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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

MASIMO CORPORATION,
Patent Owner.

Case IPR2024-00290
U.S. Patent 8,190,223

**PATENT OWNER MASIMO CORPORATION'S
POST-HEARING BRIEF**

EXHIBIT LIST

Exhibit No.	Description
2001	Curriculum Vitae of R. James Duckworth, Ph.D.
2002	Declaration of R. James Duckworth, Ph.D.
2003	Commission Opinion (Public), <i>Certain Light-Based Physiological Measurement Devices and Components Thereof</i> , Inv. No. 337-TA-1276, EDIS No. 808521 (ITC Oct. 26, 2023)
2004	Decision Denying Institution of <i>Inter Partes</i> Review, <i>Apple Inc. v. Masimo Corp.</i> , IPR2022-01271, Paper 15 (PTAB Jan. 24, 2023)
2005	Decision Denying Institution of <i>Inter Partes</i> Review, <i>Apple Inc. v. Masimo Corp.</i> , IPR2022-01272, Paper 16 (PTAB Jan. 24, 2023)
2006	Decision Denying Institution of <i>Inter Partes</i> Review, <i>Apple Inc. v. Masimo Corp.</i> , IPR2022-01273, Paper 15 (PTAB Jan. 24, 2023)
2007	Decision Denying Institution of <i>Inter Partes</i> Review, <i>Apple Inc. v. Masimo Corp.</i> , IPR2022-01274, Paper 15 (PTAB Jan. 24, 2023)
2008	Decision Denying Institution of <i>Inter Partes</i> Review, <i>Apple Inc. v. Masimo Corp.</i> , IPR2022-01275, Paper 15 (PTAB Jan. 30, 2023)
2009	Decision Denying Institution of <i>Inter Partes</i> Review, <i>Apple Inc. v. Masimo Corp.</i> , IPR2022-01276, Paper 15 (PTAB Jan. 30, 2023)
2010	Plaintiff Apple Inc.'s Opposition to Defendants' Motion for Stay Pending <i>Inter Partes</i> Review (Public), <i>Apple Inc. v. Masimo Corp.</i> , No. 22-1378-MN-JLH (D. Del. Jan. 10, 2024), D.I. 457

Exhibit No.	Description
2011	Plaintiff Apple Inc.'s Opening Brief in Support of Its Motion for an Expedited Trial, <i>Apple Inc. v. Masimo Corp.</i> , No. 22-1377-MN-JLH (D. Del. Feb. 10, 2023), D.I. 50
2012	Transcript of May 5, 2023 Hearing in <i>Apple Inc. v. Masimo Corp.</i> , Nos. 22-1377-MN-JLH, 22-1378-MN-JLH (D. Del. May 5, 2023)
2013	Original Scheduling Order, <i>Apple Inc. v. Masimo Corp.</i> , No. 22-1377-MN-JLH (D. Del. May 25, 2023), D.I. 92
2014	Amended Scheduling Order, <i>Apple Inc. v. Masimo Corp.</i> , No. 22-1377-MN-JLH (D. Del. Sept. 21, 2023), D.I. 359
2015	Lex Machina Patent Case Timeline Statistics for the District of Delaware between December 12, 2022 and December 12, 2023
2016	Lex Machina Case Statistics for Magistrate Judge Jennifer Hall
2017	Lex Machina Case Statistics for Judge Colm Connolly, Judge Maryellen Noreika, Judge Richard Andrews, Judge Gregory Williams, and Magistrate Judge Jennifer Hall
2018	Transcript of September 14, 2023 Markman Hearing, <i>Apple Inc. v. Masimo Corp.</i> , Nos. 22-cv-1377-MN-JLH, 22-cv-1378-MN-JLH
2019	Aaron Tilley, <i>The Entrepreneur Who Bet His Company on a Fight With Apple</i> , Wall Street J., Dec. 30, 2023, https://www.wsj.com/tech/joe-kiani-entrepreneur-apple-warning-52eb09a9
2020	Notice of Refund, <i>Apple Inc. v. Masimo Corp.</i> , IPR2022-1271, Paper 20 (PTAB June 20, 2023)
2021	Notice of Refund, <i>Apple Inc. v. Masimo Corp.</i> , IPR2022-1272, Paper 20 (PTAB June 20, 2023)

