

Filed: July 18, 2024

Filed on behalf of **Masimo Corporation**

By: Ted M. Cannon (Reg. No. 55,036)
Jarom D. Kesler (Reg. No. 57,046)
Philip M. Nelson (Reg. No. 62,676)
Irfan A. Lateef (Reg. No. 51,922)
Jeremy A. Anapol (Reg. No. 75,686)
KNOBBE, MARTENS, OLSON & BEAR, LLP
2040 Main Street, Fourteenth Floor
Irvine, CA 92614
Tel.: (949) 760-0404
Fax: (949) 760-9502
Email: MasimoIPR-352@knobbe.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MASIMO CORPORATION,
Petitioner

v.

APPLE INC.,
Patent Owner

Case No. IPR2023-00664
Patent No. 11,106,352

**PETITIONER'S SUR-REPLY TO REPLY TO OPPOSITION TO PATENT
OWNER'S REVISED CONTINGENT MOTION TO AMEND**

TABLE OF CONTENTS

	Page No.
I. MASIMO IDENTIFIES PARTICULAR GROUNDS	1
II. THE OPPOSITION EXPLAINED SPECIFIC MOTIVATIONS	2
III. THE SUBSTITUTE CLAIMS WOULD HAVE BEEN OBVIOUS	3
A. Claims 25-27, 30-32, And 35-37 Would Have Been Obvious	3
1. Tu discloses inferring tilt angle from accelerometer data	3
2. Motivation To Combine Tu With Other Art	5
B. Claims 28-29, 33-34, And 38-39 Would Have Been Obvious	7
1. Dascola and Brinda Disclose The Amended Claim Elements	7
2. Motivation To Combine Dascola and Brinda With Other Art	8
IV. LACK OF WRITTEN DESCRIPTION SUPPORT	10
A. Claims 26, 31, and 36 Lack Written Description Support	10
V. THE SUBSTITUTE CLAIMS ARE INDEFINITE	11
A. Claims 26, 31, And 36 Are Indefinite	11
B. Claims 29, 34, And 39 Are Indefinite	12
C. Claims 27, 32, And 37 Are Indefinite	12

TABLE OF AUTHORITIES

Page No(s).

<i>Adaptics Ltd. v. Perfect Co.,</i> IPR2018-01596, Paper 20 (PTAB Mar. 6, 2019)	1
<i>Anacor Pharms., Inc. v. Iancu,</i> 889 F.3d 1372 (Fed. Cir. 2018)	1
<i>Apple Inc. v. Andrea Elecs. Corp.,</i> 949 F.3d 697 (Fed. Cir. 2020)	1
<i>ActiveVideo Networks v. Verizon Commc'ns,</i> 694 F.3d 1312, 1327-28 (Fed. Cir. 2014)	9
<i>Chamberlain Grp., Inc. v. One World Techs., Inc.,</i> 944 F.3d 919 (Fed. Cir. 2019)	1
<i>DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.,</i> 567 F.3d 1314 (Fed. Cir. 2009)	7
<i>In re Etter,</i> 756 F.2d 852 (Fed. Cir. 1985)	7
<i>Google v. Nobots,</i> IPR2022-00940, Paper 38 (PTAB Nov. 29, 2023)	7
<i>Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.,</i> 821 F.3d 1359 (Fed. Cir. 2016)	9
<i>Interval Licensing LLC v. AOL, Inc.,</i> 766 F.3d 1364 (Fed. Cir. 2014)	11
<i>Janssen Pharm., Inc. v. Teva Pharm. Inc.,</i> 97 F.4th 915 (Fed. Cir. 2024)	9
<i>Kawasaki Rail Car, Inc. v. Blair,</i> IPR2017-00117, Paper 44 (PTAB May 2, 2018)	10

TABLE OF AUTHORITIES
(cont'd)

Page No(s).

