankcorn	2005
Managing a Document Based Information Space	Matthias Deller, Stefan Agne, Achim Ebert, Andreas Dengel, Hans Hagen, Bertin Klein, Michael Bender, Tony Bernardin, Bernd Hamann	01/13/2008
Forerunner 405 Owner’s Manual	Garmin Ltd.	2008
Garmin Forerunner 405 in depth review	DC Rainmaker	10/13/2008
AppLens and LaunchTile: Two Designs for One-Handed Thumb Use on Small Devices	Amy K. Karlson, Benjamin B. Bederson, John SanGiovanni	04/02/2005
Wrist PDA User Guide	Fossil, Inc.	2003-2004
Belkin Sport Armband for iPhone	Belkin	12/20/2007
Macworld, The Complete Guide to OS X 10.5	Dr. Bott	01/2008
Macworld, Hello, iPhone	i-Luv	09/2007
Sports Armband for your iPhone	i-Luv	2007
Macworld, Secure Your Mac	zCover	No later than 2009
Hello, iPhone	MacWorld	03/2007
iPhone Resolution by Edward Tufte	YouTube	11/25/2008
The iPhone Challenge: Keep It Quiet	The New York Times	01/25/2007

3. Prior Art Systems

The following systems are prior art under at least 35 U.S.C. §§ 102(a), (b) and/or (g):

1. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to LG GD910, as exemplified in the claim chart in Exhibit D4. As part of these Invalidity Contentions, Defendants have produced documents relating to LG GD910. Based on information available to Defendants, Defendants believes that LG GD910 was conceived and/or reduced to practice by engineers at LG Electronics, including those identified in the claim chart and its cited publications, at least before July 3, 2009, without being abandoned, suppressed, or concealed, and it was known or used by others in this country or in public use or on sale on by the dates identified in the claim chart, which are no later than July 3, 2009. *See, e.g.*, LG GD910 watch (made available and shown in SAMS366-0015320-21).
2. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to Linux Watch, as exemplified in the claim chart in Exhibit D5. As part of these Invalidity Contentions, Defendants have produced documents relating to Linux Watch. Based on information available to Defendants, Defendants believes that Linux Watch was conceived and/or reduced to practice by engineers at IBM, including those identified in the claim chart and its cited publications, at least before July 3, 2009, without being abandoned, suppressed, or concealed, and it was known or used by others in this country or in public use or on sale on by the dates identified in the claim chart, which are no later than July 3, 2009.
3. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related Tissot Watch, as exemplified in the claim chart in Exhibit D6. As part of these Invalidity Contentions, Defendants have produced documents relating Tissot Watch. Based on information available to Defendants, Defendants believes Tissot Watch was conceived and/or reduced to practice by engineers at Tissot including those identified in the claim chart and its cited publications, at least before July 3, 2009, without being abandoned, suppressed, or concealed, and it was known or used by others in this country or in public use or on sale on by the dates identified in the claim chart, which are no later than July 3, 2009.

Defendants' investigation into publicly available prior art systems that teach and/or render obvious each element of any asserted claims is ongoing. Fact discovery is at an early stage, and Defendants may require discovery from third parties regarding publicly available prior art systems. Defendants reserve the right to amend its identification of prior art systems as

Defendants become aware of the existence, functionality, and/or characteristics of prior art systems as a result of its investigation and forthcoming discovery. In addition to the prior art products, components, systems, and methods described above, Defendants also reserve the right to rely on the documents and publications identified in the corresponding claim charts as prior art publications.

B. Primary References

Defendants contend that the primary prior art references identified below and described in the charts attached as Exhibits D1 to D7, by themselves, anticipate the asserted claims of the '922 Patent. To the extent that a primary reference is deemed not to anticipate a claim for failing to teach one or more limitations of that claim, Defendants contend that the claim would nonetheless have been obvious to a POSITA at the time of the invention in view of the prior art reference itself, as described in the attached charts. Defendants' prior art charts (attached as Exhibits D1 thru D7) set forth the particular claims that are anticipated under 35 U.S.C. § 102 and/or rendered obvious under 35 U.S.C. § 103 by each item of prior art and identify where specifically in each item of prior art, each element of each asserted claim is found.

Exhibit	Primary References
D1	U.S. Patent Application Publication No. 2008/0168368 ("Louch")
D2	U.S. Patent No. 8,296,684 ("Duarte")
D3	U.S. Patent No. 8,677,285 ("Tsern")
D4	LG GD910 Product and related Publications, including each of the following individually as a primary reference: • Pocketnow, LG GD910 Hardware and Software Review Pocketnow, YouTube (June 21, 2010), https://www.youtube.com/watch?v=_FAwzkc0gKo, ("Hardware and Software Review")

Exhibit	Primary References
	• Stuff, LG GD910 Watchphone Hands On, YouTube (Aug. 27, 2009), https://www.youtube.com/watch?v=mGGRIQZvH34, (“Watchphone Hands On”) • IGN, CES 2009: The LG Watch Phone, YouTube (Jan. 9, 2009), IGN, CES 2009: The LG Watch Phone, YouTube (Jan. 9, 2009), https://www.youtube.com/watch?v=vB4zT0I1pkM, (“LG Watch Phone”) • LG GD910, Full Phone Specifications, (“Full Phone Specifications”) • LG GD910, User Guide, (“User Guide”)
D5	Linux Watch Product and related Publications, including each of the following individually as a primary reference: • Linux Watch (WatchPad™) 1998-2004, Overview, Linux Watch, https://researcher.watson.ibm.com/researcher/view_group.php?id=6101, (“Linux Watch, Overview”) • Organic LED Watch 2000-2001, https://researcher.watson.ibm.com/researcher/view_group_subpage.php?id=6103, (“OLED Watch”) • Citizen Watch and IBM Research Collaboration – 2001, Watchpad 1.5, https://researcher.watson.ibm.com/researcher/view_group_subpage.php?id=6104 (“Watchpad 1.5”) • IBM’s Linux Watch: The Challenge of Miniaturization (“IBM’s Linux Watch”) • Linux on a Wrist Watch 1998-2001, https://researcher.watson.ibm.com/researcher/view_group_subpage.php?id=6102, (“Linux on a Wrist Watch”) • IBM Search Report, What Would You Do with a Hundred MIPS on Your Wrist? (“IBM Search Report MIPS”) • IBM Search Report, A Wristwatch-Computer Based Password-Vault (“IBM Search Report Password-Vault”) • Application design for a smart watch with a high resolution display (“Application Design”) • Multi-Purpose Data Displays as Wrist Watch Replacement (“Multi-Purpose Displays”) • User Interfaces for Applications on a Wrist Watch (“User Interfaces”) • Energy trade-offs in the IBM wristwatch computer (“IBM Wristwatch computer”) • An Interaction System for Watch Computers Using Tactile Guidance and Bidirectional Segmented Strokes (“Tactile Guidance and Segmented Strokes”)

Exhibit	Primary References
	• Direct View Active Matrix VGA OLED-on-Crystalline-Silicon Display (“Active Matrix”)
D6	Tissot Watch Product and related Publications, including each of the following individually as a primary reference: • Watch Report, Tissot High-T Video Watch Review, YouTube (Jan. 9, 2007), https://www.youtube.com/watch?v=SwgqV0Timh4, (“Tissot Video”) • Tissot High T review: Tissot High T, CNET (“Tissot review”) • Hight T User Manual (“User Manual”) • The Tissot T-Touch Expert (“T-Touch Expert”) • T-Touch Expert User’s Manual (“T-Touch User’s Manual”)
D7	U.S. Patent Application Publication No. 20060170649A1 (“Kosugi”)

C. Secondary References

Exhibit D-A lists secondary prior art references and identifies, on a limitation-by-limitation basis, where specifically each secondary reference teaches the limitations of the asserted claims. 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 of the references listed as disclosing those alleged missing limitations in Exhibit D-A.

D. Obvious Combinations

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 D7 with any other reference(s) in Exhibit D1 to D7. 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 D-A 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.

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.

1. Exemplary Combinations

Below are examples of prior art references that would have been combined by one of ordinary skill in the art at the time of the alleged invention. These combinations are merely examples.

It would have been obvious to combine two or more of any of the LG GD910 related publications identified in Exhibit D4, to combine two or more of any of the Linux Watch related publications identified in Exhibit D5, and to combine two or more Tissot Watch related publications identified in Exhibit D6. It would have been obvious to a POSITA to combine the publications relating to each product because the publications describe the same product. A POSITA would have been motivated to combine the related publications to understand the product's composition and function. In the proposed combinations below, the references to each of these products should be understood to refer to either (1) the prior art product itself or (2) any combination of publications relating to that product.

The asserted claims of the '922 Patent are also rendered obvious by the following combinations:

- Louch in combination with Hepp.
- Louch in combination with Duarte.
- Louch in combination with Park.
- Louch in combination with Hotelling, and Hepp.
- Louch in combination with Hotelling, and Duarte.
- Louch in combination with Hotelling, and Park.
- Duarte in combination with Biggs, and Hotelling.
- Duarte in combination with Biggs, and Hotelling in further view of Louch.
- Duarte in combination with Biggs, and Hotelling in further view of Park.
- Tsern in combination with Hotelling.
- Tsern in combination with Hotelling, in further view of any of Louch and Duarte.
- Tsern in combination with Hotelling, in further view of Park.
- LG GD910 in combination with Hotelling.
- LG GD910 in combination with Hotelling, in further view of any of Louch and Duarte.
- LG GD910 in combination with Hotelling, in further view of Park.
- Louch alone or in combination with one or more of Tsern, Duarte, Kosugi, Hotelling, Hepp, Park, Biggs, Nakano, Grossman, Cain, Gruber, Yin, Chaudhri, iPod nano 4G, iPhone User's Guide, Universal Armband, LG GD910, Linux Watch, Tissot Watch, Nikon Coolpix S60, and Neocode N2.

- Tsern alone or in combination with one or more of Louch, Duarte, Kosugi, Hotelling, Hepp, Park, Biggs, Nakano, Grossman, Cain, Gruber, Yin, Chaudhri, iPod nano 4G, iPhone User's Guide, Universal Armband, LG GD910, Linux Watch, Tissot Watch, Nikon Coolpix S60, and Neocode N2.
- Duarte alone or in combination with one or more of Tsern, Louch, Kosugi, Hotelling, Hepp, Park, Biggs, Nakano, Grossman, Cain, Gruber, Yin, Chaudhri, iPod nano 4G, iPhone User's Guide, Universal Armband, LG GD910, Linux Watch, Tissot Watch, Nikon Coolpix S60, and Neocode N2.
- LG GD910 alone or in combination with one or more of Louch, Tsern, Duarte, Kosugi, Hotelling, Hepp, Park, Biggs, Nakano, Grossman, Cain, Gruber, Yin, Chaudhri, iPod nano 4G, iPhone User's Guide, Universal Armband, Linux Watch, Tissot Watch, Nikon Coolpix S60, and Neocode N2.
- Linux Watch alone or in combination with one or more of Louch, Tsern, Duarte, Kosugi, Hotelling, Hepp, Park, Biggs, Nakano, Grossman, Cain, Gruber, Yin, Chaudhri, iPod nano 4G, iPhone User's Guide, Universal Armband, LG GD910, Tissot Watch, Nikon Coolpix S60, and Neocode N2.
- Tissot Watch alone or in combination with one or more of Louch, Tsern, Duarte, Kosugi, Hotelling, Hepp, Park, Biggs, Nakano, Grossman, Cain, Gruber, Yin, Chaudhri, iPod nano 4G, iPhone User's Guide, Universal Armband, LG GD910, Linux Watch, Nikon Coolpix S60, and Neocode N2.

2. Motivations to Combine

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, as explained above, 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 and a haptic surface.

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 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 (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 attached charts in Ex. D1 to D7 and D-A provide additional reasons and motivations to combine the charted references as set forth in the prior art references themselves.

As an example of those reasons and motivations to combine the references, Louch, Tsern, Duarte, Kosugi, Hotelling, Hepp, Park, Biggs, Nakano, Grossman, Cain, Gruber, Yin, iPod nano 4G, iPhone User's Guide, Universal Armband, LG GD910, Linux Watch, Tissot Watch, Nikon Coolpix S60, and Neonode N2, generally relate to electronic timepieces or other mobile devices. See Ex. D1 to D7 and D-A. The references disclose similar components and techniques for displaying time and other information and/or for using a touchscreen to interact with a device. *Id.* The attached charts in Ex. D1 to D7 and D-A provide additional reasons and motivations to combine the charted references.

In addition, below are additional motivations to combine prior art for particular claim limitations. The following discussion of specific claim limitations are merely examples and are not limiting.

For example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach a "wristwatch" as recited in the preamble of Claims 1, 9, 23, and 24, it would

have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses a wristwatch in Exhibits D1 to D7 or Exhibit D-A. For example, several prior art references explicitly describe or implicitly suggest having a “wristwatch.” *See, e.g.*, Louch at [0049] (“shown in FIG. 1F, a wearable item (e.g., a digital watch, iPod®, jewelry, clothing) can be a dashboard/widget enabled device or item”), Fig. 1F; Duarte at 4:55-63 (“the present invention can be implemented on any electronic device”); Biggs at 9:7-16 (“The device 101, for example a watch, contains an operating system for monitoring all I/O functions as well as a display driver and device interfaces controlled by a processor 123”), Figs. 2b; Tsern at 2:36-47 (“FIG. 2 illustrates an embodiment of a wearable electronic data and communication device with a multi-touch display responsive to multi-touch input. Here the device 100 is mounted in a wristwatch accessory”), Fig. 2; Kosugi at [0026] (“FIG. 1A is front views showing a wrist watch type information terminal according to the embodiment of the present invention”), [0041] (“FIG. 5 is schematic diagrams describing an operation method of the wrist watch type information terminal according to the embodiment of the present invention”), Figs. 1A-1C, 5A-5B; Grossman at [0026] (“Watch device 300 includes bezel 310 which has an electronic system), Fig. 3. *See also* Yin at [0020]; Universal Armand at 1; LG GD910 at User Guide, 18-19, Hardware and Software Review, LG Watch Phone, Watchphone Hands On, Full Phone Specifications; Linux Watch at IBM Search Report MIPS, 1-4, Application Design, 1, Linux Watch, Overview, OLED Watch, Watchpad 1.5, Multi-Purpose Displays, 4-5, IBM Wristwatch computer, 1 (Fig. 1); Tissot Watch at Tissot review, T-Touch Expert, 1. It would have been obvious to combine any of the above prior art disclosing an electronic wristwatch with other prior art disclosing touchscreen interfaces for devices other than wristwatches (such as mobile phone or persona data assistants). Because an electronic watch is

a small device composed mainly of a display, a POSITA would have been motivated to implement a touchscreen interface on a wristwatch. A POSITA would have been motivated to apply a touchscreen interface to a wristwatch to reduce the number of input devices needed for a wristwatch. And using a touchscreen to scroll through displays is a natural and desirable way to interact with a watch. Thus, design incentives and market forces would have motivated a POSITA to apply prior art addressing touchscreen interfaces to a wristwatch.

A POSITA would also have had a reasonable expectation of success. A POSITA would have understood that an electronic watch includes an electronic display and that an electronic display is readily amenable to the implementation of a touchscreen interface.

For example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach a “digital matrix display” as recited in limitations 1[a], 9[b], 23[a], and 24[a], it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses this limitation in Exhibits D1 to D7 or Exhibit D-A. For example, several prior art references explicitly describes or implicitly suggests having a “digital matrix display.” *See, e.g.*, Louch at Abstract (“a device includes a touch-sensitive display and a processor operatively coupled to the display”), [0051] (“Each of the devices shown can have a variety of form factors and can include different display areas and input devices”), [0052] (“The devices illustrated in FIGS. 1A-1F can include displays having display areas that are entirely or partially multi-touch sensitive.”); Duarte at 5:8-15 (“Referring now to FIG. 1, there is shown an example of an example of a device 100 including a display screen 101”), 5:16-25 (“In one embodiment, screen 101 is touch-sensitive, so that a user can activate an application or function by touching a displayed icon 104,106.”); Tsern at 1:63-2:11 (“FIG. 1 illustrates an embodiment of an electronic data and communication device display, responsive to multi-touch

input.”), 2:36-47 (“FIG. 2 illustrates an embodiment of a wearable electronic data and communication device with a multi-touch display responsive to multi-touch input.”); Kosugi at [0027] (“Disposed nearly at the center of the main body 1 is a display portion 3 such as a flat display for example an LCD (Liquid Crystal Display)”); Hotelling at [0051] (“By way of example, the display device 68 may be a monochrome display, color graphics adapter (CGA) display, enhanced graphics adapter (EGA) display, variable-graphics-array (VGA) display, super VGA display, liquid crystal display (e.g., active matrix, passive matrix and the like), cathode ray tube (CRT), plasma displays and the like.”); Biggs at 3:52-4:21 (“wherein the display 22 is preferably a high resolution LCD display”); Grossman at [0026] (“Bezel 310 includes display 320, such as a liquid crystal display, a multiple bit display, or a full color display”).

A person skilled in the art would have recognized that that use of a digital matrix display was a common, predictable approach to providing a more flexible displays that enable any images to be displayed because they are more flexible than segmented displays. Thus, a POSITA would have been motivated to modify any of the primary references to include this feature. A POSITA would also have had a reasonable expectation of success. A POSITA would have understood that these references disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

For example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach “a sheet of touch-sensitive glass,” “two-dimensional glass,” or “two-dimensional touch-sensitive glass” as recited in limitations 1[b], 9[a], 23[b], or 24[b] (), it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses this limitation in Exhibits D1 to D7 or Exhibit D-A. For example, several prior art references disclose “a sheet of touch-sensitive glass.” *See, e.g.,* Louch

at [0049], [0052], Fig. 1; Duarte at 5:8-15, 5:16-25, Fig. 1; Tsern at 8:49-9:5, Fig. 5; Hotelling at [0071], [0072]; Biggs at 3:52-4:21; Grossman at [0087]; Chaudhri at 9:45-57, 9:58-61, 9:62-64, 9:65-10:3, Tissot Watch at User Manual at 3.

A person skilled in the art would have recognized that there is a need for a wristwatch allowing movements of a finger on a touch screen to be detected, such as having digital displays with two-dimensional haptic surfaces. In implementing a wristwatch with a touchscreen, a POSITA would have understood the face of a wristwatch is susceptible to bumps and scratches and thus needs protection. Thus, a POSITA would have been motivated to use a touchscreen with glass to protect the LCD display.

A POSITA would also have had a reasonable expectation of success. A POSITA would have understood that touchscreens are based on routine technologies and would have been amenable to various well-understood and predictable combinations. For example, a POSITA would have had a reasonable expectation of success to modify a touchscreen to include a glass layer for protection.

For example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach “a processing circuit specifically laid out so as to interpret the signals from the touch-sensitive glass” as recited in limitations 1[c], 23[c], or 24[c], it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses this limitation, in Exhibits D1 to D7 or Exhibit D-A. For example, several prior art references disclose “a processing circuit specifically laid out so as to interpret the signals from the touch-sensitive glass.” *See, e.g.*, Louch at [0012], [0018], [0067], [0080], [0081], [0112], [0113], Fig. 4A; Duarte, 2:56-61, 5:59-6:2, 6:3-19, 6:46-57, 7:6-17, Fig 3; Tsern at 2:48-3:2, 3:3-8, 3:40-54, 5:13-38, 5:39-6:6, Fig. 3; Chaudhri at 13:44-64, Fig. 5; Neonode N2

at User Guide, 7-8, 13, 23; LG GD910 at Hardware and Software Review, Watchphone Hands On; Linux Watch at Watchpad 1.5, IBM's Linux Watch, 33; Tissot Watch at User Manual, 3, 9-10. Based on any of these references, it would have been obvious to a person of ordinary skill to utilize a processing circuit to interpret the signals from the touch-sensitive glass and to control what is shown on the display. A POSITA would also have had a reasonable expectation of success. A POSITA would have understood that devices with electronic displays and touchscreens use processors to control the electronic displays and touchscreens and that such processors would have been amenable to various well-understood and predictable combinations.

For example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach "the size of the image correspond[s] to the size of said digital matrix display" as recited in limitations 1[f], 9[c], 23[f], or 24[f], it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses this limitation in Exhibits D1 to D7 or Exhibit D-A. *See, e.g.*, Louch at [0057], [0058], [0059], [0080], [0081], [0084], Figs. 2D, 4A; Duarte at 2:62-63, 6:3-14, 7:18-21, 8:28-45; Tsern at 2:36-47; 3:9-29, 4:12-39; Chaudhri at 12:19-37, 13:44-64, 13:65-14:15, Fig. 5, Fig. 6; Neonode N2 at User Guide, 7, 8, 13; LG GD910 at Hardware and Software Review; Linux Watch at Watchpad 1.5; Tissot Watch at User Manual, 9-10; iPhone User's Guide at 62. Based on any of these references, it would have been obvious to a person of ordinary skill to utilize the size of the image corresponding to the size of said digital matrix display so that the displayed card occupies the whole of said digital matrix display in accordance with the asserted claim. A POSITA would have been motivated to make the image fill the digital matrix display to make it easier for a user to see the image.

A POSITA would also have had a reasonable expectation of success. A POSITA would have understood that an image, animation, or window that occupies a portion of a display can readily be enlarged to fill the entire display. A POSITA would have understood that many electronic devices allow for resizing of displayed images, animations, or windows, and the size of the display is just a matter of preference.

For example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach “one card of said several available cards and occupying the entire digital matrix display is immediately and without further user intervention replaced after the scrolling by a different card” as recited in limitations 1[g] or 9[b] or “to lastingly replace the initially displayed card with a replacement card selected within said several available cards, immediately after the scrolling and without further user intervention” as recited in limitation 23[e], it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses these limitations in Exhibits D1 to D7 or Exhibit D-A. *See, e.g.*, Louch at [0018], [0019], [0067], [0080], Fig. 4A; Duarte at 2:62-63, 6:46-64, 7:6-21, Fig. 3; Tsern at 3:40-54, 4:59-5:12, 8:27-48, Fig. 3; Chaudhri at 12:19-37, 13:44-64, 13:65-14:15, Fig. 5, Fig. 6; iPhone User’s Guide, 62; iPod nano 4G; LG GD910 at Hardware and Software Review, Hardware and Software Review; Linux Watch at Watchpad 1.5; Tissot Watch at User Manual, 9-10; iPod nano 4G. Based on any of these references, it would have been obvious to a person of ordinary skill to utilize one card of said several available cards and occupying the entire digital matrix display is immediately and without further user intervention replaced after the scrolling by a different card of said several available cards that occupies the entire digital matrix display in accordance with the asserted claim. A POSITA would have been motivated to replace one card with a different card “immediately” and “without further user intervention” to minimize

the number of inputs required from the user, to make the operation easier for the user, and to reduce the time of the operation.

A POSITA would also have had a reasonable expectation of success. A POSITA would have understood that some operations may be performed “immediately” and “without further user intervention” so that the operations are performed more quickly with less burden on the user, and that the same operations may also be implemented to require confirmation steps to make sure that the operation meets the user’s expectations. A POSITA would have understood that an operation can be implemented in either manner, depending on the user’s preference. For example, when a user closes a document on a word processor, one user may prefer that the document close immediately and without any further user interventions. Another user may prefer some prompt and additional user input to confirm that the user wants the document closed before actually closing the document. Thus, implementing an operation “immediately” and “without further user intervention” simply reflect a user’s preference. .

For example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach the “replacement card is dependent from the initially displayed card and from the direction of said movement and is independent from the starting point and end point of said movement on said digital matrix display” as recited in limitations 1[h], 9[b], 23[g], or 24[g], it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses this limitation in Exhibits D1 to D7 or Exhibit D-A. *See, e.g.*, Louch at [0067], [0080], [0087], Figs. 4A, 5E; Duarte at 3:31-39, 6:46-64, 7:6-17, 7:36-43, 7:44-56, Figs. 3, 7; Tsern at 3:40-54, 4:59-5:12, 8:27-48, Fig. 3; Chaudhri at 12:19-37, 13:44-64, 13:65-14:15, Fig. 5, Fig. 6; iPhone User’s Guide at 62; iPod nano 4G; LG GD910 at Hardware and Software Review, Tissot Watch at User Manual, 9-10; iPod nano 4G. Based on

any of these references, it would have been obvious to a person of ordinary skill to utilize a processing circuit is further laid out so that the replacement card is dependent from the initially displayed card and from the direction of said movement and is independent from the starting point and end point of said movement on said digital matrix display in accordance with the asserted claim. A POSITA would have been motivated to implement a fixed relationship between cards (i.e., maintain the cards in the same order) so that it is easier for a user to navigate from one card to another based on memory. This would result in the replacement card being dependent from the initially displayed card and from the direction of said movement. A POSITA would have been motivated to allow a user to swipe on any portion of the touchscreen (as opposed to a particular spot on the touchscreen) to provide greater flexibility and make it easier for a user to use the touchscreen. This would result in the replacement card being independent from the starting point and end point of the movement on the digital matrix display.

