NOTE: This disposition is nonprecedential.

United States Court of Appeals for the Federal Circuit

MASIMO CORPORATION,
Appellant

v.

SOTERA WIRELESS, INC.,
Appellee

2022-1393

Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2020-00967.

Decided: October 24, 2023

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

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*.

PROST, *Circuit Judge*.

Masimo Corporation ("Masimo") appeals from an inter partes review final written decision determining all claims of U.S. Patent No. RE47,244 ("the '244 patent") are unpatentable. *Sotera Wireless, Inc. v. Masimo Corp.*, No. IPR2020-00967, 2021 WL 6338280 (P.T.A.B. Nov. 19, 2021) ("*Board Decision*"). For the following reasons, we affirm.

BACKGROUND

The '244 patent, titled "Alarm Suspend System," is assigned to Masimo. It relates to an alarm suspension system for medical alarms where the duration of an alarm delay or suspension is responsive to the specific physiological parameter measured. '244 patent col. 2 l. 18–col. 4. l. 8. The '244 patent delays or suspends these alarms "so as to prevent unnecessary disturbance to the patient and distraction of the caregiver." *Id.* at col. 2 ll. 34–36.

Claims 1, 13, and 18 are independent. Claim 13 is illustrative and states:

> A method of electronically delaying or suspending an alarm while an electronically calculated measurement of a physiological parameter satisfies an alarm activation threshold, the measurement of the physiological parameter responsive to a signal from a noninvasive sensor positioned at a monitored patient, the method comprising:
>
> electronically processing a signal from a noninvasive sensor;
>
> responsive to processing the signal, electronically determining a first measurement of a first physiological parameter and a second measurement of a second physiological parameter using a patient monitoring device, the patient

> monitoring device including a processor and a memory device;
>
> electronically storing, using the patient monitoring device, a first *parameter-specific alarm delay or suspension period of time* corresponding to the first physiological parameter and a second *parameter-specific alarm delay or suspension period of time* corresponding to the second physiological parameter, the first *parameter-specific alarm delay or suspension period of time* being different from the second *parameter-specific alarm delay or suspension period of time*;
>
> electronically determining, using the patient monitoring device, that the first measurement of the first physiological parameter satisfies a first alarm activation threshold;
>
> electronically initiating, using the patient monitoring device, the first *parameter-specific alarm delay or suspension period of time*; and
>
> electronically activating, using the patient monitoring device, a first alarm for the first physiological parameter in response to expiration of a first amount of delay or suspension associated with the first *parameter-specific alarm delay or suspension period of time*.

'244 patent claim 13 (emphasis added).

Sotera Wireless, Inc. ("Sotera") petitioned for inter partes review of all claims of the '244 patent. Sotera argued obviousness on four grounds using U.S. Patent No. 5,865,736 ("Baker") as a reference and on two grounds using U.S. Patent Publication No. 2005/0038332 ("Saidara") as a reference. The Board determined all claims are unpatentable on the Saidara grounds. Masimo timely

appealed, and we have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

DISCUSSION

Masimo argues that the Board erred by incorrectly construing several claims and by improperly concluding that the prior art rendered the claims of the '244 patent obvious. Specifically, Masimo argues: (1) that claims 1 and 13 require the noninvasive measurement of two physiological parameters; (2) that the Board erred by not giving claim 18 a means-plus-function construction; and (3) that the Board erred by construing the "parameter-specific alarm delay or suspension period of time" limitation to encompass only pre-alarm delays. Masimo also independently argues that the Board's obviousness determinations cannot stand because several of its factual findings are unsupported by substantial evidence. We address each argument in turn.

I

We review the Board's ultimate claim construction and any determinations based on intrinsic evidence de novo and review subsidiary factual findings involving extrinsic evidence for substantial evidence. *Personalized Media Commc'ns, LLC v. Apple Inc.*, 952 F.3d 1336, 1339 (Fed. Cir. 2020). We address Masimo's claim construction arguments in the order discussed above.

