NOTE: This disposition is nonprecedential.

United States Court of Appeals for the Federal Circuit

MASIMO CORPORATION,
Appellant

v.

SOTERA WIRELESS, INC.,
Appellee

2022-1415

Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2020-01078.

Decided: September 28, 2023

BENJAMIN KATZENELLENBOGEN, Knobbe Martens, Olson & Bear, LLP, Irvine, CA, argued for appellant. Also represented by JARED C. BUNKER, JAROM D. KESLER, STEPHEN W. LARSON; JEREMIAH HELM, Washington, DC.

RUDOLPH A. TELSCHER, JR., Husch Blackwell LLP, St. Louis, MO, argued for appellee. Also represented by JENNIFER E. HOEKEL, DAISY MANNING.

Before PROST, WALLACH, and CHEN, *Circuit Judges.*

WALLACH, *Circuit Judge.*

Masimo Corporation ("Masimo") appeals from a final written decision of the United States Patent and Trademark Office ("USPTO") Patent Trial and Appeal Board (the "Board") holding claims 1–10 and 12–18 of U.S. Patent No. RE47,218 (the "'218 patent") unpatentable as obvious. *Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01078, 2021 WL 6338303 (P.T.A.B. Nov. 29, 2021) (the "Decision"). For the reasons articulated below, we affirm.

BACKGROUND

The '218 patent, assigned to Masimo, is directed to an adaptive alarm system for use in combination with pulse oximetry sensors in a variety of medical applications. *See* '218 patent at 1:34–39, 3:56–5:20.

Sotera petitioned for inter partes review of the '218 patent ("Petition") on June 11, 2020, and the Board issued its Decision on November 29, 2021, determining all challenged claims unpatentable as obvious over the combination of U.S. Patent No. 7,079,035 ("Bock"), U.S. Patent No. 6,597,933 ("Kiani"), and PCT Publication WO 2009/093159 ("Woehrle") under 35 U.S.C. § 103.

Masimo timely appealed, and we have jurisdiction under 35 U.S.C. §§ 141(c), 319 and 28 U.S.C. § 1295(a)(4)(A).

On appeal, the relevant claims include independent claims 1, 8, and 12, of which claim 1 is exemplary, and where the primary disputes involve claim limitations 1(g) and 1(i):

> [1(a)] A system for reducing electronic alarms in a medical patient monitoring system comprising:
>
> [1(b)] an optical sensor configured to transmit optical radiation into a tissue site of a patient

and detect attenuated optical radiation indicative of at least one physiological parameter of a patient; and

[1(c)] one or more hardware processors in electronic communication with the optical sensor, the one or more hardware processors configured to:

[1(d)] determine oxygen saturation values of the patient over a first period of time;

[1(e)] when at least one oxygen saturation value obtained over the first period of time exceeds a first alarm threshold, determine whether a first alarm should be triggered;

[1(f)] access a second alarm threshold to be applied during a second period of time subsequent to the first period of time, the second alarm threshold replacing the first alarm threshold,

[1(g)] wherein the second alarm threshold has a value less than the at least one oxygen saturation value and greater than a lower limit and at an offset from the at least one oxygen saturation value, wherein the offset is diminished as a difference between the at least first oxygen saturation value and the lower limit diminishes;

[1(h)] determine oxygen saturation values of the patient over the second period of time; and

[1(i)] trigger a second alarm *based on* at least one value of the oxygen saturation values obtained over the second period of time exceeding the *second alarm threshold*.

'218 patent at claim 1, 13:62–14:40 (emphases added).

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Claims 7, 9, and 18 are also in dispute, with claim 7 as exemplary: "7. The system of claim 1, wherein the first alarm threshold is *predetermined*." '218 patent at claim 7, 14:66–67 (emphasis added).