A POSITA would also have had a reasonable expectation of success. A POSITA would have understood that electronic devices with touchscreens can be programed to implement the touchscreen user interface in a variety of interchangeable ways.

For example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach “at least one of said cards makes it possible to calculate and display a simulation of a mechanical watch displaying the time, so as to enable the user to change the mechanical watch displayed by scrolling cards” as recited in Claim 5 or “a plurality of said cards displays a simulation of a virtual mechanical movement” as recited in Claim 20, it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses these limitations in Exhibits D1 to D7 or Exhibit D-A. *See, e.g.,* Hepp at 4:55-58, 6:27-31, 6:66-7:5; Cain at 9:39-10:18; Biggs at 1:17-20, 3:52-4:21, 5:17-

39, 5:40-65, 7:10-49; LG GD910 at Watchphone Hands On, Full Phone Specifications; iPhone User's Guide at 13. Based on any of these references, it would have been obvious to a person of ordinary skill to display a simulation of a mechanical movement displaying the time. It was known that users are familiar with traditional representations of time using clock hands and that such representations of time appeal to users. For example, Hepp notes this representation of time is "adapted to the acquired human sense of orientation in time in an optimum way." Hepp, 6:27-31. Thus, design incentives and market forces would have motivated a POSITA to display a mechanical movement with predictable results and expectation of success because matrix displays can be programmed to display clock hands.

A POSITA would also have had a reasonable expectation of success. A POSITA would have understood that the display of time is a common feature of electronic devices such as mobile phones, PDAs, and wristwatches and that there are many different interchangeable ways of representing time

For example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach cards organized "in a virtual closed loop row" and/or "in a virtual closed loop column" as recited in Claims 8, 21, and 22 and limitation 24[h], it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses these limitations in Exhibits D1 to D7 or Exhibit D-A. *See, e.g.*, Duarte at 8:17-22; Louch at [0078], [0079], [0080], [0087], Fig. 5A-5B; Chaudhri at 14:47-54, Fig. 8; Nixon Coolpix S60; LG GD910 at Hardware and Software Review; Grossman [0049], [0059]. It would have been obvious to a POSITA that closed-loop scrolling would have provided a quicker mechanism to navigate from the last widget to the first widget and vice versa. Thus, a POSITA would have been motivated to add closed-loop scrolling to make it easier for a user to fine and

display a desired widget, screen, or card. Thus, design incentives and market forces would have motivated a POSITA to provide closed-loop scrolling with predictable results and expectation of success.

A POSITA would also have had a reasonable expectation of success. A POSITA would have understood that looping from a last item to a first item was a common method of navigation and a POSITA would have known that it could be implemented in a programmable device with a processor.

For example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach “scrolling on a digital matrix display of several available cards so as for said scrolling to stop of itself so as to align an edge of the replacement card with an edge of the matrix display” as recited in limitation 9[b] and “the different cards scroll in continuous fashion on the digital matrix display, the scrolling being interrupted so as to align the edge of a card with the edge of the digital matrix display” as recited in Claim 13, it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses these limitations in Exhibits D1 to D7 or Exhibit D-A. *See, e.g.*, Duarte at 6:59-63, 7:6-10; Louch at [0079]-[0081], [0087], Fig. 5B; Tsern at 3:40-54, Fig. 3; Chaudhri at 12:19-37, 13:44-64, 13:65-14:15, Fig. 5, Fig. 6; LG GD910 at Hardware and Software Review; Nixon Coolpix S60; Neonode N2 at User Guide, 7-8, 13, 23; iPod nano 4G; iPhone User’s Guide at 16, 62. A POSITA would also have realized that the snap-into-place feature would more quickly allow a user to automatically center a widget as opposed to manual positioning. Thus, a POSITA would have been motivated to add this alignment or snap-into-place feature to make it easier for a user to find and display a desired widget, screen, or card. Thus, design incentives and market

forces would have motivated a POSITA to provide this feature with predictable results and expectation of success.

A POSITA would also have had a reasonable expectation of success. A POSITA would have understood that the particular way in which a movement or an image or screen is stopped on a display is a programable feature that is readily implemented on a device with a processor.

For example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach “the card scrolling is interrupted by a brief pressure on the two-dimensional touch-sensitive, so as to cause the card best centered on the display at the time of the interruption to be selected and displayed,” as recited in Claim 17, it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses these limitations in Exhibits D1 to D7 or Exhibit D-A. *See, e.g.*, Duarte at 6:26-28, 6:59-63, 7:6-10; Tsern at 3:9-29, 4:12-39, 7:61-8:18; Louch at [0079]-[0081], [0087], Fig. 5B; Chaudhri at 15:8-18; LG GD910 at Hardware and Software Review; Nixon Coolpix S60; Neonode N2 at User Guide, 7-8, 13, 23; iPod nano 4G; iPhone User’s Guide at 16. A POSITA would also have realized that the snap-into-center feature would more quickly allow a user to automatically center a widget as opposed to manual positioning. Thus, a POSITA would have been motivated to add this snap-into-center feature to make it easier for a user to fine and display a desired widget, screen, or card. Thus, design incentives and market forces would have motivated a POSITA to provide this feature with predictable results and expectation of success.

A POSITA would also have had a reasonable expectation of success. A POSITA would have understood that the particular way in which an image or screen is centered on a display is a programable feature that is readily implemented on a device with a processor.

For example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach “said processing circuit is specifically laid out so as to cause said several available cards to scroll past by displaying the image of said cards one at a [time]⁴ on the digital matrix display,” as recited in Claim 23, it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses these limitations in Exhibits D1 to D7 or Exhibit D-A. *See, e.g.*, Park at [0034], [0044], [0055]; Louch at [0018], [0019], [0067], [0080], Fig. 4A; Duarte at 2:62-63, 6:46-64, 7:6-21, Fig. 3; Tsern at 3:40-54, 4:59-5:12, 8:27-48, Fig. 3; LG GD910 at Hardware and Software Review, Hardware and Software Review; Linux Watch at Watchpad 1.5; Tissot Watch at User Manual, 9-10. It would have been obvious to a POSITA to apply this one-page-at-a-time feature to the scrolling of widgets, screens, or cards so users can evaluate each one before moving to the next. Thus, a POSITA would have been motivated to add this one-page-at-a-time feature to make it easier for a user to find and display a desired widget, screen, or card. Thus, design incentives and market forces would have motivated a POSITA to provide this feature with predictable results and expectation of success.

A POSITA would also have had a reasonable expectation of success. A POSITA would have understood that the particular way in which an image or screen is scrolled (whether continuously or one at a time) is a programmable feature that is readily implemented on a device with a processor.

For example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach variable scrolling as recited in Claim 14 (“the card scrolling speed or

⁴ Claim 23 is indefinite because it is missing an unknown word. For purposes of these invalidity contentions, we have assumed that the missing word is “time.”

amplitude depend on the speed or amplitude of movement of the finger on the two-dimensional touch-sensitive glass”), Claim 15 (“the card scrolling speed is variable, the scrolling being slowed down before stopping completely”), and Claim 16 (“the card scrolling speed is variable, the scrolling being slowed down each time a card is switched to another one”), it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses these limitations in Exhibits D1 to D7 or Exhibit D-A. *See, e.g.*, Duarte at 6:59-63, 7:6-10, 8:5-9; Louch at [0079]-[0081], [0087], Fig. 5B; Tsern at 3:40-54, Fig. 3; Chaudhri at 2:41-50, 2:51-60, 16:57-65, 20:27-36; LG GD910 at Hardware and Software Review; Nixon Coolpix S60; Neonode N2 at User Guide, 7-8, 13, 23; iPod nano 4G; iPhone User’s Guide at 16. It would have be obvious to a POSITA to apply these variable scrolling features to the scrolling of widgets, screens, or cards. A POSITA would have been motivated to apply these variable scrolling features to enhance the user experience by mimicking real-world effects (variable speed and friction) that are already familiar to users. Thus, design incentives and market forces would have motivated a POSITA to provide these variable scrolling features with predictable results and expectation of success.

A POSITA would also have had a reasonable expectation of success. A POSITA would have understood that various animations or transition effects using during the scrolling (such as variable scrolling) are programable features that are readily implemented on a device with a processor.

By way of further example and application of the motivations to combine discussed above, Defendants provide the following additional motivations to combine certain references. These additional motivations are not intended to limit the combinations discussed above.

Louch and Hepp

In addition to the motivations discussed above, a POSITA would have been motivated to combine Louch and Hepp with a reasonable expectation of success. Like Louch, Hepp describes touchscreens. Hepp, 5:60-63; 7:32-36. Both describe displaying representations of time. Louch ¶¶35, 58, 67, 68, 70, Figs. 4A and 4B; Hepp, 4:46-50, 6:63-7:5. Hepp simulates a mechanical watch with clock hands on a touchscreen. Hepp, 4:55-58, 6:27-31, 6:66-7:5.

It would have been obvious to apply Hepp's simulated mechanical watch to Louch's world clock widget. In addition to being an obvious design choice, Hepp notes this representation of time is "adapted to the acquired human sense of orientation in time in an optimum way." Hepp, 6:27-31. Thus, design incentives and market forces would have motivated a POSITA to apply Hepp's teachings to Louch's world clock widget with predictable results and expectation of success because matrix displays can be programmed to display clock hands as taught by Hepp.

Louch and Duarte

In addition to the motivations discussed above, a POSITA would have been motivated to combine Louch and Duarte with a reasonable expectation of success. Like Louch, Duarte describes touchscreens on small devices (such as Louch's wristwatch) that users can swipe horizontally or vertically to move cards (called windows 301) organized in rows and/or columns. Duarte, 5:16-18, 5:38-41, 6:59-7:17, 7:44-8:4. Duarte describes transition effects, such as closed-loop scrolling and snap-into-place. Duarte, 7:6-17, 8:17-22. It would have been obvious that these transition effects would improve Louch's widget scrolling. A POSITA would have been motivated to add these transition effects to make it easier for a user to find and display a desired widget. Closed-loop scrolling would have provided a quicker mechanism to navigate from the last widget to the first widget and vice-versa. A POSITA would also have realized that

the snap-into-place feature would more quickly allow a user to automatically center a widget as opposed to manual positioning.

Louch and Park

In addition to the motivations discussed above, a POSITA would have been motivated to combine the teachings of Louch and Park and would have had a reasonable expectation of success. Like Louch, Park discloses a portable device with a touchscreen that a user can swipe to scroll through cards (called pages in Park). Park ¶34. Park further describes that the cards can be scrolled one page at a time. Park ¶¶44, 55. It would have been obvious to a POSITA to apply this one-page-at-a-time teaching to the scrolling of widgets in Louch so users can evaluate each widget before moving to the next.

Duarte, Biggs, and Hotelling

In addition to the motivations discussed above, a POSITA would have been motivated to combine the teachings of Duarte, Biggs, and Hotelling and reasonably expected success in doing so. Duarte describes touchscreens on small devices that users can swipe horizontally or vertically to move cards (windows) organized in rows and/or columns. Duarte, 5:38-41, 6:59-7:17. Biggs discloses a wristwatch with a touch-sensitive LCD display. Biggs, 3:56-65, 9:7-16. Biggs further discloses that users can customize various time displays and choose which display appears on the LCD screen. Biggs, 3:43-48, 7:6-12, 8:60-65. Hotelling describes a multipoint touchscreen allowing a user to interact with a graphical user interface on a LCD display. Hotelling ¶37.

It would have been obvious to a POSITA to improve Duarte, with the wristwatch of Biggs, having selectable customized time displays. Duarte's invention is intended for devices with small screens like the watch in Biggs. Duarte, 2:26-52. Using a touchscreen would avoid additional input devices separate from the display. And using a touchscreen to scroll through several saved

customized time displays is a more natural and desirable interface than downloading a new display each time the user wishes for a change. Thus, design incentives and market forces would have motivated a POSITA to combine Duarte and Biggs.

It would have been obvious to further apply Hotelling to implement the touchscreen in Duarte and Biggs. Like Duarte and Biggs, Hotelling discloses a LCD display with a touchscreen. Hotelling ¶37. Hotelling's touchscreen includes a glass member or protective glass coversheet to protect the LCD from forces exerted on the touchscreen. *Id.* ¶¶71-72. In implementing a wristwatch with a touchscreen as taught by Biggs, a POSITA would have been motivated to use a touchscreen with glass to protect the LCD display as taught in Hotelling. *Id.* A POSITA would have understood the face of a wristwatch is susceptible to bumps and scratches and thus needs protection. Moreover, Duarte's touch-sensitive screen 101 "can be implemented using any technology that is capable of detecting a location of contact and/or user motion proximate to the surface." Duarte, 5:38-41.

Duarte, Biggs, Hotelling, and Louch

In addition to the motivations discussed above, and for the reasons described above in "Duarte, Biggs, and Hotelling," it would have been obvious to a POSITA to combine the teachings of Duarte, Biggs, and Hotelling to enable the scrolling of windows described in Duarte on the touchscreen wristwatch of Biggs with selectable customized time displays.

It would have been obvious to further combine the teachings of Louch. Louch discloses a digital wristwatch like the one in Biggs. Louch ¶49. Like Duarte (Duarte, 5:38-41, 6:59-7:17), Louch describes scrolling widgets by moving a finger horizontally or vertically across a touchscreen (Louch ¶¶79, 80). Louch further teaches various scrolling "animation[s] are possible." Louch ¶87. For example, "[t]he speed of the scrolling is controlled by the speed of

the finger gestures made by the user.” *Id.* And “[t]he scrolling can be animated to give the impression of friction or other properties. For example, the user can make a single touch and gesture and widgets will be continuously scrolled by the display 514 in a Rolodex® manner and slowly de-accelerate to a stop.” *Id.*

Because Duarte and Louch both describe scrolling cards on a touchscreen, it would have been obvious to a POSITA to apply the scrolling animations of Louch to the scrolling of windows in Duarte. Duarte teaches that “a transition effect is performed to enhance the smoothness of the transition as windows 301 move and/or snap into place.” Duarte, 8:5-9. A POSITA would have recognized Louch’s scrolling animations are examples of “transition effects” as taught in Duarte, and thus, a POSITA would have been motivated to apply Louch’s animations to the scrolling in Duarte to enhance the user experience by mimicking real-world effects (variable speed and friction) that are already familiar to users. Thus, design incentives and market forces would have motivated a POSITA to apply the teachings of Louch to the Duarte-Biggs-Hotelling combination of a wristwatch with a touchscreen.

V. U.S. Patent No. 9,804,678 (“the ’678 Patent”)⁵

A. Identification of Prior Art

In addition to the prior art cited on the face of the ’678 Patent and related patents, the admitted prior art in the specifications of the ’678 Patent and related patents, the prior art cited in any file histories, reexaminations, inter partes review proceedings, reissue proceedings, or other examination or post-grant proceedings of the ’678 Patent and related patents, and the prior art cited in any invalidity contentions or expert reports submitted in any action or proceedings

⁵ Defendants further incorporate its IPR Petition IPR2024-00040 and accompanying exhibits.

involving the '678 Patent or related patents, Defendants identify the following prior art that anticipates each asserted claim or renders it obvious.

1. Prior Art Patents

The following patents and patent publications are prior art to the asserted claims under at least pre-AIA 35 U.S.C. §§ 102(a), (b), (e), and/or (g) and/or pre-AIA 35 U.S.C. § 103. The identification of any patent or patent publication shall be deemed to include any counterpart patent or application filed, published, or issued anywhere in the world.

Patent or Publication Number	Country of Origin	Filing Date	Date of Issue or Publication
U.S. Patent Application Publication No. US2009/0146962 ("Ahonen")	United States of America	December 5, 2007	June 11, 2009
U.S. Patent Application Publication No. US2009/0303192 ("Ho")	United States of America	September 24, 2008	Dec. 10, 2009
U.S. Patent Application Publication No. US2010/0253792 ("Kawaguchi")	United States of America	March 29, 2010	October 7, 2010
U.S. Patent Application Publication No. US2011/0080349 ("Holbein")	United States of America	October 2, 2009	April 7, 2011
U.S. Patent No. 8,866,735 ("Zhao '735")	United States of America	December 16, 2010	October 21, 2014
U.S. Patent No. 9,710,048 ("Zhao '048")	United States of America	October 3, 2011	July 18, 2017
U.S. Patent No. 9,019,320 ("Yamazaki")	United States of America		
U.S. Patent Application Publication No. US2005/0078093 ("Peterson")	United States of America	October 10, 2003	April 14, 2005
U.S. Patent No. 9,019,230 ("Li")	United States of America	October 31, 2010	April 28, 2015

Patent or Publication Number	Country of Origin	Filing Date	Date of Issue or Publication
U.S. Patent Application Publication US2011/0242043 ("Yarvis")	United States of America	April 6, 2010	October 6, 2011
U.S. Patent Application Publication US2010/0194682 ("Orr '682")	United States of America	January 29, 2010	August 5, 2010
U.S. Patent No. 8,533,901 ("Orr '901")	United States of America	January 30, 2009	January 21, 2014
U.S. Patent Application Publication US2009/0165219 ("Yeung")	United States of America	December 18, 2008	June 25, 2009
U.S. Patent No. 8,914,075 ("Pasquero")	United States of America	September 17, 2010	December 16, 2014
WO 2006/120211 ("Tecchiolli")	Italy/WIPO	May 10, 2006	November 16, 2006
U.S. Patent Application Publication No. US2007/0208544 ("Kulach")	United States of America	March 1, 2007	September 6, 2007
U.S. Patent Application Publication No. 2006/0236014 ("Yin")	United States of America	April 19, 2005	October 19, 2006
U.S. Patent No. 7,606,552 ("Orr '552")	United States of America	November 10, 2005	October 20, 2009
U.S. Patent Application No. 2009/0303192 ("Ho")	United States of America	September 24, 2008	December 10, 2009
U.S. Patent Application Publication No. 2011/0087454 ("Lee")	United States of America	October 1, 2009	April 14, 2011
U.S. Patent No. 5,612,931 ("Sato")	United States of America	July 5, 1995	March 18, 1997
U.S. Patent No. 8,344,998 ("Fitzgerald")	United States of America	January 20, 2009	January 1, 2013
U.S. Patent Application Publication No.	United States of America	April 19, 2005	October 19, 2006

Patent or Publication Number	Country of Origin	Filing Date	Date of Issue or Publication
2006/0236014 (“Yin”)			
U.S. Patent Application Publication No. 2007/0263491 (“Kim”)	United States of America	May 10, 2007	November 15, 2007

2. Prior Art Non-Patent Publications

The following non-patent publications are prior art to the asserted claims under at least pre-AIA 35 U.S.C. §§ 102(a), (b), (e), and/or (g) and/or pre-AIA 35 U.S.C. § 103.

Title	Author/Publisher	Date of Publication
zCover Universal Armband (2007)	Zcover.com (via The Wayback Machine); examples depicted at SAMS366-0015323-324 and made available for inspection.	10-14-2007
AirTouch, Synchronizing in-air hand gesture and on-body tactile feedback to augment mobile gesture interaction	Seungyon Claire Lee, Bohao Li, and Thad Starner (Proceedings of the 2011 15 th Annual International Symposium on Wearable Computers)	2011
Four Degrees of Freedom Inertial Sensor ADIS 16300 Data Sheet (“ADIS16300”)	Analog Devices	2009
MMA7660FC Three-axis low g digital acceleration sensor Data Sheet	NXP	2009
Signal Processing of the Accelerometer for Gesture Awareness on Handheld Devices	I.J. Jang, W.B. Park (Proceedings of the 2003 IEEE International Workshop on Robot and Human Interactive Communication)	10-31-2003
gRmobile: A Framework for Touch and Accelerometer Gesture Recognition for Mobile Games	Mark Joselli, Esteban Clue (Proceedings of the VIII Brazilian Symposium on Games and Digital Entertainment)	10-8-2009

Title	Author/Publisher	Date of Publication
The Gesture Watch: A Wireless Contact-free Gesture based Wrist Interface	Jungsoo Kim, Jiasheng He, Kent Lyons, and Thad Starner (published by IEEE)	2007
3-Axis, Digital Accelerometer ADXL345 Data Sheet (“ADXL345 Datasheet”)	Analog Devices	2011
Pocketnow, LG GD910 Hardware and Software Review Pocketnow, YouTube (June 21, 2010), https://www.youtube.com/watch?v=_FAwzkc0gKo , (“Hardware and Software Review”)	YouTube	06/21/2010
Stuff, LG GD910 Watchphone Hands On, YouTube (Aug. 27, 2009), https://www.youtube.com/watch?v=mGGRIQZvH34 , (“Watchphone Hands On”)	YouTube	08/27/2009
IGN, CES 2009: The LG Watch Phone, YouTube (Jan. 9, 2009), IGN, CES 2009: The LG Watch Phone, YouTube (Jan. 9, 2009), https://www.youtube.com/watch?v=vB4zT0I1pkM , (“LG Watch Phone”)	YouTube	01/09/2009
LG GD910, Full Phone Specifications, (“Full Phone Specifications”)	GMSArena	No later than 2011
LG GD910, User Guide, (“User Guide”)	LG	2009
LG reveals GD910 Watch Phone to be released this year	Nicole Lee	01/07/2009

Title	Author/Publisher	Date of Publication
LG's New Watch Phone	YouTube	01/22/2009
Freescall Semiconductor, MMA7660FC Three-axis low g digital acceleration sensor ("Freescall Datasheet")	Freescall	2009
Motorola, Semiconductor Technical Data for MMA6260Q, MMA6261Q, MMA6262Q, MMA6263Q ("Motorola Datasheet")	Motorola	2004
GestureWrist and GesturePad: unobtrusive wearable interaction devices, Proceedings Fifth International Symposium on Wearable Computers, Zurich, Switzerland, 2001, pp. 21-27 ("Rekimoto")	Rekimoto, J	October 8, 2001.
Gesture Recognition with a Wii Controller, Proceedings of the Second International Conference on Tangible and Embedded Interaction (TEI'08), 2008, Bonn, Germany, pp. 11-14 ("Schlömer")	Schlömer, T.,	February 18, 2008

3. Prior Art Systems

The following systems are prior art under at least 35 U.S.C. §§ 102(a), (b) and/or (g):

1. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to LG GD910, as exemplified in the claim chart in Exhibit D4. As part of these Invalidity Contentions, Defendants have produced documents relating to LG GD910. Based on information available to Defendants, Defendants believes that LG GD910 was conceived and/or reduced to practice by engineers at LG Electronics, including

those identified in the claim chart and its cited publications, at least before October 18, 2011, without being abandoned, suppressed, or concealed, and it was known or used by others in this country or in public use or on sale on by the dates identified in the claim chart, which are no later than October 18, 2011. *See, e.g.*, LG GD910 watch (made available and shown in SAMS366-0015320-21).

2. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to the Z-Cover armband. As part of these Invalidity Contentions, Defendants have produced documents relating to the Z-Cover armband. Based on information available to Defendants, Defendants believes the Z-Cover armband was conceived and/or reduced to practice by engineers at Z-Cover, at least before October 18, 2011 without being abandoned, suppressed, or concealed, and it was known or used by others in this country or in public use or on sale no later than October 18, 2011

Defendants' investigation into publicly available prior art systems that teach and/or render obvious each element of any asserted claims is ongoing. Fact discovery is at an early stage, and Defendants may require discovery from third parties regarding publicly available prior art systems. Defendants reserve the right to amend its identification of prior art systems as Defendants become aware of the existence, functionality, and/or characteristics of prior art systems as a result of its investigation and forthcoming discovery. In addition to the prior art products, components, systems, and methods described above, Defendants also reserve the right to rely on the documents and publications identified in the corresponding claim charts as prior art publications.

B. Primary References

Defendants contend that the primary prior art references identified below and described in the charts attached as Exhibits A1 to A11, by themselves, anticipate the asserted claims of the '678 Patent. To the extent that a primary reference is deemed not to anticipate a claim for failing to teach one or more limitations of that claim, Defendants contend that the claim would nonetheless have been obvious to a POSITA at the time of the invention in view of the prior art reference itself, as described in the attached charts. Defendants' prior art charts (attached as

Exhibits A1 thru A11) set forth the particular claims that are anticipated under 35 U.S.C. § 102 and/or rendered obvious under 35 U.S.C. § 103 by each item of prior art and identify where specifically in each item of prior art, each element of each asserted claim is found.