Exhibit No.	Description
2022	Notice of Refund, <i>Apple Inc. v. Masimo Corp.</i> , IPR2022-1273, Paper 19 (PTAB June 20, 2023)
2023	Notice of Refund, <i>Apple Inc. v. Masimo Corp.</i> , IPR2022-1274, Paper 19 (PTAB June 20, 2023)
2024	Notice of Refund, <i>Apple Inc. v. Masimo Corp.</i> , IPR2022-1275, Paper 19 (PTAB June 26, 2023)
2025	Notice of Refund, <i>Apple Inc. v. Masimo Corp.</i> , IPR2022-1276, Paper 20 (PTAB June 26, 2023)
2026	Notice of Refund, <i>Apple Inc. v. Masimo Corp.</i> , IPR2022-1292, Paper 17 (PTAB Mar. 7, 2023)
2027	Notice of Refund, <i>Apple Inc. v. Masimo Corp.</i> , IPR2022-1466, Paper 17 (PTAB Apr. 5, 2023)
2028	Correspondence from counsel for Apple to counsel for Masimo regarding Apple's prior art grounds in the Delaware Litigation, dated November 16, 2023
2029	Reserved
2030	Masimo Corp., Press Releases, 2005, http://www.masimo.com/news/2006.htm , captured Oct. 30, 2009
2031	Masimo Corp., Masimo rainbow® Pulse Co-Oximetry, https://professional.masimo.com/technology/co-oximetry/rainbow/ , captured Mar. 20, 2024
2032	Joint Claim Construction Brief Regarding Masimo Asserted Patents, No. 1:22-cv-01378, D.I. 295, Aug. 31, 2023, <i>Apple, Inc. v. Masimo Corporation and Sound United, LLC</i> , (D. Del.)

Exhibit No.	Description
2033	Jim Duckworth, “Integrated First Responder Location and Physiological Monitoring,” Presentation, 1st Invitational Workshop on Body Area Network Technology and Applications, Worcester Polytechnic Institute, Jun. 19-20, 2011
2034	Yitzhak Mendelson, “Wearable Wireless Pulse Oximetry for Physiological Monitoring,” Presentation, PPL Workshop, Worcester Polytechnic Institute, Aug. 4 2008
2035	Y. Mendelson, J. Duckworth, et al. “A Wearable Pulse Oximeter for Remote Physiological Monitoring,” Proceedings of the 28th IEEE EMBS Annual Int’l Conf., Aug. 30 - Sept. 3, 2006
2036	U.S. Patent No. 6,091,530
2037	U.S. Patent No. 6,075,755
2038	U.S. Pat. App. Pub. 2002/0082488
2039	Merriam Webster’s Collegiate Dictionary, 11 th Ed. (2003)
2040	Cambridge Advanced Learner’s Dictionary (2003)
2041	The New Britannica/Webster Dictionary Reference Guide (1981)
2042	Declaration of R. James Duckworth, Ph.D. in Support of Patent Owner’s Response
2043	Transcript of August 23, 2024 Deposition of Dr. Andrew Cockburn
2044	Transcript of January 24, 2025 Deposition of Dr. Andrew Cockburn
2045	Masimo’s Trial Hearing Demonstratives
2046	Declaration of R. James Duckworth, Ph.D. in Support of Patent Owner’s Post-Hearing Brief

Pursuant to the Board’s April 2, 2025, oral order and the April 8, 2025, email granting Masimo’s request for an extension to April 16, 2025, Masimo submits its post-hearing brief and supplemental Declaration of Dr. Duckworth (EX2046).

I. REARRANGING IS NOT REPLACEMENT

Apple argued for the first time in its Reply that Naghavi’s reference to icons/health objects being “rearrange[d] ... to best suit the condition of [the] patient” discloses the replacing and changing limitations. Reply, 20 (citing EX1005, [0059], [0063]); EX2046, ¶6. Specifically, Apple contended that “[a] rearrangement of displayed icons/health objects involves moving displayed objects around such that one object is displayed in the place previously occupied by another—*i.e.*, **replacement** of one health object with another.” *Id.* (citing Pet., 25-27) (Apple’s emphasis). Apple’s new argument is wrong and procedurally impermissible.

A. Apple’s Expert Does Not Dispute that Rearranging Is Not Replacing

Masimo previously argued that Apple’s new (on Reply) “rearranging” theory was based solely on attorney argument. Sur-Reply, 17 (“[N]o expert has opined that Naghavi’s reference to rearranging icons discloses replacing measured values.”). Indeed, Apple filed a second declaration from Dr. Cockburn (EX1022) with its Reply, yet even there, Cockburn *never opined* that Naghavi’s reference to rearranging objects satisfied the claimed replacing/changes limitation. *See* EX1022 *passim*; *see also* EX2046, ¶13.