DISCUSSION

Masimo raises four main arguments on appeal: that (1) the Board erred in its claim construction of the claim language in limitation 1(i), "trigger a second alarm *based on . . .* exceeding the second alarm threshold," to mean that crossing the second alarm threshold is a "condition precedent" to the trigger of an alarm but need not actually trigger the alarm; (2) the Board erred in its claim construction of "predetermined" in claims 7, 9, and 18 to mean the formulaic calculation of a value instead of a fixed value; (3) the Board abused its discretion in considering an argument Sotera made in its Reply to Masimo's responsive brief and another argument Sotera made at the Oral Hearing after briefing had concluded; and (4) the Board's grounds for determining the '218 patent obvious over the prior art were not supported by substantial evidence.

I. Claim Construction

"We review the Board's claim construction according to the Supreme Court's decision in [*Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 574 U.S. 318 (2015)]. Accordingly, we review the Board's evaluation of the intrinsic record de novo. But '[w]e review underlying factual determinations concerning extrinsic evidence for substantial evidence.'" *Immunex Corp. v. Sanofi-Aventis U.S. LLC*, 977 F.3d 1212, 1218 (Fed. Cir. 2020) (internal citations omitted) (quoting *In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1279–80 (Fed. Cir. 2015)).

Claim construction begins with an analysis of the "ordinary and customary meaning" of the claim. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Vitronics Corp. v. Conceptronic*, 90 F.3d 1576,

1582 (Fed. Cir. 1996)). This meaning requires consideration of what a person of ordinary skill in the art ("POSITA") would understand the meaning of a claim term to be at the time of invention. *Id.* at 1313. Further, the claim must be read "in the context of the entire patent, including the specification." *Id.*

A

Masimo argues that the Board erred regarding claim limitation 1(i) in construing the phrase "based on" to mean a "condition precedent," and construing that the phrase "second alarm threshold" need not mean the most extreme alarm limit that directly triggers an alarm.

We disagree. The Board's construction of "based on" and "second alarm threshold" in limitation 1(i) are consistent with the plain language of the claim and what a POSITA would believe the claim to mean, which is the standard under *Phillips*. We agree with the Board that the plain meaning of "based on" and "threshold" in claim 1 are both broad, and this broad claim language does not exclude the use of additional alarm thresholds or other conditions to trigger an alarm. Further, claim 5 depends from claim 1 and provides for an additional condition in the form of a time delay, and Masimo does not dispute that the meaning of "based on" allows for additional conditions for triggering an alarm. J.A. 0024, 0575. We also agree with the Board that disclosure of an embodiment in the specification that does not include any additional thresholds or conditions for triggering an alarm does not support reading such a limitation into the claim. J.A. 0026; *see 3M Innovative Props. v. Tredegar Corp.*, 725 F.3d 1315, 1321 (Fed. Cir. 2013) ("While we construe the claims in light of the specification, limitations discussed in the specification may not be read into the claims."); *see also Thorner v. Sony Computer Entmt. Am. LLC*, 669 F.3d 1362, 1365–66 (Fed. Cir. 2012) ("It is not enough for a patentee to simply disclose a single embodiment or use a word in the same manner in all

embodiments, the patentee must 'clearly express an intent' to redefine the term." (quoting *Helmsderfer v. Bobrick Washroom Equip., Inc.*, 527 F.3d 1379, 1381 (Fed. Cir. 2008))). Finally, Masimo does not rely on prosecution history for its proposed construction. J.A. 0028. Thus, in light of the plain meaning of the claim and the specification, the Board did not err in construing "based on" in limitation 1(i) to mean a non-exclusive "condition precedent" to the triggering of an alarm.

On appeal, Masimo first argues that the Board improperly applied "condition precedent" as a legal term of art sounding in contract law. *See* Appellant's Br. 36. We disagree. The Board did not use "condition precedent" as a legal term of art, but rather as an ordinary and customary term of logic.

