

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

MASIMO CORPORATION,
Patent Owner.

IPR2024-00294
Patent 10,736,507 B2

Before RICHARD H. MARSCHALL, DAVID COTTA, and
ALYSSA A. FINAMORE, *Administrative Patent Judges*.

COTTA, *Administrative Patent Judge*.

PRELIMINARY GUIDANCE
PATENT OWNER'S CONTINGENT MOTION TO AMEND
37 C.F.R. § 42.121(e)

I. INTRODUCTION

On June 27, 2024, we instituted trial as to claims 1–20 of U.S. Patent No. 10,736,507 B2 (Ex. 1001, “the ’507 patent”). Paper 11. After institution, Patent Owner filed a Motion to Amend that is contingent on the patentability of claims 1–20. Paper 18 (“Motion” or “Mot.”). Specifically, Patent Owner proposes substitute claims 21–36 to replace original claims 1–20. Mot. 1–2. Petitioner filed an Opposition. Paper 31 (“Opposition” or “Opp.”).

In the Motion, Patent Owner requested that we provide preliminary guidance concerning the Motion in accordance with 37 C.F.R. § 42.121(a)(1)(ii).¹ Mot. 2; *see* 37 C.F.R. § 42.121(e)(1); *see also Rules Governing Motion to Amend Practice and Procedures in Trial Proceedings under the America Invents Act before the Patent Trial and Appeal Board*, 89 Fed. Reg. 76,421 (Sept. 18, 2024) (“Final Rule”). We have considered Patent Owner’s Motion and Petitioner’s Opposition.

In this Preliminary Guidance, we provide information indicating our initial, preliminary, non-binding views on whether Patent Owner has shown a reasonable likelihood that it has satisfied the statutory and regulatory requirements associated with filing a motion to amend in an *inter partes* review and whether Petitioner establishes a reasonable likelihood that the substitute claims are unpatentable. 37 C.F.R. § 42.121(e)(1), (2); *see also* 35 U.S.C. § 316(d) (statutory requirements for a motion to amend); 37 C.F.R. § 42.121(a)(2), (a)(3), (b) (regulatory requirements and burdens for a motion to amend); *Lectrosonics, Inc. v. Zaxcom, Inc.*, IPR2018-01129, Paper 15 (PTAB Feb. 25, 2019) (precedential) (providing

¹ Patent Owner’s submission requested guidance under the Board’s MTA (Motion to Amend) Pilot Program. The Pilot Program has been replaced with the Final Rule governing motion to amend practice as of October 18, 2024, so we provide guidance under the Final Rule, but note that our guidance would be the same either way.

information and guidance regarding motions to amend). The reasonable likelihood standard this Preliminary Guidance applies is different than the preponderance of the evidence standard applied when ultimately deciding the Motion. *Compare* 37 C.F.R. § 42.121(e)(1), *with* § 42.121(d). Finally, this Preliminary Guidance is not a “decision” for purposes of rehearing under 37 C.F.R. § 42.71(d). 37 C.F.R. § 42.121(e)(2).

For purposes of this Preliminary Guidance, we focus on the proposed substitute claims, and specifically on the amendments proposed in the Motion. *See* 37 C.F.R. § 42.121(e)(1); Final Rule, 89 Fed. Reg. at 76,425. We do not address the patentability of the originally challenged claims. *See id.* Moreover, in formulating our preliminary views on the Motion and Opposition, we have not considered the parties’ other substantive papers on the underlying merits of Petitioner’s challenges. We emphasize that the views expressed in this Preliminary Guidance are subject to change upon consideration of the complete record, including further briefing and argument from the parties and any revision to the Motion filed by Patent Owner. Thus, this Preliminary Guidance is not binding on the Board when rendering a final written decision or any other subsequent decision in this proceeding. 37 C.F.R. § 42.121(e)(2); *see Medytox, Inc. v. Galderma S.A.*, 71 F.4th 990, 1000 (Fed. Cir. 2023).

II. PRELIMINARY GUIDANCE

A. Statutory and Regulatory Requirements

Patent Owner bears the ultimate burden to show that its motion to amend complies with the requirements of 35 U.S.C. § 316(d)(1), (3) and 37 C.F.R. § 42.121(a)(2), (a)(3), (b)(1), and (b)(2). 37 C.F.R. § 42.121(d)(1). For the reasons discussed below, at this stage of the proceeding, and based on the current record, it appears that Patent Owner has shown a reasonable likelihood that it has

satisfied the statutory and regulatory requirements associated with filing a motion to amend, as discussed below. *See* 37 C.F.R. § 42.121(e)(1).

