PUBLIC VERSION

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UNITED STATES INTERNATIONAL TRADE COMMISSION

Washington, D.C.

In the Matter of **CERTAIN SMART WEARABLE DEVICES, SYSTEMS, AND COMPONENTS THEREOF**	**Inv. No. 337-TA-1398**

INITIAL DETERMINATION ON VIOLATION OF SECTION 337 AND RECOMMENDED DETERMINATION ON REMEDY AND BOND

Administrative Law Judge Doris Johnson Hines

(April 18, 2025)

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IX. VALIDITY[13]

Respondents contend that: (i) Niwa alone anticipates claims 1, 2, 13, and 14; (ii) the combination of Niwa and "the battery art" renders claim 12 obvious; and (iii) the combination of Niwa and Schröder renders obvious claims 1, 2, 13, and 14. Resp. Br. at 21–64.

A. Legal Standard

Patents are presumed valid. 35 U.S.C. § 282; *Microsoft Corp. v. i4i Ltd. P'ship*, 564 U.S. 91, 95–96 (2011). A party asserting patent invalidity must overcome this presumption by clear and convincing evidence. *Microsoft*, 564 U.S. at 97.

"Anticipation requires that a single prior art reference disclose each and every limitation of the claimed invention, either expressly or inherently." *SRI Int'l, Inc. v. Cisco Systems, Inc.*, 930 F.3d 1295, 1306 (Fed. Cir. 2019); *In re Smith Int'l, Inc.*, 871 F.3d 1375, 1381 (Fed. Cir. 2017) ("A patent claim is anticipated 'only if each and every element is found within a single prior art reference, arranged as claimed,'" *quoting Summit 6, LLC v. Samsung Elecs. Co.*, 802 F.3d 1283, 1294 (Fed. Cir. 2015)).

A claim is invalid as obvious if "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." 35 U.S.C. § 103. Because obviousness is determined at the time of invention, rather than the date of litigation, "[t]he great challenge of the obviousness judgment is proceeding

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[13] Institution of a post-grant review of claims 1–10 and 12–18 of the '178 patent, requested by Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc., was granted. *See* PGR2024-00030, Paper 9 (Dec. 6, 2024). After the evidentiary hearing, RingConn filed both a petition for inter partes review and post-grant review and in both asked to join the Samsung proceeding. *See* PGR2025-00018 and IPR2025-00412. Likewise, Ultrahuman filed a petition for inter parties review and asked to join the Samsung proceeding. *See* IPR2025-00411.

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without any hint of hindsight." *Star Scientific, Inc. v. R.J. Reynolds Tobacco Co.*, 655 F.3d 1364, 1375 (Fed. Cir. 2011).

When a claim is challenged as obvious, the critical inquiry in determining the differences between the claimed invention and the prior art is whether there is an apparent reason to combine known elements as claimed in the patent. *See KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 417–418 (2007). When a respondent relies on a combination of multiple prior art references to show obviousness, "the burden falls on the patent challenger to show by clear and convincing evidence that a person of ordinary skill in the art would have had reason to attempt to make the composition or device, or carry out the claimed process, and would have had a reasonable expectation of success in doing so." *PharmaStem Therapeutics, Inc. v. ViaCell, Inc.*, 491 F.3d 1342, 1360 (Fed. Cir. 2007) (citations omitted).

Obviousness is a determination of law based on underlying determinations of fact. *Star Scientific*, 655 F.3d at 1374. The factual determinations underlying an obviousness determination are: (1) the scope and content of the prior art, (2) the level of skill in the art, (3) the differences between the claimed invention and the prior art, and (4) objective indicia of non-obviousness. *KSR*, 50 U.S. at 406, *citing Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). Objective indicia include, among others, commercial success, long felt but unresolved need, copying, and the failure of others. *Id.*

B. Anticipation

Respondents argue that U.S. Patent Pub. No. 2012/0016245, CX-1133, issued to Niwa anticipates claims 1, 2, 13, and 14. Resp. Br. at 21–46. Oura disputes these arguments. Oura Reply at 12–17. The Staff agrees with Oura. Staff Br. at 47–48 and Staff Reply at 28–29.

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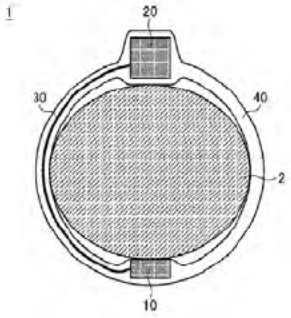
1. Overview of Niwa

The evidence supports that Niwa, CX-1133, which published on January 19, 2012, is prior art to the '178 patent under 35 U.S.C. § 102(a)(2). Resp. Br. at 8. Niwa is titled "Plethysmogram Sensor"[14] and discloses a sensor that emits light onto a portion of the body, such as in a finger, and detects reflected light. *See* CX-1133 at Abstract, [0117]. By measuring the amount of light attenuation, biological characteristics, such as blood vessel age or arterial stiffness, can be determined. *See id.* Niwa's light receiving portion may be implemented as a "finger ring construction to measure the plethysmogram." *Id.* at [0191]. A cross-section of Niwa's ring around a user's finger is shown below:



CX-1133 at Fig. 22.

Sensor 1 includes a first unit 10, a second unit 20, a cable 30, and a finger-ring type housing 40. *Id.* at [0191]. The first unit 10 includes a sensor for measuring the amount of light reflected from the user's finger. *See id.* at [0192]. The second unit 20 supplies power to the first unit 10 via cable 30. *See id.* at [0193–94].

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[14] A plethysmograph is an instrument for determining and registering variations in the size of an organ, limb, or part resulting from changes in the amount of blood present or passing through it. www.merriam-webster.com.

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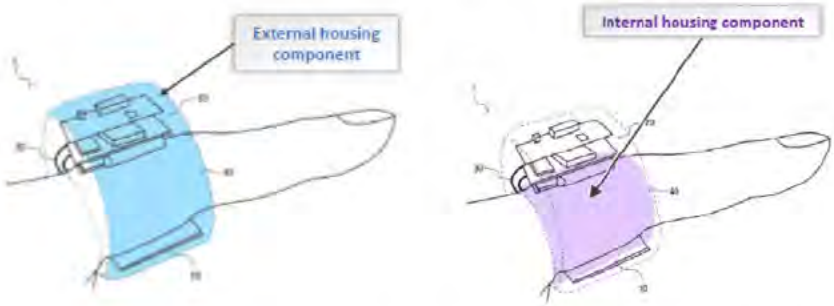
[redacted]

2. Elements 1[a], 1[b-i], and 1[b-ii]

Elements 1[a] and 1[b-i] of claim 1 recite an "external housing component" and an "internal housing component," while element 1[b-ii] recites, "the internal housing component coupled with the external housing component." The internal and external housing component terms were construed as having their plain and ordinary meaning, which is "an [internal/external] structure that encloses space and which does not necessarily exclude potting material." Order No. 17 at 14. "Coupled with" was construed as having its plain and ordinary meaning, which is "connected with." *Id.* at 5.

Respondents argue that, while Niwa does not explicitly disclose a separate "external housing component" and a separate "internal housing component," Niwa's housing 40 includes inner and outer surfaces that enclose space. Resp. Br. at 22–25. Respondents highlight two portions of Niwa's housing 40 and argue that a first portion (in blue) is the external housing component, and a second portion (in purple) is the internal housing component, as shown below:



Resp. Br. at 24, *annotating* Niwa at Fig. 26; *id.* at 30, *annotating* Niwa at Fig. 26.

According to respondents, Niwa's housing 40 encloses the space containing the first unit 10 and the second unit 20. *See id.*, *citing* Niwa at [0029], [0192–93]. Respondents argue that Niwa's disclosure of housing 40 discloses both the external housing component and the internal housing component because they are respectively shown above and below the components within

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[redacted]

the ring. *See id.*, *id.* at 29–30. In respondents' view, Niwa's housing 40 is both the external housing component and the internal housing component because it encloses its internal space.

Claim 1 separately recites the internal and external housing components. When a claim lists elements as separate components, there is a rebuttable presumption that those elements are distinct components of the patented invention. *Certain Vaporizer Devices, Cartridges Used Therewith, and Components Thereof*, Inv. No. 337-TA-1368, Comm'n Op. at 82 (addressing *Kyocera Senco Industrial Tools Inc. v. Int'l Trade Comm'n*, 22 F.4th 1369 (Fed. Cir. 2022) and *Becton, Dickinson & Co. v. Tyco Healthcare Group, LP*, 616 F.3d 1249 (Fed. Cir. 2020)) (Feb. 19, 2025) (EDIS Doc. ID 843889). The Commission has called that the *Becton* presumption. *Id.* at 84. I find that it applies here.