Masimo also argues that the Board's construction of "based on" using a dictionary definition was improper as a violation of *Phillips*. Specifically, Masimo argues that the Board's construction exhibited "heavy reliance on the dictionary divorced from the intrinsic evidence." Appellant's Br. 37 (quoting *Phillips*, 415 F.3d at 1321). Masimo does not cite to any specific intrinsic evidence that contradicts the Board's interpretation using the dictionary definition of "base on."[1] *See generally* Appellant's Br. 34–38, 44–45. Masimo notes only that the '218 patent specification does not use the term "condition precedent." *Id.* at 36.

As reviewed above, the Board extensively considered the intrinsic evidence.   Further,   there   is   nothing

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[1]   The Board cited to a dictionary definition of "base on" as justification for its construction of "based on" in limitation 1(i) to mean a "condition precedent," noting it defines "the verb 'base on' to mean 'to use particular . . . facts to make a decision [or] do a calculation.'" J.A. 0022–23 (quoting Ex. 1043, 3 (Macmillan English Dictionary) (alteration in original)).

inconsistent between the plain meaning it derived from the intrinsic evidence and the meaning it drew from the dictionary. *Phillips* does not proscribe the Board from consulting a dictionary definition to help explain its construction when the dictionary definition does not contradict the intrinsic evidence. *See Phillips*, 415 F.3d at 1322–23 ("[J]udges are free to . . . 'rely on dictionary definitions when construing claim terms, so long as the dictionary definition does not contradict any definition found in or ascertained by a reading of the patent documents.'" (quoting *Vitronics*, 90 F.3d at 1585)); *see also Comaper Corp. v. Antec, Inc.*, 596 F.3d 1343, 1348 (Fed. Cir. 2010) ("[I]n determining the ordinary and customary meaning of the claim term as viewed by a person of ordinary skill in the art, it is appropriate to consult a general dictionary definition of the word for guidance.").

Finally, Masimo cites to Figure 6 and its associated text in the specification as an embodiment that shows the processor triggering an alarm from oxygen saturation values exceeding a second alarm threshold without exceeding an additional more extreme alarm threshold. *See* Appellant's Br. 31–33. However, the Board considered this argument that the meaning of the claim language was limited by disclosed embodiments in the specifications, and correctly disregarded it based on our precedent. J.A. 0026; *see 3M Innovative Props.*, 725 F.3d at 1321. There is nothing further in the claim language or specification to limit "threshold" to mean a value that directly triggers an alarm, so we instead construe the term broadly.

Thus, on de novo review we agree with the Board and construe limitation 1(i) to require a condition to be met before an alarm is triggered, not that the condition actually trigger the alarm.

B

Masimo also argues that the Board improperly construed "predetermined" as used in dependent claims 7, 9,

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and 18, which depend on independent claims 1, 8, and 12, respectively. Claims 7, 9, and 18 each recite the identical clause, "wherein the first alarm threshold is *predetermined*," referring to the same "first alarm threshold" recited in independent claims 1, 8, and 12. J.A. 0270–71 (emphasis added).

The Board construed "predetermined" as referring to the formulaic calculation used to determine the alarm threshold value, in the context of both the patent's use of a variable sensor input data stream and a formula for calculating the alarm threshold value. *See* J.A. 0052. Masimo instead argues that "predetermined" should mean that the exact value of the alarm threshold is predetermined, and that a calculated value based on a variable data stream is not the meaning.

As the Board noted, it is clear from the '218 patent's specification that the alarm threshold is adaptive. J.A. 0270. This is further supported by claim 1 (claims 8 and 12 use identical language to claim 1, in relevant part), which states that "the second alarm threshold replac[es] the first alarm threshold" through the adaptive mechanism described in limitation 1(g). J.A. 0270. A POSITA reading the patent would readily discern the adaptive function described in claims 1, 8, and 12, and would read "predetermined" in such a way to enable this adaptive function. A fixed value would not allow for the adaptive function disclosed in claims 1, 8, and 12, so a POSITA would interpret "predetermined" in a broader sense, to include a calculation made from a predetermined formula to produce the threshold value from an input variable. There is nothing in the plain meaning of the word "predetermined" that would preclude such an interpretation, and the adaptive features of the patent would not be possible absent such an interpretation. We therefore affirm the Board's construction of "predetermined."