1. Reasonable Number of Substitute Claims

A motion to amend must propose a reasonable number of substitute claims. 35 U.S.C. § 316(d)(1)(B); 37 C.F.R. § 42.121(a)(3). Patent Owner asserts that the proposed substitute claims are reasonable in number because “[t]he total number of original claims is 20, and the total number of proposed substitute claims is 16.” Mot. 10. Patent Owner states that for “most of the original claims, [it] proposes only one substitute claim or no substitute claim,” but acknowledges that claim 13 is an exception. *Id.* For that claim Patent Owner “has proposed substitute independent claim 29 and substitute dependent claim 36.” *Id.*

Petitioner argues that “[c]laim 36 should be rejected as improper since [Patent Owner] proposes two sub[stitute] claims for claim 13 (claims 29 and 36), and fails to ‘demonstrat[e] a need to present more than one substitute claim per challenged claim.’” Opp. 9 (quoting *Lectrosonics*, IPR2018-01129, Paper 15 at 4–5).

On this preliminary record, Patent Owner has shown a reasonable likelihood that the number of proposed substitute claims is reasonable because the total number of proposed substitute claims (16) is less than the total number of original claims (20). However, should Patent Owner further pursue proposed substitute claims 29 and 36, Patent Owner should more fully address why there is a need to present more than one substitute claim for original claim 13.

2. Respond to Ground of Unpatentability

A motion to amend must respond to a ground of unpatentability involved in the proceeding. 37 C.F.R. § 42.121(a)(2)(i). Patent Owner asserts that the

proposed substitute claims are responsive to at least one ground of unpatentability. Mot. 6. Petitioner does not argue that the Motion is nonresponsive. *See generally* Opp. We have reviewed the proposed substitute claims against the grounds of unpatentability involved in the Petition and determine, on this preliminary record, they appear to be responsive to the grounds advanced in the Petition. Accordingly, on this preliminary record, Patent Owner has shown a reasonable likelihood that the amendments respond to a ground of unpatentability involved in the proceeding.

3. Scope of Amended Claims

A motion to amend may not enlarge the scope of the claims of the patent. 35 U.S.C. § 316(d)(3); 37 C.F.R. § 42.121(a)(2)(ii). Patent Owner argues that the proposed substitute claims add non-broadening limitations and do not enlarge the scope of the original claims. Mot. 2.

Petitioner asserts that original claim 13 requires the processing board to be separate and distinct from the mobile computing device (“MCD”). Opp. 1–2. Proposed substitute claim 29 amends claim 13 to recite “that the SpO₂ measurement values are outputted by the processing board ‘to ***one or more hardware processors*** of the wristwatch mobile computing device’ rather than simply ‘to the mobile computing device.’” *Id.* at 2. According to Petitioner, this amendment could be interpreted to “allow for the processing board to be a component of the MCD alongside the one or more hardware processors.” *Id.* at 3. Petitioner argues that “[u]nless claim 29 is interpreted such that the claimed processing board is required to be ***separate and external*** from the MCD, sub[stitute] claims 29–36 should be rejected for improper broadening.” *Id.*

For the reasons discussed below with regard to the unpatentability arguments set forth in Petitioner’s Opposition, on this preliminary record, we interpret proposed substitute claim 29 as requiring the processing board to be

separate and external to the mobile computing device. With this construction in mind, we agree with Patent Owner's position at this stage that the proposed substitute claims add non-broadening limitations. As a result, it appears on this record that Patent Owner has shown a reasonable likelihood that proposed substitute claim 29 and the remaining proposed substitute claims do not impermissibly enlarge the scope of the original claims.

4. New Matter

A motion to amend may not introduce new subject matter. 35 U.S.C. § 316(d)(3); 37 C.F.R. § 42.121(a)(2)(ii). Patent Owner cites several passages in support of proposed amendments for substitute claims 21, 29, and 36, including: the '507 patent's original disclosure (Ex. 2045), U.S. Application No. 14/033,315 ("the '315 application" (Ex. 2047)), and U.S. Provisional Application No. 61/703,729 (Ex. 2046). Mot. 11–12;² Ex. 1001, codes (21), (60), (63).

The test for sufficiency of a written description is whether the disclosure “clearly allow[s] persons of ordinary skill in the art to recognize that [the inventor] invented what is claimed.” *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc) (quoting *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1562–63 (Fed. Cir. 1991)). The disclosure must “reasonably convey[] to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date.” *Id.* Possession means “possession as shown in the disclosure” and “requires an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art.” *Id.*

² Patent Owner provides a collective list of citations for all amended features of each of proposed substitute claims 21, 29, and 36. Mot. 11–12. Should Patent Owner pursue a Revised Motion to Amend, Patent Owner should provide citations corresponding to each *amendment* of their proposed substitute claims rather than blanket citations for all amendments of an entire proposed substitute claim.