<i>Nautilus, Inc. v. Biosig Instruments, Inc.</i> , 572 U.S. 898 (2014).....	11
<i>PersonalWeb Techs., LLC v. Apple, Inc.</i> , 848 F.3d 987 (Fed. Cir. 2017).....	3
<i>Rembrandt Diags., LP v. Alere, Inc.</i> , 76 F.4th 1376 (Fed. Cir. 2023).....	1
<i>In re Urbanski</i> , 809 F.3d 1237 (Fed. Cir. 2016).....	9

OTHER AUTHORITIES

37 C.F.R. § 42.6.....	1
-----------------------	---

I. MASIMO IDENTIFIES PARTICULAR GROUNDS

Apple argues Masimo failed to articulate its grounds with particularity. Reply, 1-2. That argument is a repeat from Apple's POR. POR, 13-18. Masimo already explained: (1) Apple conflated the Petition's general motivation-to-combine section with Masimo's grounds and (2) the Petition's Section V identifies Masimo's six grounds with particularity. Masimo Reply, 7; Pet., 33-93. Apple did not file a Preliminary Response alleging any deficiencies in the Petition, and the Board instituted this IPR. Inst. Dec., 2. And Masimo's Reply properly elaborated on and provided additional examples and responses supporting the Petition. *Chamberlain Grp., Inc. v. One World Techs., Inc.*, 944 F.3d 919, 925 (Fed. Cir. 2019); *Apple Inc. v. Andrea Elecs. Corp.*, 949 F.3d 697, 706 (Fed. Cir. 2020); *Anacor Pharms., Inc. v. Iancu*, 889 F.3d 1372, 1380-1381 (Fed. Cir. 2018); *Rembrandt Diags., LP v. Alere, Inc.*, 76 F.4th 1376, 1385 (Fed. Cir. 2023).

Apple's revised motion is contingent on the Board finding the original claims unpatentable based on the Petition. Thus, the Opposition identifies references that disclose the amended limitations of the Substitute Claims and explains why a POSITA would have combined the identified references with the Petition's grounds. The Opposition did so, and, thus, Masimo identified its challenge with particularity.

In *Adaptics Ltd. v. Perfect Co.*, IPR2018-01596, Paper 20, 18-19, 24 (PTAB Mar. 6, 2019), cited by Apple (Reply, 1), the Board denied institution because the

Petition included a “catch-all” ground that would “yield[] hundreds of possible combinations.” Here, the Petition set forth no more than five combinations for each of the three groupings of claims: Grounds 1 and 4 include five, partially overlapping combinations, Grounds 2 and 5 include four, partially overlapping combinations, and Grounds 3 and 6 include four, partially overlapping combinations. For each substitute claim, the Opposition added one or two references to address new limitations. Thus, the Petition and Opposition set forth, with particularity, a small, reasonable number of grounds and combinations.

II. THE OPPOSITION EXPLAINED SPECIFIC MOTIVATIONS

Apple asserts that Masimo did not establish a motivation to combine the cited art. Reply, 2-3. Masimo explained that a POSITA would have applied general user interface design principles, such as efficiency and ease-of-use, to combine the cited art. Opp., 2-3; EX1064, ¶¶26-28. Notably, these are the same benefits touted by the ’352 patent as advantageous. EX1001, 1:44-46, 55-57 (“user interfaces...are cumbersome and inefficient... Accordingly, there is a need for electronic devices with faster, more efficient methods and interfaces.”). Masimo also enumerated specific reasons why a POSITA would have been motivated to implement specific features in prior art systems. Opp., 8-9, 16, 20. Thus, Masimo established a sufficient motivation to combine the cited art.