Exhibit	Primary References
A1	U.S. Patent Application Publication No. US2009/0146962 (“Ahonen”)
A2	U.S. Patent Application Publication No. US2007/0208544 (“Kulach”)
A3	U.S. Patent Application Publication No. US2010/0253792 (“Kawaguchi”)
A4	U.S. Patent Application Publication No. US2011/0080349 (“Holbein”)
A5	U.S. Patent No. 8,866,735 (“Zhao ’735”)
A6	U.S. Patent Application Publication US2011/0242043 (“Yarvis”)
A7	U.S. Patent No. 7,606,552 (“Orr ’552”)
A8	U.S. Patent Application Publication No. US2011/0087454 (“Lee”)
A9	U.S. Patent No. 9,710,048 (“Zhao ’048”)
A10	U.S. Patent Application Publication US2010/0194682 (“Orr ’682”)
A11	LG GD910 Product and related Publications, including each of the following individually as a primary reference: • Pocketnow, LG GD910 Hardware and Software Review Pocketnow, YouTube (June 21, 2010), https://www.youtube.com/watch?v=_FAwzkc0gKo, (“Hardware and Software Review”) • Stuff, LG GD910 Watchphone Hands On, YouTube (Aug. 27, 2009), https://www.youtube.com/watch?v=mGGRIQZvH34, (“Watchphone Hands On”) • IGN, CES 2009: The LG Watch Phone, YouTube (Jan. 9, 2009), https://www.youtube.com/watch?v=vB4zT0I1pkM, (“LG Watch Phone”) • LG GD910, Full Phone Specifications, (“Full Phone Specifications”) • LG GD910, User Guide, (“User Guide”) • LG GD910 watch (made available and shown in SAMS366-0015320-21)

C. Secondary References

Exhibit A-A lists secondary prior art references and identifies, on a limitation-by-limitation basis, where specifically each secondary reference teaches the limitations of the asserted claims. 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 of the references listed as disclosing those alleged missing limitations in Exhibit A-A or with another primary reference disclosing those alleged missing limitations.

D. Obvious Combinations

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 A1 to A11 with any other reference(s) in Exhibit A1 to A11. 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 A-A 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.

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.

1. Exemplary Combinations

Below are examples of prior art references that would have been combined by one of ordinary skill in the art at the time of the alleged invention. These combinations are merely examples. The asserted claims of the '678 Patent are also rendered obvious by the following combinations:

- Orr '552 in combination with Orr '682.
- Orr '552 in combination with Orr '682 and Pasquero.
- Orr '552 in combination with Orr '682 and Yeung.
- Orr '552 in combination with Orr '682 and Li.
- Orr '552 in combination with Orr '682, Pasquero, and Li.
- Orr '552 in combination with Orr '682, Pasquero, and Yeung.
- Orr '552 in combination with Holbein.
- Orr '552 in combination with Holbein and one of Pasquero and Yeung.
- Ahonen in combination with one of Orr '682, Zhao '048, Lee, or Yarvis.
- Ahonen in combination with one of Orr '682, Zhao '048, Lee, or Yarvis and further combined with one of Ho or Li.
- Ahonen in combination with one of Orr '682, Zhao '048, Lee, or Yarvis and further combined with one of Yeung, Fitzgerald, Tecchiolli, or Sato.
- Ahonen in combination with one of Orr '682, Zhao '048, Lee, or Yarvis and further combined with one of Pasquero, Yin or zCover.

- Ahonen in combination with one of Orr '682, Zhao '048, Lee, or Yarvis and further combined with one of Rekimoto, Gesture Watch, AirTouch, Jang, Schlomer, or Joselli.
- Yarvis in combination with one of Orr '552, Holbein, Zhao '735.
- Yarvis in combination with one of Yeung, Fitzgerald, Tecchiolli, or Sato.
- Yarvis in combination with one of Pasquero, Yin or zCover.
- Yarvis in combination with one of Ho or Li.
- Yarvis in combination with one of Rekimoto, Gesture Watch, AirTouch, Jang, Schlomer, or Joselli.
- Yarvis in combination with one of Orr '552, Holbein, or Zhao '735 and further combined with one of Yeung, Fitzgerald, Tecchiolli, or Sato.
- Yarvis in combination with one of Orr '552, Holbein, or Zhao '735 and further combined with one of Ho or Li.
- Yarvis in combination with one of Zhao '048, Orr '682, Lee, Freescale Datasheet, Motorola Datasheet, ADXL345 Datasheet, Jang, or Schlömer.
- Yarvis in combination with one of Zhao '048, Orr '682, Lee, Freescale Datasheet, Motorola Datasheet, ADXL345 Datasheet, Jang, or Schlömer and further combined with one of Yeung, Fitzgerald, Tecchiolli, or Sato.
- Yarvis in combination with one of Zhao '048, Orr '682, Lee, Freescale Datasheet, Motorola Datasheet, ADXL345 Datasheet, Jang, or Schlömer and further combined with one of Ho or Li.

- Yarvis in combination with one of Zhao '048, Orr '682, Lee, Freescale Datasheet, Motorola Datasheet, ADXL345 Datasheet, Jang, or Schlömer and further combined with one of Pasquero, Yin, and zCover.
- Zhao '048 in combination with one of Yeung, Fitzgerald, Tecchiolli, or Sato.
- Zhao '048 in combination with one of Yeung, Fitzgerald, Tecchiolli, or Sato and further combined with one of Li, Ho, or Yarvis.
- Orr '682 in combination with one of Yeung, Fitzgerald, Tecchiolli, or Sato.
- Orr '682 in combination with one of Yeung, Fitzgerald, Tecchiolli, or Sato and further combined with one of Li, Ho, or Yarvis.
- Holbein in combination with one of Zhao '048, Orr '682, Lee, Freescale Datasheet, Motorola Datasheet, ADXL345 Datasheet, Jang, or Schlömer and further combined with Yeung, Fitzgerald, Tecchiolli, or Sato.
- Holbein in combination with one of Zhao '048, Orr '682, Lee, Freescale Datasheet, Motorola Datasheet, ADXL345 Datasheet, Jang, or Schlömer and further combined with one of Li, Ho, or Yarvis.
- LG GD910 Watch in combination with one of Orr '682, Zhao '048, Yarvis, Freescale Datasheet, Motorola Datasheet, ADXL345 Datasheet, Jang, or Schlömer.
- LG GD910 Watch in combination with one of Orr '682, Zhao '048, Yarvis, Freescale Datasheet, Motorola Datasheet, ADXL345 Datasheet, Jang, or Schlömer and further combined with one of Yeung, Fitzgerald, Tecchiolli, Rekimoto, Gesture Watch, AirTouch, Joselli, or Sato.

- LG GD910 Watch in combination with one of Orr '682, Zhao '048, Yarvis, Freescale Datasheet, Motorola Datasheet, ADXL345 Datasheet, Jang, or Schlömer and further combined with one of Li or Ho.
- Ahonen in combination with one or more of Kulach, Kawaguchi, Holbein, Zhao '735, Yarvis, Orr '552, Zhao '048, Yamazaki, Peterson, Li, Orr '682, Yeung, Pasquero, Ho, Tecchiolli.
- Kulach in combination with one or more of Ahonen, Kawaguchi, Holbein, Zhao '735, Yarvis, Orr '552, Zhao '048, Yamazaki, Peterson, Li, Orr '682, Yeung, Pasquero, Ho, Tecchiolli.
- Kawaguchi in combination with one or more of Ahonen, Kulach, Holbein, Zhao '735, Yarvis, Orr '552, Zhao '048, Yamazaki, Peterson, Li, Orr '682, Yeung, Pasquero, Ho, Tecchiolli.
- Holbein in combination with one or more of Ahonen, Kawaguchi, Kulach, Zhao '735, Yarvis, Orr '552, Zhao '048, Yamazaki, Peterson, Li, Orr '682, Yeung, Pasquero, Ho, Tecchiolli.
- Zhao '735 in combination with one or more of Ahonen, Kawaguchi, Holbein, Kulach, Yarvis, Orr '552, Zhao '048, Yamazaki, Peterson, Li, Orr '682, Yeung, Pasquero, Ho, Tecchiolli.
- Yarvis in combination with one or more of Ahonen, Kawaguchi, Holbein, Zhao '735, Kulach, Orr '552, Zhao '048, Yamazaki, Peterson, Li, Orr '682, Yeung, Pasquero, Ho, Tecchiolli.

- Orr '552 in combination with one or more of Ahonen, Kawaguchi, Holbein, Zhao '735, Yarvis, Kulach, Zhao '048, Yamazaki, Peterson, Li, Orr '682, Yeung, Pasquero, Ho, Tecchiolli.

2. Motivations to Combine

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, as explained above, 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 wristwatches with motion sensing capabilities and multiple power modes.

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 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 (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 attached charts in Ex. A1 to A11 and A-A provide additional reasons and motivations to combine the charted references as set forth in the prior art references themselves.

As an example of those reasons and motivations to combine the references, Yarvis Orr ’552, Ahonen, Ho, Kawaguchi, Holbein, Zhao ’735, Yeung, and Orr ’682, Zhao ’048, and Pasquero generally relate to electronic wristwatches and other portable electronic devices and, in particular, the advantages of improving the power consumption of these devices by (1) detecting taps and other gesture-based interactions using an accelerometer, touch panel, and touch controller, (2) discriminating between gesture and no gesture, and (3) employing different power

modes as a result of these gesture-based inputs. *See* Ex. A1 to A11 and A-A. The references disclose similar methods and techniques for improving power consumption of the wrist watch by employing different power modes based on the position of the watch relative to the user. Below are additional motivations to combine prior art for particular claim limitations. The following discussion of specific claim limitations are merely examples and are not limiting.

To the extent that any primary reference is deemed not to anticipate a claim for failing to teach limitation 1[a] (“using the accelerometer of the inertial sensor for generating an acceleration signal used for detecting a gesture on the cover glass of said wristwatch, while the microcontroller and the touch controller are in a sleep power mode”), or 14[e] (“an inertial sensor comprising an accelerometer and a processor and/or other processing means, said accelerometer being arranged for generating an acceleration signal...”), it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses limitation 1[a] and 14[e] in Exhibits A1 to A11 or Exhibit A-A. A person skilled in the art would have recognized that that use of an accelerometer was a common, predictable approach to detecting taps and other motion-based gestures because accelerometers capable of doing so were widely available, inexpensive, small, and frequently used in portable electronic devices. Moreover, it would have been obvious to add such an accelerometer to a portable electronic device due to its wide range of uses and particular ability to detect taps and utilize simple processing to discriminate between gesture and no gesture, thus allowing touch controller, touch panel, and microprocessor resources to be saved, resulting in a more power-efficient device. Thus, a POSITA would have been motivated to modify any of the primary references to include this feature. Several prior art references explicitly describe or implicitly suggest having or using an accelerometer for detecting gestures on the cover glass and/or other motion-based

gestures. *See, e.g.*, Orr '552 at 6:32-54, Orr '682 at [0026], Zhou '735 at [0020], Kawaguchi at [0037], Yarvis at [0021], Ahonen at [0094]-[0097], Holbein at [0018]-[0020], [0082], Kawaguchi at [0035], Zhao '048 at 2:58-3:11, Lee at [0009]-[0010], Kulach at [0074], Freescale Datasheet, Motorola Datasheet, ADXL345 Datasheet, Jang, Schlomer. A POSITA would also have had a reasonable expectation of success because each of the devices above incorporates an accelerometer in a portable electronic device and a POSITA would have expected that other portable electronic devices could have easily incorporated accelerometers as well. Adding an accelerometer to these references would have been straight forward and based on routine technologies and would have been amenable to various well-understood and predictable combinations.

To the extent that any primary reference is deemed not to anticipate a claim for failing to teach the “wristwatch” portion of limitations 1[pre], 1[a], 1[e], 14[pre] and 14[c], it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses limitations 1[pre], 1[a], 1[e], 14[pre] and 14[c] in Exhibits A1 to A11 or Exhibit A-A. A person skilled in the art would have recognized that a reference that disclosed a portable electronic device such as a phone, PDA, or other device, could have also been incorporated into a smaller form factor such as a watch and would have been motivated to do so due to the added portability, accessibility, and functionality that would have resulted from incorporating such features into a watch form factor. Thus, a POSITA would have been motivated to modify any of the primary references to include this feature. Several prior art references explicitly describe or implicitly suggest incorporating features such as gesture detection and touch screens into a watch form factor. *See, e.g.*, Pasquero at 2:29-33, Yeung at [0005], Sato, 3:3-11, 3:66-4:21, Tecchiolli, 4:32-5:21, 10:17-29, Fitzgerald, AirTouch,

Gesture Watch. Moreover, other references disclose converting another type of portable electronic device into a watch. *See, e.g.*, zCover at 1; Yin at FIG 3, [0001]. Still other references, while not explicitly reciting a “wristwatch” indicate that their inventions are intended to cover a wide variety of portable electronic devices that would also include wristwatches. *See, e.g.*, Orr ’552 at 3:44-48, Holbein at [0003], Orr ’682 at [0003], Yarvis at [0001], Ahonen at [0085], Zhao ’048 at 2:22-39, Lee at [0002]. A POSITA would have understood that smartphone, PDA, and other portable electronic devices would include teachings equally applicable to a wristwatch form factor. Thus, it would be obvious to implement any of these devices as a wrist-worn device and that any teachings applicable to touch screen devices having an accelerometer, touch panel, touch controller, and microprocessor would also be applicable to wristwatches. Thus, a POSITA would have been motivated to modify any of the primary references to include this feature. Implementing these devices in a wristwatch form factor would have been straightforward, and a POSITA would have had a reasonable expectation of success in doing so. This is particularly true because the references listed above, like the primary references disclose standard mobile computing devices detecting gestures with accelerometers, making the combination a matter of straightforward engineering that would have predictable results. Moreover, watches incorporating various smart phone features were well-known in the art and would not have presented any obstacle. Thus, applying any of the teachings of the references in Exhibits A1 to A11 would have been well within the capabilities of a POSITA and would have been a matter of ordinary engineering and not the product of innovation. A POSITA would have understood that these references disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

To the extent that any primary reference is deemed not to anticipate a claim for failing to teach limitations 1[b] (“using the processor and/or other processing means of the inertial sensor for discriminating between gesture and no gesture based on a direction of said acceleration signal and on a slope or frequency of said acceleration signal as measured by said accelerometer being a three dimensional accelerometer,” 14[e] (“said accelerometer being arranged for generating an acceleration signal and the processor and/or other processing means being arranged for discriminating between gesture and no gesture based on a direction of said acceleration signal as measured by said accelerometer being a three dimensional accelerometer, and on a slope or frequency of said acceleration signal”), or the limitations in claims 2 (“wherein the discrimination between gesture and no gesture is also based on a duration of said acceleration signal”), 3 (“wherein the discrimination between gesture and no gesture is also based on an amplitude of said acceleration signal”), 4 (“said step of discriminating between gesture and no gesture comprises determining said frequency and determining that there is no gesture if said frequency is not in a predetermined frequency range compatible with a tap”), or 5 (“said step of discriminating between gesture and no gesture comprises determining said direction and determining that there is no gesture if said direction is not substantially perpendicular to said cover glass”) it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses limitations 1[b] and 14[e] and the limitations in claims 2, 3, 4, and 5 in Exhibits A1 to A11 or Exhibit A-A. All of these limitations relate to the particular algorithm that the accelerometer utilizes to discriminate between gesture and no gesture, for example the direction, slope, frequency, amplitude, and/or duration of the acceleration signal. A POSITA would have been motivated to make this change because doing so would have resulted in more robust gesture detection by minimizing false positives and

distinguishing more effectively between gesture and no gesture. Doing so would create a better user experience. For example, on the one hand repeatedly waking up a device when a user interacted with the screen inadvertently could result in accidentally employing functionality on the electronic device (e.g., accidentally calling someone or beginning an inadvertent recording). On the other hand, not recognizing an interaction that is intended to wake up the device could result in frustration by the user. Indeed many of the prior art references themselves explain that analyzing the acceleration signal to look for certain traits is beneficial for these purposes. For example, Orr '682 teaches specific methods for "tap detection" using an accelerometer processor that include determining a direction and "rate of change of acceleration" (i.e., "slope" of the acceleration signal) and registering a tap input when the rate of change exceeds a "predetermined tap threshold." Orr '682 at ¶¶24, 83, 106. Orr '682's accelerometer processor also further improves the "accuracy of tap detection" by analyzing the "duration of each of the positive and negative peaks [of the acceleration signal], the duration of the peaks, and possibly the duration between the peaks," i.e., the frequency of the acceleration signal. *Id.* ¶84. Orr 682's methods "increase the accuracy" and reduce "erroneous tap inputs." *Id.* ¶89. A POSITA would have been motivated to enhance another reference's accelerometer and inertial sensor processor to include Orr '682's accelerometer processing capabilities of measuring direction, slope, and frequency of the acceleration signal in order to more reliably detect a tap gesture with the accelerometer and avoid "unnecessary re-activations of the microprocessor" due to "[f]alse positives" in the asserted claims. Other prior art references similarly disclose discriminating between gesture and no gesture based on the direction, slope, frequency, duration, and/or amplitude of the acceleration signal. *See, e.g.,* Yarvis at [0018], Zhao '048 at 4:6-23, Holbein at [0084], Orr '682 at [0026], [0084], Orr '442 at 8:64-9:7, Ahonen at [0128], Kawaguchi at [0090]-[0094], Zhao '735 at 4:18-

61, Lee at [0009]-[0010], Freescale Datasheet, Motorola Datasheet, ADXL345 Datasheet, Jang, Schlömer. Based on any of these references, and others disclosing this limitation, it would have been obvious to a person of ordinary skill to utilize an accelerometer to discriminate between gesture and no gesture by analyze the direction, slope, frequency, duration and/or amplitude of the acceleration signal. Implementing the accelerometers in the devices disclosed in the prior art to incorporate analyzing the direction, slope, frequency, duration, and/or amplitude of the acceleration signal would have been straightforward, and a POSITA would have had a reasonable expectation of success in doing so. This is particularly true because the references listed above, like the primary references disclose standard mobile computing devices detecting gestures with accelerometers whose acceleration outputs could have been analyzed for the direction, slope, frequency, duration, and/or amplitude of the acceleration signal, making the combination a matter of straightforward engineering that would have predictable results as it would simply be a matter of performing additional analysis on existing data. Thus, applying any of the teachings of the references in Exhibits A1 to A11 would have been well within the capabilities of a POSITA and would have been a matter of ordinary engineering and not the product of innovation. A POSITA would have understood that these references disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

To the extent that any primary reference is deemed not to anticipate a claim for failing to teach limitation 1[c] (“in response to a detection of a gesture by said inertial sensor, waking up the touch controller”), 1[e] (“waking up the microcontroller in said wristwatch upon detection of a tap gesture by said touch controller”), 14[f] (“wherein touch controller is commanded so as to be switched to said second power mode upon gesture detection by said inertial sensor and for

detecting a tap gesture on the cover glass with the touch panel”), or 14[g] (“wherein the microcontroller is arranged for controlling a display of indication on the display and commanded so as to be switched to said second power mode upon a tap gesture detection by said touch controller and for discriminating between gesture and no gesture based at least on signals from said touch panel”), it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses limitations 1[c], 1[e], 14[f], and 14[g] in Exhibits A1 to A11 or Exhibit A-A. A person skilled in the art would have recognized that that use of detection by an accelerometer to wake up a touch controller and then using detection by a touch controller to wake up the microprocessor and display was a common, predictable approach to conserving power because it maximizes the time that power hungry components are in a low-power mode while still maintaining a robust touch detection system that is resistant to false positives and able to quickly activate the microprocessor and display, as needed. Moreover, it would have been obvious to add such two-step process to a portable electronic device having an accelerometer and touch controller due to its these advantages, resulting in a more power-efficient device. Thus, a POSITA would have been motivated to modify any of the primary references to include this feature. Several prior art references explicitly describes or implicitly suggests using a two stage wakeup process where a touch controller is woken up on the basis of a detection by an accelerometer followed by the microprocessor being woken up on the basis of detection by a touch controller. *See, e.g.*, Yarvis at [0010]-[0011], Orr ’552 at 6:32-52, Holbein at [0088]-[0090], Ahonen at [0150]-[0154], Kawaguchi at [0065], Zhao ’048 at 6:21-7:9; Zhao ’735 at 6:32-45; Lee at [0009]. Implementing a two-step wake up routine as required by these claim elements in any of the electronic devices disclosed by the primary references would have been straightforward, and a POSITA would have

had a reasonable expectation of success in doing so. This is particularly true because the references listed above, like the primary references disclose standard mobile computing devices with power management techniques and accordingly, implementing a two-step wakeup process would have been a matter of straightforward engineering that would have predictable results. Thus, applying any of the teachings of the references in Exhibits A1 to A11 would have been well within the capabilities of a POSITA and would have been a matter of ordinary engineering and not the product of innovation. A POSITA would have understood that these references disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

To the extent that any primary reference is deemed not to anticipate a claim for failing to teach limitation 1[pre] (“a touch controller for interpreting touch signal provided by a touch panel underneath a cover glass and for converting said signals into command signal”) 1[d] (“using the touch controller for detecting a tap gesture on the cover glass with the touch panel”) 14[c] (“a touch panel underneath a cover glass of said wristwatch for detecting a gesture on said cover glass”), or 14[d] (“a touch controller for interpreting touch signal provided by the touch panel and for converting said signals into command signal”), it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses limitations 1[pre], 1[d], 14[c], and 14[d] in Exhibits A1 to A11 or Exhibit A-A. A person skilled in the art would have been motivated to include a touch panel and touch controller because doing so would provide additional methods for a user to interact with and use a device providing an enhanced user experience and driving additional user demand for the product. By the priority date of the '678 Patent, utilizing a touch screen with portable electronic devices was commonplace and many of the references in Exhibits A1 to A11 and Exhibit A-A disclose

electronic devices with touch panels to detect gestures on the cover glass and touch controllers to interpret those gestures and converting them into command signals. *See, e.g.*, Holbein at [0018]-[0021]; Orr '682 at [0042]; Yarvis at [0011]-[0012]; Ahonen at [0120]; Kawaguchi at [0047]-[0048]; Zhao '048 at 4:41-63; Li at 2:29-54; Ho at [0008]. A POSITA would have had a reasonable expectation that such a combination would have been successful because touch screens were well-known and widely implemented in the prior art, including as shown in the references above and using a touch panel, for example with capacitive sensing, to detect when a user is interacting with the cover glass and a separate touch controller for interpreting those touches and gestures was a standard way of employing a touch screen. Thus, applying any of the teachings of the references cited above to a reference without a touch screen including a touch panel or touch controller would have been well within the capabilities of a POSITA and would have been a matter of ordinary engineering and not the product of innovation given the interrelated nature of these teachings and routine technologies at issue that would have been amenable to various well-understood and predictable combinations.

To the extent that any primary reference is deemed not to anticipate a claim for failing to teach limitations in claims 6 (“wherein said touch panel comprises a plurality of touch areas, said method comprising a step of applying a power supply sufficient for detecting a gesture to only a first subset of said touch areas”), 8 (“wherein said accelerometer is powered on when said wristwatch is in said first power mode, said method comprising a step of partially waking up said touch panel upon detection of a gesture by said accelerometer”), 9 (“a step of waking up only a subset of the complete area of said touch panel upon detection of a gesture by said accelerometer”), or 15 (“wherein said touch panel comprises a plurality of touch areas and powering means arranged for powering only a first subset of said touch area upon detection of a

gesture by said accelerometer, and for powering a larger subset in said second power mode”), it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses the limitations in claims 6, 8, 9, or 15 in Exhibits A1 to A11 or Exhibit A-A. A person skilled in the art would have been motivated to include a touch panel having a plurality of touch areas and where the touch panel could be operated to power only certain subsets of the touch areas upon detection of a gesture or in certain modes because doing so would result in power savings and, by extension greater battery life and portability. A POSITA would have understood that one of the most important features of portable electronic devices at the time of the '678 Patent was their battery life and would have known that nearly all portable electronic devices at this time employed techniques for power savings and battery maximization. Given that each time the touch panel is scanned for touches it costs power, a POSITA would have been motivated to minimize either the frequency or area of the touch panel scanned while still preserving a good user experience. One way of accomplishing this is to have multiple touch areas that could be activated in different ways depending on the situation, as shown by the references in Exhibits A1 to A11 and Exhibit A-A that disclose electronic devices with touch panels configured to operate in this way. *See, e.g.,* Holbein at [0078], Yarvis at [0019]; Li at 6:19-67, 9:23-10:8; Ho at [0018]-[0019]. A POSITA would have had a reasonable expectation that such a combination would have been successful because touch screens having touch panels that could be partially powered were well-known and widely implemented in the prior art, including as shown in the references above and configuring the touch panel with multiple touch areas that could be independently activated was a standard way of employing a touch screen or at least one of a finite number of possibilities. Thus, applying any of the teachings of the references cited above to a reference that does not explicitly disclose activating

only selected subsets of the touch panel under certain circumstances would have been well within the capabilities of a POSITA and would have been a matter of ordinary engineering and not the product of innovation given the interrelated nature of these teachings and routine technologies at issue that would have been amenable to various well-understood and predictable combinations.