“[T]he level of detail required to satisfy the written description requirement varies depending on the nature and scope of the claims and on the complexity and predictability of the relevant technology.” *Ariad*, 598 F.3d at 1351. To claim a genus, a patentee must disclose “a representative number of species falling within the scope of the genus or structural features common to the members of the genus so that one of skill in the art can ‘visualize or recognize’ the members of the genus.” *Id.* at 1350 (quoting *Regents of the Univ. of Cal. v. Eli Lilly & Co.*, 119 F.3d 1559, 1568–69 (Fed. Cir. 1997)). Further, when considering whether representative species have been disclosed:

One factor in considering the question is how large a genus is involved and what species of the genus are described in the patent. If the genus is not large or, even if it is, the specification discloses species representing the genus throughout its scope, the requirement may be met. On the other hand, analogizing the genus to a plot of land, if the disclosed species only abide in a corner of the genus, one has not described the genus sufficiently to show that the inventor invented, or had possession of, the genus. He only described a portion of it.

AbbVie Deutschland GmbH & Co., KG v. Janssen Biotech, Inc., 759 F.3d 1285, 1299–1300 (Fed. Cir. 2014).

On this record, Patent Owner’s citations to the disclosure of the ’507 patent appear to show a reasonable likelihood that the proposed substitute claims do not add new matter.³ For instance, the ’507 patent appears to provide written description support for a wristwatch, that unprocessed signals are received from an optical sensor, that a mobile device may include a touch sensitive display screen, that the processing board may be powered by the MCD, and that the wristwatch

³ As discussed below with regard to priority, Petitioner’s arguments show a reasonable likelihood at this stage that the provisional application does not provide written description support for the proposed substitute claims. Here, we confine our analysis for written description support to the disclosure of the ’507 patent.

mobile device may have a substantially water-tight enclosure having impact resistant upper and lower shells. Ex. 2045 ¶¶ 23, 27–28, 32, 34, 36, 38, 40, 42–43, 51–52.

Proposed substitute claims 21 and 29 recite that the processing board is in “non-wireless” data communication with the optical sensor and with the mobile computing device. Mot. 16, 20. The cited disclosures of the ’507 patent describe cables connecting the processing module, sensor, and mobile computing device. Ex. 2045 ¶¶ 23, 27, 50. It appears that the term “non-wireless” may encompass more than just cabled connection. *See* Ex. 1083 ¶ 66 (identifying optical fibers, sonic cables, and buses on a printed circuit board as potentially encompassed by the term “non-wireless” connection). To the extent “non-wireless” data communication encompasses a genus that includes species other than a cable connection, the parties should address the complexity and predictability of the technology as well as the extent to which the species disclosed in the specification of the ’507 patent are representative of the genus. *Ariad*, 598 F.3d at 1350–1351.

The issue of whether the specification of the ’507 patent supports “non-wireless” communication is best resolved on a more fully developed record. On this preliminary record, it appears that there is a reasonable likelihood that “non-wireless” communication is supported and does not introduce new matter. Although the cited portions of the ’507 patent’s specification do not describe specific characteristics of the cable connection, the complexity of this technology does not appear high and seems predictable. Further, to the extent “non-wireless” communication encompasses a genus, that genus may not be large. For instance, when testifying that “non-wireless” is indefinite and unsupported, Petitioner’s witness, Dr. Thomas W. Kenny opines that Petitioner’s use of the term “non-wireless” “potentially expand[s] the scope of the claim[s] to cover things like

optical fibers, sonic cables or buses on a printed circuit board.” Ex. 1083 ¶ 66. To the extent this testimony reflects the scope of the genus, it suggests that the genus is relatively limited in size. Accordingly, the preliminary record shows a reasonable likelihood that the proposed substitute claims are supported by the specification of the ’507 patent. Nonetheless, we would benefit from a more developed record, and we encourage the parties to address this issue further during this proceeding.

B. Unpatentability Arguments by Petitioner

Petitioner bears the ultimate burden to show that any proposed substitute claims are unpatentable. 37 C.F.R. § 42.121(d)(2). For the reasons discussed below, at this stage of the proceeding, and based on the current record,⁴ it appears that Petitioner has shown a reasonable likelihood that proposed substitute claims 21–36 are unpatentable. *See* 37 C.F.R. § 42.121(e)(1).

1. Claim Construction

An issue raised in Petitioner’s Opposition is whether the proposed substitute claims should be construed to require that the processing board is separate and distinct from the mobile computing device. Opp. 1–3, 5–6.

On this preliminary record, it appears that the proposed substitute claims should be construed to require that the processing board is separate and distinct from the mobile computing device. The plain language of the proposed substitute claims appears to require such an arrangement by reciting that a processing board “output[s]” “measurement values” to the “mobile computing device” (claim 21) or to “one or more hardware processors of the wristwatch mobile computing device.”

⁴ We express no view on the patentability of original claims 1–20 in this Preliminary Guidance. Instead, we focus on limitations added to those claims in Patent Owner’s Motion to Amend.

