

**UNITED STATES INTERNATIONAL TRADE COMMISSION
WASHINGTON, D.C.**

**Before the Honorable Doris Johnson Hines
Administrative Law Judge**

In the Matter of

**CERTAIN SMART WEARABLE
DEVICES, SYSTEMS, AND
COMPONENTS THEREOF**

Investigation No. 337-TA-1398

RESPONDENTS' RESPONSIVE POST-HEARING BRIEF

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PHB	Initial Post-Hearing Brief
IHC	Internal Housing Component
EHC	External Housing Component
Tr.	Hearing Transcript
MSD	Motion for Summary Determination
Pre-Hrg. Br.	Pre-Hearing Brief

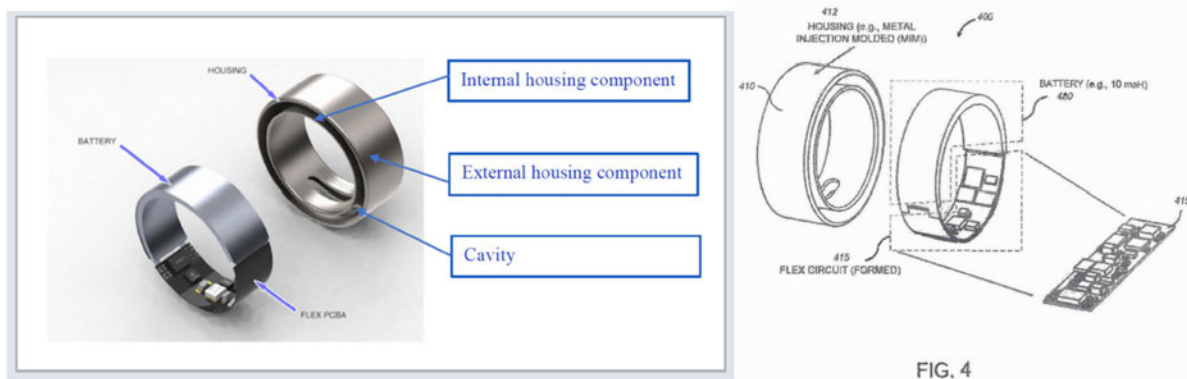
I. INTRODUCTION

What started as a three-patent, 30-claim case is now down to a *single* patent and a *single* independent claim. On the single independent claim that remains, the Staff is of the view that the case presents a “close call” on both infringement and validity. Staff Pre-Hrg. Br. at 26, 74. Respectfully, however, this is not a close call. The Accused Products do not infringe the ’178 Patent, the asserted claims of the ’178 Patent are invalid, and Oura has failed to prove the existence of a domestic industry. Respondents already addressed invalidity in their opening PHB—this Responsive PHB addresses non-infringement and both prongs of DI.

Noninfringement. Respondents’ non-infringement arguments are compelling, and for good reason: the Accused Products are fundamentally different than what is recited by the asserted claims. Indeed, Oura’s infringement theories amount to a classic case of trying to fit a square peg into a round hole. But no matter how hard Oura tries to make the Accused Products fit within the scope of the asserted claims, they are simply unable to do so.

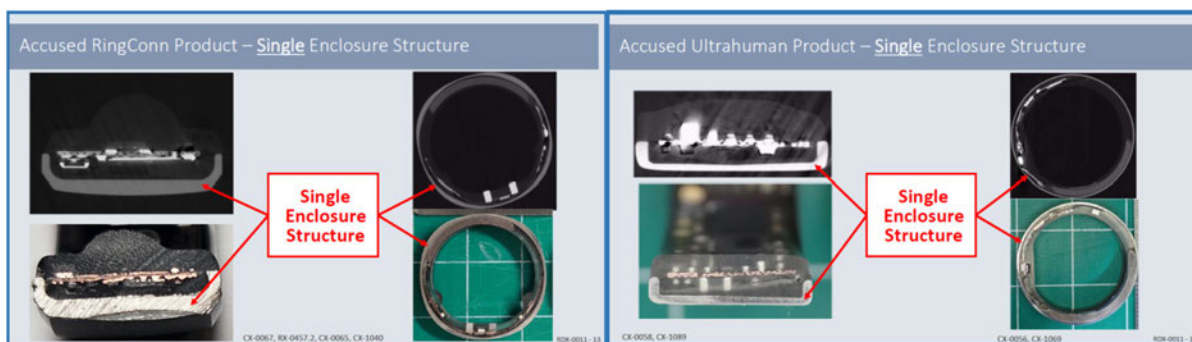
As discussed more fully in Sections II and III below, the ’178 Patent claims double-enclosure/cavity-between embodiments, whereas the Accused Products are single-enclosure/no-cavity-between embodiments. Claim 1 expressly requires: (1) “internal” and “external” “housing components”; (2) a “cavity formed between” the two housing components; and (3) “a battery” that is specifically “configured” to have “a shape and size ... to fit within the cavity.” JX-0001.0090 at 44:46-49. The ALJ construed “internal/external housing component” limitations as “an [internal/external] structure that encloses space and which does not necessarily exclude potting material.” JX-0011.0014. The term “cavity” has been construed to mean a “hollow space.” JX-0011.0005.