To the extent that any primary reference is deemed not to anticipate a claim for failing to teach limitation of claim 7 (“wherein discrimination between gesture and no gesture depends on a duration between a detection signal from said accelerometer and a detection signal with said touch panel”), it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses limitation of claim 7 in Exhibits A1 to A11 or Exhibit A-A. As explained above, a POSITA would have been motivated to employ processing of the acceleration signal to accurately discriminate between gesture and no gesture because doing so would have resulted in more robust gesture detection by minimizing false positives and would create a better user experience. For example, on the one hand repeatedly waking up a device when a user interacted with the screen inadvertently could result in accidentally employing functionality on the electronic device (e.g., accidentally calling someone or beginning an inadvertent recording). On the other hand, not recognizing an interaction that is intended to wake up the device could result in frustration by the user. In addition to utilizing the direction, slope, frequency, amplitude, or direction of the acceleration signal as discussed above with reference to limitation of claim 7, another obvious option is to utilize the duration between one recognized interaction and another, such as the duration between two taps or other inputs. Indeed many of the prior art references themselves explain that analyzing the duration between detecting two events as a method of determining if the device should be switched from one mode to another (e.g., sleep mode to wake mode). *See, e.g.,* Holbein at [0089]-[0091]; Orr ’682 at

[0081]; Yarvis at [0018]; Orr '552 at 2:54-62; Ahonen at [0108]-[0109]; Kawaguchi at [0123]-[0124]; Zhao '048 at 5:62-:6-19; Lee at [0025]; Li at 3:14-54. Based on any of these references, and others disclosing this limitation, it would have been obvious to a person of ordinary skill to utilize an accelerometer to discriminate between gesture and no gesture by analyzing the duration between two interactions (e.g., two taps on the cover glass). Implementing the accelerometers and touch controllers in the devices disclosed in the prior art to incorporate analyzing this duration would have been straightforward, and a POSITA would have had a reasonable expectation of success in doing so. This is particularly true because the references listed above, like the primary references disclose standard mobile computing devices detecting gestures with accelerometers and touch controllers and detecting the period of time between multiple of these interactions would have been a matter of straightforward engineering that would have predictable results as it would simply be a matter of performing additional analysis on existing data. Thus, applying any of the teachings of the references in Exhibits A1 to A11 would have been well within the capabilities of a POSITA and would have been a matter of ordinary engineering and not the product of innovation. A POSITA would have understood that these references disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

To the extent that any primary reference is deemed not to anticipate a claim for failing to teach limitation 10 (“a step of waking up a microcontroller in said wristwatch upon detection of a gesture by said accelerometer and with said touch panel”), it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses limitation 10 in Exhibits A1 to A11 or Exhibit A-A. A person skilled in the art would have been motivated to include a process by which the microcontroller of the electronic

device was woken up as a result of a gesture detected by an accelerometer with the touch panel because doing so would have resulted in power savings by allowing the microcontroller to sleep while the lower-power accelerometer monitors interactions with the touch panel in order to wake up the microcontroller as needed for the user to interact with the device. Doing so would have resulted in longer battery life and an enhanced user experience as a result. As explained above, the advantages of improving battery life were well-known and sought after in the art at the time of the '678 Patent. By the priority date of the '678 Patent, utilizing an accelerometer to detect interactions with a touch panel and perform functions as a result of such interactions, such as waking the microcontroller was well-known and many of the references in Exhibits A1 to A11 and Exhibit A-A disclose this feature. *See, e.g.*, Holbein at [0060]-[0061]; Orr '682 at [0156]; Yarvis at [0018]-[0019]; Orr '552 at 2:15-23; Ahonen at [0150]-[0154]; Zhao '048 7:28-47; Lee at [0022]. A POSITA would have had a reasonable expectation that such a combination would have been successful because accelerometers capable of detecting touches and waking up the microcontroller were well-known and widely implemented in the prior art, including as shown in the references above. Moreover, to the extent that a reference includes both an accelerometer and microcontroller but does not disclose using them in this way, doing so would have been a simple matter of using existing hardware in conventional ways. Thus, applying any of the teachings of the references cited above to a reference without this capability would have been well within the capabilities of a POSITA and would have been a matter of ordinary engineering and not the product of innovation given the interrelated nature of these teachings and routine technologies at issue that would have been amenable to various well-understood and predictable combinations.

To the extent that any primary reference is deemed not to anticipate a claim for failing to teach limitation of claim 11 (“said gesture being a tap or a double tap”), it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses limitation of claim 11 in Exhibits A1 to A11 or Exhibit A-A. A person skilled in the art would have been motivated to include in its library of user interactions both a tap and a double tap because these are convenient ways for a user to interact with the cover glass of a touch screen device. In particular, a POSITA would have implemented a tap gesture because it is the most straightforward interaction a user can have with a touch panel and the basis for other gestures like a swipe, pinch, or double tap. A POSITA would have similarly been motivated to implement a double tap for the same reasons and for the additional reason that a double tap is a simple and straightforward method of confirming that a user’s gesture is intentional. Whereas a single tap may occur inadvertently, it is much less likely for a double tap to occur inadvertently, particularly if parameters like force of the touch, duration of each tap, and duration between taps are employed as additional filtering mechanisms for the double tap. By the priority date of the ’678 Patent, utilizing a touch screen devices with tap and double tap gestures were commonplace and many of the references in Exhibits A1 to A11 and Exhibit A-A disclose electronic devices that recognize both tap and double tap gestures. *See, e.g.*, Holbein at [0085]; Orr ’682 at [0024], [0095]; Yarvis at [0014]; Ahonen at [0094]-[0097], [0112]; Zhao ’048 at 1:66-2:6; Zhao ’735 at 5:40-56, Lee at [0009], [0023]; Kulach at [0073]. A POSITA would have had a reasonable expectation that such a combination would have been successful because tap and double tap gestures were widely implemented in the prior art, including as shown in the references above and were a standard way of allowing a user to interact with a touch screen. Thus, applying any of the teachings of the references cited above to a reference that does not

explicitly recognize taps or double taps as valid gestures would have been well within the capabilities of a POSITA and would have been a matter of ordinary engineering and not the product of innovation given the interrelated nature of these teachings and routine technologies at issue that would have been amenable to various well-understood and predictable combinations.

To the extent that any primary reference is deemed not to anticipate a claim for failing to teach limitation of claim 12 (“a step of detecting a wristturn with said accelerometer, and switching said wristwatch from said first power mode to said second power mode when a wristturn has been detected”), it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses limitation of claim 12 in Exhibits A1 to A11 or Exhibit A-A. A person skilled in the art would have been motivated to include a wristturn as an input that could be used to switch a wristwatch between two power modes. Doing so would have provided added utility to a wristwatch by simultaneously preserving power, thereby improving battery life, and providing the functionality that a user expects from a traditional analog or digital wristwatch such as being able to raise their arm to a position where they could see the watch and being able to see the time. A POSITA would have recognized the importance of allowing a user to interact with a watch in this way because telling the time without any additional interaction with the device beyond raising it is expected functionality for a wristwatch. However, addressing this problem by continually having the screen of the wristwatch activated is a suboptimal solution given the high power consumption of the screen of an electronic device that would result in high power consumption and low battery life, particularly in a small form factor device such as a watch that does not have the space for a large battery. Thus recognizing the motion of a user performing a wristturn and switching the power mode of the device based on that movement would have been a natural solution. By the

priority date of the '678 Patent, recognizing a wristturn and using it to switch the power modes of the device was well-known as illustrated by several references disclosing this feature. *See, e.g.,* Yeung at [0046]-[0048]; Sato at 6:18-24; Fitzgerald at 1:41-46, Tecchiolli at 10:17-29. Moreover, detecting orientation of other types of electronic devices and switching modes on the basis of the detected orientation was also well-known. *See, e.g.,* Holbein at [0084]; Orr '682 at [0128]-[0131]; Yarvis at [0018]; Ahonen at [0112]; Kawaguchi at [0042]; Kulach at [0074]. A POSITA would have had a reasonable expectation that employing a wristturn would have been successful because wristwatches capable of detecting wristturns and switching power modes were well-known in the prior art, including as shown in the references above and would not have involved the use of any additional hardware but rather employing the existing hardware, such as an accelerometer in ways consistent with their general operation. In those situations where orientation is detected in a non-wristwatch, a POSITA would have understood that the analog to detecting orientation of the device in these contexts is detecting a wristturn in the context of a watch. For example, a phone placed face down on a table or otherwise facing away from the user would be analogous to a wristwatch turned so that a user could not see it while a phone facing the user would be analogous to a user turning their wrist and raising the watch towards their face so that it could be viewed or interacted with. Thus, applying any of the teachings of the references cited above to a reference not disclosing switching modes based on a wristturn was well within the capabilities of a POSITA and would have been a matter of ordinary engineering and not the product of innovation given the interrelated nature of these teachings and routine technologies at issue that would have been amenable to various well-understood and predictable combinations.

To the extent that any primary reference is deemed not to anticipate a claim for failing to teach limitations 13[a] (“detecting that an orientation of the wristwatch is in a first range”), 13[b] (“detecting that the orientation of the wristwatch is then in a second range, different from said first range”) or 13[c] (“detecting that the wristwatch remains substantially immobile during a predetermined duration”), it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses limitations 13[a], 13[b], and 13[c] in Exhibits A1 to A11 or Exhibit A-A. These limitations all relate to detecting a wristturn based on particular orientation ranges and timing factors. A person skilled in the art would have been motivated to include particular timing and orientation factors in detecting a wristturn in order to distinguish between actual wristturns and false positives such as inadvertent gesturing, covering ones mouth, or natural movements. Doing so would have provided a more robust detection system and avoided activating the device or certain features of the device inadvertently. By the priority date of the ’678 Patent, utilizing algorithms to distinguish between intentional and unintentional movement patterns were commonplace and many of the references in Exhibits A1 to A11 and Exhibit A-A disclose electronic devices with these features. *See, e.g.*, Yeung at [0046]-[0048]; Sato at 6:18-24; Fitzgerald at 1:41-46; Holbein at [0084]; Orr ’682 at [0128]-[0131]; Yarvis at [0018]; Ahonen at [0112]; Kawaguchi at [0042]; Kulach at [0074], Tecchiolli at 4:32-5:21. A POSITA would have had a reasonable expectation that such a combination would have been successful because algorithms based on timing or orientation to distinguish between intentional and unintentional movements were well-known and widely implemented in the prior art, including as shown in the references above and using such algorithms was a standard way of employing a touch screen. Thus, applying any of the teachings of the references cited above to a reference without an algorithm discriminating between

intentional and unintentional movement patterns would have been well within the capabilities of a POSITA and would have been a matter of ordinary engineering and not the product of innovation given the interrelated nature of these teachings and routine technologies at issue that would have been amenable to various well-understood and predictable combinations.

By way of further example and application of the motivations to combine discussed above, Defendants provide the following additional motivations to combine certain references. These additional motivations are not intended to limit the combinations discussed above.

Orr '552 and Orr '682

In addition to the motivations discussed above, a POSITA would have been motivated to combine the teachings of Orr '552 and Orr '682 and would have had a reasonable expectation of success in doing so, because each relates to the same technologies, names a common lead inventor, Kevin Orr, and was assigned to the same company, Research in Motion (maker of BlackBerry products). Both relate to gesture detection in portable electronic devices using accelerometers and touchscreens. Orr'552 at 9:2-7, 11:11-18; Orr '682 at ¶¶28, 91. And Orr '552 and Orr '682 provide compatible solutions for reducing power consumption in electronic devices. Orr '552 at Abstract, 1:32-42, 6:32-54; Orr '682 at Abstract, ¶¶3-4, 80-91. The proposed combination improves Orr in four aspects.

First, Orr '552 discloses “a two-stage approach ... to re-activate [the] device” involving the accelerometer’s detecting a gesture input followed by the touch panel’s confirming the user’s intended input. Orr '552 at 6:44-50. Orr '682 teaches specific methods for “tap detection” using an accelerometer processor that include determining a direction and “rate of change of acceleration” (i.e., “slope” of the acceleration signal) and registering a tap input when the rate of change exceeds a “predetermined tap threshold.” Orr '682 at ¶¶24, 83, 106. Orr '682’s

accelerometer processor also further improves the “accuracy of tap detection” by analyzing the “duration of each of the positive and negative peaks [of the acceleration signal], the duration of the peaks, and possibly the duration between the peaks,” i.e., the frequency of the acceleration signal. *Id.* ¶84. Orr ’682’s methods “increase the accuracy” and reduce “erroneous tap inputs.” *Id.* ¶89. A POSITA would have been motivated to enhance Orr ’552’s accelerometer and inertial sensor processor to include Orr ’682’s accelerometer processing capabilities of measuring direction, slope (including amplitude), and frequency of the acceleration signal (Orr ’682 at ¶24) in order to more reliably detect a tap gesture with the accelerometer and avoid “unnecessary re-activations of the microprocessor” due to “[f]alse positives” (Orr ’552 at 1:32-42, 6:41-54).

Second, once Orr ’552 detects a tap using the accelerometer processor, it wakes up a “touchscreen” (“input device 34”), which can “detect movement of a finger of the user across its sensor.” Orr ’552 at 9:21-24, 9:33-39. This touchscreen-detected gesture is used to provide a “further check for activation inputs” to validate that the initial input detected by the accelerometer was intentional, though Orr ’552 does not specifically state this touchscreen gesture may be a tap. *Id.*, 9:21-26. However, Orr ’682 also discloses a touchscreen and touchscreen controller that receives touch inputs from the touchscreen surface *to detect taps*. Orr ’682 at ¶¶28-29. A POSITA would have been motivated to modify Orr’s touchscreen controller to detect a tap on the touchscreen surface, which would have provided additional safeguards against a misidentified gesture that might otherwise wake up the device’s microprocessor unnecessarily.

Third, Orr ’552 describes a “display 14” and an “input device 34” and states that the input device 34 can be a touchscreen. Orr ’552 at 9:32-34. A POSITA would have understood that in such a case, display 14 would have been implemented as a touch-sensitive display such that “display 14” and “input device 34” are combined as a single unit, i.e., a touchscreen display.

However, Orr '552 does not describe the structure of its touchscreen display 14/34. On the other hand, Orr '682's touchscreen is implemented as "an electrode layer sandwiched between a glass member and a transparent protective cover sheet on which the touch-sensitive input surface 108 is located." Orr '682 at ¶43. A POSITA would have recognized that Orr '682's transparent protective cover sheet could have been implemented as a glass layer. Indeed, using a glass layer to cover a touchscreen was well-known in the art, as was implementing such cover sheets as a glass layer. A POSITA would have been motivated to implement Orr '552's touchscreen display according to Orr '682's teachings because a POSITA would have understood that touchscreens routinely comprise a protective cover glass on which a user can perform touch gestures in order to protect the system's components from the elements, particularly as glass is more scratch-resistant than other protective cover sheet options, such as plastic or acrylic.

Fourth, Orr '552 teaches waking a microprocessor from a sleep state after detecting a gesture on the touchscreen. Orr '552 at 9:27-31. Orr '682 also discloses a microprocessor ("processor 240 of the device") and notes that "detection of a touch event ... and/or determining the location of the touch event ... may be performed by either the *controller* of the touchscreen display ... or the *processor* ... of the device." Orr '682 at ¶49. In other words, once Orr '682's microprocessor is awake, it can perform gesture detection from the touchscreen inputs independently of the touch controller. A POSITA would have been motivated to enhance Orr's microprocessor programming with the touch-processing software of Orr '682 to enable the microprocessor to detect touch gestures independently of the touch controller because this would allow more flexibility in the type and complexity of gestures that could be detected by the system once fully powered up. In particular, because Orr '552's touchscreen controller must detect certain gestures before the microprocessor is awakened, it should operate at a low power and

detect only a limited number of gestures. But once the system is fully awake, a more capable system, in which software on the microprocessor could recognize a large variety of gestures, would be advantageous.

Thus, the combined system of Orr '552-Orr '682 would include (1) Orr '552's accelerometer and inertial sensor processor enhanced to detect a direction, slope (including amplitude), and frequency of acceleration, as disclosed by Orr '682; (2) Orr '552's touch controller enhanced to detect tap gestures at the touchscreen, as disclosed in Orr '682; (3) Orr '552's touchscreen implemented underneath a cover glass such that user gestures are performed (and detected) on the cover glass, as disclosed by Orr '682; and (4) Orr '552's microprocessor enhanced with the capability of detecting touchscreen gestures independently of the touch controller, as disclosed by Orr '682.

Modifying Orr '552 to include these Orr '682 features would have been a straightforward engineering task for a POSITA as both Orr '552 and Orr '682 disclose standard mobile computing devices that are capable of detecting gestures. Accordingly, a POSITA would have understood that implementing the approaches described in Orr '682 into Orr's system would have been a matter of using familiar elements that would have yielded predictable results.

Furthermore, a POSITA would have had a reasonable expectation of success in combining the teachings of Orr '552 and Orr '682, as both patent publications are by the same inventor and assigned to the company. Moreover, each purports to solve problems relevant to portable electronic devices in similar and predictable ways. For example, Orr '552 teaches a "two-stage approach" involving added confirmation for input gesture detection, and Orr '682 teaches a method to discriminate a purposeful tap from a false input using features inherent to a tap gesture. Orr '552 at 6:32-54; Orr '682 at ¶¶24-31. A POSITA would have understood that the

teachings of Orr '552 and Orr '682 could have been combined with no change in the respective functions in Orr '552 and Orr '682's compatible systems.

Orr '552-Orr '682-Li

In addition to the motivations discussed above, a POSITA would have been motivated to combine the teachings of Orr '552-Orr '682 with Li and would have had a reasonable expectation of success in doing so because each relates to input gesture detection using a touchscreen in portable electronic devices. Orr '552 at 11:11-18; Orr '682 at ¶91; Li at Abstract. And Orr '552, Orr '682, and Li all provide compatible solutions for reducing power consumption. Orr '552 at 6:32-54; Orr '682 at ¶136; Li at Abstract, 13:57-61. Orr '552-Orr '682 is directed to reducing power consumption in electronic devices by providing sleep modes in which certain hardware is put into a lower power state. *See, e.g.*, Orr '552 at 9:46-56. Li teaches methods of selectively powering up only portions of a touchscreen “with the objective of reducing the power consumption of the capacitive touchscreen system.” Li at 13:57-14:29. A POSITA would have recognized that incorporating Li's methods of activating only a subset of the touch panel into the Orr '552-Orr '682 system would have furthered Orr '552, Orr '682, and Li's power-reduction goals as it would provide further opportunities to reduce power consumption while still allowing for the confirmation of user input at the touch panel.

Modifying Orr '552-Orr '682 to include Li's partial-activation features would have been a straightforward engineering task for a POSITA as Orr '552, Orr '682, and Li all disclose standard mobile computing devices that use touchscreens for input gesture detection. Accordingly, a POSITA would have had a reasonable expectation of success as the implementation would have been a matter of using familiar elements that would have yielded predictable results.

Orr '552- Orr '682-Pasquero

In addition to the motivations discussed above, a POSITA would have been motivated to combine the teachings of Orr '552-Orr '682 with Pasquero and would have had a reasonable expectation of success in doing so. Orr '552 and Orr '682 share a common lead inventor, Kevin Orr, and Orr '552 and Pasquero share a common co-inventor, Steven Fyke, and all three applications were owned by Research In Motion/BlackBerry. Each reference also relates to input gesture detection using a touchscreen and/or accelerometer in portable electronic devices. Orr '552 8:64-9:7, 11:11-18; Orr '682 ¶¶24-26, 28-31, 91; Pasquero at 3:38-50, 9:10-38. And Orr, Orr '682, and Pasquero all provide compatible systems, while disclosing various form factors. Orr '552 Abstract, 1:14-22, 3:39-58; Orr '682, Abstract; Pasquero at Abstract, 3:38-50, 9:10-38. Orr '552-Orr '682 teaches an “optimally ... lightweight [and] compact” “electronic device” that is “based on a computing platform having functionality of an enhanced personal digital assistant” and that “can be based on construction design and functionality of other electronic devices, such as smart telephones, desktop computers pagers or laptops having telephony equipment.” Orr '552 1:14-22, 3:39-58. Pasquero teaches a “portable electronic device” that is a “Personal Digital Assistant[.]” that is in the form of “a watch” that is “worn at or near the wrist of a user.” Pasquero at 1:14-31, 2:29-30, 3:38-50, 7:33-41. Based in particular on the teachings of Pasquero, a POSITA would have recognized the feasibility of implementing the Orr '552-Orr '682 system in a wristwatch. Indeed, similar to the devices disclosed in Orr '552 and Orr '682, Pasquero discloses a wristwatch comprising display 116 (i.e., “touch-sensitive display”); sensors 114 (i.e., “touch sensors”); and accelerometer 113. *See* Pasquero at Abstract, 3:38-50, 9:10-38. Moreover, a POSITA would have recognized that applying Pasquero’s teachings of implementing a PDA in a wristwatch would have furthered Orr’s goals of an “optimally ... lightweight [and] compact”

form factor (Orr '552 1:14-22).

A POSITA also would have been motivated to implement the combined Orr '552-Orr '682 system on a wristwatch, such as disclosed by Pasquero, as a POSITA would have understood that the combined Orr '552-Orr '682, with its advanced tap-detection calculation abilities, possessed the required robustness and precision necessary to prevent unnecessary power mode switches based on unintentional movements associated with a wrist-worn device.

Implementing Orr '552-Orr '682 in the wristwatch form factor described in Pasquero would have been a straightforward engineering task, and a POSITA would have had a reasonable expectation of success in doing so. Orr, Orr '682, and Pasquero all disclose standard mobile computing devices that use accelerometers and touchscreens for input gesture detection, making the combination a matter of using familiar elements that would have predictable results. Moreover, watches incorporating cellular telephony (as described by Orr '552 (Orr '552 3:59-61)), were well-known in the art, and incorporating such features of Orr '552 into Pasquero would not have presented any obstacle. Indeed, touchscreen wristwatches with similar features to the proposed combination were common.

Orr '552-Orr '682-Pasquero-Yeung

In addition to the motivations discussed above, a POSITA would have been motivated to combine Orr '552-Orr '682-Pasquero with Yeung. Orr '552-Orr '682-Pasquero in view of Yeung ("Orr '552-Orr '682-Pasquero-Yeung") teaches Claim 12. Yeung discloses detecting a wristturn with the accelerometer and switching the wristwatch from a first power mode to a second power mode when a wristturn has been detected: the wristwatch/audio recorder "activates audio recording" (i.e., switching the wristwatch from a first power mode to a second power mode) only when the device "is in a predetermined orientation and/or after it has completed a predetermined

movement,” as detected by the three-axis accelerometer (i.e., detecting a wristturn with an accelerometer and switching the wristwatch’s power mode when a wristturn has been detected). Yeung at ¶¶15, 36; *see also id.* ¶¶37-46 (“[C]ontroller 48” “uses the data stored in accelerometer-data memory 50 to compute the orientation and/or movement of audio recorder 30 and activate[] an audio-recorder function ... only if a predetermined orientation and/or movement is detected.”). These “predetermined movement[s]” include a wristturn—“the natural movement of lifting the arm upwards from a resting position (i.e. from the side of the body or from in front of the lower end of the torso) and tilting the wrist towards the mouth,” as shown in Figure 6. *Id.* ¶¶37, 46-47.

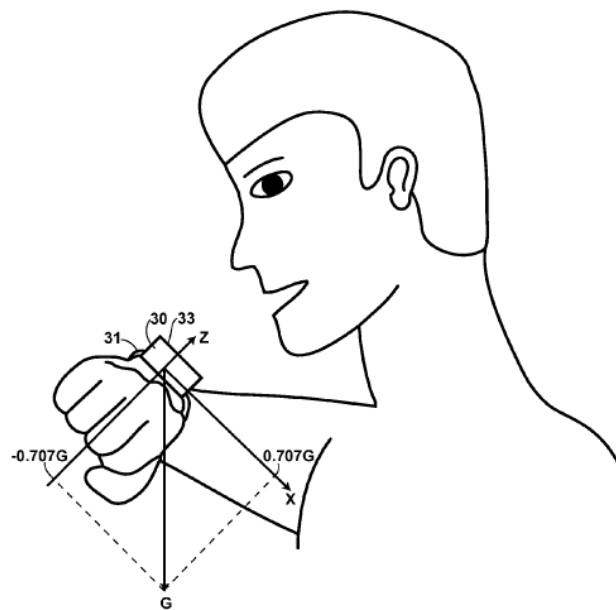


FIG. 6

A POSITA would have been motivated to apply Yeung’s teachings regarding switching power modes based on a wristturn to the Orr ’552-Orr ’682-Pasquero system, and would have had a reasonable expectation of success in doing so, for the reasons discussed above.

Orr ’552-Orr ’682-Yeung

In addition to the motivations discussed above, a POSITA would have been motivated to combine the teachings of Orr '552-Orr '682 with Yeung and would have had a reasonable expectation of success in doing so as each relates to input gesture detection using a touchscreen and/or accelerometer in a portable electronic device. Orr '552 9:2-7; Orr '682 ¶¶1; Yeung at ¶¶15, 36. And Orr, Orr '682, and Yeung all provide compatible systems, while disclosing various form factors. Orr '552 Abstract, 1:14-22, 3:39-58; Orr '682, Abstract; Yeung at ¶¶5, 37. Orr '552-Orr '682 teaches an “optimally ... lightweight [and] compact” “electronic device” that uses an accelerometer to change power modes. Orr '552 1:14-22, 3:39-58, 8:64-9:7. Yeung teaches using “accelerometer-based orientation and/or movement sensing” “to control wearable devices, such as ... wristwatches,” including by changing its power modes. Yeung at ¶¶5, 36-37, 47-48. Based on Yeung, a POSITA would have recognized the feasibility of implementing the Orr '552-Orr '682 system in a wristwatch. Indeed, like Orr '552 and Orr '682, Yeung's device includes “display 34” and “three-axis accelerometer 32.” Yeung at ¶¶5, 37. Moreover, a POSITA would have recognized that applying Yeung's teachings of implementing an electronic device using an accelerometer to change power modes in a wristwatch would have furthered Orr's goals of an “optimally ... lightweight [and] compact” form factor (Orr '552 1:14-22).