(claim 29). On this preliminary record, we agree with Petitioner that this language suggests that the processing board is not itself a component of the MCD. *See* Opp. 5. This interpretation is consistent with the specification of the '507 patent, which describes embodiments in which the processing board is separate and distinct from the mobile device. Ex. 2045 ¶¶ 23, 27–28, 50–51, Figs. 1A–1C, 2; Ex. 1083 ¶¶ 68–69. We encourage the parties to address this issue further during this proceeding.

2. Priority

Petitioner asserts that the proposed substitute claims lack written description support in U.S. Provisional Application No. 61/703,729 because proposed substitute claims 21 and 29 recite a wristwatch, which the provisional application does not disclose. Opp. 9–10. Petitioner argues that “[a]lthough the '729 provisional states that the ‘the physiological sensor system may be one of a wide range of mobile devices such as a laptop, tablet computer, netbook, PDA, media player, mobile game console, or other microprocessor based device configured to interface with a physiological sensor,’ nothing in this statement nor the other cited portions of the provisional supports a wristwatch mobile pulse oximetry system or a wristwatch.” *Id.* (internal citation omitted). In view of this, Petitioner argues that the proposed substitute claims “can benefit only from a post-AIA priority date of September 20, 2013—the filing date of U.S. Patent App. No. 14/033,315.” *Id.* at 10.

At this stage, Petitioner’s arguments demonstrate a reasonable likelihood that the proposed substitute claims lack written description support in U.S. Provisional Application No. 61/703,729 because the current record lacks evidence that the disclosure of the provisional application would lead the ordinary skill in the art to the species of a “wristwatch” among the genus of all potential mobile

devices. *See Fujikawa v. Wattanasin*, 93 F.3d 1559, 1571 (Fed. Cir. 1996) (explaining that in the absence of “blazemarks” directing the ordinary artisan to the claimed subject matter, “simply describing a large genus of compounds is not sufficient to satisfy the written description requirement as to particular species or sub-genuses”). Therefore, we treat the proposed substitute claims as having an effective filing date as of the ’315 application, as Petitioner urges.

3. Written Description

Petitioner contends that “[s]hould the Board determine that any of claims 21–36 are (i) not broadening and (ii) cover embodiments that include a wristwatch MCD that encompasses the processing board of the SpO₂ measurement system, these claims are invalid for lack of written description support.” Opp. 6.

Petitioner’s argument is, thus, premised on a claim construction that permits the claimed processing board to be part of the MCD. As discussed above with regard to claim construction, on this preliminary record, we construe proposed substitute independent claims 21 and 29 as requiring the processing board and mobile computing device to be separate. As a result, we need not address Petitioner’s written description argument.

4. Indefiniteness

At this point in the proceeding, Petitioner has not shown a reasonable likelihood that proposed substitute claims 21–36 are indefinite.

Petitioner asserts that the term “non-wireless” / “nonwireless” renders proposed substitute claims 21–36 indefinite because one of ordinary skill in the art would not be able to determine this term’s meaning or scope. Opp. 3–4. Specifically, Petitioner argues that the ’507 patent does not use this term, the ’507 patent describes only wired or wireless connections, and Patent Owner’s expert

was confused by the term “non-wireless” during his deposition. *Id.* at 4–5 (citing Ex. 1001, 2:29–32, 4:39–45, 5:65–67, 5:35–39, 9:6–11, 10:17, Fig. 1; Ex. 1083 ¶¶ 65–66; Ex. 1087, 25:2–11, 27:1–5, 27:16–21, 28:6–29:3, 30:4–7, 30:22–31:11, 32:13–33:1, 34:11–15).

This issue presents a close call. On the one hand, on its face, the term “non-wireless” seems to encompass any type of connection other than a “wireless” connection. The scope of “non-wireless” using this approach may include any type of physical connection that does not also employ a wireless connection, which may suggest breadth but does not necessarily suggest ambiguity. On the other hand, the deposition testimony from Patent Owner’s witness, and the objections of Patent Owner’s counsel during that deposition, suggest that this plain language definition may not be correct. Ex. 1087, 24:16–34:15 (testimony of Dr. Duckworth where counsel objected that the term “non-wireless connection” was “vague” and the witness testimony reflected confusion as to the difference between a “non-wireless connection” and a “wired connection” in the context of the system described in the ’507 patent). The ’507 patent provides little clarification on the meaning of term “non-wireless,” because it does not use that term. Ex. 1001. On the present record, we understand the term “non-wireless” to encompass any connection other than a wireless connection. However, given the confusion reflected in Mr. Duckworth’s deposition, and given that the ’507 patent does not use the term “non-wireless,” Patent Owner should confirm that this understanding is correct. On the present record, Petitioner’s arguments do not show a reasonable likelihood that the term “non-wireless”/“nonwireless” renders proposed substitute claims 21–36 indefinite. We encourage the parties to further address this issue, including the meaning and scope of the term “non-wireless,” during this proceeding.