Apple argues that Masimo did not adequately analyze how the combination

would have worked. Reply, 3. *PersonalWeb Techs., LLC v. Apple, Inc.*, 848 F.3d 987, 994 (Fed. Cir. 2017), cited by Apple, provides no support. In that case, the Federal Circuit explained the amount of analysis needed depends on context and a brief explanation is sufficient for simple technology. *Id.* at 994. The court found that a patent directed to network data security was complex. But here the Substitute Claims simply add well-understood user interface features to the Original Claims. See EX1001, Technical Field (“This relates generally to electronic devices with touch-sensitive surfaces . . . that include user interfaces for displaying notifications.”). Thus, a POSITA would have understood “these features would have been easy to implement in software and hardware without needing to overcome any technical barrier.” Opp., 3; EX1064 ¶¶26-28. Nor does Apple identify any barriers to combining the references. Reply, 3.

III. THE SUBSTITUTE CLAIMS WOULD HAVE BEEN OBVIOUS

A. Claims 25-27, 30-32, And 35-37 Would Have Been Obvious

1. Tu discloses inferring tilt angle from accelerometer data

Apple argues that Tu’s “accelerometer data is measured in ‘g’s’ not angles, and thus Tu does not describe using a ‘tilt angle threshold.’” Reply, 3-4. But Tu *infers* tilt angles from accelerometer data and determines the device is in the user’s line of sight “based on tilt angles.” EX1065 ¶¶ 67, 69 (“Tilt angles can be inferred from accelerometer data.”); *see also, e.g.* ¶¶ 49, 70 (“accruing a certain amount of

tilt along the y axis”), 139, 148. Cockburn admitted Tu discloses that “tilt angles can be inferred from accelerometer data.” EX1076, 19:17-19. He further admitted that Tu’s disclosure of using tilt angles inferred from accelerometer data is relevant to interpreting Tu’s disclosure that “the transition from a focus pose can involve accruing a certain amount of tilt along the y axis.” EX1076, 17:16-18:1.

Moreover, Tu’s use of tilt angles inferred from accelerometer data is consistent with the ’352 patent’s disclosure that an accelerometer may be used to determine “whether the device has been rotated by more than a threshold angle.” EX1001, 37:64-38:2. Thus, Tu describes using a tilt angle threshold in precisely the same way as disclosed in the ’352 patent. *See* EX1065 ¶33 (“motion sensors such as an accelerometer and/or gyroscope ... can ... infer information about the spatial orientation of the device (e.g., by detecting gravitational acceleration ...)”).

Apple argues Masimo improperly combines Tu’s Figure 4 (illustrating raise-gesture detection) with Figure 13 (illustrating loss-of-focus detection). Reply, 4-5. Not so. Masimo relies on Tu’s raise-gesture detection to wake the display when a tilt-angle threshold is met. Opp., 3-5. A POSITA would have understood Tu discloses the use of a tilt-angle threshold to wake the display even without reference to Figure 13. EX1065 ¶¶66, 67, 69, 70, 148.

Masimo cited Figure 13 to corroborate that a POSITA would have understood that Tu discloses using a tilt-angle threshold to both wake the display and put the

display to sleep. Opp., 5-6. Figure 13 illustrates a method for putting the display to sleep upon detecting a “loss-of-focus event” using a tilt-angle threshold. A POSITA would have understood that putting the display to sleep using a tilt-angle threshold is simply the inverse process of waking the display using a tilt-angle threshold. Pet., 37; EX1064 ¶42. Yet Apple astonishingly mischaracterizes these inverse processes as “*incongruous* embodiments ... directed to entirely different purposes and results.” Reply, 5. Apple’s impression does not bear scrutiny. Cockburn admitted a single device would detect a raise gesture to wake a display and detect loss of focus to put a display to sleep. EX1076, 26:22-27:12. Apple points to irrelevant differences regarding *when* each detection process would occur. (“early vs. delayed detection”). The claims recite determining a tilt-angle threshold has been met but do not require any specific timing for such a determination. See EX1075, 30:21-31:3. Thus, Rosenberg’s testimony that “detecting loss of focus is a similar but opposite process versus detecting a raise gesture” is credible, common-sensical, and corroborates a POSITA’s understanding that Tu’s raise-gesture detection includes meeting a tilt-angle threshold. EX1064 ¶39.