The rebuttable presumption is supported here by other claim language requiring that the internal and external housing components are coupled. *In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1280 (Fed. Cir. 2015) ("[I]t would be illogical to regard one unit as being 'attached' to itself."). The rebuttable presumption is also supported by the specification, which shows and discusses individual components of the housing as separate (i.e., Fig. 12 (1212 and 1214), Fig. 13 (1312 and 1314), Fig. 14 (1412 and 1414), and Fig. 15 (1512 and 1514) when a housing with separate components is disclosed and discloses a u-shaped ring housing in Fig. 4 and a housing with an integral inner wall and outer wall in Fig. 16 when a unitary housing is disclosed. '178 patent at 16:43–20:49 (Figs. 12–15), 16:22–42 (Fig. 4), and 20:51–65 (Fig. 16). I agree with Oura's expert that the embodiments of Figs. 4 and 16 do not have separate external and internal housing components. *See* Sarrafzadeh Tr. at 385:10–23 ("My opinion is you are taking one unitary structure and you're calling it two different things. That, from an engineering point of view, I have issue

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[redacted]

with that."). I find that the *Becton* presumption has not been overcome and is instead supported by the language of the claims and the specification.

Respondents contend that they are "not required to show that the prior art uses the same precise language as used by the '178 claims to prove anticipation." Resp. Br. at 25, *citing Adasa Inc. v. Avery Dennison Corp.*, 55 F.4th 900, 910 (Fed. Cir. 2022). That is true, but irrelevant. In *Adasa*, the prior art "could reasonably be interpreted as" an enabling disclosure in which "[a] reasonable juror could find that a skilled artisan would interpret the disclosed combination . . . as mapping onto" the claimed element. 55 F.4th at 911. The question here, however, is not one of semantics. Respondents do not contend that Niwa specifically identifies either an external or an internal housing component, but only uses different language that can be "mapp[ed] onto" the limitations of claim 1. Instead, Niwa discloses a unitary housing 40 and does not disclose separate external and internal housing components. Niwa at [0191]. *Adasa* confirms that "each and every element of the claim" "must be arranged or combined in the same way as in the claim." 55 F.4th at 910. In Niwa, they are not. The evidence does not support that Niwa discloses the external and internal housing components "arranged or combined in the same way as in the claim."

Respondents have not shown by clear and convincing evidence that Niwa discloses element 1[a], element 1[b-i], or element 1[b-ii].

3. Elements 1[c-i] and 1[d]

Element 1[c-i] recites "a battery positioned within a cavity formed between the internal housing component and the external housing component." Element 1[d] recites "a printed circuit board disposed between the internal housing component and the external housing component, wherein the printed circuit board extends through at least a second portion of the cavity of the finger-worn wearable ring device different from the first portion." Respondents contend that Niwa

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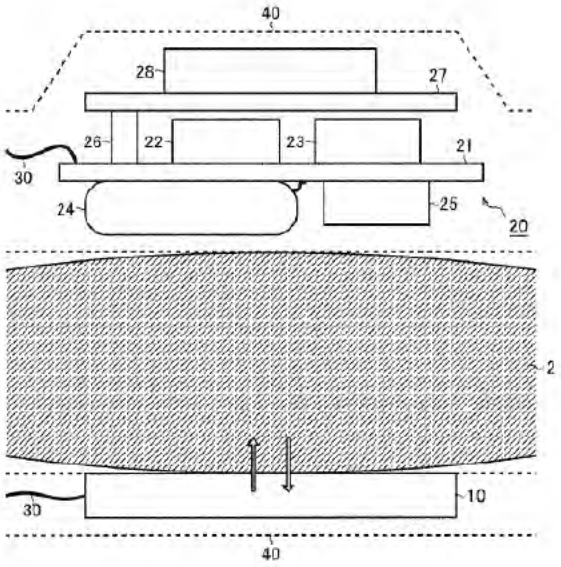
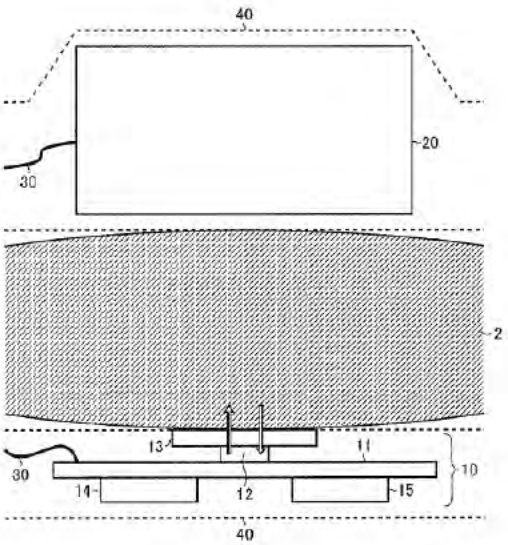
[redacted]

discloses these limitations. Resp. Br. at 34–40. Oura disputes this. Oura Reply at 15–17. The Staff agrees with Oura. Staff Br. at 47–48.

Respondents argue that Niwa discloses limitation 1[c-i] because second unit 20, which contains battery 24, is located between the internal housing component (the dashed line between element 20 and element 2 in Fig. 28, below left) and the external housing component (the top-most dashed line in Fig. 28, below left). Resp. Br. at 34–35. Respondents argue that Niwa discloses limitation 1[d] because first unit 10, which contains substrate 11 (i.e., the printed circuit board), is located between the internal housing component (the dashed line between element 13 and element 2 in Fig. 27, below right) and the external housing component (the bottom-most dashed line in Fig. 27, below right). *Id.* at 39–40.



Niwa, Fig. 28



Niwa, Fig. 27

Oura argues that Niwa fails to disclose these limitations because Niwa does not disclose either the internal or the external housing component. Oura Reply at 15 and 17. As explained above, Niwa discloses only a unitary housing component, rather than separate external and internal

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[redacted]

housing components that are coupled. Respondents have not shown by clear and convincing evidence that Niwa discloses elements 1[c-i] or 1[d].

Respondents have not shown by clear and convincing evidence that Niwa anticipates claim 1 of the '178 patent, or any of dependent claims 2, 13, and 14.

C. Obviousness

1. Niwa in View of "the Battery Art"

Respondents contend that Niwa in view of the battery art – any one of GMBPow, Henderson, and Webster – renders claim 12 obvious. Resp. Br. at 55–64. Oura disputes this. Oura Reply at 25–30. The Staff agrees with Oura. Staff Br. at 57–58.

a. Overview

The evidence supports that GMBPow sold curved lithium polymer batteries as early as 2013, and that GMBPow is prior art under 35 U.S.C. § 102(a)(1). Resp. Br. at 13–14 and RX-0030. GMBPow advertised its curved batteries for use in devices such as watches, sports bracelets, and wrist straps. RX-0030.

The evidence supports that Henderson published on August 29, 2013, from an application filed on January 18, 2013, and is prior art to the '178 patent under 35 U.S.C. §§ 102(a)(1) and (2). Resp. Br. at 17 and CX-1139. Henderson is titled "Power Management in an Activity Monitoring Device" and discloses an "athletic activity monitoring device," in which batteries may be managed "to provide more accurate state information and/or expected charge times." CX-1139 at Abstract. The batteries may have a "curvilinear or curved configuration" and "define curved planar surfaces." *Id.* at [0077].

The evidence supports that Webster issued on May 6, 2014, from an application filed July 14, 2011, and published on January 19, 2012, and is prior art under 35 U.S.C. §§ 102(a)(1) and (2). Resp. Br. at 19 and CX-1135. Webster is titled "Wireless Vaginal Sensor Probe" and

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[redacted]

discloses a "temperature sensing device that can comprise an elastic ring structure" including a battery. CX-1135 at Abstract. Webster discloses that "[t]he battery 212 can, in one embodiment, be a thin film lithium ion or zinc-manganese dioxide chemistry battery that can be bent or curved." *Id.* at 5:9–12.

b. Analysis

As an initial matter, as explained above, Niwa does not disclose "an internal housing component" or "an external housing component." Because Niwa does not disclose those components, it likewise does not disclose "a battery positioned within a cavity formed between the internal housing component and the external housing component," as also recited in claim 1.[15] Respondents do not contend that any of "the battery art" discloses any of these claim elements, or that the combination of Niwa and any of GMBPow, Henderson, or Webster renders claim 1 obvious. As claim 12 depends from claim 1, respondents have not shown that claim 12 is obvious over Niwa in view of any of GMBPow, Henderson, or Webster for this reason alone.