A POSITA also would have understood that Orr '552-Orr '682, with its advanced tap-detection calculation abilities, was suited to guard against false positive motion detections associated with a wrist-worn device.

A POSITA would have expected this combination to be successful, as the implementation would have been a straightforward engineering task yielding predictable results, since Orr, Orr '682, and Yeung all disclose standard mobile computing devices that use accelerometers and/or touchscreens for input gesture detection. Moreover, POSITA would have understood that the

teachings of Orr, Orr '682, and Yeung could have been combined with no change in the respective functions in Orr, Orr '682, and Yeung's compatible systems.

A POSITA would have been motivated to combine Yeung's teachings regarding specific methods for activating functionality based on using an accelerometer to detect a specific gesture, namely, a user's wristturn, to the Orr '552-Orr '682 system for the same reasons discussed above for the combination also including Pasquero.

VI. U.S. Patent No. 10,198,085 (“the '085 Patent”)⁶

A. Identification of Prior Art

In addition to the prior art cited on the face of the '085 Patent and related patents, the admitted prior art in the specifications of the '085 Patent and related patents, the prior art cited in any file histories, reexaminations, inter partes review proceedings, reissue proceedings, or other examination or post-grant proceedings of the '085 Patent and related patents, and the prior art cited in any invalidity contentions or expert reports submitted in any action or proceedings involving the '085 Patent or related patents, Defendants identify the following prior art that anticipates each asserted claim or renders it obvious.

1. Prior Art Patents

The following patents and patent publications are prior art to the asserted claims under at least pre-AIA 35 U.S.C. §§ 102(a), (b), (e), and/or (g) and/or pre-AIA 35 U.S.C. § 103. The identification of any patent or patent publication shall be deemed to include any counterpart patent or application filed, published, or issued anywhere in the world.

Patent or Publication Number	Country of Origin	Filing Date	Date of Issue or Publication
U.S. Patent No. 5,612,931 (“Sato”)	United States of America	July 5, 1995	March 18, 1997

⁶ Defendants further incorporate its IPR Petition IPR2024-00041 and accompanying exhibits.

Patent or Publication Number	Country of Origin	Filing Date	Date of Issue or Publication
United States Patent Application Publication 2009/0164219 (“Yeung”)	United States of America	December 18, 2008	June 25, 2009
U.S. Patent No. 8,228,292 (“Ruiz”)	United States of America	April 2, 2010 ⁷	July 24, 2012
Japanese Patent Application Publication JP 2010-262341 (“Shimazaki”)	Japan	April 30, 2009	November 18, 2010
Japanese Patent Application No. JP2007-41143 (“Nishijima”)	Japan	August 1, 2005	February 15, 2007
Chinese Patent Application Publication CN101458557B (“Zhenghao”)	China	December 14, 2007	December 15, 2010
WO 2006/120211 (“Tecchiolli”)	Italy/WIPO	May 10, 2006	November 16, 2006
United States Patent Application Publication 2011/0148752 (“Alameh”)	United States of America	December 18, 2009	June 23, 2011
U.S. Patent No. 8,344,998 (“Fitzgerald”)	United States of America	January 20, 2009	January 1, 2013
U.S. Patent Application Publication 2008/0229255 (“Linjama”)	United States of America	March 15, 2007	September 18, 2008
U.S. Patent No. 7,873,849 (“Mucignat”)	United States of America	September 2, 2009	January 18, 2011
U.S. Patent Application Publication No. 2006/0236014 (“Yin”)	United States of America	April 19, 2005	October 19, 2006
U.S. Patent No. 8,615,375 (“Yano”)	United States of America	February 11, 2011	December 24, 2011
U.S. Patent No. 9,122,735 (“Locker”)	United States of America	April 30, 2010	September 1, 2015

⁷ Based on provisional application 61/320,663.

Patent or Publication Number	Country of Origin	Filing Date	Date of Issue or Publication
U.S. Patent No. 9,710,048	United States of America	October 3, 2011	July 18, 2017

2. Prior Art Non-Patent Publications

The following non-patent publications are prior art to the asserted claims under at least pre-AIA 35 U.S.C. §§ 102(a), (b), (e), and/or (g) and/or pre-AIA 35 U.S.C. § 103.

Title	Author/Publisher	Date of Publication
zCover Universal Armband (2007)	Zcover.com (via The Wayback Machine)	10-14-2007
AirTouch, Synchronizing in-air hand gesture and on-body tactile feedback to augment mobile gesture interaction	Seungyon Claire Lee, Bohao Li, and Thad Starner (Proceedings of the 2011 15 th Annual International Symposium on Wearable Computers)	2011
Four Degrees of Freedom Inertial Sensor ADIS 16300 Data Sheet	Analog Devices	2009
MMA7660FC Three-axis low g digital acceleration sensor Data Sheet	NXP	2009
Signal Processing of the Accelerometer for Gesture Awareness on Handheld Devices	I.J. Jang, W.B. Park (Proceedings of the 2003 IEEE International Workshop on Robot and Human Interactive Communication)	10-31-2003
gRmobile: A Framework for Touch and Accelerometer Gesture Recognition for Mobile Games	Mark Joselli, Esteban Clue (Proceedings of the VIII Brazilian Symposium on Games and Digital Entertainment)	10-8-2009
The Gesture Watch: A Wireless Contact-free Gesture based Wrist Interface	Jungsoo Kim, Jiasheng He, Kent Lyons, and Thad Starner (published by IEEE)	2007
3-Axis, Digital Accelerometer ADXL345 Data Sheet	Analog Devices	2011

Title	Author/Publisher	Date of Publication
Pocketnow, LG GD910 Hardware and Software Review Pocketnow, YouTube (June 21, 2010), https://www.youtube.com/watch?v=_FAwzkc0gKo , (“Hardware and Software Review”)	YouTube	06/21/2010
Stuff, LG GD910 Watchphone Hands On, YouTube (Aug. 27, 2009), https://www.youtube.com/watch?v=mGGRIQZvH34 , (“Watchphone Hands On”)	YouTube	08/27/2009
IGN, CES 2009: The LG Watch Phone, YouTube (Jan. 9, 2009), IGN, CES 2009: The LG Watch Phone, YouTube (Jan. 9, 2009), https://www.youtube.com/watch?v=vB4zT0I1pkM , (“LG Watch Phone”)	YouTube	01/09/2009
LG GD910, Full Phone Specifications, (“Full Phone Specifications”)	GMSArena	No later than 2011
LG GD910, User Guide, (“User Guide”)	LG	2009
LG reveals GD910 Watch Phone to be released this year	Nicole Lee	01/07/2009
LG’s New Watch Phone	YouTube	01/22/2009
Freescall Semiconductor, MMA7660FC Three-axis low g digital acceleration sensor (“Freescall Datasheet”)	Freescall	2009

Title	Author/Publisher	Date of Publication
Motorola, Semiconductor Technical Data for MMA6260Q, MMA6261Q, MMA6262Q, MMA6263Q (“Motorola Datasheet”)	Motorola	2004
GestureWrist and GesturePad: unobtrusive wearable interaction devices, Proceedings Fifth International Symposium on Wearable Computers, Zurich, Switzerland, 2001, pp. 21-27 (“Rekimoto”)	Rekimoto, J	October 8, 2001.
Gesture Recognition with a Wii Controller, Proceedings of the Second International Conference on Tangible and Embedded Interaction (TEI'08), 2008, Bonn, Germany, pp. 11-14 (“Schlömer”)	Schlömer, T.,	February 18, 2008

3. Prior Art Systems

The following systems are prior art under at least 35 U.S.C. §§ 102(a), (b) and/or (g):

1. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to LG GD910, as exemplified in the claim chart in Exhibit D4. As part of these Invalidity Contentions, Defendants have produced documents relating to LG GD910. Based on information available to Defendants, Defendants believes that LG GD910 was conceived and/or reduced to practice by engineers at LG Electronics, including those identified in the claim chart and its cited publications, at least before October 12, 2012, without being abandoned, suppressed, or concealed, and it was known or used by others in this country or in public use or on sale on by the dates identified in the claim chart, which are no later than October 12, 2012. *See, e.g.*, LG GD910 watch (made available and shown in SAMS366-0015320-21).

2. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to The Casio Watches, as exemplified in the claim chart in Exhibit B11. As part of these Invalidity Contentions, Defendants have produced documents relating to The Casio Watches. Based on information available to Defendants, Defendants believes that the Casio Watches were conceived and/or reduced to practice by engineers at Casio, including those identified in the claim chart and its cited publications, at least before October 12, 2012, without being abandoned, suppressed, or concealed, and it was known or used by others in this country or in public use or on sale no later than October 12, 2012.
3. Products, components, systems, and methods invented, designed, developed, reduced to practice, and/or in public use or on sale related to the Z-Cover armband. As part of these Invalidity Contentions, Defendants have produced documents relating to the Z-Cover armband. Based on information available to Defendants, Defendants believes Z-cover armband was conceived and/or reduced to practice by engineers at Z-Cover, at least before October 12, 2012, without being abandoned, suppressed, or concealed, and it was known or used by others in this country or in public use or on sale no later than October 12, 2012.

Defendants' investigation into publicly available prior art systems that teach and/or render obvious each element of any asserted claims is ongoing. Fact discovery is at an early stage, and Defendants may require discovery from third parties regarding publicly available prior art systems. Defendants reserve the right to amend its identification of prior art systems as Defendants become aware of the existence, functionality, and/or characteristics of prior art systems as a result of its investigation and forthcoming discovery. In addition to the prior art products, components, systems, and methods described above, Defendants also reserve the right to rely on the documents and publications identified in the corresponding claim charts as prior art publications.

B. Primary References

Defendants contend that the primary prior art references identified below and described in the charts attached as Exhibits B1 to B13, by themselves, anticipate the asserted claims of the '085 Patent. To the extent that a primary reference is deemed not to anticipate a claim for failing to teach one or more limitations of that claim, Defendants contend that the claim would

nonetheless have been obvious to a POSITA at the time of the invention in view of the prior art reference itself, as described in the attached charts. Defendants' prior art charts (attached as Exhibits B1 thru B13) set forth the particular claims that are anticipated under 35 U.S.C. § 102 and/or rendered obvious under 35 U.S.C. § 103 by each item of prior art and identify where specifically in each item of prior art, each element of each asserted claim is found.

Exhibit	Primary References
B1	U.S. Patent No. 5,612,931 ("Sato")
B2	U.S. Patent No. 8,112,281 ("Yeung")
B3	U.S. Patent No. 8,228,292 ("Ruiz")
B4	Japanese Patent Application Publication JP 2010-262341 ("Shimazaki")
B5	Japanese Patent Application No. JP2007-41143 ("Nishijima")
B6	Chinese Patent Application Publication CN101458557B ("Zhenghao")
B7	WO 2006/120211 ("Tecchiolli")
B8	United States Patent Application Publication 2011/0148752 ("Alameh")
B9	U.S. Patent No. 8,344,998 ("Fitzgerald")
B10	U.S. Patent Application Publication 2008/0229255 ("Linjama")
B11	The Casio Watches
B12	U.S. Patent No. 7,873,849 ("Mucignat")
B13	LG GD910 Product and related Publications, including each of the following individually as a primary reference: • Pocketnow, LG GD910 Hardware and Software Review Pocketnow, YouTube (June 21, 2010), https://www.youtube.com/watch?v=_FAwzkc0gKo, ("Hardware and Software Review") • Stuff, LG GD910 Watchphone Hands On, YouTube (Aug. 27, 2009), https://www.youtube.com/watch?v=mGGRIQZvH34, ("Watchphone Hands On")

Exhibit	Primary References
	• IGN, CES 2009: The LG Watch Phone, YouTube (Jan. 9, 2009), IGN, CES 2009: The LG Watch Phone, YouTube (Jan. 9, 2009), https://www.youtube.com/watch?v=vB4zT0I1pkM, (“LG Watch Phone”) • LG GD910, Full Phone Specifications, (“Full Phone Specifications”) • LG GD910, User Guide, (“User Guide”) • LG GD910 watch (made available and shown in SAMS366-0015320-21)

C. Secondary References

Exhibit B-A lists secondary prior art references and identifies, on a limitation-by-limitation basis, where specifically each secondary reference teaches the limitations of the asserted claims. 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 of the references listed as disclosing those alleged missing limitations in Exhibit B-A or with another primary reference disclosing those alleged missing limitations.

D. Obvious Combinations

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 B13 with any other reference(s) in Exhibit B1 to B13. 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 B-A 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.

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.

1. Exemplary Combinations

Below are examples of prior art references that would have been combined by one of ordinary skill in the art at the time of the alleged invention. These combinations are merely examples. The asserted claims of the '085 Patent are also rendered obvious by the following combinations:

- Yeung in combination with Ruiz.
- Yeung in combination with one or more of Alameh and/or Joselli.
- Yeung in combination with one or more of Alameh, Joselli, and/or Yano.
- Tecchiolli in combination with one of Nishijima, Shimazaki, Ruiz, Joselli, Alameh, or Zhenghao.
- Tecchiolli in combination with one of Freescale Datasheet, Motorola Datasheet, ADXL345 Datasheet, Jang, or Schlomer.
- Tecchiolli in combination with one of Nishijima, Shimazaki, Ruiz, Joselli, or Zhenghao and further combined with Fitzgerald or Yeung.

- Tecchiolli in combination with one of Freescale Datasheet, Motorola Datasheet, ADXL345 Datasheet, Jang, or Schlomer and further combined with Fitzgerald or Yeung.
- Tecchiolli in combination with one of Nishijima, Shimazaki, Ruiz, Joselli, Alameh, or Zhenghao and further combined with one of Yano and Zhao.
- Tecchiolli in combination with one of Freescale Datasheet, Motorola Datasheet, ADXL345 Datasheet, Jang, or Schlomer and further combined with one of Yano and Zhao.
- Tecchiolli in combination with one of Yeung or Fitzgerald.
- Tecchiolli in combination with one of Yano and Zhao.
- Tecchiolli in combination with one of Nishijima, Shimazaki, or Zhenghao and further combined with one of Ruiz or Alameh.
- Tecchiolli in combination with Sato.
- Tecchiolli in combination with Sato and further combined with one of Fitzgerald or Yeung.
- Tecchiolli in combination with Sato and further combined with one of Yano or Ruiz.
- Sato in combination with one of Nishijima, Shimazaki, or Zhenghao.
- Sato in combination with one of Nishijima, Shimazaki, Freescale Datasheet, Motorola Datasheet, ADXL345 Datasheet, Jang, Schlomer, or Zhenghao and further combined with one of Fitzgerald or Yeung.

- Sato in combination with one of Nishijima, Shimazaki, or Freescale Datasheet, Motorola Datasheet, ADXL345 Datasheet, Jang, Schlomer, Zhenghao and further combined with one of Ruiz or Alameh.
- Sato in combination with Yeung.
- Sato in combination with Ruiz.
- Sato in combination with one of Nishijima, Shimazaki, Freescale Datasheet, Motorola Datasheet, ADXL345 Datasheet, Jang, Schlomer, or Zhenghao.
- Sato in combination with one of Nishijima, Shimazaki, Freescale Datasheet, Motorola Datasheet, ADXL345 Datasheet, Jang, Schlomer, or Zhenghao and further combined with one of Yano.
- Sato in combination with one of Nishijima, Shimazaki, Freescale Datasheet, Motorola Datasheet, ADXL345 Datasheet, Jang, Schlomer, or Zhenghao and further combined with one of Yano.
- Sato in combination with Yeung and further combined with one of Yano and Zhao
- Sato in combination with Ruiz and further combined with one of Yano and Zhao
- The Casio Watches in combination with one of Nishijima, Shimazaki, Zhenghao, Yeung, Fitzgerald, Sato, Ruiz, Alameh, or Tecchiolli, Freescale Datasheet, Motorola Datasheet, ADXL345 Datasheet, Jang, Schlomer.
- The Casio Watches in combination with one of Nishijima, Shimazaki, Zhenghao, Yeung, Fitzgerald, Sato, Ruiz, Alameh, or Tecchiolli Freescale Datasheet, Motorola Datasheet, ADXL345 Datasheet, Jang, Schlomer, and further combined with one of Yano and Zhao.

- The Casio Watches in combination with one of Nishijima, Shimazaki, Zhenghao, Yeung, Fitzgerald, Sato, Ruiz, Alameh, or Tecchiolli and further combined with one of Yano and Zhao.
- The Casio Watches in combination with one of Nishijima, Shimazaki, Zhenghao, Yeung, Fitzgerald, Sato, Ruiz, Alameh, or Tecchiolli.
- LG GD910 in combination with one of Nishijima, Shimazaki, Zhenghao, Yeung, Fitzgerald, Sato, Ruiz, Alameh, or Tecchiolli and further combined with one of Yano and Zhao.
- LG GD910 in combination with one of Nishijima, Shimazaki, Zhenghao, Yeung, Fitzgerald, Sato, Ruiz, Alameh, or Tecchiolli and further combined with one of Yano and Zhao.
- One of Ruiz, Shimazaki, Nishijima, Zhenghao, Alameh, Mucignat in combination with one of zCover or Yin.
- One of Ruiz, Shimazaki, Nishijima, Zhenghao, Alameh, Mucignat in combination with one of zCover or Yin and further combined with one of Yano and Zhao.
- Tecchiolli in combination with one or more of Yeung, Ruiz, Shimazaki, Nishijima, Zhenghao, Alameh, Fitzgerald, Linjama, The Casio Watches, Mucignat Yano, Joselli, ZCover, Yin, Jang, and/or LG GD910.
- Sato in combination with one or more of Yeung, Ruiz, Shimazaki, Nishijima, Zhenghao, Tecchiolli, Alameh, Fitzgerald, Linjama, The Casio Watches, Mucignat, Yano, Joselli, ZCover, Yin, Jang, and/or LG GD910.

- Yeung in combination with one or more of Sato, Ruiz, Shimazaki, Nishijima, Zhenghao, Tecchiolli, Alameh, Fitzgerald, Linjama, The Casio Watches, Mucignat, Yano, Joselli, ZCover, Yin, Jang, and/or LG GD910.
- Ruiz in combination with one or more of Sato, Yeung, Shimazaki, Nishijima, Zhenghao, Tecchiolli, Alameh, Fitzgerald, Linjama, The Casio Watches, Mucignat, Yano, Joselli, ZCover, Yin, Jang, and/or LG GD910.
- Shimazaki in combination with one or more of Sato, Yeung, Ruiz, Nishijima, Zhenghao, Tecchiolli, Alameh, Fitzgerald, Linjama, The Casio Watches, Mucignat, Yano, Joselli, ZCover, Yin, Jang, and/or LG GD910.
- Nishijima in combination with one or more of Sato, Yeung, Ruiz, Shimazaki, Zhenghao, Tecchiolli, Alameh, Fitzgerald, Linjama, The Casio Watches, Mucignat, Yano, Joselli, ZCover, Yin, Jang, and/or LG GD910.
- Zhenghao in combination with one or more of Yeung, Ruiz, Shimazaki, Alameh, Fitzgerald, The Casio Watches, Mucignat, Yano, Joselli, ZCover, Yin, Jang, and/or LG GD910.
- Tecchiolli in combination with one or more of Sato, Yeung, Ruiz, Shimazaki, Nishijima, Zhenghao, Alameh, Fitzgerald, Linjama, The Casio Watches, Yano, Joselli, ZCover, Yin, Jang, and/or LG GD910.
- Alameh in combination with one or more of Sato, Yeung, Ruiz, Shimazaki, Nishijima, Zhenghao, Tecchiolli, Fitzgerald, Linjama, The Casio Watches, Mucignat, Yano, Joselli, ZCover, Yin, Jang, and/or LG GD910.

- Fitzgerald in combination with one or more of Sato, Yeung, Ruiz, Shimazaki, Nishijima, Zhenghao, Tecchiolli, Alameh, Linjama, The Casio Watches, Mucignat, Yano, Joselli, ZCover, Yin, Jang, and/or LG GD910.
- Linjama in combination with one or more of Yeung, Ruiz, Shimazaki, Nishijima, Alameh, Fitzgerald, The Casio Watches, Mucignat, Yano, Joselli, ZCover, Yin, Jang, and/or LG GD910.
- The Casio Watches in combination one with one or more of Yeung, Ruiz, Shimazaki, Nishijima, Alameh, Fitzgerald, Linjama, Mucignat, Yano, Joselli, ZCover, Yin, Jang, and/or LG GD910.
- Mucignat in combination with one or more of Yeung, Ruiz, Shimazaki, Nishijima, Alameh, Fitzgerald, Linjama, The Casio Watches, Yano, Joselli, ZCover, Yin, Jang, and/or LG GD910.

2. Motivations to Combine

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, as explained above, 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 wristwatches with motion sensing capabilities and multiple power modes.

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 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 (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 attached charts in Ex. B1 to B13 and B-A provide additional reasons and motivations to combine the charted references as set forth in the prior art references themselves.

As an example of those reasons and motivations to combine the references, Sato, Yeung, Ruiz, Shimazaki, Nishijima, Zhenghao, Tecchiolli generally relate to electronic wristwatches and other portable electronic devices, in particular, the advantages of improving the power consumption of the device by (1) recognizing tilting motions, including for starting and final positions of the device and (2) detecting that the device was held within specific ranges for each position for a defined time, and (3) employing different power modes for the different positions. *See* Ex. B1 to B13 and B-A. The references disclose similar methods and techniques for improving power consumption of the electronic devices, including wristwatches, by employing different power modes based on the position of the watch relative to the user. The attached charts in Ex. B1 to B1 and B-A provide additional reasons and motivations to combine the charted references. In addition, below are additional motivations to combine prior art for particular claim limitations. The following discussion of specific claim limitations are merely examples and are not limiting.

For example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach the “wristwatch” portion of limitations 1[pre], 1[b], 1[c1], 1[c2], 1[c3], 4, 6, 8, 9, and 10, it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses a wristwatch in in Exhibits B1 to B13 or Exhibit B-A. A person skilled in the art would have recognized that a reference that disclosed a portable electronic device such as a phone, PDA, or other device, could have also been incorporated into a smaller form factor such as a watch and would have been motivated to

do so due to the added portability, accessibility, and functionality that would have resulted from incorporating such features into a watch form factor. Thus, a POSITA would have been motivated to modify any of the primary references to include this feature. Several prior art references explicitly describe or implicitly suggest incorporating features such as gesture detection and touch screens into a watch form factor. *See, e.g.*, Sato, 3:3–11, 3:66–4:21; Yeung at [0005]; Tecchiolli, 4:32–5:21, 10:17–29; Fitzgerald, 9:8–31; Casio Watches, LG GD910. Moreover, other references disclose converting another type of portable electronic device into a watch. *See, e.g.*, zCover at 1; Yin at FIG 3, [0001]. Still other references, while not explicitly reciting a “wristwatch” indicate that their inventions are intended to cover a wide variety of portable electronic devices that would also include wristwatches. *See, e.g.*, Ruiz, 1:21–32; Shimazaki, [0009]; Nishijima, [0020], [0024]; Zhenghao, [0005], [0006]; Alameh, [0031], [0032]; Linjama, [0027], [0036]; Mucignat, 15:31–58 A person skilled in the art would have recognized that A POSITA would have understood that smartphone, PDA, and other portable electronic devices would include teachings equally applicable to a wristwatch form factor. Thus, it would be obvious to implement any of these devices as a wrist-worn device and that any teachings applicable to touch screen devices having an accelerometer, touch panel, touch controller, and microprocessor would also be applicable to wristwatches. Thus, a POSITA would have been motivated to modify any of the primary references to include this feature. Implementing these devices in a wristwatch form factor would have been straightforward, and a POSITA would have had a reasonable expectation of success in doing so. This is particularly true because the references listed above, like the primary references disclose standard mobile computing devices detecting gestures with accelerometers, making the combination a matter of straightforward engineering that would have predictable results. Moreover, watches

incorporating various smart phone features were well-known in the art and would not have presented any obstacle. Thus, applying any of the teachings of the references in Exhibits B1 to B13 would have been well within the capabilities of a POSITA and would have been a matter of ordinary engineering and not the product of innovation. A POSITA would have understood that these references disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

To the extent that any primary reference is deemed not to anticipate a claim for failing to teach limitation 1[a] (“using an accelerometer for detecting a wristturn”), it would have been obvious to a POSITA at the time of the invention to combine the primary references with any of the prior art that discloses limitation 1[a] in Exhibits B1 to B13 and B-A. A person skilled in the art would have recognized that that use of an accelerometer was a common, predictable approach to detecting taps and other motion-based gestures because accelerometers capable of doing so were widely available, inexpensive, small, and frequently used in portable electronic devices. Moreover, it would have been obvious to add such an accelerometer to a portable electronic device due to its wide range of uses and particular ability to detect orientation and position and utilize simple processing to discriminate between intended and inadvertent movement, thus allowing wristwatch resources to be saved, resulting in a more power-efficient device. Thus, a POSITA would have been motivated to modify any of the primary references to include this feature. Several prior art references explicitly describe or implicitly suggest having or using an accelerometer for detecting wristturns and/or other motion-based gestures. *See, e.g.*, Yeung, [0036], FIGs 1-2; Ruiz, 10:44–59; Nishijima, [0005]; Alameh, [0030]-[0032]; Fitzgerald, 7:8–26; Linjama, [0021]; Mucignat, 6:19–38, Freescale Datasheet, Motorola Datasheet, ADXL345 Datasheet, Jang, Schlomer. A POSITA would also have had a reasonable expectation

of success because each of the devices above incorporates an accelerometer in a portable electronic device and a POSITA would have expected that other portable electronic devices could have easily incorporated accelerometers as well. Adding an accelerometer to these references would have been straight forward and based on routine technologies and would have been amenable to various well-understood and predictable combinations.