2. Motivation To Combine Tu With Other Art

Contrary to Apple’s lack-of-motivation-to-combine argument (Reply, 5-7), the Opposition showed that a POSITA would have been motivated to implement Tu’s raise-gesture-detection features into Chae’s smartphone to “manage the

device's power consumption more efficiently and improve ease-of-use" by eliminating "the need for the user to press a button." Opp., 8. Tu expressly touts these power-saving and convenience advantages. EX1065 ¶¶5-8. For example, Tu expressly explains that raising a device to wake a display is more natural and convenient than a button press. *Id.* ¶6 ("[E]xisting wearable devices generally require some sort of preliminary user input, such as touching a button" which "can make use of the device feel unnatural or inconvenient, especially in contrast with more natural, intuitive interactions familiar from older technology."). Moreover, the initial Apple Watch, which is prior art, included both "raise to wake" and button press features to wake a sleeping display, belies Apple's contention that Chae's button negates motivation to use "tilt-to-wake." EX1053, 15-16.

While Tu focuses on wrist-worn devices, it also encourages implementing tilt-to-wake in other portable devices "such as mobile phones" and "tablets." EX1065 ¶192. Thus, Chae would have benefitted from Tu's power-saving and convenience advantages, contrary to Apple's assertions. Reply, 6-7; APPLE2010, ¶10.

Apple points to Tu's disclosure that early detection of a raise gesture could result in false positives. Reply, 6 (citing EX1065 ¶¶152, 180). Apple argues false positives could cause the device to "wake up" inadvertently, "leading to faster battery depletion." Reply, 6. But Tu teaches how to reduce false positives by tuning "sensitivity" to delay detection "while still allowing sufficient time ... to transition

to the wake state.” EX1065 ¶152. Apple’s speculation on worst-case possibilities would not prevent a POSITA from routine tailoring of sensitivity to reduce false positives to an acceptable level. *Google v. Nobots*, IPR2022-00940, Paper 38 at 24-26 (PTAB Nov. 29, 2023) (Petition need not describe every modification POSITA might contemplate in combining art); *In re Etter*, 756 F.2d 852, 859 (Fed. Cir. 1985) (obviousness does not require physical combinability or bodily incorporation).

DePuy is inapposite. In that case, the Federal Circuit found the prior art “teaches away” from the proffered reason to combine. *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314, 1326-27 (Fed. Cir. 2009). Chae does not even mention, much less disparage, tilt-to-wake. Apple does not identify anything, in Chae or otherwise, that “teaches away” from tilt-to-wake. Reply, 6.

B. Claims 28-29, 33-34, And 38-39 Would Have Been Obvious

1. Dascola and Brinda Disclose The Amended Claim Elements

Apple argues that “Dascola’s control UI is revealed by sliding up to partially cover a wake screen that is fixed in position.” Reply, 7. But Dascola’s disclosure that the control user interface is *revealed* suggests it is initially hidden behind the wake screen. A POSITA would have understood sliding the wake screen gradually reveals the underlying control user interface. See EX1051, Figs. 6A-6D, ¶400.

Regardless, even under Apple’s interpretation of Dascola, these amended limitations are obvious in view of Brinda. Opp., 15-16. The only distinction Apple

identifies is Brinda's protection layer slides down instead of up. Reply, 7. But sliding from a different edge, such as PowerPoint animations, is not a patentable distinction, especially in view of Dascola's disclosure of sliding from a lower edge.