As to claim 12, it recites: "The finger-worn wearable ring device of claim 1, wherein the battery comprises a curved battery, wherein an arc of the curved battery approximates a corresponding arc of the external housing component." Respondents argue that one of skill would have been motivated to modify Niwa's device with any one of GMBPow, Henderson, or Webster to include a curved battery. Resp. Br. at 55–56. In particular, respondents argue that "using a curved battery" "would maximize battery capacity while fitting inside of the housing and would

[15] Respondents do not argue that the combination of Niwa and Schröder and further in view of "the battery art" renders claim 12 obvious. Resp. Br. at 55–64. Any such argument has been waived.

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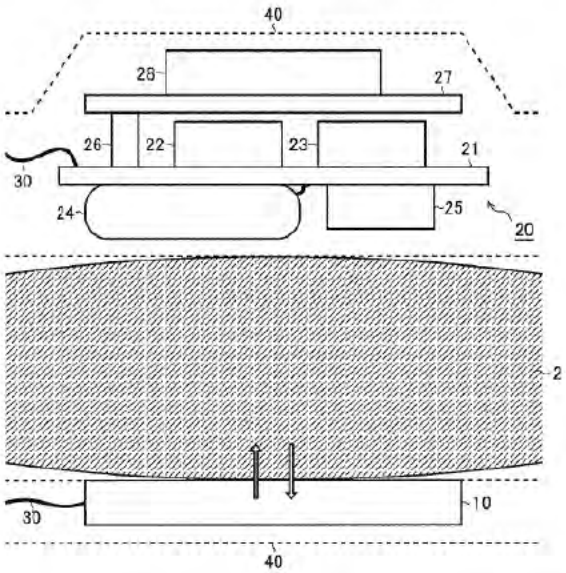
[redacted]

be particularly useful in the event [one of skill] desired to reduce Niwa's protrusion to make the ring more wearable." *Id.* at 55.

Respondents rely on the testimony of Mr. Alarcon to the effect that one of skill would have wanted a battery to fit the "size and shape" of Niwa's ring, and "would have been motivated to find a curved battery to fit within that shape." Alarcon Tr. at 1007:2–8. Niwa, however, teaches away from incorporating components in the curved portion of the ring, explaining that by using both sides of the first substrate 21 efficiently, "the area of the first substrate 21 can be reduced. Therefore, the largeness of the second unit 20 can be restrained not to protrude from the third joint of the finger 2. Furthermore, a consciousness of the examinee for wearing the plethysmogram sensor 1 can be reduced." Niwa at [0214].

Fig. 28 of Niwa shows this stacking of the components to reduce the protrusion of the area of the first substrate 21 in the lateral direction – i.e., Niwa teaches reducing the lateral area taken up by the first substrate and the battery by stacking components, as shown below:



Niwa at Fig. 28. Respondents argue that one could "fit more battery" if you "continue along the arc," Resp. Br. at 62, *quoting* Alarcon Tr. at 1007:10–16, but this would require increasing the area

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[redacted]

of the first substrate 21, which would directly contradict Niwa's disclosure that the area of the first substrate 21 should be reduced to reduce the consciousness of the wearer of the device. *See* Niwa at [0214]. In addition, Niwa discloses a flat battery: "according to this construction, the battery 24 [is] formed as highly flat" and "is located right above the finger 2" to enhance the affinity of the sensor. Niwa at [217].

I agree with Oura that respondents' obviousness argument is directly contrary to Niwa's teachings of "a highly flat battery" and a stacked configuration. Oura Reply at 25–26. Respondents provide no reason why one of skill would ignore Niwa's teachings and modify it to include a curved battery and non-stacked components. Niwa itself, therefore, provides strong evidence against a conclusion that it would have been obvious to replace its flat and stacked configuration with a curved battery. *Philip Morris Products S.A. v. Int'l Trade Comm'n*, 63 F.4th 1328, 1347 (Fed. Cir. 2023). One of skill would understand why a flat and stacked configuration was superior such that there would be no need for or benefit from a curved battery. Rosing Tr. at 1203:16–18 ("For the same volume, the flat battery generally will have a better energy density than the curved battery") and 1212:3–17 ("Niwa specifically wants battery to be highly flat. And that he very specifically locates it right above the finger and that he also specifically places two very flat substrates right on top of the finger. So he says he does this because it enhances affinity of the sensor and reduces consciousness of the examinee for wearing the ring. In addition, this highly flat battery has a better capacity. . . So there is no real reason for Niwa to want to modify this flat battery. He has from his perspective solved the problem that he was after.").

Respondents argue that the inventors considered GMBPow's battery, and looked to non-ring devices, such as the Nike+ FuelBand (Henderson), in searching for "the battery manufacturer for their Motiv ring, which practices the '178 patent." Resp. Br. at 62–63. Yet both inventors

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[redacted]

testified that the GMBPow battery was inappropriate for the Motiv device. *See* Strasser Tr. at 598:13–17 ("Q. So would the battery shown [in the GMBPow document] work as is in your ring? A. No. There is going to still be some modifications based on size. These were just slightly -- these were very similar, but just slightly too wide for us") and von Badinski Tr. at 192:13–25 ("So this wouldn't have been an option for us."). Respondents also cite to the '178 patent itself as disclosing that "any type of battery" could be used, including a "a circular formed lithium polymer or lithium ion battery." Resp. Br. at 63, *quoting* '178 patent at 15:12–21. Respondents' reliance on the disclosure of the '178 patent itself and the testimony of the inventors is misplaced because it risks "allowing the challenger to use the challenged patent as a roadmap to reconstruct the claimed invention using disparate elements from the prior art—i.e., the impermissible *ex post* reasoning and hindsight bias that *KSR* warned against." *TQ Delta, LLC v. Cisco Sys., Inc.*, 942 F.3d 1352, 1361 (Fed. Cir. 2019).

The evidence does not support that one of skill would have modified Niwa to include a curved battery within its curved ring structure. Nonetheless, each of the "battery art" references is considered below.

i. GMBPow

Respondents contend that Niwa discloses the device of claim 1, and that one of skill would have modified Niwa to include GMBPow's curved battery, rendering claim 12 obvious. Resp. Br. at 57–60. Oura disagrees. Oura Reply at 28–29.

Respondents first argue that one of skill in the art would consider GMBPow as it satisfies the dimensions for a ring, as disclosed in the'178 patent. Resp. Br. at 57–58. The GMBPow document includes the following text and figures regarding its typical applications:

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[redacted]

RX-0030.1. As shown above, GMBPow advertised its batteries for use with "i-watches, sports bracelets, and wrist straps." *Id.* Such devices, designed for wrist-worn accessories, are larger in size, and accommodate larger batteries relative to finger-worn ring devices. Dr. Rosing provided credible testimony that one of skill would not have used GMBPow's batteries in Niwa because "they effectively are the size of two Cheerios stacked on top of each other, which is plenty big when you consider having to try to put it inside of a ring." Rosing Tr. at 1215:12–18.

Respondents argue that the GMBPow battery falls within the parameters in the specification because its arc length is 30 millimeters, while the patent specification discloses a 24 mm diameter (corresponding to a 75 mm circumference). Resp. Br. at 57–58. However, GMBPow discloses a 10 mm width, RX-0030.1, while the '178 patent discloses an overall width in a range of 3–8 mm. '178 patent at 17:16–18. Respondents argue that such a width would be within the range of what one of skill in the art would deem acceptable, relying on the testimony of Mr. Alarcon, who testified that "the [] battery would fit. . . . And maybe [10 mm is] a little more than what's disclosed [in the '178 patent], but that's a matter of a capital equipment investment to make a custom battery that has [] the size that you want." Alarcon Tr. at 1006:8–14. But respondents' argument is that it would have been obvious to use the curved battery of GMBPow in Niwa, not that it would be obvious to modify what is disclosed in GMBPow and then incorporate

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[redacted]

it into Niwa. In addition, Respondents provide no evidence supporting how GMBPow would be modified or what "capital equipment investment" would be required to use it in Niwa.

Respondents argue that *Tyco Healthcare Group v. Mutual Pharmaceutical* supports that "[a]ny minor deviation from those unclaimed dimensions cannot save the claims from obviousness." Resp. Br. at 58, *citing* 642 F.3d 1370, 1373–74 (Fed. Cir. 2011). Respondents argue that in *Tyco*, the Federal Circuit "affirm[ed] summary judgment that [a] patent to a drug composition was obvious where the only difference in the claimed invention and the prior art was dosage amount, the prior art disclosing a 15mg dosage and the claimed invention claiming dosages of 6mg to 8mg." *Id.* Respondents, however, misstate the facts. In *Tyco*, a prior art reference disclosed a range of 5–15 mg and the claimed dosage of 7.5 mg fell within that range. The Federal Circuit stated that "'where there is a range disclosed in the prior art, and the claimed invention falls within that range, there is a presumption of obviousness.'" *Id.* at 1372–73, *quoting Iron Grip Barbell Co. v. USA Sports, Inc.,* 392 F.3d 1317, 1322 (Fed. Cir. 2004). The Federal Circuit affirmed the district court's conclusion of obviousness because the patent owner did not show a teaching away or unexpected results. *Id.* at 1373–74.