5. Obviousness Grounds

Petitioner explains that its Opposition sets forth two sets of grounds of unpatentability: (1) grounds in which the proposed substitute claims are construed to not require the processing board and the mobile computing device to be separate and distinct (grounds 1A–1G in the Opposition) and (2) grounds in which the proposed substitute claims are construed to require the processing board and the mobile computing device to be separate and distinct (grounds 2A–3E in the Opposition). Opp. 10.

As noted above, we construe the proposed substitute claims as requiring the processing board and mobile computing device to be separate and distinct, thus implicating only Petitioner’s grounds 2A–3E. However, for completeness, because the Petitioner’s grounds substantially overlap, and because our construction may change on a more complete record, we also provide guidance for the first set of grounds (grounds 1A–1G in the Opposition).

i. Obviousness grounds based on the combination of Brady, Goldsmith, and D’Angelo (grounds 1A–1G)

On this preliminary record, Petitioner has shown a reasonable likelihood that the proposed substitute claims would have been obvious in view of the combination of Brady (Ex. 1091), Goldsmith (Ex. 1009), and D’Angelo (Ex. 1007).

Petitioner asserts the following grounds based on Brady, Goldsmith, and D’Angelo:

- Claims 29–31, 33, and 34 would have been unpatentable as obvious in view of Brady, Goldsmith, and D’Angelo (ground 1A);
- Claims 32, 34, and 35 would have been unpatentable as obvious in view of Brady, Goldsmith, D’Angelo, and Tran (ground 1B);

- Claims 30 and 33 would have been unpatentable as obvious in view of Brady, Goldsmith, D’Angelo, and Kianl (ground 1C);
- Claims 21, 22, 25, 27, 28, and 36 would have been unpatentable as obvious in view of Brady, Goldsmith, D’Angelo, and Goldreich (ground 1D);
- Claim 23 would have been unpatentable as obvious in view of Brady, Goldsmith, D’Angelo, Goldreich, and Ording (ground 1E);
- Claims 24, 26, and 28 would have been unpatentable as obvious in view of Brady, Goldsmith, D’Angelo, Goldreich, and Tran (ground 1F); and
- Claims 22 and 27 would have been unpatentable as obvious in view of Brady, Goldsmith, D’Angelo, and Kianl (ground 1G).

Opp. 11–30.

Proposed Substitute Claim 29

Petitioner argues that proposed substitute claim 29 would have been obvious in view of Brady, Goldsmith, and D’Angelo. Opp. 14–19. Specifically, Petitioner contends that Brady teaches a watch having a display and an optical sensor for a pulse oximetry device, where the optical sensor creates an unprocessed signal. According to Petitioner, the optical sensor is connected to circuitry via wires, and Brady’s monitoring device is powered by the watch. *Id.* at 14–16 (citing Ex. 1091 ¶¶ 47–49, 51–56, 58, 61; Ex. 1083 ¶¶ 89–94). Petitioner argues that Brady teaches a pulse oximetry board that processes data for display as blood oxygenation levels and other physiological measurements, that Goldsmith teaches a touchscreen display for physiological measurements like oxygen level, and that D’Angelo teaches a view that includes several display portions to display physiological measurements and allow a user to interact with display portions. *Id.* at 16–19

(citing Ex. 1091 ¶¶ 54, 58, Fig. 1; Ex. 1009 ¶¶ 37–38, 86, claim 28; Ex. 1007, 15:30–31; Ex. 1083 ¶¶ 95–102, 121–129; Pet. 40–43).

We have reviewed the disclosures of Brady, Goldsmith, and D’Angelo and observe that they appear to support Petitioner’s assertions. Further, on the record before us, Petitioner’s rationales in support of the proposed combination (i.e., to use a touch-screen in view of Goldsmith and to use multiple display portions in view of D’Angelo) appear reasonable. Specifically, Petitioner asserts that using a touch-screen would have provided an intuitive user interface for Brady’s watch and that multiple display portions would have allowed a user to interact with a device to alter a display’s view and access application options and information. *Id.* at 11–13 (citing Ex. 1083 ¶¶ 85–89). As a result, Petitioner demonstrates a reasonable likelihood that proposed substitute claim 29 would have been unpatentable in view of the combination of Brady, Goldsmith, and D’Angelo.