Apple also argues Brinda's protection and original layers do not correspond to the claimed wake screen and underlying user interface. Reply, 7. To the contrary, Brinda discloses: "When the touch screen is in the screen-locked state, a protection layer is displayed on the touch screen to cover an original layer originally displayed on the touch screen." EX1072, 4:1-4. That disclosure is similar to the '352 patent stating the "wake screen user interface 504 is a user interface that is displayed when the device transitions from a screen-off state to a screen-on state (e.g., while the device 100 is in a locked state)." EX 1001, 38:18-21. Thus, a POSITA would have understood that Brinda's protection layer is akin to the '352 patent's wake screen and Brinda's original layer is akin to an underlying user interface. EX1064 ¶67. And even if Brinda's protection layer were not a wake screen, a POSITA would have been motivated to modify Chae's wake screen to slide like Brinda's protection layer.

2. Motivation To Combine Dascola and Brinda With Other Art

Apple argues that a POSITA would not have combined Dascola and Karunamuni because Karunamuni discloses a control center interface that "already provides ... the features and benefits that is Masimo's motivation to combine." Reply, 8. However, Masimo does not rely on Dascola and Brinda to add the control

panel user interface, which is already part of the original combination. Rather, Masimo relies on Dascola and Brinda’s teachings of *sliding* the wake screen to reveal an underlying user interface. Masimo explained that a POSITA would have been motivated to add the sliding motif “to improve the aesthetics of a user interface.” Opp., 16. This improved aesthetics motivation appropriately focuses on the *claimed invention*, as the “sliding” limitation describes an aesthetic feature—i.e., how the user interface looks when it transitions from one screen to another—rather than a functional feature. *In re Urbanski*, 809 F.3d 1237, 1243-1244 (Fed. Cir. 2016); *Janssen Pharm., Inc. v. Teva Pharm. Inc.*, 97 F.4th 915, 925 (Fed. Cir. 2024); *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1367 (Fed. Cir. 2016). Improved aesthetics would have motivated the combination because some users would prefer the look of a sliding screen, even if others had a different preference. Apple does not show Karunamuni provides superior aesthetics.

Further, a POSITA would have understood that the claimed “underlying user interface” need not be a control center interface. Indeed, the claims do not require any specific type of underlying user interface. Thus, the underlying user interface could be a home screen as described in Brinda or any other screen.

ActiveVideo is inapplicable. In that case, the Federal Circuit held that a “generic” motivation to combine that “bears no relation to any specific combination of prior art elements” was insufficient. *ActiveVideo Networks*, 694 F.3d 1312, 1327-

28 (Fed. Cir. 2014). Here, Masimo’s proffered motivation to combine—to improve the aesthetics of a user interface by creating a familiar “three-dimensional” user interface—is directly related to the relevant field of user interface design. A POSITA would have considered visual presentation an important consideration in user-interface design. Indeed, improving aesthetics is one of the only reasons to implement animations such as sliding to transition between screens. The PTAB has found “creat[ing] pleasing aesthetics” to be an appropriate motivation. *Kawasaki Rail Car, Inc. v. Blair*, IPR2017-00117, Paper 44, 27-28, (PTAB May 2, 2018).

IV. LACK OF WRITTEN DESCRIPTION SUPPORT

A. Claims 26, 31, and 36 Lack Written Description Support

Apple claims that the following passage from the ’352 specification provides written description support for Substitute Claims 26, 31, and 36:

For example, the device determines whether the device has been rotated by more than a threshold angle (e.g., rotated along an axis of the device, such as tilted from a position in which the device is substantially horizontal to a position that is substantially vertical).

EX1001, 37:67-38:5. However, this paragraph discloses a single determination: “whether the device has been rotated by more than a threshold angle.” It does not describe a different step of “determining whether the computer system is tilted from a position in which the computer system is substantially horizontal to a position in which the computer system is

substantially vertical,” as the claims require. Apple incorrectly argues Figures 5A1-5A4 and their description are “another example described in the specification,” distinct from the above passage. In fact, the above passage indicates that when the device is tilted from substantially horizontal to substantially vertical, the device has been rotated by **more than** the threshold angle. Similarly, Figures 5A1-5A4 show the exact same embodiment as Apple’s alleged support, wherein the tilt angle threshold is met **before** the device has reached a substantially vertical position. EX1001, 38:9-17.