To the extent that any primary reference is deemed not to anticipate a claim for failing to teach limitation 1[pre] (“switching a wristwatch from a first power mode to a second power mode”) or 1[b] (“switching said wristwatch from said first power mode to said second power mode when a wristturn has been detected”), it would have been obvious to a POSITA at the time of the invention to combine the primary references with any of the prior art that discloses limitation 1[pre] and 1[b] in Exhibits B1 to B13 and B-A. A person skilled in the art would have recognized that that use of detection of an input such as a wristturn by an accelerometer to change the wrist watch from a first power mode to a second power mode (e.g., waking up the wristwatch or activating additional functionality on the wristwatch) was a common, predictable approach to conserving power because it maximizes the time that power hungry components are in a low-power mode while still maintaining a robust input detection system that is resistant to false positives and able to quickly activate functionality such as the microprocessor and display, as needed. Thus, basing power mode changes on detecting a wristturn would result in a more power-efficient device and a POSITA would have been motivated to modify any of the primary references to include this feature. Several prior art references explicitly describes or implicitly suggests power management features based on detecting a wristturn or other orientation information. *See, e.g.,* Sato, 1:48–64; Yeung, [0046]; Ruiz, 3:37–45; Shimazaki, [0042]; Nishijima, [0018]; Zhenghao, [0006]; Tecchiolli, 5:22–32; Alameh, [0021]; Fitzgerald, 9:8–31;

Linjama, [0047]; Mucignat, 15:42–58. Implementing power mode changes based on wristturns required by these claim elements in any of the electronic devices disclosed by the primary references would have been straightforward, and a POSITA would have had a reasonable expectation of success in doing so. This is particularly true because the references listed above, like the primary references disclose standard mobile computing devices with power management techniques and accordingly, implementing a power mode change based on a wristturn would have been a matter of straightforward engineering that would have predictable results. Thus, applying any of the teachings of the references in Exhibits B1 to B13 would have been well within the capabilities of a POSITA and would have been a matter of ordinary engineering and not the product of innovation. A POSITA would have understood that these references disclose interrelated teachings based on routine technologies and would have been amenable to various well-understood and predictable combinations.

To the extent that any primary reference is deemed not to anticipate a claim for failing to teach limitation 1[c1] (“detecting that an orientation of the wristwatch is in a starting position , wherein said step of detecting that the orientation is in the starting position comprises detecting that the orientation of the wristwatch is held within a first range for a defined time”), it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses limitation 1[c1] in Exhibits B1 to B13 and B-A. A person skilled in the art would have been motivated to include as part of a wrist detection algorithm timing and orientation factors in order to distinguish between actual wristturns and false positives such as inadvertent gesturing. It would have been obvious to a POSITA that one way of doing this would be to require a particular starting orientation and require that the wristwatch remain in that orientation for a predetermined period of time. Doing so would have been advantageous

because it would have helped to define a movement such as a wristturn with a definite beginning, making it easier to identify when a user was likely beginning an intentional gesture as opposed to merely passing through a particular starting orientation inadvertently. Moreover, a POSITA would have understood that accelerometers available during the time of the '085 Patent often operated by sampling at regular time intervals or other methods that were not instantaneous and thus requiring the device to remain in the starting orientation for a defined period of time would have improved gesture recognition by ensuring that the wristwatch was able to detect that it was in such an orientation over at least one, or preferably multiple samples. In addition, a POSITA have been motivated to include a range of orientation angles because humans naturally make any gesture with some degree of variability. Thus, utilizing a range of acceptable orientation angles would have been obvious. By the priority date of the '085 Patent detecting movement patterns such as wristturns by requiring a device to begin in a particular orientation ranges and be held there for a defined period of time was well-known and many of the references in Exhibits B1 to B13 and Exhibit B-A disclose electronic devices with these features. *See, e.g.*, Yeung, [0052]; Shimazaki at FIG. 12, [0047]; Nishijima at Abstract, [0011]; Zhenghao, [0006]; Alameh, [0031]; Fitzgerald, 9:8–37; Linjama, [0044], [0047]; Joselli at 4. A POSITA would have had a reasonable expectation that such a combination would have been successful because algorithms based on timing or orientation to distinguish between intentional and unintentional movements were well-known and widely implemented in the prior art, including as shown in the references above. Thus, applying any of the teachings of the references cited above to a reference without an algorithm discriminating between intentional and unintentional movement patterns would have been well within the capabilities of a POSITA and would have been a matter of ordinary engineering and not the product of innovation given the interrelated nature of these teachings and

routine technologies at issue that would have been amenable to various well-understood and predictable combinations.

As another example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach limitation 1[c2] (“detecting that an orientation of the wristwatch is then in a final position, wherein said step of detecting that the orientation is in the final position comprises detecting that the orientation is in a second range different from said first range”), it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses limitation 1[c2] in Exhibits B1 to B13 and B-A. A person skilled in the art would have been motivated to include as part of a wrist detection algorithm timing and orientation factors in order to distinguish between actual wristturns and false positives such as inadvertent gesturing. It would have been obvious to a POSITA that one way of doing this would be to require a particular final orientation different than the starting orientation. Doing so would have been advantageous because it would have helped to define a movement such as a wristturn with a definite ending, making it easier to identify when a user was likely completing an intentional gesture. Moreover, a POSITA have been motivated to include a range of orientation angles because humans naturally make any gesture with some degree of variability. Thus, utilizing a range of acceptable orientation angles would have been obvious. By the priority date of the '085 Patent detecting movement patterns such as wristturns by requiring a device to end in a particular orientation ranges was well-known and many of the references in Exhibits B1 to B13 and Exhibit B-A disclose electronic devices with these features. *See, e.g.,* Sato 1:43–53; Yeung, [0017]; Ruiz at 2:37–63, 3:56–67; Shimazaki, FIG. 11, [0080]; Zhenghao, [0010]; Tecchiolli, 5:22–32; Alameh, [0031]; Fitzgerald, 1:39–50; Linjama, [0026], Joselli at 4. A POSITA would have had a reasonable expectation that such a combination would

have been successful because algorithms based on timing or orientation to distinguish between intentional and unintentional movements were well-known and widely implemented in the prior art, including as shown in the references above. Thus, applying any of the teachings of the references cited above to a reference without an algorithm discriminating between intentional and unintentional movement patterns would have been well within the capabilities of a POSITA and would have been a matter of ordinary engineering and not the product of innovation given the interrelated nature of these teachings and routine technologies at issue that would have been amenable to various well-understood and predictable combinations.

As another example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach limitations 1[c3] (“in response to a detection that the orientation of the wristwatch is in the second range, detecting that the wristwatch remains substantially immobile during a predetermined duration and that a duration between the starting position and the final position is in a predefined range”), 6[c] (“wherein said duration between the starting position and the final position is provided by measuring a duration between the starting position and the registering of the final position”), or the limitation in claim 8 (“The method of claim 1, wherein said step of detecting that the orientation of the wristwatch is in a second range comprises: detecting that a duration between the wristwatch being held in the first range and the wristwatch being held in the second range is in a predefined third range”), it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses limitation 1[c3] in Exhibits B1 to B13 and B-A. A person skilled in the art would have been motivated to include as part of a wrist detection algorithm timing requirements related to the different starting/final orientations in order to distinguish between actual wristturns and false positives such as inadvertent gesturing. It would have been obvious

to a POSITA that one way of doing this would be to require that the watch remain in the final position for a certain period of time and that the time between the starting position and final position was within a certain range. Doing so would have been advantageous because it would have helped to define a movement such as a wristturn with a definite ending, making it easier to identify when a user was likely completing an intentional gesture. Similarly it would have been advantageous to require the wristturn to be completed in a certain period of time to ensure that the movement was intentional and not merely inadvertent motion. Moreover, a POSITA would have understood that accelerometers available during the time of the '085 Patent often operated by sampling at regular time intervals or other methods that were not instantaneous and thus requiring the device to remain in the starting orientation for a defined period of time would have improved gesture recognition by ensuring that the wristwatch was able to detect that it was in a final orientation over at least one, or preferably multiple, samples. A POSITA would have been motivated to minimize false positives in these ways because it would result in better battery life and enhanced user experience. By the priority date of the '085 Patent detecting movement patterns such as wristturns by requiring a device to end in a particular orientation and be held there for a defined period of time and requiring the duration between two positions (or for the entire movement pattern) to be in a particular range was well-known and many of the references in Exhibits B1 to B13 and Exhibit B-A disclose electronic devices with these features. *See, e.g.*, Sato, 3:22–26; Yeung, [0071]; ; Ruiz, 3:56–67; Shimazaki, [0048]; Zhenghao, [0043]; Tecchiolli, 12:32–13:17; Alameh, [0031]; Fitzgerald, 8:23–60 ; Linjama, [0055]; Joselli at 4. A POSITA would have had a reasonable expectation that such a combination would have been successful because algorithms based on timing or orientation to distinguish between intentional and unintentional movements were well-known and widely implemented in the prior art, including

as shown in the references above. Thus, applying any of the teachings of the references cited above to a reference without an algorithm discriminating between intentional and unintentional movement patterns using the timing at the final position or between positions would have been well within the capabilities of a POSITA and would have been a matter of ordinary engineering and not the product of innovation given the interrelated nature of these teachings and routine technologies at issue that would have been amenable to various well-understood and predictable combinations.

As another example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach limitations in claims 2 (“The method of claim 1, wherein said first range is an angle range from 25° to 155° relatively to the horizontal”), 3 (“The method of claim 1, wherein said second range is an angle range from −25° to −75° relatively to the horizontal”), 4 (“The method of claim 1, wherein said step of detecting that the wristwatch remains substantially immobile during a predetermined duration comprises: detecting that an orientation of the wristwatch is held in a range from −25° to −60° relatively to the horizontal during said predetermined duration”), or 9 (“The method of claim 1, wherein said step of detecting that the orientation of the wristwatch is then in a second range comprises detecting that a display of the wristwatch is oriented towards a face of the user”), it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses the limitations in claims 2-4 and 9 in Exhibits B1 to B13 and B-A. As discussed above, a person skilled in the art would have been motivated to include particular orientation ranges to define the starting and ending positions in order to distinguish between actual wristturns and false positives such as inadvertent gesturing, covering ones mouth, or natural movements. Moreover, it would have been obvious to a POSITA to use 25 to 155 degrees as the first orientation range, as required

by claim 2, or would have at least been obvious to try. This is because angles less than 25 degrees would not indicate intentionality in making the gesture while angles beyond 155 degrees would be uncomfortable for the user. For example angles less than 25 degrees would result in a user barely rotating the watch/recorder way and defeating the purpose of a movement that is not regularly done in normal use. On the other hand, an angle beyond 155 degrees would put the user's arm in an unnatural position and not be easy to perform. These angles correspond to the outside edge of the range of natural positions that involve the watch facing away from the user while not putting undue strain on the user's arm. A POSITA experimenting with an ideal range of angles would have tried the range of 25 to 155 degrees for the reasons above. Moreover, these angles would be natural to try because a POSITA would have likely experimented with whole number angle ranges and increments of five degrees would be natural to try. Given these criteria, there are a limited number of options that a POSITA would try and the range of 25 to 155 degrees is one of these options. Similarly, with respect to the angle ranges in the final position, it would have been obvious to a POSITA to use -25 to -75 degrees or -25 to -60 degrees or at least these ranges would have been obvious to try because angles less than -25 degrees would not allow the user to see the watch face well and -75 or -60 degrees would give the user predictability in using the movement and allow a user to cancel the gesture by moving their wrist past the end of the range. As with the starting orientation ranges, these angles would be natural to try because a POSITA would have likely experimented with whole number angle ranges and increments of five degrees would be natural to try. Given these criteria, there are a limited number of options that a POSITA would try and the range of -25 to -75 and -25 to -60 degrees are two of these options. Another obvious way of determining the wristwatch is in the correct final position would be to detect that the wristwatch is oriented towards the user's face, which could be accomplished

using these same angle ranges or another technique, such as using other sensors to detect a user's face. By the priority date of the '085 Patent, several references in Exhibits B1 to B13 and Exhibit B-A disclose utilizing angle ranges corresponding to those claimed in claims 2-4 or otherwise detected that the wristwatch was oriented towards the user's face, as in claim 9. *See, e.g.*, Yeung, [0047], FIG 6; Ruiz, FIG. 1B, 6:3–15; Shimazaki, [0020], [0030]; Fitzgerald, 1:39–50; Sato at 4:1-16. A POSITA would have had a reasonable expectation that such a combination would have been successful because it would merely involve optimizing the ranges already used by the wristwatch for the starting and final orientation ranges and would not involve any change of hardware. Thus, applying any of the teachings of the references cited above to a reference without the claimed orientation ranges would have been well within the capabilities of a POSITA and would have been a matter of ordinary engineering and not the product of innovation given the interrelated nature of these teachings and routine technologies at issue that would have been amenable to various well-understood and predictable combinations.

As another example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach limitations in claims 5 (“The method of claim 1, wherein said defined time is 50 ms.”) and 7 (“The method of claim 6, wherein said defined time is 50 ms.”), it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses limitations 5 and 7 in Exhibits B1 to B13 and B-A. A person skilled in the art would have been motivated to include particular duration requirements for the starting and final orientations, as discussed above and further would have been motivated to set those times at 50 ms. Using 50 ms is advantageous because it strikes a balance between allowing the accelerometer sufficient time to detect and register a particular orientation with a high degree of accuracy but is not a very long period of time from a human perception perspective

and thus would allow the gesture to be completed quickly and provide the user access to the features of the wristwatch available in the second power mode quickly and with minimal perceptible delay. Ultimately this would also result in a more robust detection system and avoided activating the device or certain features of the device inadvertently, thus preserving power. By the priority date of the '085 Patent, using 50 ms and similar time periods for this purpose was known in the prior art. *See, e.g.*, Yano at 6:21-30; Ruiz at 13:1-15; Shimazaki, FIG. 6, [0034]. A POSITA would have had a reasonable expectation that such a combination would have been successful because it would merely involve optimizing the defined times already used by the wristwatch for the starting and final orientation ranges and would not involve any change of hardware. Thus, applying any of the teachings of the references cited above to a reference without the claimed orientation ranges would have been well within the capabilities of a POSITA and would have been a matter of ordinary engineering and not the product of innovation given the interrelated nature of these teachings and routine technologies at issue that would have been amenable to various well-understood and predictable combinations.

As another example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach limitations 6[a]-6[b] (“comprising a step of in response to a detection that the orientation of the wristwatch is held within this second range for a defined time registering that an orientation of the wristwatch is in the final position”), it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses limitations 6[a] and 6[b] in Exhibits B1 to B13 and B-A. A person skilled in the art would have been motivated to include registering the final position by, for example, storing the position because having a known (i.e., “registered”) position to compare against would have allowed an important characteristic such as a specific position to be recorded

to know when that position had been reached again in the future or to have a baseline from which to determine if the device had deviated from that position such that the power mode switch should be cancelled or potentially reversed. By the priority date of the '085 Patent, registering a particular orientation position was well-known in the art. *See, e.g.*, Sato 1:43–53; Yeung, [0017]; Ruiz at 2:37–63, 3:56–67; Shimazaki, FIG. 11, [0080]; Zhenghao, [0010]; Tecchiolli, 5:22–32; Alameh, [0031]; Fitzgerald, 1:39–50; Linjama, [0026], Joselli at 4. A POSITA would have had a reasonable expectation that such a combination would have been successful because registering a position would not have required any specialized hardware beyond that already commonly included in a watch or other portable electronic device, such as a processor and memory. Thus, applying any of the teachings of the references cited above to a reference without an explicit teaching of registering a position would have been well within the capabilities of a POSITA and would have been a matter of ordinary engineering and not the product of innovation given the interrelated nature of these teachings and routine technologies at issue that would have been amenable to various well-understood and predictable combinations.

As another example, to the extent that any primary reference is deemed not to anticipate a claim for failing to teach limitation in claim 10 (“The method of claim 1, wherein said steps of detecting that the orientation of the wristwatch is in a first range and then in a second range comprise: in response of a detection of the orientation of the wristwatch is in the second range, checking if the orientation of the wristwatch was in the first range during a previous step.”), it would have been obvious to a POSITA at the time of the invention to combine the primary reference with any of the prior art that discloses limitation claim 10 in Exhibits B1 to B13 and B-A. A person skilled in the art would have been motivated to include checking back upon detection of the final position to ensure that the correct starting position was previously entered

as a way to distinguish between actual wristturns and false positives such as inadvertent gesturing, covering ones mouth, or natural movements that result in arriving the required final position. Doing so would have provided a more robust detection system and avoided activating the device or certain features of the device inadvertently, ultimately resulting in power savings. By the priority date of the '085 Patent, it was known in the prior art to look back at an earlier orientation or position as part of determining whether to make a mode switch or enable a particular function. *See, e.g.*, Ruiz at 8:61-9:6; Zhenghao, [0043]; Alameh, [0032]; Fitzgerald, 9:8-37; Linjama, [0026-[0027]; Zhao at 5:62-6:20. A POSITA would have had a reasonable expectation that such a combination would have been successful because looking back over a trailing window of orientation data would not have required any specialized hardware beyond that already commonly included in a watch or other portable electronic device, such as a processor and memory. Thus, applying any of the teachings of the references cited above to a reference without an explicit teaching of doing so would have been well within the capabilities of a POSITA and would have been a matter of ordinary engineering and not the product of innovation given the interrelated nature of these teachings and routine technologies at issue that would have been amenable to various well-understood and predictable combinations.

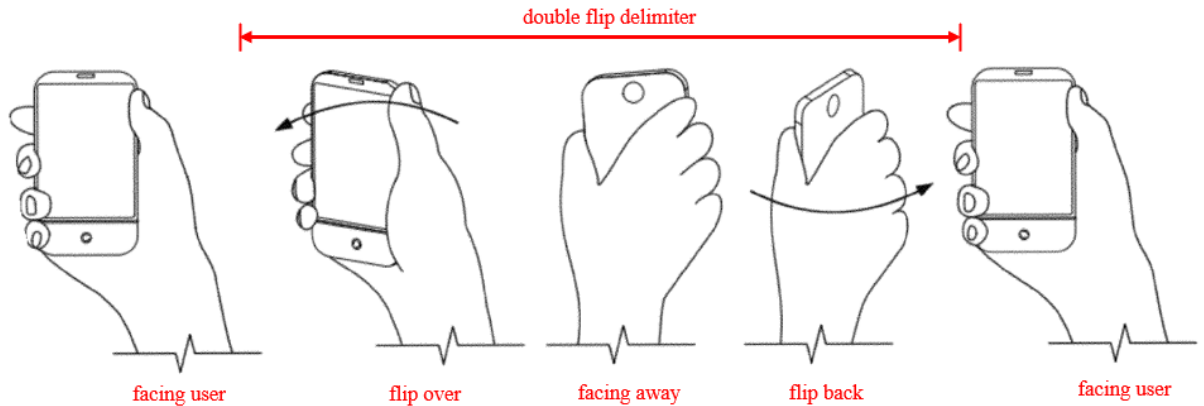
By way of further example and application of the motivations to combine discussed above, Defendants provide the following additional motivations to combine certain references. These additional motivations are not intended to limit the combinations discussed above.

Yeung-Ruiz

In addition to the motivations discussed above, a POSITA would have been motivated to combine Yeung and Ruiz and would have had a reasonable expectation of success in doing so because both use accelerometers to identify and interpret motion-based gestures. For example,

Yeung activates a voice recorder in a watch/recorder only after detecting a particular movement sequence, “such as the natural movement of lifting the arm upwards from a resting position[,] ... tilting the wrist towards the mouth” (Yeung at ¶47), and remaining in a predetermined orientation for a period of time. Yeung at ¶52; *see also id.* at ¶¶46-48. Yeung acknowledges that one potential problem with such a device is activating the recording function accidentally, which may result in unwanted recordings or unneeded mode switches. *See* Yeung at ¶52 (adding a static hold to minimize accidental activations). A POSITA would have recognized that switching to record mode would result in additional processing needs and therefore result in a higher power consumption.

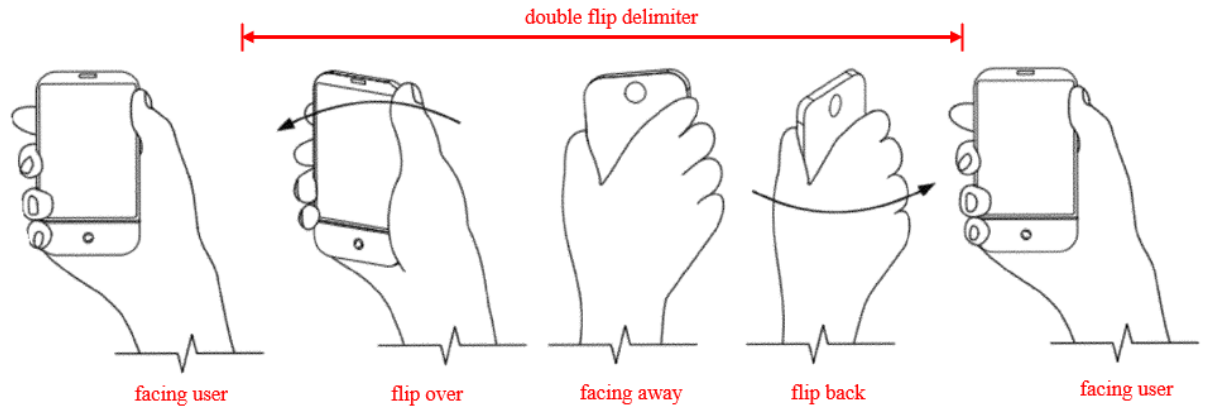
Ruiz also detects motion-based gestures (Ruiz at 6:46-61) and tries to minimize “false positives.” Ruiz at 2:22-25. For example, Ruiz teaches that “a user may not want to have their device be open to receiving motion-based input at all times (lest they accidentally provide input that they did not intend).”. *Id.* at 2:22-25. To address this issue, Ruiz uses a particular predefined movement (a “delimiter”) “that is natural but is not likely to [] occur by accident.” *Id.* at 2:25-29. This delimiter is a “double flip.” *Id.* at 2:39-47, 4:31-34. Figures 1A and 1B illustrate this double flip gesture in the context of a phone. *See, e.g.,* Ruiz at 4:42-5:4, 6:3-45. “The double flip delimiter is performed by quickly rotating the wrist such that the phone’s display is facing away from the user, then back to the original position with the display facing the user.” *Id.*, 16:62-66.



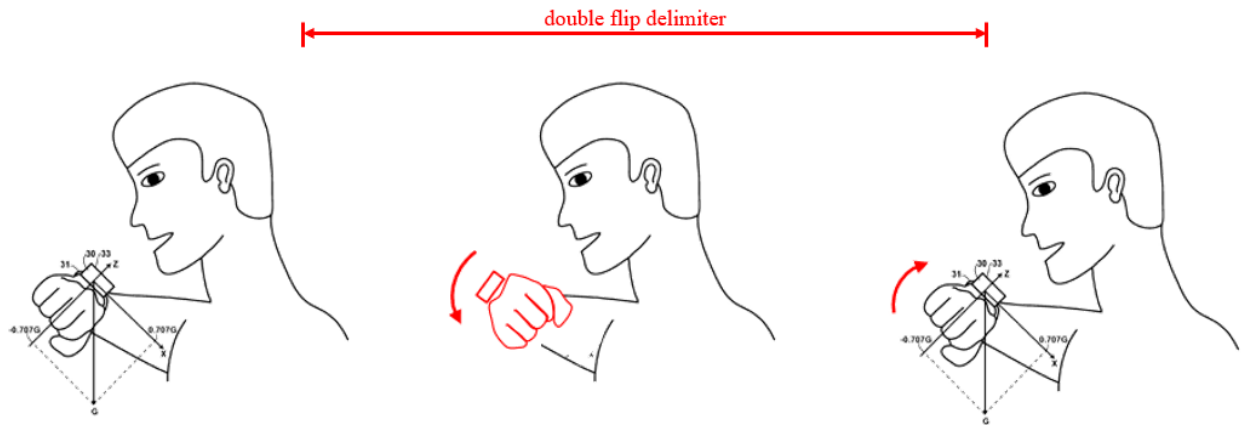
Ruiz Figure 1B

A POSITA would have applied these teachings of Ruiz to Yeung’s method of activating the voice recorder to prevent inadvertent mode switches to conserve power and avoid unintentional audio recordings. For example, Yeung discloses “the audio recorder activates audio recording only when it is in a predetermined orientation and/or *after it has completed a predetermined movement.*” Yeung at ¶15.