An exemplary embodiment of claim 1—Figure 4—as well as the first prototype of Figure 4, are shown below:



RX-0068; JX-0001, Fig. 4. These rings are exactly what claim 1 is directed to: they include internal and external housing components, a cavity formed between those housing components, and a battery that was designed with dimensions to fit within the cavity.

In stark contrast, the Accused Products are single-enclosure/no-cavity-between embodiments. The images below of the Accused Products show their single-enclosure structure.

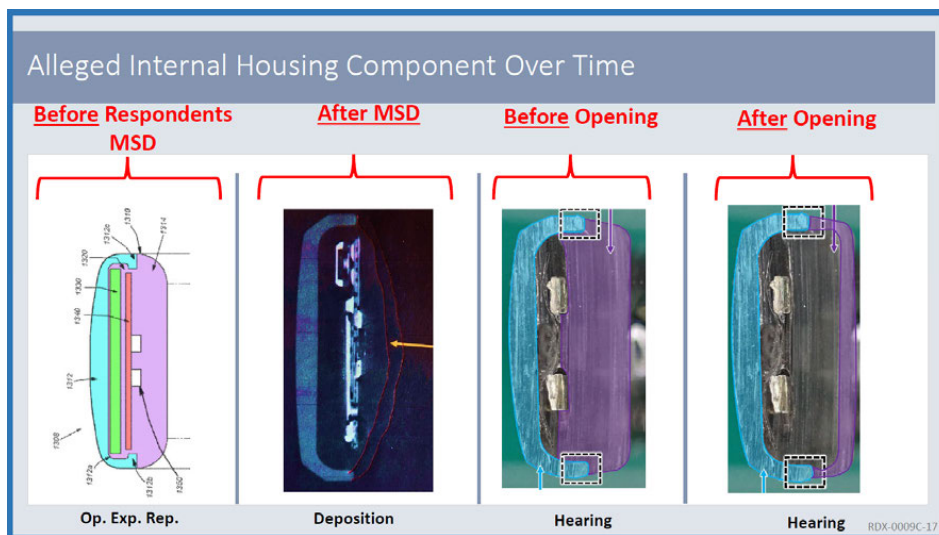


RDX-0011.13-14. These images also show that the Accused Products have no hollow space (i.e., no cavity) formed between two housing components. And because there is no hollow space, it follows that the battery is not “shape[d] and size[d] configured to fit within” one. JX-0001.0090 44:59-60.

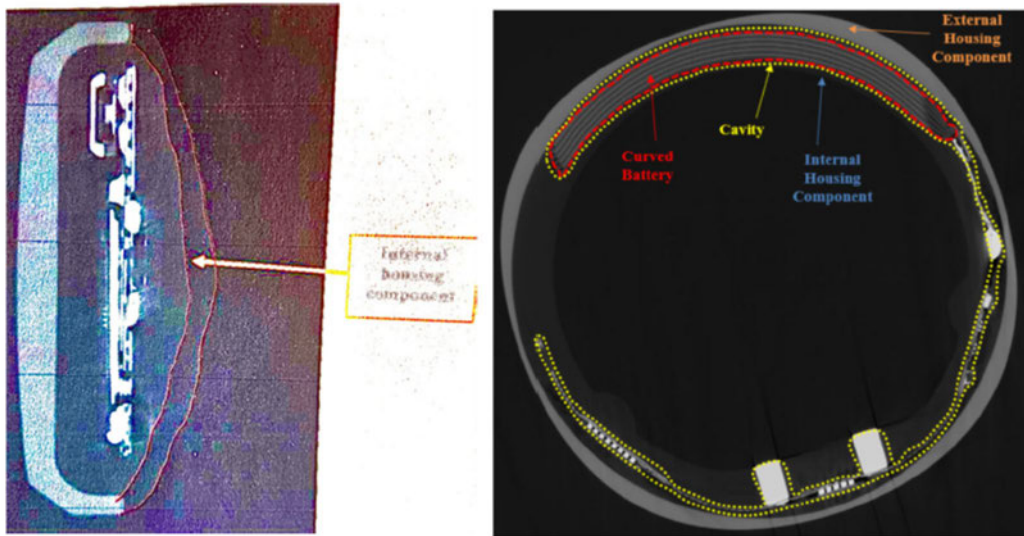
This fundamental divergence between the claims and Accused Products has resulted in a tortured, ever-changing infringement read that ignores the “decisive and binding” words the inventors used to claim their invention. *Bio-Rad Lab’ys, Inc. v. Int’l Trade Com’n*, 998 F.3d 1320, 1331 (Fed. Cir. 2021).