V. THE SUBSTITUTE CLAIMS ARE INDEFINITE

A. Claims 26, 31, And 36 Are Indefinite

Apple mischaracterizes *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364 (Fed. Cir. 2014) as holding that a “claim is definite if the specification provides examples.” Reply, 11. In *Interval Licensing*, the Federal Circuit found a single example **insufficient** to satisfy the definiteness requirement. *Interval Licensing*, 766 F.3d at 1374-74 (“With this lone example, a skilled artisan is still left to wonder what other forms of display are unobtrusive and non-distracting.”). Similarly, here, with the lone examples of “substantially horizontal” and “substantially vertical” (which appear to be exactly horizontal and vertical), a POSITA is left to wonder at what angle a device ceases to be “substantially” horizontal or vertical. Thus, the claim language is not “precise enough to afford clear notice of what is claimed.” *Nautilus*,

Inc. v. Biosig Instruments, Inc., 572 U.S. 898, 909-10 (2014).

B. Claims 29, 34, And 39 Are Indefinite

Substitute Claims 29, 34, and 39 recite “while two or more notifications *remains displayed* on the wake screen user interface.” The word “remains” is temporal in nature: it logically requires that the notifications were initially displayed at some preceding time. But those same claims also recite “redisplaying the wake screen user interface” while previously displaying a control panel user interface. Thus, how notifications could “remain” displayed on a user interface that was just itself redisplayed is unclear. Accordingly, those claims are invalid as indefinite.

C. Claims 27, 32, And 37 Are Indefinite

The “determining that the change in the orientation of the computer system does not satisfy the tilt angle threshold” limitation is part of the “detecting the input that meets display-waking criteria” step. Claims 27, 32, and 37 recite “determining *the* change in *the* orientation of the computer does not satisfy *the* tilt angle threshold.” Claims 25, 30, and 35 provide antecedent basis for these terms in the “detecting the input that meets the display-waking criteria” step. Thus, claims 27, 32, and 37 essentially recite “detecting the input that meets the display-waking criteria” and then *not* waking the display. A POSITA would be baffled about how determining the tilt-angle threshold is *not* satisfied and *not* activating the display is part of finding the display-waking criteria satisfied. EX1094 ¶¶96.

Masimo v. Apple
IPR2023-00664

Respectfully submitted,
KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: July 18, 2024

By: /Ted M. Cannon/
Ted M. Cannon (Reg. No. 55,036)
Customer No. 64,735

Attorney for Petitioner
(949) 760-0404

CERTIFICATE OF SERVICE

I hereby certify that, pursuant to 37 C.F.R. § 42.6(e) and with the agreement of counsel for Patent Owner, a true and correct copy of **PETITIONER’S SUR-REPLY TO REPLY TO OPPOSITION TO PATENT OWNER’S REVISED CONTINGENT MOTION TO AMEND** is being served electronically on July 18, 2024, to the e-mail addresses shown below:

W. Karl Renner Fish & Richardson P.C. 60 South Sixth Street, Suite 3200 Minneapolis, MN 55402 Tel: 202-783-5070 Fax: 877-769-7945 Email: IPR50095-0146IP1@fr.com	Roberto J. Devoto Craig A. Deutsch Grace Kim Andrew Patrick Fish & Richardson P.C. 60 South Sixth Street, Suite 3200 Minneapolis, MN 55402 Tel: 202-783-5070 Fax: 877-769-7945 Email: IPR50095-0146IP1@fr.com
---	--

Dated: July 18, 2024

/Ted M. Cannon/
Ted M. Cannon (Reg. No. 55,036)
Customer No. 64,735

Attorney for Petitioner
Masimo Corporation
(949) 760-0404