Proposed Substitute Claim 21

With regard to proposed substitute claim 21, Petitioner relies upon its arguments for proposed substitute claim 29 for limitations that correspond to limitations of claim 21. *Id.* at 25. For limitations that differ from limitations in claim 29, Petitioner provides additional arguments and evidence. *Id.* Specifically, Petitioner asserts that Brady teaches its watch may use a wireless protocol similar to that for a cordless telephone to communicate with an external device, that Goldsmith also teaches cellular phone capabilities for its device, and that one of ordinary skill in the art would have modified Brady in view of Goldsmith to enable communication with external devices. *Id.* at 25–26 (citing Ex. 1091 ¶¶ 46, 59, 63; Ex. 1009 ¶ 97; Ex. 1083 ¶¶ 131–132). Petitioner further contends that Brady’s microprocessor board can be a distinct component from Brady’s pulse oximetry board, that one of ordinary skill in the art would have understood that Brady’s

processing of signals to generate blood oxygenation data is performed on the pulse oximetry board prior to the data being sent to the microprocessor board, that Brady's processing board would draw all of its power from the watch, and that Goldreich teaches a wrist-mounted device including a case having impact resistant upper and lower shells and having waterproof sealing. *Id.* at 26–28 (citing Ex. 1091 ¶¶ 47, 58, 61; Ex. 1092, 10:52–53, 11:6–24, Fig. 2; Ex. 1083 ¶¶ 139–141).

We have reviewed the disclosures of Brady, Goldsmith, D'Angelo, and Goldreich and observe that they appear to support Petitioner's assertions. In addition, Petitioner's rationales to modify Brady, Goldsmith, and D'Angelo in view of Goldreich appear to be reasonable. Specifically, Petitioner contends that one of ordinary skill in the art would have modified Brady, Goldsmith, and D'Angelo in view of Goldreich to use a watertight enclosure and impact resistant upper and lower shells to improve the durability of the device, allow the device to be used in the presence of water, and make the device's main body modular and easy to disassemble for maintenance. *Id.* at 24 (citing Ex. 1083 ¶¶ 126–127). As a result, Petitioner demonstrates a reasonable likelihood that proposed substitute claim 21 would have been unpatentable in view of the combination of Brady, Goldsmith, D'Angelo, and Goldreich.

Proposed Substitute Claims 22–28 and 30–36

Having reviewed Petitioner's arguments and rationales for the remaining proposed substitute claims, it appears that the teachings of Brady, Goldsmith, D'Angelo, Goldreich, Ording, Tran, and Kianl support Petitioner's assertions, and Petitioner has provided sufficient rationales to further modify the teachings in view of the additional cited references. *Id.* at 21–23, 29–30. Therefore, Petitioner has shown a reasonable likelihood that proposed substitute claims 22–28 and 30–36 would have been unpatentable for these reasons.

We acknowledge that Patent Owner has not yet had the opportunity to address Petitioner's assertions. Patent Owner will have the opportunity to do so in a reply to Petitioner's Opposition (or in a revised motion to amend). 37 C.F.R. § 42.121(e)(3), (f).

ii. Obviousness grounds based on the combination of Brady, Goldsmith, D'Angelo, and Tseng (grounds 2A–2G)

At this point in the proceeding, Petitioner has shown a reasonable likelihood that the proposed substitute claims would have been obvious in view of the combination of Brady, Goldsmith, D'Angelo, and Tseng (Ex. 1093).

Petitioner asserts the following grounds based on Brady, Goldsmith, D'Angelo, and Tseng:

- Claims 29–31, 33, 34 would have been unpatentable as obvious in view of Brady, Goldsmith, D'Angelo, and Tseng (ground 2A);
 - Claims 32, 34, and 35 would have been unpatentable as obvious in view of Brady, Goldsmith, D'Angelo, Tseng, and Tran (ground 2B);
 - Claims 30 and 33 would have been unpatentable as obvious in view of Brady, Goldsmith, D'Angelo, Tseng, and Kianl (ground 2C);
 - Claims 21, 22, 25, 27, 28, and 36 would have been unpatentable as obvious in view of Brady, Goldsmith, D'Angelo, Tseng, and Goldreich (ground 2D);
 - Claim 23 would have been unpatentable as obvious in view of Brady, Goldsmith, D'Angelo, Tseng, and Ording (ground 2E);
 - Claims 24, 26, and 28 would have been unpatentable as obvious in view of Brady, Goldsmith, D'Angelo, Tseng, and Tran (ground 2F);
- and

- Claims 22 and 27 would have been unpatentable as obvious in view of Brady, Goldsmith, D’Angelo, Tseng, and Kianl (ground 2G).

Opp. 30–33.

Proposed Substitute Claim 29

Petitioner proposes modifying Brady, Goldsmith, and D’Angelo in view of Tseng to provide a mobile computing device that is separate and distinct from a processing board and, other than the addition of Tseng, its arguments are the same as those for grounds 1A–1G. *Id.* at 30 (citing Ex. 1083 ¶¶ 161–165).