Consistent with Masimo’s Sur-Reply, Dr. Duckworth has now explained that a POSITA would not have understood the claimed replacements or changes limitations encompass merely rearranging two objects on a display. EX2046, ¶¶7-13; Sur-Reply, 16-18. He testified that “[a] POSITA would not have understood that merely moving displayed objects around—rearranging them on the display—constitutes a replacement because nothing has been replaced; both objects remain displayed.” EX2046, ¶11; *see id.*, ¶10 (“‘Rearrangement’ is not the same as ‘replacement,’ and a POSITA would not have understood that the claimed replacement or change encompasses merely rearranging two things on a display.”).

Dr. Duckworth also explained that Figures 11B-11C of the ’223 Patent do not support Apple’s argument. EX2046, ¶¶13-15; Sur-Reply, 5-8. He explained that “Dr. Cockburn did not provide any opinion supporting this argument” and “Figures 11B and 11C describe unclaimed embodiments with large screens, not the claimed embodiments that require replacement/change.” EX2046, ¶¶13, 14; *see id.*, ¶15 (“Figures 11B and 11C do not show replacement within the meaning of the claims”).

Moreover, as the Board noted during oral argument, Apple’s “rearranging” theory was based on the language of some claims that recite a “common display area.”¹ Dr. Duckworth observed that, in addition to being wrong, the new

¹ A transcript of the April 2, 2025 hearing was not available at the time of this brief. Thus, statements regarding the hearing are based on counsel’s recollection.

“rearranging” theory does not even apply to Claims 27 and 28 because they do not recite a “common display area.” *Id.*, ¶¶16-19. Those claims recite that the replacement/change simply occurs on the “display.” *Id.*

Thus, there is ***no dispute*** between the parties’ experts that Naghavi’s reference to “rearrang[ing]” icons/health objects does not satisfy the limitations in the challenged claims that require replacement/changes of measured values.

B. Apple’s Theory Was Not in the Petition and Is Impermissible on Reply

Apple’s “rearranging” argument is unquestionably new. In the Institution Decision, the Board recognized that the Petition relied solely on Hochstedler as allegedly disclosing the “replacing” and “changing” limitations. *See* Inst., 21. The Petition did not mention rearranging or moving two objects around on a display. *See* Pet., *passim*. Apple did not identify Naghavi as supposedly disclosing “replacing” or “changing” until Reply. Reply 20. During oral argument, Apple suggested it was permissible new argument because (1) Apple cited Naghavi paragraphs [0059] and [0063] elsewhere in the Petition, and (2) the argument is responsive to Masimo’s claim construction arguments in the POR. Both arguments are wrong.

First, Apple did ***not*** cite Naghavi’s paragraph [0059] or [0063] in the Petition to argue that rearranging icons/health objects satisfies the claimed replacements/changes limitations. Apple points to pages 25-27 of the Petition. Reply, 20 (citing Pet., 25-27). But those pages cited Naghavi’s paragraphs [0059]

and [0063] to argue that the claimed replacement (for which Apple relied on Hochstedler) would occur “**based on the occurrence of an event.**” Pet., 27 (Apple’s emphasis). The Petition never suggested that Naghavi’s reference to “rearrangement” discloses the claimed replacement.

Second, Apple’s “rearranging” theory is *not* responsive to Masimo’s claim construction. During oral argument, Apple relied on *Axonics Inc. v. Medtronic, Inc.*, 75 F.4th 1374 (Fed. Cir. 2023). But *Axonics* permits a petitioner to “argue and present evidence of anticipation or obviousness *under the new construction*” offered by the patent owner. *Axonics*, 75 F.4th at 1384 (also requiring that the petitioner “relies on the same embodiments for each invalidity ground as were relied on in the petition”). That limited exception does not apply because Apple’s new “rearranging” theory was not offered under *Masimo’s* proposed construction of “replace.” Masimo’s proposed construction of “replace” *excludes* merely rearranging two objects on a display. See Reply, 5-6 (Apple arguing Masimo’s construction excludes situation where two objects remain displayed); see also Sur-Reply, 5-8. Thus, Apple’s “rearranging” theory was not offered under Masimo’s proposed construction and is not the type of new argument Apple may present for the first time on reply. Moreover, *Axonics* does not permit Apple to rely on Naghavi to disclose the claimed replacements/changes because the Petition relied solely on Hochstedler as disclosing the claimed replacements/changes. Inst., 21; *Axonics*, 75

F.4th at 1383 (“That is not to say a petitioner may rely on new prior art in response to a new claim construction presented in the patent owner response. We have held that a petitioner may not in reply rely on new prior art to teach a claim limitation.”).