Because claim 12 does not recite any specific size requirements, respondents' arguments on *Tyco* are beside the point. Rather, as respondents also acknowledge, the '178 patent discloses a width for the entire ring, "in the range of 'approximately 3 mm to 8 mm,'" narrower than the GMBPow width of 10 mm. *Id.* at 59, *citing* '178 patent at 17:9–18. Respondents argue that this "would be well-within the range of what [one of ordinary skill in the art] would consider acceptable," Resp. Br. at 59, but this is belied by the testimony of the inventor, Mr. Strasser, who testified that the GMBPow battery was "just slightly too wide for us," Strasser Tr. at 598:15–17, as well as the testimony of the inventor Mr. von Badinski, who testified that "this [] would mean

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[redacted]

our ring [] would have been 12 millimeters wide. . . . [T]hat becomes really unwieldy for people with really small hands. So this wouldn't have been an option for us." von Badinski Tr. at 192:13–25.

In disclosing batteries with a range in capacity of 25–43 mAh, Respondents also argue that GMBPow would have provided adequate power for the claimed wearable ring device. Resp. Br. at 59–60 and RX-0030.1–2. Dr. Rosing credibly testified, however, that GMBPow's batteries were unsuitable for use in a finger-worn ring device because "you can pull out of [GMBPow's] battery only 5 milliamps," which would not be sufficient. Rosing Tr. at 1215:19–1216:7. Respondents argue, without citation, that "[Dr.] Rosing also misunderstands GMBPow, highlighting her lack of experience designing or implementing batteries for wearable consumer devices," Resp. Br. at 59, but do not otherwise refute her argument regarding how one of skill would interpret GMBPow's disclosure in view of the disclosed discharge current.

The evidence does not support that one of skill would have been motivated to modify Niwa as proposed by respondents. As a result, and accounting for the objective indicia discussed below, respondents have not shown by clear and convincing evidence that the combination of Niwa and GMBPow renders claim 12 obvious.

ii. Henderson

Respondents contend that one of skill would have been motivated to modify Niwa to include Henderson's curved battery, rendering claim 12 obvious. Resp. Br. at 60–61. Oura disagrees. Oura Reply at 27–28.

Henderson discloses a wrist-wearable device for monitoring athletic activity. CX-1139 at [0055] ("As further shown in FIGS. 2-6, the wearable device assembly 10 is annular or generally circular in shape and, in this illustrative example, is configured for wearing around a user's wrist."). Henderson shows a person wearing assembly 10 in Fig. 1:

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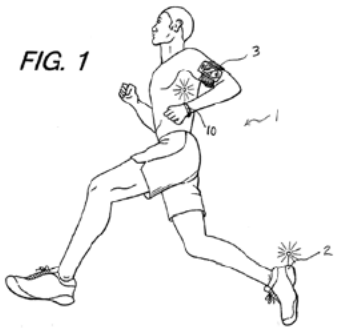
[redacted]



Henderson at Fig 1.

Respondents argue that one of skill would have considered all types of wearables, and that size "cannot be used to distinguish the art." Resp. Br. at 60. Yet Dr. Rosing provided credible testimony that one of skill would not have looked to the wrist-worn device of Henderson for curved batteries to modify Niwa's finger ring. *See* Rosing Tr. at 1214:6–24. As Dr. Rosing testified, "I don't see any reason why [one of skill] at that time could expect to shrink this larger-size wristband with two batteries into a finger form factor." *Id.* at 1214:12–17, *referring to* Fig. 6 of Henderson, which depicts two batteries 142 disposed within device 10.

Respondents argue that the testimony of the inventor, Mr. Strasser, demonstrates that one of skill would have looked to Henderson. Resp. Br. at 60–61, *citing* Strasser Tr. at 590:12–591:4. It does not. Mr. Strasser testified that considering wrist devices, the size of the battery would need to change and capacity would be lost. This would require finding someone to modify the battery. *Id*. The most Mr. Strasser said was that "overall the concept of how you form a ring – a battery into a curved shape was established." *Id*. at 590:24–591:2. The "concept" of having a curved shape in Henderson does not support modifying Niwa particularly when that modification would contradict Niwa's teachings of a "highly flat" battery. *See* Niwa at [0214]. In any event, respondents' reliance on Mr. Strasser's testimony is misplaced: "The inventor's own path itself never leads to a conclusion of obviousness; that is hindsight. What matters is the path that the person of ordinary skill in the art would have followed, as evidenced by the pertinent prior art."

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[redacted]

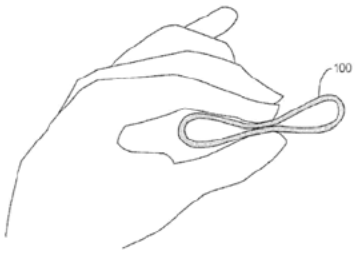
Otsuka Pharm. Co., Ltd. v. Sandoz, Inc., 678 F.3d 1280, 1296 (Fed. Cir. 2012); and *see* 35 U.S.C. § 103(a) ("Patentability shall not be negatived by the manner in which the invention was made.").

The evidence thus does not support that one of skill would have been motivated to modify Niwa based on Henderson. As a result, and accounting for the objective indicia discussed below, respondents have not shown by clear and convincing evidence that the combination of Niwa and Henderson renders claim 12 obvious.

iii. Webster

Respondents contend that one of skill would have been motivated to modify Niwa to include Webster's curved battery, rendering claim 12 obvious. Resp. Br. at 61. Oura disagrees. Oura Reply at 30.

Webster is directed to "an elastic vaginal ring temperature sensing device that can comprise an elastic ring structure and incorporated wireless transmitting arrangement." Webster at 1:41–43. Webster's device includes a transmitter assembly that may include components such as a temperature transducer and a radio transmitter, along with a battery to provide power to those components. *Id.* at 3:50–66. Webster depicts a human hand compressing its elastic vaginal ring 100 between a thumb and forefinger:



Webster at Fig 5. While respondents concede that Webster is not finger-worn, they contend that its battery would still be within the category of products considered by one of skill. Resp. Br. at 61, *citing* Alarcon Tr. at 1009:18–1010:7. Respondents rely on Mr. Alarcon's testimony that

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[redacted]

Webster would have been considered because it "is just another example in this broad category of devices that take biological data, they are wearable, there are batteries." Alarcon Tr. at 1010:3–6. Mr. Alarcon testified that it did not matter that Webster is a vaginal device and that it has "[a] lot of similarities" to a ring worn on a finger. *Id.* at 1009:18–1010:7. Webster states that its "elastic ring structure can be forced into a spring loaded state when elastically deformed thus becoming retained when disposed in a vaginal vault." Henderson at Abstract. The evidence does not support that there are "a lot of similarities" between a finger-worn device and one "disposed in a vaginal vault" and I find Mr. Alarcon's testimony on this point not credible.

Respondents' argument is further undercut by Dr. Rosing's credible testimony that one of skill would not have modified Niwa's ring to incorporate Webster's batteries because Webster is directed to a flexible vaginal ring that is up to four inches in diameter. Rosing Tr. at 1215:2–10; *see also* Webster at 3:35–38 ("In one embodiment, the flexible circuit board arrangement 102 can be approximately six inches long and 0.2 inches wide adapted to be accommodated by a two inch diameter vaginal ring 100.").

In addition, Mr. Alarcon relies on the same reasoning as the motivation to combine with respect to all of "the battery art." *See id.* at 1008:21–22. This reasoning boils down to that it would have been obvious to include a curved battery in a wearable ring because the ring itself is curved. *See id.* at 1007:2–16. Mr. Alarcon's testimony does not explain why one of skill "would have combined elements from specific references *in the way the claimed invention does*." *ActiveVideo Networks, Inc. v. Verizon Commc'ns, Inc.*, 694 F.3d 1312, 1328 (Fed. Cir. 2012) (emphasis in original), *citing KSR*, 550 U.S. at 418. As explained above, Niwa expressly discloses the advantages of a stacked arrangement in which the "highly flat" battery is disposed above the finger and disparages extending the area of the battery in the lateral direction. *See* Niwa at [0217]

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[redacted]

("[When] the battery 24 formed as highly flat is located right above the finger 2, . . . the consciousness of the examinee for wearing the plethysmogram sensor 1 can be reduced.").