First, Oura has been forced to read several limitations out of the claims. For example, the term cavity has been construed as “a hollow space,” and yet Oura’s expert Dr. Sarrafzadeh explicitly admitted to reading “hollow space” out of the claims. Tr.314:19-21 (“Q. Do you read claim 1 as requiring a hollow space in the finished ring product? A. There is no need for a hollow space.”) Oura likewise ignores the claim limitation requiring that the battery be “positioned within” and designed with a “shape and size ... to fit within” the cavity. JX-0001.0090 44:59-60. The law does not allow Oura and its expert to do this.

Second, Oura has changed its infringement theories multiple times, trying desperately to fit the square peg into the round hole. But none of its theories work. On the “internal housing component” (“IHC”) limitation alone, Oura has changed its position at least four times, including during trial. Dr. Sarrafzadeh admitted that he is the one that annotated each of the images below and at the times so indicated:



images of the alleged IHC (drawn in red in the image on the left below) and the alleged cavity (drawn in yellow in the image on the right below) demonstrate just how far afield Oura has gone from the '178 Patent and its claims:



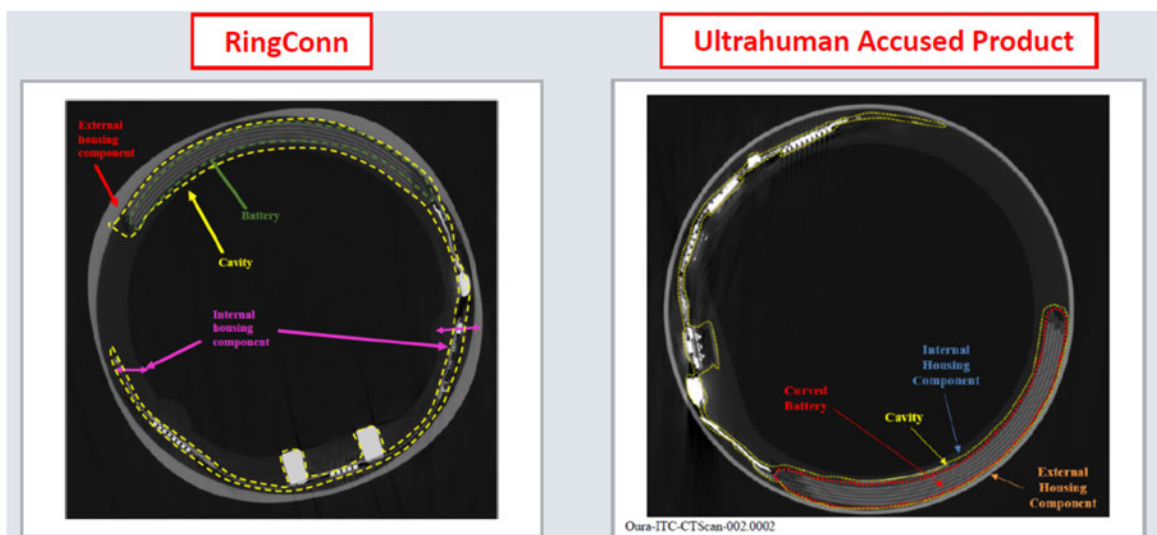
RX-402.102; RX-0401C; RX-0225C.32. The '178 Patent specification does not even suggest, let alone disclose, that an arbitrary portion of potting material (as drawn in red above) can be an IHC or that gerrymandered lines drawn around fully occupied area that can be the claimed “cavity.”