Masimo also makes a claim differentiation argument—that "predetermined" in claims 7, 9, and 18 should be construed consistent with "predetermined" in claims 4 and 15. Masimo's argument fails because claims 7, 9, and 18 are dependent claims referring to the "first alarm threshold" as part of the adaptive thresholds in claims 1, 8, and 12. J.A. 0270–71. Claims 4 and 15 are dependent claims that refer instead to the fixed "lower limit" alarm thresholds in claims 1 and 12. *Id.* The "same terms appearing in different claims of the same patent" are not presumed to have the same meaning if "it is clear from the specification and prosecution history that the terms have different meanings at different portions of the claims." *Wilson Sporting Goods Co. v. Hillerich & Bradsby Co.*, 442 F.3d 1322, 1328 (Fed. Cir. 2006) (quoting *Fin Control Sys. Pty., Ltd. v. OAM, Inc.*, 265 F.3d 1311, 1318 (Fed. Cir. 2001)). Because "predetermined" in claims 7, 9, and 18 refer to different portions of claims 1 and 12 than "predetermined" as used in claims 4 and 15, and these different portions have the different meanings relevant to fixed and adaptive thresholds, respectively, "predetermined" therefore does not have the presumption of the same meaning in these different contexts.

II. Abuse of Discretion

Masimo argues that the Board abused its discretion in relying on Sotera's argument made at an Oral Hearing regarding limitation 1(g). Masimo asserts that the argument was new and that Masimo had no opportunity to challenge the argument. Appellant's Br. 59–60. However, as the Board made clear, Sotera clarified its position to the Board at the Oral Hearing in response to direct questioning by the Board about the meaning of limitation 1(g) after neither Sotera nor Masimo addressed the Institution Decision's preliminary reading of the Petition on this issue. J.A. 0044. By responding to the Board's question about its argument in the Petition at the Oral Hearing, Sotera did not make a new argument. Further, because the argument

was raised in the Petition and the initial decision made a preliminary finding, Masimo was properly noticed as to the issue, had every opportunity to address it in its briefs, and should have been prepared to address it at the Oral Hearing.

Regarding the combination of Bock and Woehrle, Masimo also argues that the Board improperly heard Sotera's argument for motivation to *replace* Bock's alarm limit 316 as an "effective delay" with a pre-set delay from Woehrle, instead of *adding* the delay to Bock as Sotera originally argued. Appellant's Br. 63, 66–69. Masimo argues that Sotera's argument was newly made in Sotera's Reply Brief before the Board and that it did not have the opportunity to respond to the new theory. Appellant's Br. 64–65, 68.

The Board addressed Masimo's argument by noting that the Petition asserted "two ways" of reducing nuisance alarms, and the testimony of Dr. Yanulis explained that the "two ways" would be the adaptive alarm delay taught by Bock and the pre-set delay taught by Woehrle. J.A. 0059–60. The Board properly concluded that the reliance by Sotera in its Reply on the testimony of Dr. Yanulis did not constitute a new argument, but instead was an extension of its original argument from the Petition. This did not violate the prohibition on presentation of new argument or evidence in a reply. *Genzyme Therapeutic Prod. Ltd. P'Ship v. Biomarin Pharm. Inc.*, 825 F.3d 1360, 1366 (Fed. Cir. 2016) ("[I]ntroduction of new evidence in the course of the trial is expected in *inter partes* review trial proceedings and, as long as the opposing party is given notice of the evidence and an opportunity to respond to it, the introduction of such evidence is perfectly permissible under the APA."). Masimo had the opportunity to respond to the assertion of replacing Bock's alarm limit 316 with the time delay from Woehrle in its Sur-Reply, but chose not to do so.