Petitioner argues that Tseng teaches medical expansion hardware that may be connected, via wire, to a separate mobile device and a power module that is secured to the mobile device. *Id.* at 31 (citing Ex. 1093 ¶¶ 36, 62, Fig. 10; Ex. 1083 ¶ 163). According to Petitioner, the expansion hardware may include a pulse oximeter and wrist-worn ECG monitor that collect information and forward it to the mobile device, which in turn may power the expansion hardware. *Id.* (citing Ex. 1093 ¶¶ 62–64, Fig. 10).

We have reviewed Tseng’s disclosure and observe that it appears to support Petitioner’s assertions. Further, on the record before us, Petitioner’s rationale in support of the proposed combination appears reasonable. Specifically, Petitioner contends that one of ordinary skill in the art would have modified the combination of Brady, Goldsmith, and D’Angelo further in view of Tseng to separate the SpO₂ measurement system from the mobile computing device because Tseng demonstrates that such an arrangement was known to expand the functionalities of mobile computing devices and because one of ordinary skill in the art would have recognized that this arrangement could decrease the hardware required for the mobile computing device, thus decreasing the mobile computing device’s size,

complexity, and power requirements. *Id.* at 32 (citing Ex. 1093 ¶ 4; Ex. 1083 ¶ 164).

As a result, Petitioner demonstrates a reasonable likelihood that proposed substitute claim 29 would have been unpatentable in view of the combination of Brady, Goldsmith, D’Angelo, and Tseng.

Proposed Substitute Claims 21–28 and 30–36

For grounds 2B–2G, which address proposed substitute claims 21–28 and 30–36, Petitioner relies upon its reasoning set forth for grounds 1B–1G. *Id.* at 33 (citing Ex. 1083 ¶ 166). As discussed above with regard to grounds 1B–1G, Petitioner has shown a reasonable likelihood that proposed substitute claims 21–28 and 30–36 would have been obvious in view of the references asserted in those grounds. Therefore, for largely similar reasons, we determine that Petitioner has shown a reasonable likelihood that proposed substitute claims 21–28 and 30–36 would have been obvious in view of the references asserted in grounds 2B–2G.

We acknowledge that Patent Owner has not yet had the opportunity to address Petitioner’s assertions. Patent Owner will have the opportunity to do so in a reply to Petitioner’s Opposition (or in a revised motion to amend). 37 C.F.R. § 42.121(e)(3), (f).

iii. Obviousness grounds based on the combination of Hudson, Goldsmith, and Brady (grounds 3A–3E)

At this point in the proceeding, Petitioner has shown a reasonable likelihood that the proposed substitute claims would have been obvious in view of the combination of Hudson (Ex. 1094), Goldsmith, and Brady.

Petitioner asserts the following grounds based on Hudson, Goldsmith, and Brady:

- Claims 29–31, 33, and 34 would have been unpatentable as obvious in view of Hudson, Goldsmith, and Brady (ground 3A);
- Claims 32, 34, and 35 would have been unpatentable as obvious in view of Hudson, Goldsmith, Brady, and Tran (ground 3B);
- Claims 21, 22, 25, 27, 28, and 36 would have been unpatentable as obvious in view of Hudson, Goldsmith, Brady, and Goldreich (ground 3C);
- Claim 23 would have been unpatentable as obvious in view of Hudson, Goldsmith, Brady, Goldreich, and Ording (ground 3D); and
- Claims 24, 26, and 28 would have been unpatentable as obvious in view of Hudson, Goldsmith, Brady, Goldreich, and Tran (ground 3E).

Opp. 33–49.

Proposed Substitute Claim 29

Petitioner asserts that Hudson teaches a pulse oximeter that uses an iPod Touch as a mobile device by wiring the iPod Touch to “a certified Xpod OEM pulse oximeter module,” which provides raw data and processed trend values for oxygen saturation. *Id.* at 33–34 (citing Ex. 1094, 957–958; Ex. 1083 ¶¶ 168–169). According to Petitioner, the user interface of Hudson’s iPod Touch displays oxygen saturation, is capable of showing a trend graph for each parameter, alarm thresholds, and touch icons to navigate an application and adjust settings. *Id.* at 34 (citing Ex. 1094, 959, 962, Figs. 2–3); *see also id.* at 38–42.

We have reviewed the cited disclosures of Hudson, Goldsmith, and Brady and observe that they appear to support Petitioner’s assertions. Further, on the record before us, Petitioner’s rationales in support of the proposed combination appear reasonable. Specifically, Petitioner asserts that it would have been obvious to replace Hudson’s iPod Touch with a touch-screen wristwatch because

Goldsmith's touch-screen watch controller would be fully compatible with Hudson's system, "would yield benefits such as increasing the ease of use of Hudson's system," and a wristwatch form factor having the capabilities of a smartphone would provide "a more socially acceptable embodiment . . . because it is common for people to wear watches." *Id.* at 35 (citing Ex. 1083 ¶¶ 170–172; Ex. 1094, 958, 964; Ex. 1009 ¶¶ 85–105). In addition, Petitioner contends that, to the extent Hudson and Goldsmith do not explicitly teach how an Xpod OEM pulse oximeter operates to calculate SpO₂ values, Brady provides such details and that it would have been obvious to modify Hudson and Goldsmith in view of Brady as the mere application of a known technique to a known system to yield predictable results. *Id.* at 37 (citing Ex. 1083 ¶ 172; Ex. 1091 ¶¶ 46–58).