A POSITA would have been motivated to use Ruiz’s double flip delimiter motion as Yeung’s “predetermined movement” to indicate or confirm the watch/recorder has *intentionally* been placed in the “predetermined orientation” for recording and that the user actually desires to activate the audio recorder. For example, after raising Yeung’s watch/recorder to their mouth (Yeung at ¶47), the user would perform Ruiz’s double flip delimiter input by quickly turning the watch/recorder away from their face, pausing at the end of the away-movement, and then returning the watch to be oriented towards their face, based on Yeung’s Figure 6 and Ruiz’s Figure 1B. In the context of Yeung’s watch/recorder, a POSITA would have recognized the utility of a natural movement of quickly turning the watch away from a user’s face and then quickly back toward the user’s face as shown in the parallel series of images below to confirm that the user wanted to power up the recording function and not merely view the time.



Ruiz Figure 1B (annotations in red)



Yeung at Fig. 6 (annotations in red)

A POSITA would have had a reasonable expectation of success in combining these teachings of Ruiz and Yeung because each discloses electronic devices having general purpose processors, memory, displays, sensors, and accelerometers, and each purports to solve the problem of excessive or unnecessary mode switches or false positive gesture detection in similar and predictable ways, namely, by requiring the device to be oriented within particular angle ranges for particular time durations before changing modes. Indeed, Ruiz intended to “create a delimiter [motion] that is not dependent on hardware but instead relies on the sensors commonly available in today’s smart phones.” Ruiz at 16:41-44. Thus, the accelerometer and electronics in Yeung—capable of detecting predetermined movements and orientations—could readily have

been used to implement Ruiz's technique. Accordingly, a POSITA would have understood that their teachings could be combined with little to no change in their respective functions.

A POSITA would have understood that Ruiz's smartphone disclosures were equally applicable to Yeung's watch/recorder. A POSITA would have understood that Ruiz's double flip delimiter would further Yeung's goals of preventing unintentional activation of recorder functionality and would therefore improve the user experience. Implementing Ruiz in Yeung's wristwatch form factor would have been straightforward, and a POSITA would have had a reasonable expectation of success in doing so. Yeung and Ruiz both disclose standard mobile computing devices detecting gestures with accelerometers, making the combination a matter of straightforward engineering that would have predictable results. Moreover, watches incorporating various smart phone features were well-known in the art, as discussed above, and would not have presented any obstacle. Thus, applying Ruiz to Yeung's watch/recorder would have been well within the capabilities of a POSITA and would have been a matter of ordinary engineering and not the product of innovation. *Id.*

Yeung-Alameh-Joselli

In addition to the motivations discussed above, a POSITA would have been motivated to combine the teachings of Yeung, Alameh, and Joselli and would have had a reasonable expectation of success in doing so, because all three relate to interpreting movement patterns based on detected orientation and acceleration data in a handheld or wrist-worn electronic devices. Yeung, Alameh, and Joselli provide compatible solutions for detecting when a user is providing an intentional movement pattern that should trigger a response, such as switching power modes or activating functionality in an electronic device. *Compare* Yeung at ¶15 with Alameh at ¶¶5, 17 and Joselli at 143-144. For example, Yeung provides various embodiments

for determining if recorder functionality should be activated based on movement or orientation data. Yeung at ¶¶46-48.

Yeung identifies a problem of activating the recording function accidentally, which may result in unwanted recordings or unneeded mode switches. *See* Yeung at ¶¶48, 52. Yeung addresses this problem in some embodiments by first detecting a “predetermined movement” that includes first “lifting the arm upwards from a resting position” and then “tilting the wrist towards the mouth.” *Id.* at ¶47. Yeung also discloses activating the recorder function (i.e., entering the higher power mode) “only after audio recorder 30 remains in a static position for a predetermined period of time after a predetermined wrist and arm movement pattern has been detected.” *Id.* at ¶52. In other words, Yeung first requires a specific gesture—lifting the arm, then rotating the wrist—and then requires holding the device static in the final position for a specific time duration before switching to a higher power mode.

Alameh similarly teaches identifying specific movement patterns “to initiate a command.” Alameh at ¶31. In particular, Alameh teaches that the mobile device is readied for detecting movement corresponding to a command by being “placed in a substantially motionless orientation for a preset amount of time,” which “serves as a cue to the mobile device that the mobile device is potentially about to be moved in a manner that signifies that a command selection is forthcoming.” Alameh at ¶¶31-32. Figure 6 below illustrates Alameh’s sequence of steps for identifying and executing a command based on the movement sensed by the accelerometer.

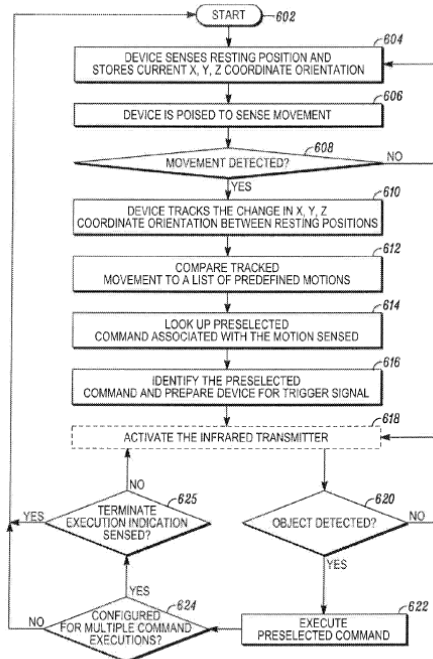


FIG. 6

Joselli addresses the related issue of “segmentation” which is used to automatically determine “the begin[ning] and the end[ing] of a gesture.” Joselli at 144. Joselli explains that “[i]n order to correct[ly] segmentate an accelerometer gesture, a definition of this kind of gesture is needed.” *Id.* Joselli observes that “a good gesture needs a duration of more than 0.6 seconds and less than 2 seconds.” *Id.*

A POSITA seeking to minimize false positives to avoid unnecessary power consumption would have known of and consulted all these proposed solutions. For example, identifying a gesture based on particular time spent in a particular orientation was well known in the prior art to improve accuracy and limit unnecessary mode switches. It would have been obvious to a POSITA to apply these teachings of Alameh and Joselli to Yeung’s method of activating a watch/recorder to reduce the likelihood of inadvertent mode switches. For example, Alameh’s detection of “relative motionlessness of the mobile device” serving “as a cue to the mobile device

that the mobile device is potentially about to be moved in a manner that signifies that a command selection is forthcoming” could be applied to Yeung’s disclosure of “detect[ing] a predetermined movement, such as the natural movement of lifting the arm upwards from a resting position” by requiring the resting position to be maintained for a certain period of time. Yeung at ¶¶47; Alameh at ¶¶31-32.

Similarly, a POSITA would have been motivated to apply Joselli’s teaching that “a good gesture needs a duration of more than 0.6 seconds and less than 2 seconds” by requiring that the movement pattern in Yeung, from resting position to the final orientation where the recorder functionality turns on, take place in a defined period of time, such as 0.6 to 2 seconds. Joselli at 144. It would have been obvious to a POSITA to make this change because a POSITA would have understood that a movement that is performed too quickly or slowly is likely not intentional. Based on Joselli, a POSITA would be motivated to measure the time between the starting position and final position and constrain the movement pattern to a particular defined window of time. Doing so would be advantageous because it would reduce the number of inadvertent recorder activations. Thus, a POSITA would have been motivated to improve Yeung’s watch/recorder by modifying its algorithm for changing power modes by applying Alameh’s minimum time duration requirement and Joselli’s range of times in which the gesture must be completed.

A POSITA would have had a reasonable expectation of success in combining these teachings of Joselli, Alameh, and Yeung because each purports to solve the problem of identifying movement patterns and using them to activate certain device functionality in similar and predictable ways, namely, by requiring the device to be oriented within particular angle ranges for particular time durations before effectuating a mode change and using similar sensors to detect the orientation of the device. A POSITA would have understood that they could have

combined these teachings with no change in their respective functions because they teach compatible systems.

Yeung-Alameh-Joselli-Yano

In addition to the motivations discussed above, a POSITA would have been motivated to combine Yeung-Alameh-Joselli's teachings with Yano's teachings and would have had a reasonable expectation of success because they are all from the same field of utilizing accelerometer data to detect movement patterns and using those patterns as inputs to modify the functionality of an electronic device. Yano provides compatible solutions for detecting and analyzing movement patterns. For example, Yeung, Alameh, and Joselli focus on general device positioning, movement patterns, and orientation using accelerometers while Yano provides additional detail regarding precise techniques for generating reliable data from triaxial accelerometers. *Compare* Yeung at ¶15, Alameh at ¶¶18-20, and Joselli at 144 with Yano at 4:1-10. A POSITA would have realized that the techniques in Yano would have led to more consistent and reliable data and would have been motivated to incorporate them into the Yeung-Alameh-Joselli combination for that reason.

As one example, Yeung teaches utilizing an accelerometer to detect a starting orientation, a particular movement pattern, and a final orientation. *See, e.g.*, Yeung at ¶¶39, 46-47. But Yeung does not teach precisely how to account for minor deviations in movement at these positions beyond explaining that "if audio recorder 30 does not move too fast over each cycle of the accelerometer-data acquisition, the acquired and stored X, Y, and Z signal data in each cycle are approximately simultaneous. Yeung at ¶46. Yano, on the other hand, discloses that when a certain orientation is detected, taking an average value of the acceleration signal over a short period of time:

If the absolute value of the average value AGy exceeds the threshold value a (yes from #602), the pre/post-action feature quantity remover 1322 selects the average value AGy at time Tb ***at which a time period S has elapsed*** since time Ta at which the absolute value of the average value AGy exceeded the threshold value a. The pre/post-action feature quantity remover 1322 then stores the average value AGy as a first feature quantity average value AGyl (#603). **The time period S is a constant time period, and may be 50 milliseconds, for example.**

Yano at 6:21-30. A POSITA would have understood Yano to be teaching that taking an average measurement over a short time period improves accuracy and reduces the chance that the desired orientation was arrived at through inadvertent motion. It would have been obvious to a POSITA to apply these teachings of Yano to Yeung-Alameh-Joselli's methods of activating a device to ensure the reliability of the data provided by the accelerometer and ultimately to ensure accurate mode switches.

A POSITA would have had a reasonable expectation of success in combining these teachings of Yano with Yeung-Alameh-Joselli because each purports to solve these problems in similar and predictable ways, for example, by using well-known implementations and techniques, such as requiring the device to be in certain orientations for certain periods of time before moving on to a subsequent step of movement recognition. Yeung at ¶¶46, 52; Yano at 6:4-30. A POSITA would have understood that they could have combined these teachings with no change in the respective functions of Yeung-Alameh-Joselli because they teach compatible systems.

VII. Invalidity Contentions Under 35 U.S.C. § 112

Defendants include below the grounds on which Defendants contend the asserted claims are invalid for failure to meet the requirements of the first two paragraphs of 35 U.S.C. § 112.

Plaintiff has not yet provided a claim construction for many of the terms and phrases that Defendants anticipate will be in dispute. Defendants, therefore, cannot provide a complete list of its § 112 defenses because Defendants do not know whether Plaintiff will proffer a construction for certain terms and phrases that is broader than, or inconsistent with, the construction that would be supportable by the disclosure set forth in the specification.

To the extent the following contentions reflect constructions of claim limitations consistent with or implicit in Plaintiff's Infringement Contentions, no inference is intended nor should any be drawn that Defendants agree with Plaintiff's claim constructions, and Defendants expressly reserve the right to contest such claim constructions. Defendants offer these contentions in response to Plaintiff's Infringement Contentions and without prejudice to any position it may ultimately take as to any claim construction issues.

Accordingly, Defendants reserve the right to amend or supplement these § 112 Invalidity Contentions as discovery progresses.

A. Indefiniteness Under 35 U.S.C. § 112, ¶ 2

35 U.S.C. § 112, ¶ 2 requires that a patent claim “particularly point[] out and distinctly claim[] the subject matter which the applicant regards as his invention.” 35 U.S.C. § 112, ¶ 2. Claim terms that fail to inform those skilled in the art “with reasonable certainty . . . about the scope of the invention” fail the definiteness requirement of 35 U.S.C. § 112, ¶ 2. *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014).

Each of the asserted claims are invalid as indefinite under 35 U.S.C. § 112 because they fail to particularly point out and distinctly claim the subject matter which the applicant regards as his invention. In particular, the following limitations, read in light of the intrinsic evidence, fail to inform those skilled in the art with reasonable certainty about the scope of the claimed inventions:

'033 Patent

- Claim 1: “a microcontroller being arranged for reproducing on said electronic display the simulation of a mechanical watch movement comprising a gear train, said simulation being visible so as to indicate the time, said microcontroller being further arranged for synchronizing the displayed time by said displayed mechanical movement with that of said quartz oscillator”
- Claim 2: “and the position of at least one component of said movement can be modified by pressing on the position of said electronic display corresponding to said component”
- Claim 3: “said microcontroller is arranged for displaying the simulation of a movement and wherein the angular position of at least one element of said gear-train can be modified by pressing on said touch sensor”
- Claim 6: “said microcontroller being arranged for modifying the position of at least one of said elements of said movement according to the data from said accelerometer” (lack of antecedent basis)
- Claim 7: “said displayed mechanical movement is an automatic movement with an oscillating mass”
- Claim 9: “the microcontroller being arranged for calculating and displaying a simulation of the oscillations of said displayed regulating organ taking into account the mass of said balance and the rigidity of said returning element, wherein the displayed time depends on said simulation”
- Claim 10: “means for modifying the running of said displayed regulating organ according to the accelerations to which the watch is subjected”

- Claim 11: “arranged for performing said synchronization periodically in an automatic manner”
- Claim 12: “means for entering and executing a request for said synchronization by the user”
- Claim 13: “arranged for displaying said mechanical movement on the whole surface of the electronic display so as to occupy the position and the dimensions of a real mechanical movement”
- Claim 16: “a microcontroller being arranged for reproducing on said electronic display a simulation of a mechanical watch movement comprising a gear train visible so as to indicate the time and for synchronizing the displayed time by said displayed mechanical movement with that of said quartz oscillator”
- Claim 17: “displaying on an electronic display of a simulated mechanical watch movement comprising a gear train and of time indicators so as to simulate a mechanical watch”
- Claim 18, in its entirety.
- Claim 18: “the angular position of at least one element of the gear train displayed on said display is modified by pressing on said element”
- Claim 18: “the position of at least one element of said movement is modified according to the data from an accelerometer”
- Claim 18: “the oscillations of a regulating organ displayed on said display are simulated taking into account the simulated mass of a simulated balance and the rigidity of a returning element displayed on said display, with the time displayed being dependent on said simulation”

- Claim 18: “the running of said displayed regulating element is modified according to the accelerations to which the watch is subjected”
- Claim 18: “the running of a quartz oscillator is synchronized periodically or upon request from the user with the time displayed by said mechanical movement”
- Claim 18: “said displayed mechanical movement is displayed on the entire surface of the electronic display so as to occupy the position and the dimensions of a real mechanical movement”

'922 Patent

- Claim 1: “a processing circuit specifically laid out so as to interpret the signals from the touch-sensitive glass, for selecting a card from several available cards depending on these signals and for displaying said card on the entire digital matrix display”
- Claim 1: “wherein said processing circuit is specifically laid out so as to cause said several available cards to scroll past in order to lastingly replace the initially displayed card with a replacement card selected between said several available cards, wherein each card of said several available cards has a distinct fixed or periodically refreshed image”
- Claim 1: “wherein one card of said several available cards and occupying the entire digital matrix display is immediately and without further user intervention replaced after the scrolling by a different card of said several available cards that occupies the entire digital matrix display”
- Claim 1: “wherein said processing circuit is further laid out so that the replacement card is dependent from the initially displayed card and from the direction of said movement and is independent from the starting point and end point of said movement on said digital matrix display”

- Claim 2: “wherein each card shows a particular function of the wristwatch”
- Claim 3: “each card defines the behavior of the touch-sensitive glass interface and the functions or modules that are to be launched depending on the movements of the finger on the card”
- Claim 4: “wherein said cards are arranged in a plurality of levels, wherein the choice of a card within each level is made either by scrolling vertically or by scrolling horizontally, wherein a particular command makes it possible to switch from one level to another”
- Claim 5: “wherein at least one of said cards makes it possible to calculate and display a simulation of a mechanical watch displaying the time, so as to enable the user to change the mechanical watch displayed by scrolling cards”
- Claim 6: “the processing circuit being laid out for detecting simultaneous contacts on several points of the touch-sensitive glass so as to constitute a multi-touch haptic screen”
- Claim 7: “the processing circuit being laid out for determining the displacement of the center of gravity of the contact zone of the finger on the touch-sensitive glass”
- Claim 9: “scrolling on a digital matrix display of several available cards so as for said scrolling to stop of itself so as to align an edge of the replacement card with an edge of the matrix display”
- Claim 9: “wherein one card of said several available cards and occupying the entire digital matrix display is replaced after the scrolling, immediately and without further user intervention, by a different card selected between said several available cards and occupying the entire digital matrix display”
- Claim 9: “wherein the scrolling direction depends only on the direction of said movement so that said replacement card is dependent from the initially displayed card and from the

direction of said movement and is independent from the starting point and end point of said movement on said digital matrix display”

- Claim 9: “lastingly displaying the replacement card on the whole of said digital matrix display, wherein each card of said several available cards has a distinct fixed or periodically refreshed image”
- Claim 10: “the entering of a touch command for confirming or stopping the scrolling”
- Claim 12: “the determining of the displacement of the center of gravity of the contact zone of the finger on the two-dimensional touch-sensitive glass”
- Claim 13: “the different cards scroll in continuous fashion on the digital matrix display, the scrolling being interrupted so as to align the edge of a card with the edge of the digital matrix display”
- Claim 14: “the card scrolling speed or amplitude depend on the speed or amplitude of movement of the finger on the two-dimensional touch-sensitive glass”
- Claim 17: “the card scrolling is interrupted by a brief pressure on the two-dimensional touch-sensitive, so as to cause the card best centered on the display at the time of the interruption to be selected and displayed”
- Claim 19: “said cards are arranged in a plurality of levels, wherein the method comprises a step of vertical or horizontal scrolling and a step of entering a particular command for switching from one level to another”
- Claim 20: “a plurality of said cards displays a simulation of a virtual mechanical movement”
- Claim 23: “a processing circuit specifically laid out so as to interpret the signals from the touch-sensitive glass, for selecting a card from several available cards depending on these

signals and for displaying said card on the entire digital matrix display, wherein each card has a distinct fixed or periodically refreshed image”

- Claim 23: “wherein said processing circuit is specifically laid out so as to cause said several available cards to scroll past by displaying the image of said cards one at a on the digital matrix display in order to lastingly replace the initially displayed card with a replacement card selected within said several available cards, immediately after the scrolling and without further user intervention”
- Claim 23: “wherein said processing circuit is further laid out so that the replacement card is dependent from the initially displayed card and from the direction of said movement and is independent from the starting point and end point of said movement on said digital matrix display”
- Claim 24: “a processing circuit specifically laid out so as to interpret the signals from the touch-sensitive glass, for selecting a card from several available cards depending on these signals and for displaying said card on the entire digital matrix display”
- Claim 24: “wherein said processing circuit is specifically laid out so as to cause cards to scroll past in order to lastingly replace the initially displayed card with a replacement card, wherein each card has a fixed or periodically refreshed image”
- Claim 24: “wherein said processing circuit is further laid out so that the replacement card is dependent from the initially displayed card and from the direction of said movement and is independent from the starting point and end point of said movement on said digital matrix display”

'678 Patent

- Claim 1: “ wherein the inertial sensor comprises an accelerometer and a processor and/or other processing means,” “wherein the wristwatch comprises a microcontroller controlling a display of indication on a digital matrix display of the wristwatch,” “ a touch controller for interpreting touch signal provided by a touch panel underneath a cover glass and for converting said signals into command signal,” “using the accelerometer of the inertial sensor for generating an acceleration signal used for detecting a gesture on the cover glass of said wristwatch, while the microcontroller and the touch controller are in a sleep power mode,” “using the processor and/or other processing means of the inertial sensor for discriminating between gesture and no gesture based on a direction of said acceleration signal and on a slope or frequency of said acceleration signal as measured by said accelerometer being a three dimensional accelerometer,” “using the touch controller for detecting a tap gesture on the cover glass with the touch panel,” “waking up the microcontroller in said wristwatch upon detection of a tap gesture by said touch controller,” “using said microcontroller for detecting said gesture and for discriminating between gesture and no gesture based at least on signals from the touch panel”
- Claim 4: “ determining said frequency and determining that there is no gesture if said frequency is not in a predetermined frequency range compatible with a tap”
- Claim 5: “determining that there is no gesture if said direction is not substantially perpendicular to said cover glass”
- Claim 6: “applying a power supply sufficient for detecting a gesture to only a first subset of said touch areas”
- Claim 8: “ partially waking up said touch panel upon detection of a gesture by said accelerometer”

- Claim 10: “waking up a microcontroller in said wristwatch upon detection of a gesture by said accelerometer and with said touch panel”
- Claim 11: “said gesture being a tap or a double tap”
- Claim 12: “detecting a wristturn with said accelerometer, and switching said wristwatch from said first power mode to said second power mode when a wristturn has been detected”
- Claim 13: “detecting that the wristwatch remains substantially immobile during a predetermined duration”
- Claim 14: “a touch panel underneath a cover glass of said wristwatch for detecting a gesture on said cover glass,” “an inertial sensor comprising an accelerometer and a processor and/or other processing means, said accelerometer being arranged for generating an acceleration signal and the processor and/or other processing means being arranged for discriminating between gesture and no gesture based on a direction of said acceleration signal as measured by said accelerometer being a three dimensional accelerometer, and on a slope or frequency of said acceleration signal, while the microcontroller and the touch controller are in a sleep power mode,” “wherein touch controller is commanded so as to be switched to said second power mode upon gesture detection by said inertial sensor and for detecting a tap gesture on the cover glass with the touch panel,” “wherein the microcontroller is arranged for controlling a display of indication on the display and commanded so as to be switched to said second power mode upon a tap gesture detection by said touch controller,”
- Claim 15: “wherein said touch panel comprises a plurality of touch areas and powering means arranged for powering only a first subset of said touch area upon detection of a

gesture by said accelerometer, and for powering a larger subset in said second power mode”

'085 Patent

- Claim 1: “switching said wristwatch from said first power mode to said second power mode when a wristturn has been detected,” “detecting that the orientation of the wristwatch is held within a first range for a defined time,” “detecting that the orientation is in a second range different from said first range,” “detecting that the wristwatch remains substantially immobile during a predetermined duration,” “that a duration between the starting position and the final position is in a predefined range”
- Claim 6: “in response to a detection that the orientation of the wristwatch is held within this second range for a defined time, registering that an orientation of the wristwatch is in the final position,” “said duration between the starting position and the final position is provided by measuring a duration between the starting position and the registering of the final position”
- Claim 7: “wherein said defined time is 50 ms” (ambiguous antecedent basis)
- Claim 8: “detecting that a duration between the wristwatch being held in the first range and the wristwatch being held in the second range is in a predefined third range”
- Claim 9: “said step of detecting that the orientation of the wristwatch is then in a second range comprises detecting that a display of the wristwatch is oriented towards a face of the user”
- Claim 10: “in response of a detection of the orientation of the wristwatch is in the second range, checking if the orientation of the wristwatch was in the first range during a previous step”

B. Lack of Enablement/Lack of Written Description Under 35 U.S.C. § 112, ¶ 1

The asserted claims of the Asserted Patents are further invalid under 35 U.S.C. § 112, ¶ 1 because the specifications do not contain an adequate written description of the subject matter of these claims and would not enable one of skill in the relevant art to make and use the alleged invention.

For a claim to be valid, the specification must contain a written description of the invention. 35 U.S.C. § 112, ¶ 1. To fulfill the written description requirement, it “must clearly allow persons of ordinary skill in the art to recognize that the inventor invented what is claimed.” *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (citation and internal quotation marks omitted). “[T]he applicant must ‘convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention,’ and demonstrate that by disclosure in the specification of the patent.” *Carnegie Mellon Univ. v. Hoffmann-La Roche Inc.*, 541 F.3d 1115, 1122 (Fed. Cir. 2008) (quoting *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563–64 (Fed. Cir. 1991)).