The evidence does not support that one of skill would have been motivated to modify Niwa based on Webster. As a result, and accounting for the objective indicia discussed below, respondents have not shown by clear and convincing evidence that the combination of Niwa and Webster renders claim 12 obvious.

2. Niwa in View of Schröder

Respondents contend that the combination of Niwa and U.S. Patent No. 10,303,867, issued to Schröder, RX-0018, renders obvious asserted claims 1, 2, 13, and 14. Resp. Br. at 47–55. Oura disputes that this, Oura Reply at 17–25, as does the Staff, Staff Br. at 55–56.

a. Overview of Schröder

The evidence supports that Schröder, which issued on May 28, 2019, from a priority application filed July 25, 2013, is prior art to the '178 patent under 35 U.S.C. § 102(a)(2). Resp. Br. at 11.

Schröder is titled "External Secure Unit" and discloses a finger-ring used as an external unit. The ring stores security-related data for executing applications, such as Facebook, Twitter, or banking services, on a smartphone. Schröder at 3:57–4:22. The ring includes a processor and an antenna for communication with the smartphone. *Id.* at 4:7–10. Schröder discloses integrating an antenna coil 8 and a chip module 10 into its finger-ring and further discloses configuring the antenna coil 8 in several different ways to improve its coupling. *Id.* at 5:12–6:30. In one embodiment, a power supply may be "effected as usual via an electromagnetic field of a reader," 6:36–38, while in another embodiment, "the external secure unit has an energy storage device, e.g. an accumulator or a battery," *id.* at 11:46–48.

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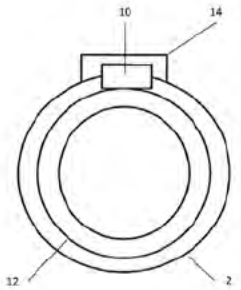
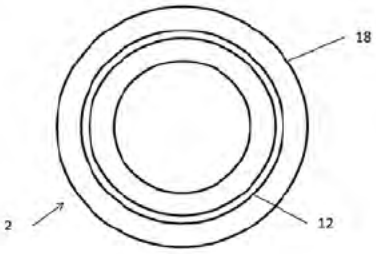
Two embodiments are shown, one in Fig. 3 with a replaceable chip module 10 on top of the ring, and another in Fig. 4 with an inlay 12 in the ring structure, as shown below:

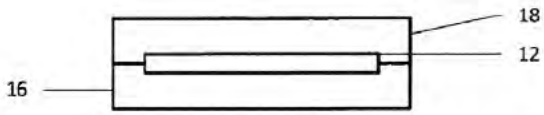


Schröder, Fig. 3



Schröder, Fig. 4

In Schröder's Fig. 4 embodiment, the finger-ring 2 includes halves 16 and 18 joined with inlay 12 interposed between them, such that the two halves 16 and 18 have respective recesses to accommodate inlay 12, as shown below:



Id. at 12:4–10 and Fig. 7. An antenna coil 8 and a chip module 1 are located on the carrier material of inlay 12. *Id.* at 12:30–42.

b. Motivation to Combine Niwa and Schröder

Respondents argue that one of skill would have been motivated to combine Niwa and Schröder because they are analogous art that "teach similar improvements over similar ring devices (e.g., biometric sensing) with similar components and technology." Resp. Br. at 53. In particular, respondents contend that Schröder's ring includes external and internal housing components, with an inlay therebetween, and that one of skill would have been motivated to combine Niwa and Schröder because both disclose "finger-worn devices for sensing, detecting user activity and/or physiologic parameters." *Id.*, *quoting* Alarcon Tr. at 998:7–11.

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[redacted]

Oura argues that one of skill would not have been motivated to combine Niwa and Schröder because Niwa is directed to a health monitoring device, while Schröder discloses an RFID security device. Oura Reply at 17–18. According to Oura, Niwa seeks to improve the accuracy of a plethysmogram sensor, while Schröder's focus is an improved antenna. *See id.* The Staff agrees with Oura that respondents have not demonstrated that one of skill would have combined Niwa and Schröder. Staff Br. at 56.

While Niwa and Schröder are both directed to ring-based devices, respondents have not shown by clear and convincing evidence that one of ordinary skill in the art would combine them to arrive at the invention of claim 1. *PharmaStem Therapeutics*, 491 F.3d at 1360 (an obviousness defense requires "clear and convincing evidence that a person of ordinary skill in the art would have had reason to attempt to make the composition or device, or carry out the claimed process"). First, Schröder's design, while disclosing separate housing components, only contemplates the inclusion of an inlay between them. Schröder at 8:54–57 (regarding Fig. 3), 12:4–9 (regarding Fig. 4). Dr. Rosing credibly testified that one of skill would understand that the thickness of Schröder's inlay is on the order of 100 microns. Rosing Tr. at 1218:18–25. This stands in stark contrast to the battery in Niwa's sensor, which is between two and five mm, or at least 20 times the thickness of the inlay. *See* Niwa at [0201]. Respondents provide no logical reason why one of skill would modify Niwa's ring to accommodate Schröder's 100-micron inlay, when Niwa's components take up a much larger volume.

Respondents' proposed combination also fails to address fundamental design differences between Niwa and Schröder. Niwa is directed to a ring in which a flat battery 20 is disposed above the user's finger and a sensor 10 is disposed below, as shown below:

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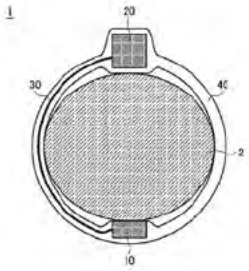
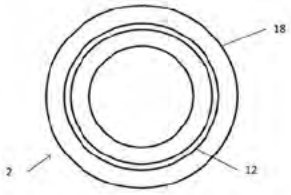
[redacted]



Niwa, Fig. 22



Schröder, Fig. 4

Respondents propose combining asymmetric Niwa with the symmetric embodiment of Schröder's Fig. 4, despite Niwa's express teachings that run counter to the proposed modifications. In particular, Niwa teaches both a flat battery and stacking the components in the second unit 20 to reduce the area of the substrate in the second unit 20 so as not to protrude from the third joint of the finger. *See* Niwa at [0217] and [0219]. Respondents' proposed combination both replaces Niwa's flat battery with a curved battery and eliminates its stacking solution. Alarcon Tr. at 1001:14–1003:3. This would also eliminate the asymmetry that Niwa teaches may be useful in maintaining the proper orientation of the sensor on the finger. *See* Niwa at [0203]. Respondents have not explained why one of skill would modify Niwa as they propose. Their obviousness challenge fails for this reason.

c. Elements 1[a], 1[b-i], and 1[b-ii]

Elements 1[a], 1[b-i], and 1[b-ii] recite an "external housing component" and an "internal housing component" and that "the internal housing component coupled with the external housing component." The internal and external housing component terms were construed as having their plain and ordinary meaning, which is "an [internal/external] structure that encloses space and which does not necessarily exclude potting material." Order No. 17 at 14. "Coupled with" was construed as having its plain and ordinary meaning, which is "connected with." *Id.* at 5.

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[redacted]

Respondents contend the combination of Niwa and Schröder renders these limitations obvious. Resp. Br. at 47–49. Oura disputes this. Oura Reply at 23–24. The Staff agrees with Oura. Staff Br. at 55–56.

Respondents contend that one of skill would modify Niwa's housing to have separate internal and external components that are coupled and include the inlay of Schröder, such that Niwa's components would be configured within the inlay. Resp. Br. at 47–49. Yet respondents fail to address Niwa's express disclosures that disparage modifying Niwa's device. In particular, Niwa discloses that the area of the first and second substrates in the second unit 20 should be minimized to reduce the consciousness of the user. *See* Niwa at [0214] and [0219]. Niwa further discloses the benefits of having a thicker second unit relative to the first unit to allow the user to more easily orient the device. *See id.* at [0203]. Respondents' proposed modifications extend the area of the battery, increase the area of the substrate (i.e. the PCB) – by eliminating Niwa's stacked arrangement, and reduce asymmetry between the thickness of the first and second sensors, all of which Niwa endorses.

While respondents contend that "Schröder simply teaches how to build a ring housing," Resp. Br. at 54, their proposed combination requires far more modification. *Id.* at 47–55. Even if one of skill was motivated to combine Niwa and Schröder to "build a ring housing," respondents have not shown that the proposed combination renders claim 1 obvious because Niwa teaches a first unit on the ball of the finger and a much thicker second unit above the finger. *See* Niwa at [0202–03], [0219]. Schröder's solution, in which the overall thickness of the ring is slightly and uniformly increased to accommodate an inlay, directly contradicts the teachings of Niwa.