Apple’s new “rearranging” theory is predicated on the Board adopting Apple’s claim construction (and rejecting Masimo’s) and Apple could have presented it in the Petition. Thus, the Board should not consider it. *Acceleration Bay, LLC v. Activision Blizzard Inc.*, 908 F.3d 765, 775 (Fed. Cir. 2018) (Board properly refused to consider argument that could have been made in the petition).

II. NAGHAVI DOES NOT DESCRIBE REPLACEMENT OF AN ICON

Apple’s Reply also presented a second new argument based on Naghavi. Apple alternatively argued that, under Masimo’s proposed construction of “replace,” Naghavi’s reference to “show[ing] *different types of icons and health objects* according to different disease and/or physical conditions of patient 1” discloses the claimed replacements/changes. Reply, 25-26 (citing EX1022, ¶¶11-12 (Apple’s emphases); EX2046, ¶6. This argument is incorrect and improper.

A. Naghavi Does Not Disclose Replacement of a Measured Value

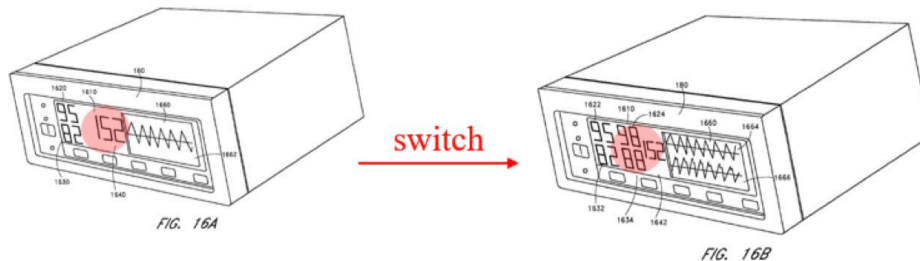
Neither Apple nor Dr. Cockburn cited any disclosure in Naghavi of replacing an icon/health object with another. *See* Reply, 25-26; EX1022, ¶¶11-12; EX2046, ¶¶20-26. Dr. Cockburn merely speculated that “show[ing] different types of icons and health objects” “entails (1) changing the display to show a different type of

icon/health object that was not previously displayed, and/or (2) changing the display to remove a type of icon health object from display.” EX1022, ¶12. Nowhere does Naghavi provide such disclosures. *See* EX1005, [0059]; EX2046, ¶¶21-24.

Naghavi explains in the cited paragraph that it contemplates changes to “color, shape, order, or other mutable attribute” and “shape, size, color, and relative position of each icon.” EX1005, [0059]; EX2046, ¶¶22. Dr. Duckworth explained that “[a] POSITA would not have recognized Naghavi as disclosing that one icon/health object is replaced by another icon/health object.” EX2046, ¶23. Changing the icon’s color, shape, order or other mutable attribute, does not encompass replacing one icon or health object with another because it does not result in **removing** one icon from a display and, in its place, displaying a second, different icon. *Id.* To the contrary, “Naghavi displays all currently measured parameters.” *Id.*

Moreover, disclosing the addition or removal of an icon/health object would not show replacement. Apple **agrees** that “replace” requires “the measured value of the second parameter is displayed **in place of** the measured value of the first parameter.” Reply, 3-4 (emphasis added), 7-9 (“being replaced ... indicates only that the second parameter value is displayed **in the place previously occupied** by the first parameter.” Merely adding and/or removing an icon/health object would not demonstrate that an icon/health object takes the place of another. EX2046, ¶¶24-25.

Indeed, adding an icon/health object is similar to the Al-Ali reference that was distinguished during reexamination:



EX2038, Figs. 16A-16B (annotated); EX2046, ¶26. As the examiner explained, adding additional parameters without removing others did not disclose replacing. *Id.*; EX1020, 6-7, 99. Similarly, removing an icon/health object would not describe replacement. EX2046, ¶26. Removing something from the display, as would occur in a transition from Figures 16B to 16A, is not a replacement. *Id.* Dr. Duckworth explained that “[e]ven adding and removing icons/health objects in different parts of the display would not demonstrate that one icon/health object is displayed in the place previously occupied by another, as Apple agreed is necessary for a replacement.” *Id.*

Naghavi also does not disclose the claimed replacement because Naghavi does not disclose one displayed, monitored parameter and another *undisplayed*, monitored parameter, much less that they replace each other. Sur-Reply, 22-23; EX2046, ¶27. Rather, Naghavi’s disclosure merely suggests that “the monitor may display one icon, such as oxygen saturation, if the monitored patient has the flu, or

a different icon, such as carbon monoxide, if the patient were hospitalized with smoke inhalation.” EX2046, ¶27. The claims require measured values from both the displayed parameter and the replacing parameter. “A POSITA would therefore understand Naghavi does not disclose a system where one currently measured value is replaced by a second currently measured value.” *Id.*