The Board also did not err in considering the description of Bock's alarm limit 316 as "effectively an alarm delay" as part of the Petition's original obviousness theory, as this was merely descriptive language regarding one of the "two ways" of reducing nuisance alarms asserted in the Petition. *See* J.A. 0060 (Decision); J.A. 0331 (Petition). The Petition describes Bock as generally teaching "an alarm system that reduces false alarms," and Woehrle as "provid[ing] additional methods of reducing those alarms." J.A. 0328, 0330. The reference to the teachings of Bock as an "effective delay" by Sotera in its Reply is consistent with this language as one method of reducing false alarms, so was not a new argument in the Reply.

III. Obviousness

"We review the Board's ultimate obviousness determination of obviousness de novo and its underlying factual findings for substantial evidence." *Personal Web Techs., LLC v. Apple, Inc.*, 848 F.3d 987, 991 (Fed. Cir. 2017). "[T]he test for obviousness is what the combined teachings of the references would have suggested to those having ordinary skill in the art." *In re Mouttet*, 686 F.3d 1322, 1333 (Fed. Cir. 2012). Here, the Board's Decision was based on substantial evidence.

The Board found the '218 patent claims 1–4, 7, and 12–15 obvious over the combination of Bock and Kiani, J.A. 0034, 0075, and claims 5, 6, 8–10, and 16–18 obvious over the combination of Bock, Kiani, and Woehrle, J.A. 0055, 0076.

First, Masimo asserts that the Board's obviousness determinations lack substantial evidence under Masimo's proposed claim constructions of "based on" and "predetermined." *See* Appellant's Br. 45–57. However, Masimo does not argue that the Board lacked substantial evidence for its obviousness determinations under the Board's adopted claim constructions. *See generally id.* Because we affirm the Board's claim constructions of "based on" and

"predetermined," we also affirm its obviousness determinations to the extent that they depend on these claim constructions.

Second, Masimo argues that after excluding Sotera's argument to the Board from its Reply to replace Bock's alarm limit with a time delay, there is no evidence in the Petition that Bock's alarm limit is an effective delay or that Bock's alarm limit can be replaced by a time delay. Appellant's Br. 66–69. However, as discussed above, the Board properly considered Sotera's replacement argument from its Reply. Further, the Board considered Sotera's replacement argument as persuasive, citing to Dr. Bergeron's testimony as to the motivation to replace alarm limit 316 in Bock with Woehrle's time delay. J.A. 0063–64. The Board also considered and found unpersuasive the arguments of Masimo and the testimony of Mr. Goldberg that there would be no motivation to replace Bock's alarm limit 316 with Woehrle's time delay. J.A. 0064–66. On appeal, Masimo does not address the Board's analysis of the testimony of Dr. Bergeron and Mr. Goldberg. *See generally* Appellant's Br. 61–70. The Board's conclusion of motivation to replace Bock's alarm limit 316 with Woehrle's time delay was therefore supported by substantial evidence.

Finally, Masimo argues that replacing Bock's alarm limit 316 with Woehrle's time delay would render Bock non-functional because the alarm limit 316 is required to trigger the alarm within Bock. Appellant's Br. 69–70. However, the Board considered this argument and found it unpersuasive and unsupported by the record before it. J.A. 0066–70. The Board noted the '218 patent does not describe how claim 5 is implemented. J.A. 0067. The Board further cited evidence in the record that a POSITA would have known how to do so. J.A. 0067–68. The Board also relied on Dr. Bergeron's testimony that replacing Bock's alarm limit 316 with Woehrle's preset time delay is a "simple substitution of one delay for another delay, and would have been advantageous," and further "would not

materially increase the risk of the alarm system missing true alarm, or life threatening, situations." J.A. 0064. This all amounts to substantial evidence for the Board's conclusion that a POSITA would have been motivated to combine Bock and Woehrle.

CONCLUSION

We have considered Masimo's remaining arguments and find them unpersuasive. For the foregoing reasons, the Board's Decision is affirmed.

AFFIRMED