No “cavity.” The term “cavity” has been construed as a hollow space. Order 17 at 5. There is no credible dispute that Respondents’ Accused Products lack a hollow space; the products are completely solid.



RX-0457.2; CX-1089. Indeed, Respondents' corporate witnesses testified at length that Respondents' manufacturing processes are intentionally designed to ensure there is no hollow space. Tr.648-661 (Kumar); Tr. 1157:16-20 (Wang); Tr.745:15-20 (Wu).

Moreover, Sarrafzadeh admitted that his alleged cavity—gerrymandered lines around the PCB and battery—is fully occupied by the battery and PCB and, thus, not hollow. Tr.397:19-23. In fact, both Sarrafzadeh and Oura admitted that the alleged cavity in the Accused Products only comes into existence *after* the battery and PCB are placed and potting material is poured around them, meaning the alleged cavity *never* exists as a hollow space. Tr.405:9-15; Oura Pre-Hrg. Br. at 83. At bottom, Oura's gerrymandered cavity lines—drawn atop CT scans of completely solid rings—bear no resemblance to anything that could reasonably be called a “cavity”:



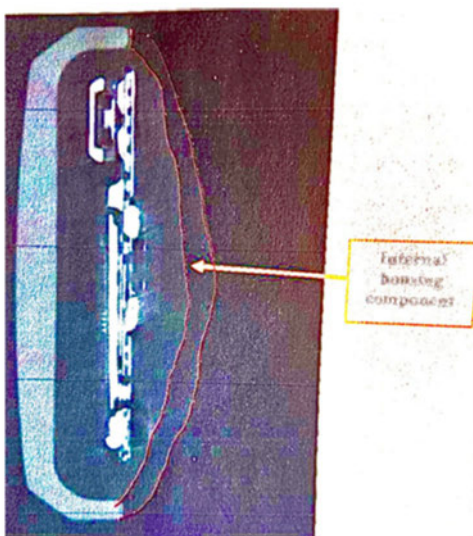
No battery “positioned within...and compris[ing] a shape and size configured to fit within the cavity.” The claims of the '178 Patent require more than just a battery being present in the ring—they require the battery be “positioned within” and have a “shape and size configured to fit within” the cavity.

Oura's imagined cavity, however, cannot satisfy this claim limitation. Oura and Sarrafzadeh both admitted that Oura's alleged cavity only comes into existence *after* the battery

and PCB are placed and potting material is poured around them. Tr.405:9-15; Oura Pre-Hrg. Br. at 83. Logically, then, the battery in the Accused Products cannot be “positioned within” and configured to have “a shape and size ... to fit within” a cavity that does not yet exist. Indeed, Oura gets this limitation backwards—the dimensions of the cavity must be known so that a “configured” battery with an appropriate size and shape can be selected to “fit within” it. The cavity cannot merely be the battery’s final position within the ring once the potting has cured. That would render this limitation a nullity and read out a crux of the invention.

No “internal housing component.” The Accused Products have at most a single housing component, not the two that are required by claim 1. Oura and the Staff allege that potting material is the IHC. Yet they disagree on how this potting is an IHC. Oura points to an arbitrary portion of it as the alleged IHC, and the Staff points to all of it as the alleged IHC. But neither an arbitrary portion nor all of the potting material is an IHC.

The arbitrary portion of potting material that Oura alleges is the IHC in one of the Accused Products is shown below:



RX-402.102; RX-0401C; RX-0225C.32. Sarrafzadeh calls this a “crust.” Nowhere in the specification is there any suggestion, hint or even mention of a *portion* of potting material being a housing *component*.

Furthermore, there is no demarcation marking or indicating where Sarrafzadeh’s arbitrary IHC begins and ends. Thus, there is no principled way to divide the potting into so-called crust and non-crust portions, or to parse the potting into space-enclosing and non-space-enclosing portions.

Moreover, the ALJ’s construction of “housing component” requires a “structure that encloses space,” but the arbitrary portion of potting material that Oura calls the IHC encloses nothing. Indeed, it just abuts more potting material. A finding that any arbitrary layer of a larger, solid structure is a “structure that encloses space” would mean that outer surfaces of any solid objects can be considered a “housing component”—a nonsensical result.