A

Regarding the first claim-construction dispute, Masimo argues that the Board erred by determining all claims were obvious over Sotera's proposed combination consisting of one physiological parameter measured from a noninvasive sensor and another physiological parameter measured from an invasive sensor. Claim 13 recites "electronically processing a signal from a noninvasive sensor" and "responsive to processing the signal, electronically determining a first measurement of a first physiological parameter and a second measurement of a second

physiological parameter." '244 patent claim 13. Claim 1 similarly recites a "noninvasive physiological sensor" configured to output a signal, where "responsive to processing the signal," the system "determine[s] a measurement of a physiological parameter based at least in part upon the signal." *Id.* at claim 1. Claim 1 also recites "at least one other physiological parameter for which the one or more processors are configured to determine at least one measurement." *Id.* Claim 8, which depends from claim 1, further recites "determin[ing] a measurement of a second physiological parameter based at least in part upon the signal." *Id.* at claim 8.

Relying on this language, Masimo argues that claims 1 and 13 require the noninvasive measurement of two different physiological parameters. Appellant's Br. 23–28. Sotera responds that Masimo did not present this issue as a claim-construction dispute before the Board. We agree with Sotera. None of Masimo's arguments before the Board presented or implicated a construction for claims 1 or 13 requiring the noninvasive measurement of two physiological parameters. We therefore conclude that Masimo forfeited this argument.

In its petition, Sotera stated that "Saidara discloses a noninvasive sensor." J.A. 236 (claim 1); *see also* J.A. 248 (claim 13). In its preliminary response, Masimo presented proposed constructions for several terms, but it did not assert how many parameters must be measured noninvasively in claims 1 and 13. J.A. 303–07. And in its post-institution patent owner response, Masimo merely stated that "Saidara focuses on invasive sensors," J.A. 549, and that Sotera's expert "admitted Saidara does not teach a [skilled artisan] how to monitor blood glucose noninvasively," J.A. 562 n.7. Thus, the parties' initial dispute concerned the nature of Saidara's disclosure—not how many parameters must be measured noninvasively.

In the petitioner's reply, Sotera stated that "Masimo does not dispute Saidara discloses noninvasive sensors." J.A. 618 n.7. In the patent owner sur-reply, Masimo noted that "[c]laims 1 and 13 require noninvasive sensors," *e.g.*, J.A. 678, and argued that Saidara discloses only invasive sensors and monitors, J.A. 676, 678–79. Masimo's arguments thus again concerned the contents of the prior art (namely, whether Saidara disclosed noninvasive sensors)—not how many parameters must be measured noninvasively.

The Board "recognize[d] [Masimo's] argument that claim 1 recites a noninvasive sensor," *Board Decision*, 2021 WL 6338280, at *25, but concluded that Sotera demonstrated a skilled artisan would have used a noninvasive sensor, as described in Sotera's proposed combination, *id.*

Masimo's argument on appeal—that two parameters must be measured noninvasively—does not reflect the arguments Masimo made before the Board. Masimo limited its arguments before the Board to the disclosures of Sotera's prior-art combination. Under these circumstances, we conclude that Masimo did not make this claim-construction argument before the Board. Masimo has thus forfeited this argument. *See In re Google Tech. Holdings LLC*, 980 F.3d 858, 864 (Fed. Cir. 2020) ("Even under the most generous of readings, Google's arguments below did not suggest any definition of 'network penalty,' let alone the highly particularized definition it presents on appeal.").

B

Masimo's second claim construction argument presents an issue about whether Sotera complied with 37 C.F.R. § 42.104(b). We review decisions related to compliance with the Board's procedural requirements for abuse of discretion. *Ericsson Inc. v. Intell. Ventures I LLC*, 901 F.3d 1374, 1379 (Fed. Cir. 2018).

Masimo argues that Sotera's failure to present a means-plus-function construction for the limitation "a physiological measurement system comprising: a physiological sensor means . . . ." requires reversing the Board's unpatentability determination for claim 18. We disagree.