Apple’s new Naghavi argument also fails because there is *no dispute* Hochstedler teaches away from replacing a measured value of a first parameter with the measured value of a second parameter. *See* EX2042, ¶¶135-136; EX2046, ¶28; POR, 49-51, 37; EX1004, 8:19-24, 6:61-7:2. Hochstedler “ensures all currently monitored parameters are displayed and avoids leaving any monitored parameter undisplayed.” EX2046, ¶28. Neither Apple’s Reply nor Dr. Cockburn’s second declaration dispute Hochstedler’s teaching away.

B. Apple’s Naghavi Arguments Are Impermissible on Reply

Again, Apple’s Naghavi argument was new on Reply. The Institution Decision observed that the Petition “relies on Hochstedler for the specific GUI changes that show replacement of one measured value of a parameter for another, *not Naghavi* or Burnes.” Inst., 21 (emphasis added).

At oral argument, Apple argued incorrectly that this new argument was a permissible response to Masimo’s claim construction under *Axonics*. But, as discussed above, *Axonics* permits new arguments only to the extent they rely “*on*

the same embodiments for each invalidity ground as were relied on in the petition.”

Axonics, 75 F.4th at 1384 (emphasis added). The *Axonics* exception does not apply where, as here, petitioner relies on *different* embodiments or references. *Id.* at 1383. Apple’s Petition unambiguously relied on *Hochstedler* to disclose replacement. Inst., 21. Apple’s cannot now argue that *Naghavi*—a different reference—discloses replacement, even in response to Masimo’s claim construction argument.

III. NAGHAVI-HOCHSTEDLER-BURNES DOES NOT MONITOR THE REPLACING PARAMETER

Apple’s Petition was premised on asserting that the Naghavi-Hochstedler-Burnes combination replaces a parameter because “[w]hen a parameter that is *not displayed* in that initial layout (*e.g.*, the second parameter) changes in severity, the layout changes such that the value of that second parameter is displayed.” Pet., 28-29; POR, 42. But none of the references disclose monitoring a parameter that is not displayed. POR, 42-44; EX2042, ¶¶119-122; EX2046, ¶¶29-30.

Neither Apple nor Dr. Cockburn identified any such disclosure in any of the references. EX2046, ¶31. Instead, Dr. Cockburn observed that it would have been “common sense that in order for a change in a parameter value to be a trigger for some action (here, a trigger for a change in the display layout), that parameter must be actively monitored.” EX1022, ¶8. That point was made by Dr. Duckworth in his first and second declarations. EX2046, ¶¶32-33; EX2042, ¶¶119-124; Sur-Reply,

16. Thus, both experts agree that the proposed combination would have to monitor an undisplayed parameter.

However, Apple and Dr. Cockburn now incorrectly argue that because the proposed combination involves “a change in one parameter value causes that parameter value to be displayed in place of another parameter value, this means that the replacing parameter must be actively monitored by the combination system.” EX1022, ¶9 (citation omitted); Reply, 18-19. Apple’s argument is logically flawed because Apple *begins with the conclusion* that the Naghavi-Hochstedler-Burnes combination satisfies the claim language by replacing a parameter based on a change in an undisplayed parameter value. Apple then *works backward* to argue that the combination must therefore be able to actively monitor that undisplayed parameter. EX2046, ¶34. That reasoning improperly relies on the patent claim as a roadmap for modifying the references. *Id.*

Under the correct analysis, which begins with the references themselves, Dr. Duckworth explained that “[a] POSITA would not have combined Naghavi, Hochstedler, and Burnes in a way that replaced a displayed parameter based on an event because none of the references disclose monitoring an undisplayed parameter.” EX2046, ¶35.

For at least the foregoing reasons, the Board should uphold the validity of all challenged claims.

IPR2024-00290

Apple Inc. v. Masimo Corporation

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: April 16, 2025

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Masimo Corporation

CERTIFICATE OF SERVICE

I hereby certify that, pursuant to 37 C.F.R. § 42.6(e) and with the agreement of counsel for Petitioner, a true and correct copy of **PATENT OWNER MASIMO CORPORATION'S POST-HEARING BRIEF** is being served electronically on April 16, 2025, to the e-mail addresses shown below:

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Dated: April 16, 2025

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