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[redacted]

The evidence does not support that one of skill would combine Niwa and Schröder in the way proposed by respondents or that the combination renders obvious elements 1[a], 1[b-i], and 1[b-ii].

d. Elements 1[c-i] and 1[c-ii]

Element 1[c-i] recites "a battery positioned within a cavity formed between the internal housing component and the external housing component," and element 1[c-ii] recites "wherein the battery comprises a shape and size configured to fit within the cavity between the outer circumferential surface of the external housing component and the inner circumferential surface of the internal housing component." Respondents contend the combination of Niwa and Schröder renders these elements obvious. Resp. Br. at 49–52. Oura disputes this. Oura Reply at 23–24. The Staff agrees with Oura. Staff Br. at 55–56.

Respondents argue that Schröder "shows a cavity formed by the internal and external housing components, in which the battery would reside." Resp. Br. at 49, *citing* Alarcon Tr. at 1000:8–15, RDX-0001C-104; and Schröder at Fig. 4. Schröder, however, does not in fact disclose that the battery would be in the cavity of Fig. 4. Schröder discusses the possibility of a battery (although it does not show it) when addressing Fig. 3 but not when addressing the embodiment shown in Fig. 4. Schröder at 11:46–67. In Fig. 3, the chip module 10 is disposed above and outside of the inlay 12. While Schröder explains that the battery is "connected to the chip module 10" and that it may be used "to increase the range of the antenna coil 8" or "to operate alternative communication channels" and "electronic components," there is no disclosure in Schröder that the battery is disposed in the inlay embodiment of Fig. 4. While respondents contend that "Schröder also discloses that the battery can reside within the curved recess shown in Figures 4-10 and would be connected to the chip module 10 that resides within the recess between components 16 and 18," Resp. Br. at 50 (emphasis removed), *citing* Alarcon Tr. at 1000:7–1001:11, there is, simply, no

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[redacted]

such disclosure in Schröder. Read in context, the evidence supports that one of skill would understand that Schröder's battery would be placed adjacent to the chip module 10 of Fig. 3. *See* Rosing Tr. at 1224:11–1225:23. For instance, one of the disclosed purposes of the battery is to provide power for "wireless LAN." Schröder at 11: 55–57. As Dr. Rosing testified, "Wireless LAN consumes between 100 to 500 milliamps," which requires roughly 20 times the capacity of the GMBPow battery. Rosing Tr. at 1224:19–25. The evidence supports that one of skill would understand that Schröder's battery, capable of powering wireless LAN and thus requiring 20 times more power than a battery such as that shown in GMBPow, would be placed adjacent to the chip module 10 in Fig. 3 of Schröder and not within the inlay of Fig. 4. *Id*.

Respondents rely on the testimony of Mr. Alarcon, who testified that, based on Schröder's description of the inlay, one of skill would understand that "there is a cavity formed all the way around by the internal housing component and the external housing component, and that is where, within the annular cavity, that is where the PCB would reside, as well as the battery to power the electrical components mounted to the printed circuit board." Alarcon Tr. at 1000:10–15. Mr. Alarcon further testified that this also discloses a "curved battery" so "they could get more capacity than if they had just used a flat battery," and that this curved battery would be located in the cavity "where the inlay resides." *Id.* at 1000:18–1001:11. Mr. Alarcon's testimony that "they could get more capacity than if they had just used a flat battery," conflicts with Dr. Rosing's credible testimony that "[b]atteries that are flat actually have higher energy density than batteries that are curved." Rosing Tr. at 1201:20–24.

More problematically, Mr. Alarcon's testimony was improperly guided by hindsight. *See Apple Inc. v. MPH Technologies Oy*, 28 F.4th 254, 262–63 (Fed. Cir. 2022). Mr. Alarcon testified that one of skill would understand that the battery would be disposed in the inlay of Schröder's

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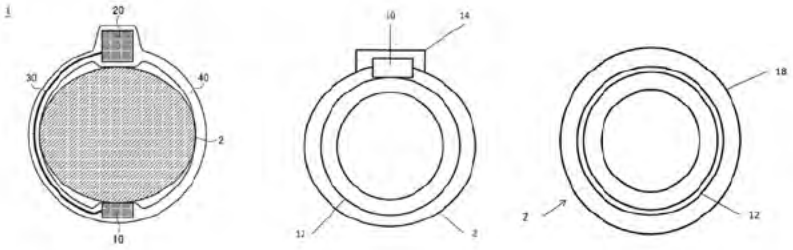
[redacted]

Fig. 4 because, "where else is it going to be?" Alarcon Tr. at 1090:9–13. This reasoning, however, is belied by Schröder itself, which only addresses a battery with respect to Fig. 3. Schröder at 11:45–67 (discussing battery in reference to embodiment of Fig. 3, where chip module 10 is disposed above the finger rather than on the inlay). That embodiment includes a compartment disposed on top of the ring, similar to the embodiment of Niwa's Fig. 22, as shown below. Schröder's Fig. 4, below to the right, does not:



Niwa, Fig. 22 Schröder, Fig. 3 Schröder, Fig. 4.

Respondents contend that one of skill would modify Niwa with Schröder's Fig. 4 embodiment, but do not explain why they would look to this embodiment instead that in Fig. 3, which more closely resembles Niwa. In addition, the evidence supports that a battery is not required in Schröder's Fig. 4. Dr. Rosing credibly testified that NFC and RFID (the focus of Schröder) "can operate in a passive manner, meaning that you don't need a battery." Rosing Tr. at 1217:7–1218:1.

In addition, respondents do not explain why one of skill would modify Niwa in express contravention of its teachings. In particular, Niwa discloses the importance of a flat battery, and stacking the electronic components above the finger to reduce the consciousness of the user. Niwa at [0217]. Schröder discloses an embodiment (Fig. 3) that aligns with Niwa's express teachings, allowing for a flat battery and stacked components, yet respondents combine Niwa with an embodiment of Schröder lacking a suitable place for a flat battery, or a stacking structure.

Patent Owner Oura Ex. 2019, 0031

[redacted]

The evidence does not support that one of skill would combine Niwa and Schröder in the way proposed by respondents or that the combination renders obvious elements 1[c-i] and 1[c-ii].

e. Conclusion

Accounting for the objective indicia discussed below, respondents have not shown by clear and convincing evidence that the combination of Niwa and Schröder renders obvious claim 1 or dependent claims 2, 13, and 14.

D. Objective Indicia of Non-obviousness

Oura contends that the commercial success of the Oura Ring Gen. 3 and Gen. 4, along with copying, industry praise, failure of others, and long-felt but unmet need, are objective indicia supporting the non-obviousness of the asserted claims. Oura Reply at 31–45. The Staff agrees that these objective indicia weigh against a finding of obviousness. Staff Br. at 58–61. This is disputed by respondents. Resp. Br. at 64–70.

"Objective indicia of non-obviousness must be considered in every case where present." *Apple Inc. v. Samsung Elecs. Co.*, 839 F.3d 1034, 1048 (Fed. Cir. 2016). Evidence of such indicia "may often be the most probative and cogent evidence in the record," *id.* at 1052, *quoting Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1538 (Fed. Cir. 1983), and "guard against slipping into use of hindsight." *Id.*, *quoting Graham v. John Deere Co.*, 383 U.S. 1, 36 (1966). Such evidence can include "commercial success enjoyed by devices practicing the patented invention, industry praise for the patented invention, copying by others, and the existence of a long-felt but unsatisfied need for the invention." *Id.*

I considered and weighed the objective indicia of non-obviousness before reaching all conclusions in the above obviousness analysis, and I discuss these objective indicia below. *Apple Inc. v. Samsung*, 839 F.3d at 1038. If Oura had submitted no evidence of objective indicia, I would still find that the asserted claims were not proved obvious.

Patent Owner Oura Ex. 2019, 0032

[redacted]

1. Nexus

To accord substantial weight to secondary considerations, the evidence must have a nexus to the claims. That is, there must be a legally and factually sufficient connection between the evidence and the patented invention. The patentee bears the burden of showing that a nexus exists. *Fox Factory, Inc. v. SRAM, LLC*, 944 F.3d 1366, 1373 (Fed. Cir. 2019). "A showing of nexus can be made in two ways: (1) via a presumption of nexus, or (2) via a showing that the evidence [of secondary considerations] is a direct result of the unique characteristics of the claimed invention." *Volvo Penta of the Americas, LLC v. Brunswick Corp.*, 81 F.4th 1202, 1210 (Fed. Cir. 2023).

Oura argues that it is entitled to a presumption of nexus because the products it relies on, its Gen. 3 and Gen. 4, are commercial embodiments and coextensive with the asserted claims. Oura Br. at 31. As detailed above with respect to technical domestic industry, the evidence supports that Gen. 3 and Gen. 4 embody the asserted claims. *See also* Sarrafzadeh Tr. at 1277:17–20.