Masimo argues that the presence of "means" in claim 18 necessitates a means-plus-function construction. According to Masimo, Sotera's failure to present a means-plus-function construction for claim 18 signifies that Sotera's petition did not comply with 37 C.F.R. § 42.104(b)(3), thus prohibiting the Board from determining claim 18 is unpatentable.

Claim 18 does not warrant a means-plus-function construction. Under our precedent, the use of "means" in a claim does not require a means-plus-function construction where the claim itself provides a sufficiently definite structure. *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1348–49 (Fed. Cir. 2015) (en banc). Claim 18 recites "a physiological sensor means," while claim 1 recites "a non-invasive physiological sensor." '244 patent claims 1, 18. Masimo, understandably, does not argue that claim 1 lacks a sufficiently definite structure or that the use of "physiological sensor" renders claim 1 indefinite. *See* Oral Arg. at 12:22–35, No. 22-1393, https://oralarguments.cafc.uscourts.gov/default.aspx?fl=22-1393_08092023.mp3 (agreeing that "physiological sensor" should not be understood as a means-plus-function limitation and that "physiological sensor" does not render claim 1 indefinite). The use of "physiological sensor" in claim 1, combined with Masimo's failure to dispute that claim 1 recites adequate structure, suggests that a skilled artisan would understand the structure of a physiological sensor from the words "physiological sensor" alone. We have determined means-plus-function construction is not appropriate in similar situations where the limitation preceding "means" provides a sufficiently definite structure to a skilled artisan. *Lighting Ballast Control LLC v. Philips Elecs. N. Am.*

Corp., 790 F.3d 1329, 1338–39 (Fed. Cir. 2015) (concluding that a "voltage source means" provides sufficient structure where a skilled artisan would understand that the voltage source is a class of structures providing direct current voltage); *TecSec, Inc. v. Int'l Bus. Machs. Corp.*, 731 F.3d 1336, 1347–48 (Fed. Cir. 2013) (concluding that a "system memory means" provides sufficient structure for the function of storing data).

We now address the Board's determination that Sotera complied with 37 C.F.R. § 42.104(b)(3) in light of our conclusion that claim 18 does not warrant a means-plus-function construction. Section 42.104(b)(3) states: "Where the claim to be construed contains a means-plus-function or step-plus-function limitation as permitted by 35 U.S.C. § 112(f), the construction of the claim must identify the specific portions of the specification that describe the structure, material, or acts corresponding to each claimed function." This regulation applies only where the limitation at issue necessitates a mean-plus-function construction. Since we have concluded that claim 18 does not, the Board did not abuse its discretion in determining that Sotera complied with this regulation.

C

Masimo next argues that the Board's construction of the "parameter-specific alarm delay or suspension period of time" limitation in claims 1, 13, and 18 was "gratuitous" and incorrect. *See* Appellant's Br. 50, 59.

Masimo's argument that the Board gratuitously construed "parameter-specific alarm delay or suspension period of time" is meritless. Sotera petitioned for inter partes review on six grounds—four grounds using Baker as a reference and two grounds using Saidara as a reference. Sotera explained in its petition that it was presenting alternative grounds for alternative constructions of "parameter-specific alarm delay or suspension period of time." The Baker grounds address obviousness under a

construction where the alarm delay term covers pre-alarm delays, while the Saidara grounds address obviousness under a construction where the alarm delay term covers only post-alarm delays. J.A. 187 ("Grounds 1–4 [Baker] of this Petition are directed to a construction encompassing delays *before* an alarm is activated (i.e., pre-alarm delays), and Grounds 5–6 [Saidara] are directed to temporary suspension of active alarms (i.e., post-alarm suspensions)."). The Board did not err by construing the "parameter-specific alarm delay or suspension period of time" limitation that governed which grounds it would analyze in evaluating obviousness.