The Staff’s alleged IHC—the entirety of the potting material—fares no better. The potting material in the Accused Products fills and fully occupies all empty space—the opposite of enclosing it, as required by the ALJ’s construction. The specification confirms that potting material that entirely fills space is not a housing component. Figure 13 (shown below), for example, discloses a single housing component 1312 and potting 1314 that entirely fills space 1320.

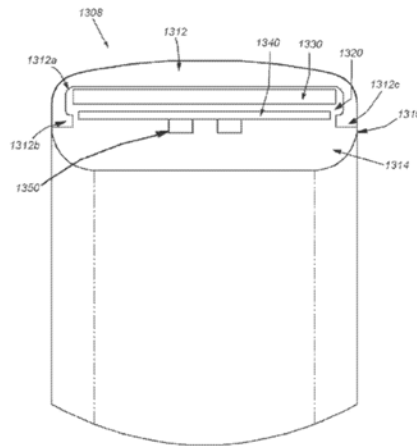


FIG. 13

But the '178 Patent expressly discloses that internal potting does *not* enclose anything, including space **1320**. Rather, the '178 Patent discloses that space **1320** is only “partially enclosed,” and it identifies *solely* the external housing **1312** as forming that partial enclosure: “The external housing ... define[s] a partially enclosed internal space 1320.” JX-0001.77, 19:3-6.

No PCB, battery, or cavity “between” the internal housing component and external housing component. The Asserted '178 Patent claims require that each of the PCB, battery, and cavity be located “between” the IHC and the external housing component (“EHC”). JX-0001, claim 1. If any one of those three components are not between the IHC and EHC, then there can be no infringement. Here, *none* of the PCB, battery, or cavity satisfy the “between” limitations, for example:



RDX-0011.48; RX-0457.2; CX-1089.

In the Staff’s view, *infringement of the three “between” limitations turns entirely on a single issue*: whether the potting material “*entirely*” encapsulates the internal components of the Accused Products, such that the alleged cavities are formed entirely within the internal housing component, as opposed to between the internal and external housing components as required by the claim.” Staff PHB at 27-28 (first emphasis added, second in original). The Staff believes this is “a close call.” *See, e.g.*, Staff’s Pre-Hrg. Br. at 26. It is not. The overwhelming weight of the evidence, however, demonstrates that in each of the Accused Products, the potting material fully encapsulates the PCB, battery, and alleged cavity such that none of the components is between the potting material (i.e., the Staff’s alleged IHC) and anything else.

Respondents brought three witnesses that very clearly and persuasively established that the Accused Products are specifically and intentionally designed to ensure that potting material completely encapsulates the PCB and battery. In addition, a mountain of other evidence, including product teardowns and Sarrafzadeh’s own opinions show that potting material encapsulates the PCB and battery. Inexplicably, however, Staff has ignored all of that factual evidence—including fact testimony from the engineers responsive for the manufacturing processes—in favor of a

snippet of factually inaccurate testimony from Oura's expert to conclude that potting material does not fully surround the PCB and battery. That conclusion is simply not consistent with the evidence.

No cavity between "circumferential" surfaces. Finally, Oura and its expert Dr. Rosing have distinguished prior art on the ground that a cavity between flat surfaces does not satisfy the limitation requiring that it be between circumferential surfaces. If she is correct, then the Accused Products also cannot infringe for yet another reason, as Oura's alleged cavity extends between flat surfaces in the Accused Products. Oura cannot have it a both ways.

* * *

In light of the foregoing, Respondents' Accused Products do not infringe for a multitude of reasons—and it is not even a close call.

Lack of Economic DI. Oura's economic DI case suffers from a fatal flaw. Specifically, the only evidence on which Oura relies to support domestic industry is the total amount that Oura allegedly invested in U.S. R&D and technical support from October 2021 through March 2024. Oura PHB at 112. However, it is undisputed that ***Oura did not acquire the Motiv IP from Proxy until May 6, 2023.*** Oura's over-inclusive time frame is both legally and economically improper, because the majority of the alleged investments occurred at a time when Oura did not have ***any*** rights to the invention of the '178 Patent. *Certain Vaporizer Devices, Cartridges Used Therewith, and Components Thereof*, Inv. No. 337-TA-1372, ID at 158-162 (U.S.I.T.C. Dec. 5, 2024) (finding that pre-acquisition expenses could not support domestic industry). Oura's economic DI should be rejected for this reason alone, as Oura made no effort to isolate investments during the very short post-patent-acquisition period; nor did Oura assess significance of any investments during that short period of time.