The specification must also describe “the manner and process of making and using [the invention], in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains . . . to make and use the” invention. *Ariad*, 598 F.3d at 1343; *see also* 35 U.S.C. § 112 ¶ 1. “The enablement requirement is satisfied when one skilled in the art, after reading the specification, could practice the claimed invention without undue experimentation.” *AK Steel Corp. v. Sollac & Ugine*, 344 F.3d 1234, 1244 (Fed. Cir. 2003) (citation omitted). “[T]he scope of the claims must be less than or equal to the scope of the enablement.” *Nat’l Recovery Tech., Inc. v. Magnetic Separation Sys., Inc.*, 166 F.3d 1190, 1196 (Fed. Cir. 1999).

Each of the asserted claims below are invalid because the specifications fail to provide written description and/or an enabling disclosure of at least the following limitations:

'033 Patent

- Claim 1: “a microcontroller being arranged for reproducing on said electronic display the simulation of a mechanical watch movement comprising a gear train, said simulation being visible so as to indicate the time, said microcontroller being further arranged for synchronizing the displayed time by said displayed mechanical movement with that of said quartz oscillator”
- Claim 2: “and the position of at least one component of said movement can be modified by pressing on the position of said electronic display corresponding to said component”
- Claim 3: “wherein said microcontroller is arranged for displaying the simulation of a movement and wherein the angular position of at least one element of said gear-train can be modified by pressing on said touch sensor”
- Claim 6: “said microcontroller being arranged for modifying the position of at least one of said elements of said movement according to the data from said accelerometer”
- Claim 7: “said microcontroller being arranged for modifying the position of at least one of said elements of said movement according to the data from said accelerometer”
- Claim 8: “the position of said displayed balance and/or tourbillon depending on an output signal from said accelerometer”
- Claim 9: “the microcontroller being arranged for calculating and displaying a simulation of the oscillations of said displayed regulating organ taking into account the mass of said balance and the rigidity of said returning element, wherein the displayed time depends on said simulation”
- Claim 10: “means for modifying the running of said displayed regulating organ according to the accelerations to which the watch is subjected”

- Claim 12: “means for entering and executing a request for said synchronization by the user”
- Claim 16: “a microcontroller being arranged for reproducing on said electronic display a simulation of a mechanical watch movement comprising a gear train visible so as to indicate the time and for synchronizing the displayed time by said displayed mechanical movement with that of said quartz oscillator”
- Claim 17: “displaying on an electronic display of a simulated mechanical watch movement comprising a gear train and of time indicators so as to simulate a mechanical watch”
- Claim 17: “a step of modifying a position of at least one component of said mechanical movement by detecting displacement of a finger on that component with a touch sensor connected to said display”
- Claim 18: “the angular position of at least one element of the gear train displayed on said display is modified by pressing on said element”
- Claim 18: “the position of at least one element of said movement is modified according to the data from an accelerometer”
- Claim 18: “the position of an oscillating mass displayed on the display depends on an output signal from said accelerometer”
- Claim 18: “the position of a balance and/or tourbillon displayed on said display depends on an output signal from said accelerometer”
- Claim 18: “the oscillations of a regulating organ displayed on said display are simulated taking into account the simulated mass of a simulated balance and the rigidity of a

returning element displayed on said display, with the time displayed being dependent on said simulation”

- Claim 18: “the running of said displayed regulating element is modified according to the accelerations to which the watch is subjected”
- Claim 19: “a step of loading new displayable mechanical movements through an input-output interface of the watch”

'922 Patent

- Claim 1: “wherein one card of said several available cards and occupying the entire digital matrix display is immediately and without further user intervention replaced after the scrolling by a different card of said several available cards that occupies the entire digital matrix display”
- Claim 1: “wherein said processing circuit is further laid out so that the replacement card is dependent from the initially displayed card and from the direction of said movement and is independent from the starting point and end point of said movement on said digital matrix display”
- Claim 5: “at least one of said cards makes it possible to calculate and display a simulation of a mechanical watch displaying the time, so as to enable the user to change the mechanical watch displayed by scrolling cards”
- Claim 6: “the processing circuit being laid out for detecting simultaneous contacts on several points of the touch-sensitive glass so as to constitute a multi-touch haptic screen”
- Claim 7: “the processing circuit being laid out for determining the displacement of the center of gravity of the contact zone of the finger on the touch-sensitive glass”

- Claim 9: “scrolling on a digital matrix display of several available cards so as for said scrolling to stop of itself so as to align an edge of the replacement card with an edge of the matrix display, wherein one card of said several available cards and occupying the entire digital matrix display is replaced after the scrolling, immediately and without further user intervention, by a different card selected between said several available cards and occupying the entire digital matrix display; and wherein the scrolling direction depends only on the direction of said movement so that said replacement card is dependent from the initially displayed card and from the direction of said movement and is independent from the starting point and end point of said movement on said digital matrix display”
- Claim 10: “the entering of a touch command for confirming or stopping the scrolling”
- Claim 12: “the determining of the displacement of the center of gravity of the contact zone of the finger on the two-dimensional touch-sensitive glass”
- Claim 14: “the card scrolling speed or amplitude depend on the speed or amplitude of movement of the finger on the two-dimensional touch-sensitive glass”
- Claim 17: “the card scrolling is interrupted by a brief pressure on the two-dimensional touch-sensitive, so as to cause the card best centered on the display at the time of the interruption to be selected and displayed”
- Claim 20: “a plurality of said cards displays a simulation of a virtual mechanical movement”
- Claim 23: “wherein said processing circuit is specifically laid out so as to cause said several available cards to scroll past by displaying the image of said cards one at a on the digital matrix display in order to lastingly replace the initially displayed card with a

replacement card selected within said several available cards, immediately after the scrolling and without further user intervention”

- Claim 23: “wherein said processing circuit is further laid out so that the replacement card is dependent from the initially displayed card and from the direction of said movement and is independent from the starting point and end point of said movement on said digital matrix display”
- Claim 24: “wherein said processing circuit is further laid out so that the replacement card is dependent from the initially displayed card and from the direction of said movement and is independent from the starting point and end point of said movement on said digital matrix display”

'678 Patent

- Claim 1: “ wherein the inertial sensor comprises an accelerometer and a processor and/or other processing means,” “wherein the wristwatch comprises a microcontroller controlling a display of indication on a digital matrix display of the wristwatch,” “ a touch controller for interpreting touch signal provided by a touch panel underneath a cover glass and for converting said signals into command signal,” “using the accelerometer of the inertial sensor for generating an acceleration signal used for detecting a gesture on the cover glass of said wristwatch, while the microcontroller and the touch controller are in a sleep power mode,” “using the processor and/or other processing means of the inertial sensor for discriminating between gesture and no gesture based on a direction of said acceleration signal and on a slope or frequency of said acceleration signal as measured by said accelerometer being a three dimensional accelerometer,” “using the touch controller for detecting a tap gesture on the cover glass with the touch panel,” “waking

up the microcontroller in said wristwatch upon detection of a tap gesture by said touch controller,” “using said microcontroller for detecting said gesture and for discriminating between gesture and no gesture based at least on signals from the touch panel”

- Claim 4: “ determining said frequency and determining that there is no gesture if said frequency is not in a predetermined frequency range compatible with a tap”
- Claim 5: “determining that there is no gesture if said direction is not substantially perpendicular to said cover glass”
- Claim 6: “applying a power supply sufficient for detecting a gesture to only a first subset of said touch areas”
- Claim 8: “ partially waking up said touch panel upon detection of a gesture by said accelerometer”
- Claim 9: “waking up only a subset of the complete area of said touch panel upon detection of a gesture by said accelerometer”
- Claim 10: “waking up a microcontroller in said wristwatch upon detection of a gesture by said accelerometer and with said touch panel”
- Claim 11: “said gesture being a tap or a double tap”
- Claim 12: “detecting a wristturn with said accelerometer, and switching said wristwatch from said first power mode to said second power mode when a wristturn has been detected”
- Claim 13: “detecting that the wristwatch remains substantially immobile during a predetermined duration”
- Claim 14: “a touch panel underneath a cover glass of said wristwatch for detecting a gesture on said cover glass,” “an inertial sensor comprising an accelerometer and a

processor and/or other processing means, said accelerometer being arranged for generating an acceleration signal and the processor and/or other processing means being arranged for discriminating between gesture and no gesture based on a direction of said acceleration signal as measured by said accelerometer being a three dimensional accelerometer, and on a slope or frequency of said acceleration signal, while the microcontroller and the touch controller are in a sleep power mode,” “wherein touch controller is commanded so as to be switched to said second power mode upon gesture detection by said inertial sensor and for detecting a tap gesture on the cover glass with the touch panel,” “wherein the microcontroller is arranged for controlling a display of indication on the display and commanded so as to be switched to said second power mode upon a tap gesture detection by said touch controller,”

- Claim 15: “wherein said touch panel comprises a plurality of touch areas and powering means arranged for powering only a first subset of said touch area upon detection of a gesture by said accelerometer, and for powering a larger subset in said second power mode”

'085 Patent

- Claim 1: “switching said wristwatch from said first power mode to said second power mode when a wristturn has been detected,” “detecting that the orientation of the wristwatch is held within a first range for a defined time,” “detecting that the orientation is in a second range different from said first range,” “detecting that the wristwatch remains substantially immobile during a predetermined duration,” “that a duration between the starting position and the final position is in a predefined range”
- Claim 2: “said first range is an angle range from 25° to 155° relatively to the horizontal”

- Claim 3: “said second range is an angle range from -25° to -75° relatively to the horizontal”
- Claim 4: “detecting that an orientation of the wristwatch is held in a range from -25° to -60° relatively to the horizontal during said predetermined duration”
- Claim 5: “wherein said defined time is 50 ms”
- Claim 6: “in response to a detection that the orientation of the wristwatch is held within this second range for a defined time, registering that an orientation of the wristwatch is in the final position,” “said duration between the starting position and the final position is provided by measuring a duration between the starting position and the registering of the final position”
- Claim 7: “wherein said defined time is 50 ms”
- Claim 8: “detecting that a duration between the wristwatch being held in the first range and the wristwatch being held in the second range is in a predefined third range”
- Claim 9: “said step of detecting that the orientation of the wristwatch is then in a second range comprises detecting that a display of the wristwatch is oriented towards a face of the user”
- Claim 10: “in response of a detection of the orientation of the wristwatch is in the second range, checking if the orientation of the wristwatch was in the first range during a previous step”

VIII. SUBJECT MATTER INELIGIBILITY

Pursuant to the Court’s Standing Order Regarding Subject Matter Eligibility Contentions (“Order Regarding Eligibility”), Defendants provide the following disclosure:

A. '033 Patent

In addition to the preceding invalidity contentions, Defendants further contend that each of the asserted claims of the '033 Patent is drawn to subject matter that is not patentable under 35 U.S.C. § 101. The '033 Patent's asserted claims are invalid under 35 U.S.C. § 101 for failure to recite patent-eligible subject matter. Specifically, all asserted claims of the '033 patent are fatally abstract under the U.S. Supreme Court's decision in *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208 (2014) and progeny. The abstract ideas presented in the claims are generally directed to the abstract concept of displaying the inner workings of a mechanical watch movement on a display of a wristwatch. Alternatively, Claims 6-8, 10, and 18 are also directed to the abstract idea of determining the position of an object based on the accelerations to which the object is subjected. Alternatively, Claims 2-3 and 15-19 are also directed to the abstract idea of using a touchscreen to interface with an electronic wristwatch. Under Alice Step 1, those ideas are abstract, as they relate to watches with an electronic display to display time. *See Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1314 (Fed. Cir. 2016); *Silver State Intellectual Techs. v. Facebook Inc.*, 2018 WL 1729444, at *4-*5 (N.D. Cal. 2018); *VeriPath, Inc. v. Didomi*, 2020 WL 1503687, at *3-*4 (S.D.N.Y. 2020); *Kaleasy Tech LLC v. Slack Techs., Inc.*, 2020 WL 4260605, at *4-*6 (D. Del. 2020); *Grecia v. Bank of New York Mellon Corp.*, 2020 WL 1979276, at *4-*9 (S.D.N.Y. 2020); *Tele-Publishing, Inc. v. Facebook, Inc.*, 2017 WL 1959218, at *5-*10 (D. Mass. 2017); *Atos, LLC v. Allstate Ins. Co.*, 2021 WL 6063963, at *9-*12 (N.D. Ill. 2021); *ChargePoint, Inc. v. SemaConnect, Inc.*, 2018 WL 1471685, at *8-*11 (D. Md. 2018), *aff'd*, 920 F.3d 759, 768-75 (Fed. Cir. 2019); *UbiComm, LLC v. Zappos IP, Inc.*, 2013 WL 6019203, at *3-*6 (D. Del. 2013); *Ericsson Inc. v. TCL Commc'n Tech. Holdings Ltd.*, 955 F.3d 1317, 1326-31 (Fed. Cir. 2020); *Broadcom Corp. v. Netflix Inc.*, 2022 WL 1105073, at *4-*6 (N.D. Cal. 2022); *CG Tech. Dev., LLC v. Fanduel, Inc.*, 2020 WL 1064863, at *3-*5 (D. Del. 2020); *CardioNet*,

LLC v. Scottcare Corp., 2019 WL 3072702, at *7-*10, *19-*21 (E.D. Pa. 2019); *RingCentral, Inc. v. Dialpad, Inc.*, 2019 WL 1102986, at *3-*6 (N.D. Cal. 2019); *Umbanet, Inc. v. Epsilon Data Mgmt., LLC*, 2017 WL 1398274, at *4-*5 (E.D. Tex. 2017); *Protegrity USA, Inc. v. Netskope, Inc.*, 2015 WL 6126599, at *6-*8 (N.D. Cal. 2015); *Mantissa Corp. v. Ondot Sys., Inc.*, 2017 WL 3437773, at *7-*19 (S.D. Tex. 2017); *Beteiro, LLC v. BetMGM, LLC*, 2022 WL 4092946, at *6-*10 (D.N.J. 2022); *Mira Advanced Tech. Sys., Inc. v. Google LLC*, 2022 WL 3925235, at *4-*6 (S.D.N.Y. 2022); *Linquet Techs., Inc. v. Tile, Inc.*, 2021 WL 4198521, at *4-*7 (N.D. Cal. 2021); *RDPA, LLC v. Geopath, Inc.*, 2021 WL 2440700, at *12-*17 (S.D. N.Y. 2021); *B# on Demand LLC v. Spotify Tech. S.A.*, 2020 WL 5369185, at *8-*14 (D. Del. 2020); *ClearDoc, Inc. v. RiversideFM, Inc.*, 2022 WL 3355960, at *3-*5 (D. Del. 2022); *DigiMedia Tech, LLC v. ViacomCBS Inc.*, 2022 WL 836788 at *5-*8 (S.D.N.Y. 2022). A claim is drawn to an abstract idea when “humans have always performed [the claimed] functions.” *Content Extraction & Transmission LLC v. Wells Fargo Bank, NA*, 776 F.3d 1343, 1347 (Fed. Cir. 2014). Limiting the invention to a particular technological environment, e.g. generic computer hardware, “do[es] not render an otherwise abstract concept any less abstract.” *Intellectual Ventures I LLC v. Capital One Fin. Corp.*, 850 F.3d 1332, 1340 (Fed Cir. 2017). Furthermore, because the patent relates to watches with an electronic display to display time, it is likewise abstract, as “information is . . . an intangible.” *Electric Power Group, LLC v. Alstom S.A.*, 830 F.3d 6290, 6293 (Fed. Cir. 2016).

Moreover, under Alice Step 2, the '033 Patent does not contain any inventive concept. The '033 Patent's asserted claims employ well-known components (e.g., electronic watches with a quartz oscillator, an electronic display, a crown stem, an organ, and escapement, and an oscillator) or functionality (e.g., a watch able to display time in digital or mechanical fashion and

a system for downloading watch faces displayed on a device), as reflected in Defendants' invalidity contentions under 35 U.S.C. §§ 102-103, which is not enough to impart patent-eligibility to an abstract idea. *See, e.g., Alice*, 573 U.S. at 225 (holding that limitations describing “well-understood, routine, conventional activit[ies]” previously known to the industry” were insufficient to supply an inventive concept (quoting *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66, 73 (2012))).

Further details regarding Defendants' contentions that the asserted claims of the '033 Patent do not qualify as patent-eligible subject matter are contained in Exhibit C-B (chart of patent ineligibility). Specifically, pursuant to section (a)(1) of the Order Regarding Eligibility, Exhibit C-B contains a chart identifying each exception to eligibility to which each asserted claim is directed and the factual and legal basis therefor. For avoidance of doubt, and as set forth above and in Exhibit C-B, each asserted claim of the '033 Patent is directed to an abstract idea and therefore is not directed to patent eligible subject matter. Exhibit C-B also identifies Claim 1 as representative of the other asserted claims for purposes of the eligibility inquiry. Alternatively, Exhibit C-B identifies Claim 6 as representative of Claims 6-8, 10, and 18. Alternatively, Exhibit C-B identifies Claim 16 as representative of Claims 2-3 and 15-19. In addition, pursuant to section (a)(2)(B) and (a)(3) of the Order regarding Eligibility, Exhibit C-B provides: (i) a description of how each element of each asserted claim, both individually and in combination with the other elements of that claim, was well understood, routine, and/or conventional in the relevant industry at the relevant time and (ii) an identification of the factual or legal basis for how the asserted claims are otherwise ineligible for patent protection.

B. '922 Patent

In addition to the preceding invalidity contentions, Defendants further contend that each of the asserted claims of the '922 Patent is drawn to subject matter that is not patentable under

35 U.S.C. § 101. The '922 Patent's asserted claims are invalid under 35 U.S.C. § 101 for failure to recite patent-eligible subject matter. Specifically, all asserted claims of the '922 patent are fatally abstract under the U.S. Supreme Court's decision in *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208 (2014) and progeny. The abstract ideas presented in the claims are generally directed to the abstract idea of using a touchscreen to interface with an electronic wristwatch. Under Alice Step 1, those ideas are abstract, as they relate to watches with a touch sensitive display screen. See *Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1314 (Fed. Cir. 2016); *Silver State Intellectual Techs. v. Facebook Inc.*, 2018 WL 1729444, at *4-*5 (N.D. Cal. 2018); *VeriPath, Inc. v. Didomi*, 2020 WL 1503687, at *3-*4 (S.D.N.Y. 2020); *Kaleasy Tech LLC v. Slack Techs., Inc.*, 2020 WL 4260605, at *4-*6 (D. Del. 2020); *Grecia v. Bank of New York Mellon Corp.*, 2020 WL 1979276, at *4-*9 (S.D.N.Y. 2020); *Tele-Publishing, Inc. v. Facebook, Inc.*, 2017 WL 1959218, at *5-*10 (D. Mass. 2017); *Atos, LLC v. Allstate Ins. Co.*, 2021 WL 6063963, at *9-*12 (N.D. Ill. 2021); *ChargePoint, Inc. v. SemaConnect, Inc.*, 2018 WL 1471685, at *8-*11 (D. Md. 2018), *aff'd*, 920 F.3d 759, 768-75 (Fed. Cir. 2019); *UbiComm, LLC v. Zappos IP, Inc.*, 2013 WL 6019203, at *3-*6 (D. Del. 2013); *Ericsson Inc. v. TCL Commc'n Tech. Holdings Ltd.*, 955 F.3d 1317, 1326-31 (Fed. Cir. 2020); *Broadcom Corp. v. Netflix Inc.*, 2022 WL 1105073, at *4-*6 (N.D. Cal. 2022); *CG Tech. Dev., LLC v. Fanduel, Inc.*, 2020 WL 1064863, at *3-*5 (D. Del. 2020); *CardioNet, LLC v. Scottcare Corp.*, 2019 WL 3072702, at *7-*10, *19-*21 (E.D. Pa. 2019); *RingCentral, Inc. v. Dialpad, Inc.*, 2019 WL 1102986, at *3-*6 (N.D. Cal. 2019); *Umbanet, Inc. v. Epsilon Data Mgmt., LLC*, 2017 WL 1398274, at *4-*5 (E.D. Tex. 2017); *Protegrity USA, Inc. v. Netskope, Inc.*, 2015 WL 6126599, at *6-*8 (N.D. Cal. 2015); *Mantissa Corp. v. Ondot Sys., Inc.*, 2017 WL 3437773, at *7-*19 (S.D. Tex. 2017); *Beteiro, LLC v. BetMGM, LLC*, 2022 WL 4092946, at *6-*10 (D.N.J. 2022); *Mira Advanced Tech. Sys., Inc.*

v. Google LLC, 2022 WL 3925235, at *4-*6 (S.D.N.Y. 2022); *Linquet Techs., Inc. v. Tile, Inc.*, 2021 WL 4198521, at *4-*7 (N.D. Cal. 2021); *RDPA, LLC v. Geopath, Inc.*, 2021 WL 2440700, at *12-*17 (S.D. N.Y. 2021); *B# on Demand LLC v. Spotify Tech. S.A.*, 2020 WL 5369185, at *8-*14 (D. Del. 2020); *ClearDoc, Inc. v. RiversideFM, Inc.*, 2022 WL 3355960, at *3-*5 (D. Del. 2022); *DigiMedia Tech, LLC v. ViacomCBS Inc.*, 2022 WL 836788 at *5-*8 (S.D.N.Y. 2022). A claim is drawn to an abstract idea when “humans have always performed [the claimed] functions.” *Content Extraction & Transmission LLC v. Wells Fargo Bank, NA*, 776 F.3d 1343, 1347 (Fed. Cir. 2014). Limiting the invention to a particular technological environment, e.g. generic computer hardware, “do[es] not render an otherwise abstract concept any less abstract.” *Intellectual Ventures I LLC v. Capital One Fin. Corp.*, 850 F.3d 1332, 1340 (Fed Cir. 2017). Furthermore, because the patent relates to watches with a touch sensitive display screen, it is likewise abstract, as “information is . . . an intangible.” *Electric Power Group, LLC v. Alstom S.A.*, 830 F.3d 6290, 6293 (Fed. Cir. 2016).

Moreover, under Alice Step 2, the '922 Patent does not contain any inventive concept. The '033 Patent's asserted claims employ well-known components (e.g., wristwatches with a matrix display, wristwatches with a sheet of touch-sensitive glass, a watch with predefined haptic zones, a watch with haptic control, watches that display time in numeric and/or analog fashion, watch with touch screen sensors, a portable device with a touch screen, a watch with a one-dimensional touch screen) or functionality (e.g., detecting movements on an touch screen, a watch with haptic control, watches that display time in numeric and/or analog fashion), as reflected in Defendants' invalidity contentions under 35 U.S.C. §§ 102-103, which is not enough to impart patent-eligibility to an abstract idea. *See, e.g., Alice*, 573 U.S. at 225 (holding that limitations describing “‘well-understood, routine, conventional activit[ies]’ previously known to

the industry” were insufficient to supply an inventive concept (quoting *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66, 73 (2012)).

Further details regarding Defendants’ contentions that the asserted claims of the ’922 Patent do not qualify as patent-eligible subject matter are contained in Exhibit D-B (chart of patent ineligibility). Specifically, pursuant to section (a)(1) of the Order Regarding Eligibility, Exhibit D-B contains a chart identifying each exception to eligibility to which each asserted claim is directed and the factual and legal basis therefor. For avoidance of doubt, and as set forth above and in Exhibit D-B, each asserted claim of the ’922 Patent is directed to an abstract idea and therefore is not directed to patent eligible subject matter. Exhibit D-B also identifies Claim 1 as representative of the other asserted claims for purposes of the eligibility inquiry. In addition, pursuant to section (a)(2)(B) and (a)(3) of the Order regarding Eligibility, Exhibit D-B provides: (i) a description of how each element of each asserted claim, both individually and in combination with the other elements of that claim, was well understood, routine, and/or conventional in the relevant industry at the relevant time and (ii) an identification of the factual or legal basis for how the asserted claims are otherwise ineligible for patent protection.

IX. DOCUMENT PRODUCTION

Pursuant to Patent Local Rule 3-4, Defendants are concurrently producing the prior art identified in these Invalidity Contentions, but Defendants are not required to produce the prior art in the file history of the Asserted Patents.

In addition, based on its investigations to date, Defendants are concurrently producing source code, specifications, schematics, flow charts, artwork, formulas, or other documentation sufficient to show the operation of any aspects or elements of the Accused Instrumentalities identified by Plaintiff in its P. R. 3-1(c) chart.

Defendants reserve the right to supplement these productions with additional documentation, in accordance with the Federal Rules of Civil Procedure, the Local Rules, the Court's orders and other applicable rules and statutes.

Dated: November 14, 2023

Respectfully submitted,

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CERTIFICATE OF SERVICE

Pursuant to the Federal Rules of Civil Procedure, I hereby certify that, on November 14, 2023, all counsel of record who have appeared in this case are being served with a copy of the foregoing via the electronic mail.

/s/ Brian A. Treggs
Brian A. Treggs
Case Manager
O'Melveny & Myers LLP