As a result, Petitioner demonstrates a reasonable likelihood that proposed substitute claim 29 would have been unpatentable in view of the combination of Hudson, Goldsmith, and Brady.

Proposed Substitute Claim 21

With regard to proposed substitute claim 21, Petitioner relies upon its arguments for proposed substitute claim 29 for limitations that correspond to limitations of claim 21. *Id.* at 44–45. For limitations that differ from limitations in claim 29, Petitioner provides additional arguments and evidence. *Id.* Specifically, Petitioner asserts that Hudson suggests compatibility of its system with mobile phone platforms and that Goldsmith also teaches that its watch may have cellular phone capabilities. *Id.* at 45–46 (citing Ex. 1094, 964; Ex. 1009 ¶ 97; Ex. 1083 ¶¶ 198–200). Petitioner further argues that one of ordinary skill in the art would have understood that Hudson suggests processing of its data via its processing board to generate oxygen saturation measurements before sending the data to the mobile device and that Brady also suggests this. *Id.* at 46–47 (citing Ex. 1083

¶ 207). Petitioner acknowledges that Hudson does not disclose a power source for the Xpod, so one of ordinary skill in the art would understand the Xpod is powered by the mobile device. Petitioner also acknowledges that Hudson does not disclose a substantially water-tight enclosure including impact resistant upper and lower shells, but contends that Goldreich teaches a wrist-mounted device including a case having impact resistant upper and lower shells and having waterproof sealing. *Id.* at 47–48 (citing Ex. 1083 ¶ 208; Ex. 1092, 10:52–53, 11:6–24, Fig. 2).

We have reviewed the cited disclosures of Hudson, Goldsmith, Brady, and Goldreich and observe that they appear to support Petitioner’s assertions. Further, Petitioner’s rationales to modify Hudson, Goldsmith, and Brady in view of Goldreich appear to be reasonable. Specifically, Petitioner contends that one of ordinary skill in the art would have modified Hudson, Goldsmith, and Brady in view of Goldreich to use a water tight enclosure and impact resistance upper and lower shells to improve waterproofing and durability and to make the device’s main body easy to disassemble for maintenance. *Id.* at 47–48 (citing Ex. 1083 ¶¶ 126–127). As a result, Petitioner demonstrates a reasonable likelihood that proposed substitute claim 21 would have been unpatentable in view of the combination of Hudson, Goldsmith, Brady, and Goldreich.

Proposed Substitute Claims 22–28 and 30–36

Having reviewed Petitioner’s arguments and rationales for the remaining proposed substitute claims, it appears that the teachings of Hudson, Goldsmith, Brady, Tran, Goldreich, and Ording support Petitioner’s assertions, and Petitioner has provided sufficient rationales to further modify in view of the additional cited references. *Id.* at 42–45, 48–49. Therefore, Petitioner has shown a reasonable likelihood that proposed substitute claims 22–28 and 30–36 would have been unpatentable for these reasons.

We acknowledge that Patent Owner has not yet had the opportunity to address Petitioner's assertions. Patent Owner will have the opportunity to do so in a reply to Petitioner's Opposition (or in a revised motion to amend). 37 C.F.R. § 42.121(e)(3), (f).

III. CONCLUSION

The analysis above provides our Preliminary Guidance on the issues raised by Patent Owner's Motion. Patent Owner has the option to reply to this Preliminary Guidance *or* to file a revised MTA by DUE DATE 3. 37 C.F.R. § 42.121(e)(3), (f); Paper 14. Patent Owner's reply or revised MTA may only respond to this Preliminary Guidance or Petitioner's Opposition and may be accompanied by new evidence (including declarations). 37 C.F.R. § 42.121(e)(3). Petitioner has the option to file a sur-reply responsive to this Preliminary Guidance, Patent Owner's reply, or Patent Owner's revised MTA but may not present new evidence in any case. 37 C.F.R. § 42.121(e)(3). Petitioner may also file a reply to the preliminary guidance in the case Patent Owner does not file a reply or revised MTA. 37 C.F.R. § 42.121(e)(4).

In addition, Patent Owner is reminded that amendments of the challenged claims may also be pursued in a separate reissue or reexamination proceeding before, during, or after an AIA trial proceeding, including subsequent to the issuance of the Final Written Decision. We draw Patent Owner's attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. See 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. See 37 C.F.R. § 42.8(a)(3), (b)(2).

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Patent 10,736,507 B2

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