The Board also correctly construed "parameter-specific alarm delay or suspension period of time" to cover only post-alarm delays or suspensions. We interpret patent claims by looking to the claim language, the specification, the prosecution history, and, where relevant, extrinsic evidence. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005) (en banc). This interpretation is done "in the context of the entire patent, including the specification." *Id.* at 1313.

Here, the claim language itself is not particularly informative. Claims 1, 13, and 18 contain no language elucidating whether the "parameter-specific alarm delay or suspension period of time" limitation covers pre-alarm delays or only post-alarm delays, nor do the dependent claims. The specification, however, provides significant information regarding the scope of this limitation. The specification is uniform in its description of the alarm delay and suspensions as post-alarm delays and suspensions. It refers throughout to the silencing or suspending of audible or active alarms and the reactivation of alarms. *E.g.*, '244 patent Abstract, Fig. 4, col. 2 ll. 33–38, col. 2 ll. 55–57, col. 2 ll. 61–63, col. 3 ll. 1–6, col. 3 ll. 31–32, col. 3 ll. 34–36, col. 3 ll. 43–47, col. 3 ll. 58–60, col. 3 l. 65–col. 4 l. 1, col. 4 ll. 46–48, col. 4 ll. 58–60, col. 5 l. 42, col. 5 ll. 52–65, col. 6 ll. 1–12. This uniformity of description leads us to conclude that

the '244 patent uses "parameter-specific alarm delay or suspension period of time" to mean a post-alarm delay or suspension. *See Trs. of Columbia Univ. v. Symantec Corp.*, 811 F.3d 1359, 1368 (Fed. Cir. 2016) (construing "probabilistic model of normal computer system usage" in line with the specification's consistent disclosures).

We thus affirm the Board's construction of "parameter-specific alarm delay or suspension period of time."

II

We turn now to Masimo's obviousness arguments. We review the Board's legal conclusion of obviousness de novo and review its subsidiary fact findings, including the scope and content of the prior art and the presence or absence of a motivation to combine, for substantial evidence. *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1366 (Fed. Cir. 2016); *Randall Mfg. v. Rea*, 733 F.3d 1355, 1362 (Fed. Cir. 2013).

Masimo first argues that the Board lacked substantial evidence to conclude that a skilled artisan would modify Saidara by adding a noninvasive pulse oximeter that measures blood oxygen levels to Saidara's sensor set, both as to the existence of a motivation to combine and the disclosure of a noninvasive sensor. We disagree. Substantial evidence supports the Board's findings that a skilled artisan would modify Saidara to noninvasively measure blood oxygen levels by adding a noninvasive pulse oximeter to Saidara's sensor set. *See* J.A. 1644 ¶ [0076] (Saidara disclosing the monitoring of multiple physiological parameters); J.A. 1496 ¶ 168 (Sotera's expert explaining why a skilled artisan would make the proposed combination); J.A. 3936 at 23:2–11 (Masimo's expert agreeing a skilled artisan would use a noninvasive pulse oximeter to measure blood oxygen levels).

Masimo also argues that the prior art does not disclose multiple alarm delay or suspension periods of time for

different parameters, as required by the independent claims. We disagree and conclude that substantial evidence supports the Board's findings that the prior art discloses multiple alarm delay or suspension periods of time for different parameters. J.A. 1644 ¶ [0073] (Saidara disclosing the use of multiple sensors and multiple measurements); J.A. 1651 ¶ [0133] (Saidara disclosing a multiple alarm function for blood sugar levels); J.A. 1498–99, 1501–02 ¶¶ 174, 178 (Sotera's expert explaining why a skilled artisan would modify Saidara to use multiple alarm timings); J.A. 4237 at 324:3–17 (Masimo's expert admitting that Saidara discloses multiple sensors measuring multiple physiological characteristics).

CONCLUSION

We have considered Masimo's remaining arguments and find them unpersuasive. For the foregoing reasons, we affirm.

AFFIRMED