To overcome the presumption of nexus, respondents must present "evidence that shows the proffered objective evidence was due to extraneous factors other than the patented invention." *WBIP, LLC v. Kohler Co.*, 829 F.3d 1317, 1329 (Fed. Cir. 2016) (cleaned up). "Such extraneous factors include additional unclaimed features and external factors, such as improvements in marketing." *Id.* "[A] patent challenger cannot successfully rebut the presumption with argument alone — it must present evidence." *Id.*

Respondents argue that Oura is not entitled to a presumption of a nexus because "Oura's marketing prowess—not the claimed invention—accounts for any alleged success of the Oura Gen 3 and Gen 4 rings." Resp. Br. at 65. Respondents contend that "Oura spent more than [redacted] than it did [on] research and development of its rings," pointing to a document it contends supports that Oura spent [redacted] on marketing and [redacted] on research and

Patent Owner Oura Ex. 2019, 0033

[redacted]

development and to testimony from Mr. Chapp. As Mr. Chapp testified, however, the specific portion of the document respondents rely on only accounts for certain research and development expenses and does not account, for example, for Oura's expenses in labor for its research and development and technical support. Chapp Tr. at 135:9–137:12; CX-0042C.0006, 15 and 24 and CX-0736 (research and development and technical support labor expenses). The evidence supports that those combined expenses are robust and have been increasing year-on-year. *See* CX-0736.

The evidence supports that Oura's sales and marketing expenses as compared to revenues have decreased significantly from fiscal year 2022 through the second half of fiscal year 2024. Mulhern Tr. at 1266:3–25 and *see* CDX-0007C.7. The evidence supports that this ratio is now [redacted], down from [redacted] in fiscal year 2023 and [redacted] in fiscal year 2022. *Id*. The evidence supports that those percentages are [redacted] of other companies in the fitness tracker and smartwatch industries and with companies having the same standard industrial classification (SIC) code as Oura. Mulhern Tr. at 1269:2–1270:21 and *see* CDX-0007C.7. Respondents have not rebutted the presumption of nexus based on Oura's marketing expenditures.

Respondents also contend that Oura's marketing focus has little to do with the technology claimed in the '178 patent and is directed instead to "mobile app features, not the claimed ring components." Resp. Br. at 66, *citing* RX-0036C.9–10. That document, however, and those pages in particular, focus on the ring itself and identify one of Oura's 2023 goals as solidifying "Oura as the gold standard of the wearable industry, as new competitors emerge." The evidence cited by respondents does not show that Oura's marketing focus was on unpatented features.

As for whether Oura's app is responsible for the success of the product, as respondents contend, the evidence supports that success of Gen. 3 and Gen. 4 is tied to the "unique characteristics of the claimed invention." *See Fox Factory*, 944 F.3d at 1373–74. As Mr. Chapp

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testified, for Oura, "[i]t starts off with the ring" and how to "take something that looks really complex and make it look really simple." Chapp Tr. at 88:2–8 and 89:3–9. This was confirmed by inventor Strasser who stressed the importance of the ring form factor with the technology inside. Strasser Tr. at 573:5–7 and 576:2–12. The evidence supports that "the ring form factor is the foundation of the system that enables the data collection, that then in turn enables the functionality of the device." Mulhern Tr. at 1271:2–15. Thus, while the app may be part of the user's experience with the Gen. 3 and Gen. 4, and may be the focus of some of Oura's marketing efforts, the evidence supports that the driver of the experience is the ring itself.

The Federal Circuit has "never held that the existence of one or more unclaimed features, standing alone, means nexus may not be presumed" because "there is rarely a perfect correspondence between the claimed invention and the product." *Fox Factory*, 944 F.3d at 1374; *Teva Pharms. Int'l GmbH v. Eli Lilly & Co.*, 8 F.4th 1349, 1360–61 (Fed. Cir. 2021) (same). Oura is entitled to a presumption of nexus to the extent that its objective evidence is tied to a specific product that embodies the claimed features, and is coextensive with them. *Volvo Penta*, 81 F.4th at 1210. The evidence supports that Oura is entitled to a presumption of nexus, which respondents have not rebutted.

2. Commercial Success

Oura argues that the Gen. 3 and Gen. 4 have been commercially successful. *See* Oura Reply at 31–36. The Staff agrees that this commercial success indicates non-obviousness. Staff Br. at 59.

Respondents contend that any alleged commercial success of Gen. 3 and Gen. 4 is due to factors unrelated to the '178 patent claims, which they contend is demonstrated by the failure of the Motiv Ring. Resp. Reply at 64–65.

The Motiv Ring was developed by the company that filed the original patent application from which the '178 patent ultimately issued. Chapp Tr. at 111:2–11. Respondents argue that the

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Motiv Ring included an internal housing component, a battery, and a PCB. Resp. Br. at 64, *citing* Alarcon Tr. at 1011:11–1012:24; RX-0035C; and Strasser Tr. at 587:9–588:1. Yet, as Mr. Alarcon admitted, he did not perform a "limitation-by-limitation analysis" of the Motiv Ring. Alarcon Tr. at 1012:13–16. Respondents have therefore not shown that the Motiv Ring practices any asserted claim of the '178 patent, and the commercial success or failure of the Motiv Ring is irrelevant to the obviousness analysis for that reason alone.

But even if respondents had demonstrated that the asserted claims cover the Motiv Ring, the evidence is equivocal as to whether it was a commercial failure. Motiv sold over 80,000 of its rings. von Badinski Tr. at 197:16–198:2. The product was well-received at trade shows, winning an award for innovation at the 2017 Consumer Electronics Show. Strasser Tr. at 621:3–24. While Motiv ultimately failed as a company, many contributing factors, such as product quality control relating to ring coatings, melting chargers, poor customer support, difficulties raising additional venture capital, and internal turmoil, render it unclear that Motiv's ultimate inability to maintain itself as a company can be attributed to commercial failure of the Motiv Ring itself. von Badinski Tr. at 198:3–199:23 and Mulhern Tr. at 1264:3–19.

Respondents further contend that Oura's commercial success derives from marketing, and that this marketing has little to do with the technology claimed in the '178 patent. Resp. Br. at 65–66. But as explained previously, Oura's marketing expenses are [redacted] similar companies and the ratio of marketing expenses to revenues has been steadily decreasing over time. In addition, the evidence supports that revenues from sales of Oura products embodying the claims grew from approximately [redacted] in 2022 to [redacted] in 2023, and then to [redacted] in the first two quarters of 2024. Mulhern Tr. at 1258:7–20; CX-0723C; CX-0581C; CX-0955C, and CX-0958C. As. Ms. Mulhern testified, Oura exhibited a similar growth rate with respect to Oura's

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[redacted]

membership subscribers, increasing from [redacted] in September 2022 to [redacted] in September 2023, and then [redacted] in March 2024. Mulhern Tr. at 1259:4–9; CX-0042C; and CX-0573C.

This factor weighs in favor of a determination of non-obviousness for the asserted claims.

3. Copying

Oura argues that both RingConn and Ultrahuman "bought Oura Ring Gen. 3 products, tore them down, and copied Oura Ring's structural design in their own products." Oura Reply at 36. The Staff agrees that the evidence supports copying. Staff Br. at 59–60.

The question of copying here is a close one. Oura presents evidence that respondents' rings are very similar to its rings and the evidence supports that both RingConn and Ultrahuman had access to Oura's Gen. 3 product and looked at it when designing their rings. Oura Reply at 36–42. I agree with Oura that Mr. Kumar's testimony that Ultrahuman was inspired by the Aina ring is not credible. Oura Reply at 38, *citing* Kumar Tr. at 637:11–639:5. The products look nothing alike. *Compare* CX-0538 *with* CX-0945. I also do not credit Mr. Wang's testimony that he took a hammer to the Oura ring he looked at when designing the RingConn ring and therefore did not learn any useful information. I agree with Oura that it strains credulity, that is, it is not believable, that a sophisticated professional with a doctoral degree would not know of a way of tearing down the Oura Gen. 3 other than to smash it with a hammer. Oura Br. at 40 and Wang Tr. at 1161:17–1163:20. I also do not credit Dr. Wu's testimony that the Oura ring RingConn "took apart" was "destroyed in the process" because I do not credit Mr. Wang's testimony that he smashed it with a hammer. Wu Tr. at 761:11–16. In addition, Dr. Wu's testimony that, based on analysis of the Oura ring, RingConn determined that its wireless charging feature "is not good" is inconsistent with his testimony that the Oura ring was destroyed in the process of looking at it. *Id*. It is not credible that RingConn determined that the Oura wireless charging feature was "not good" if the ring was destroyed by being smashed by a hammer. I also find Mr. Wang's testimony at the

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[redacted]

evidentiary hearing that the "one purpose" of acquiring and looking at the Oura ring was [redacted] lacks credibility. Wang Tr. at 1160:17–1161:1. At deposition, Mr. Wang testified that he took an Oura ring apart [redacted] *Id.* at 1161:2–16. Mr. Wang's explanation that "wireless charging is part of the specifications" is not credible. As detailed previously and for these additional reasons, Mr. Wang was not a credible witness.

While the evidence supports that respondents' accused products are similar to Oura's Gen. 3, and supports that respondents considered Oura's Gen. 3 when designing their products, the evidence does not support that respondents' products are so overwhelmingly similar to Oura's Gen. 3 as to support a finding of copying. Each is shown below:

CX-0702 (Oura Ring Gen. 3)

CX-0538 (Ultrahuman)

CX-0843 (RingConn)

"Not every competing product that arguably falls within the scope of a patent is evidence of copying. Otherwise every infringement suit would automatically confirm the non-obviousness of the patent." *Iron Grip Barbell Co. v. USA Sports, Inc.*, 392 F.3d 1317, 1325 (Fed. Cir. 2004). "Rather, copying requires the replication of a specific product." *Id.* Although it is a close case, the evidence here does not demonstrate replication. Accordingly, this factor does not support non-obviousness.

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[redacted]

4. Industry Praise

Oura argues that industry praise supports non-obviousness of the asserted '178 patent claims. Oura Br. at 42–43. The Staff agrees. Staff Br. at 61.

Respondents contend that certain of the industry praise pre-dates release of the Gen. 3 and should thus not be considered. Resp. Br. at 66. Oura recognizes this and does not rely on evidence of praise of earlier versions of the Oura ring. Oura Reply at 43.

Respondents also contend that some of the praise relates to features not related to the actual ring, such as readiness score, sleep and recovery scores, accurate tracking, and fertility monitoring. Resp. Br. at 66–67. I agree with Oura that those functionalities are possible because of the design of the ring itself. *See* Oura Reply at 43. Moreover, the evidence demonstrates substantial praise for the design of the Oura Gen. 3 itself, which respondents do not address or refute. Resp. Br. at 66–67 and Oura Reply at 42, *citing* CX-0618 (Wearable of the Year describing Oura product as "never [] far from our minds – or our index fingers" and stating that "[m]any smartwatches and tracker brands would be envious of what Oura has achieved, and it's done it in a smaller, more complicated package," and "[t]he Oura Ring 3 is a brilliant wearable in its own right but it could also be responsible for powering the whole smart ring movement"); CX-0629.0010 ("At first glance, the Oura Ring looks just like a regular ring. Dr. Porter, who recommends Oura, says he uses it because it's comfortable to sleep with and convenient."); CX-0612.0022 ("[T]he Oura ring is perhaps the most stylish and subtle wearable we've seen"); and Rosing Tr. 1231:13–1232:6.

The evidence demonstrates industry praise, supporting non-obviousness.

5. Failure of Others

Oura argues that others failed in achieving the results of the asserted '178 patent claims. Oura Reply at 43–44. Oura cites the efforts of Yang and Asada at MIT to achieve a wearable ring device for healthcare monitoring, and argues that neither was able to package the components

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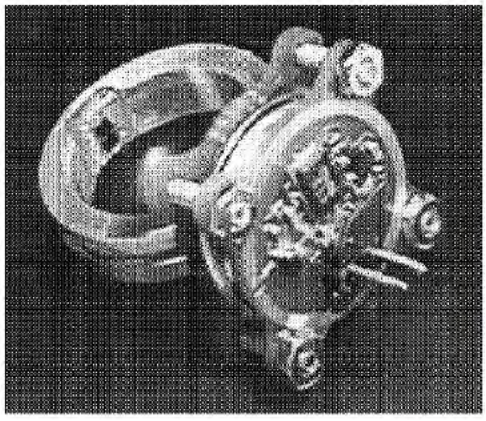
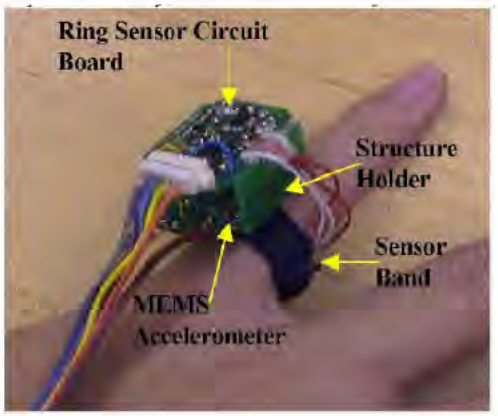
neatly within a ring housing. *See id.*, *citing* CX-1121; CX-1122; CX-1123; CX-1127; and CX-1133.

Respondents argue that Niwa demonstrates that others did not fail in achieving the invention of claim 1 of the '178 patent. Resp. Br. at 70. However, as explained above, Niwa does not anticipate claim 1, at least because Niwa's ring does not include internal and external housing components and Niwa's battery is not configured to fit within the cavity between the outer circumferential surface of the external housing component and the inner circumferential surface of the internal housing component. The Staff agrees with respondents that Oura has not demonstrated failure of others, because Dr. Rosing's testimony pertained to the "size and shape of the prior art," which are "not claimed by the '178 patent." Staff Br. at 60–61.

Dr. Rosing testified that "Asada [] dreams of a ring but what he actually builds is a stacked sandwich of PCB boards with a flat coin cell style battery." Rosing Tr. at 1231:6–12. As shown below, neither Yang nor Asada were able to achieve the subject matter claimed in the '178 patent, such as "wherein the battery comprises a shape and size configured to fit within the cavity between the outer circumferential surface of the external housing component and the inner circumferential surface of the internal housing component."





CX-1121 (Yang); CX-1123 (Asada).

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[redacted]

This factor weighs in favor of a determination of non-obviousness of the asserted claims.

6. Long-Felt But Unmet Need

Oura argues that the asserted '178 patent claims met a long-felt but unmet need for "compact, wearable monitoring systems with continuous monitoring of health conditions and sleep." Oura Reply at 44–45. Dr. Rosing testified that "there was a long-felt but unresolved need for compact wearable monitoring systems, that allowed 24-hour monitoring of health conditions in the form of the ring." Rosing Tr. at 1228:15–19. She also testified that consumers "really wanted to be able to monitor what's going on 24 hours a day without having to be continually aware of it," and that "[a] ring became second nature," such that "you kind of forget that it's on your finger." *Id.* at 1229:20–1230:8.

Respondents argue that Oura has not demonstrated long-felt but unmet need because Dr. Rosing's testimony is directed to unclaimed features such as comfort and health monitoring. Resp. Br. at 69–70. The Staff agrees with respondents. Staff Br. at 60.

The record evidence demonstrates a long-felt but unresolved need for a compact, comfortable ring that could provide continuous health monitoring, and that others failed to provide such a wearable monitoring system. *See, e.g.*, CX-0598.0003 ("I don't always want to wear a watch. . . . However, the [Oura] ring can do its thing without being a bother."); CX-0603.0007 ("[T]he Oura Ring is sleek and compact. . . . It's the most wearable ring of its class, and way less noticeable than any watch could ever be. I've even slept with it on my index finger every night since first getting it, it's really that comfortable."); CX-0599.0003 ("The biggest reason I wear an Oura Ring is for sleep tracking. . . . That's where a smart ring comes in – it's far less intrusive to wear to bed than a smartwatch, and once you get used to it, you pretty much forget it's there.").

This factor weighs in favor of a determination of non-obviousness of the asserted claims.

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This Initial Determination shall become the determination of the Commission unless a party files a petition for review under 19 C.F.R. § 210.43(a) or the Commission on its own motion orders review under 19 C.F.R. § 210.44. 19 C.F.R. § 210.42(d).

XV. ORDER

Within seven days of the date of this document, the parties shall jointly submit a single proposed public version of this document with any proposed redactions prominently identified. If the parties submit excessive redactions, they may be required to provide declarations from individuals with personal knowledge, justifying each proposed redaction and specifically explaining why the information sought to be redacted meets the definition for confidential business information in 19 C.F.R. § 201.6(a). To the extent possible, the proposed redactions should be made electronically in a single PDF file with the proposed redactions submitted as "marked" but not yet "applied." The proposed redactions should be submitted via email to JohnsonHines1398@usitc.gov and not filed on EDIS.

SO ORDERED.

Doris Johnson Hines
Administrative Law Judge

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