II. THE '178 PATENT

The '178 Patent discloses multiple embodiments, including: (1) double-enclosure/cavity-between embodiments; and (2) single-enclosure/no-cavity-between embodiments. The Asserted Claims cover the former, but not the latter.

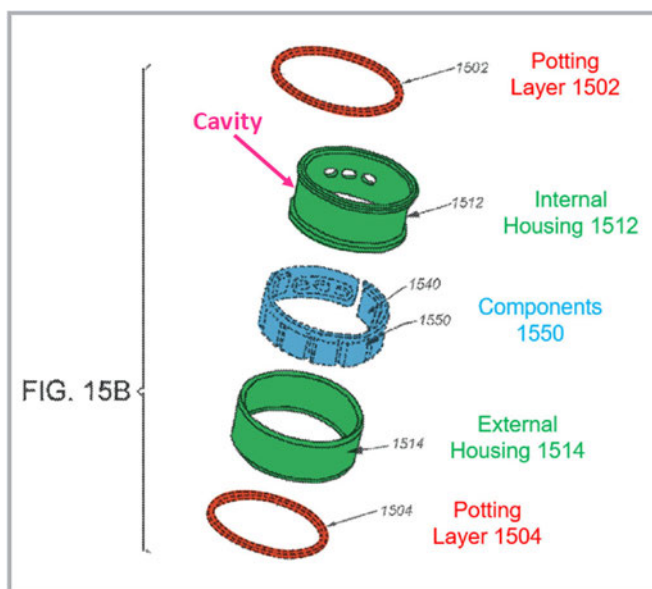
A. The Claims Only Cover Double-Enclosure/Cavity-Between Embodiments

The Asserted Claims cover *only* the double-enclosure/cavity-between embodiments. This is clear from the claim language itself. Independent claim 1—the only independent claim—expressly requires “an external housing component,” an “internal housing component,” and a “cavity formed between” them. JX-0001.0090 at 44:46-49. Importantly, the claims also require that certain components (i.e., the battery) are of a “shape and size configured to fit within” the cavity. *Id.* at 59-61.

The ALJ construed “internal/external housing component” to have its plain and ordinary meaning, “which is an [internal/external] structure that encloses space and which does not necessarily exclude potting material.” JX-0011.0014. The term “cavity” has been construed to mean a “hollow space.” JX-0011.0005. Thus, only embodiments having the following features are covered by the claims of the '178 Patent: (1) two housing structures that enclose space—i.e., double-enclosure housings; (2) a hollow space/cavity formed between those two housing structures; and (3) a battery specifically configured to have a shape and size that fits within that hollow space. As demonstrated in Section V, the Accused Products have none of these claimed features.

The '178 Patent discloses multiple double-enclosure/cavity-between embodiments that do have the foregoing features and, thus, are within the scope of the claims. For instance, Figure 15B—which the patent describes as “Inner/Outer Bands”—depicts a double-enclosure/cavity-between embodiment where the battery is specifically shaped and sized to fit within the cavity. In particular, and as shown below, Figure 15B includes an “internal housing 1512 and an external

housing 1514” where “the PCB 1540 and components 1550 are assembled within space defined between the housings 1512-1514.” JX-0001.0078 at 20:31, 46-48.



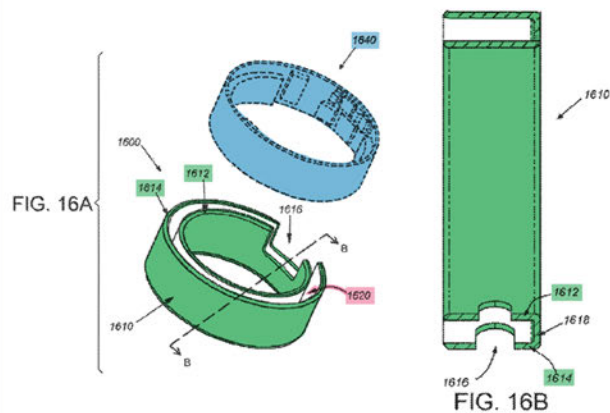
JX-0001.0027 (annotated). And the battery—which is one of components identified as 1550—is made of a shape and size configured to fit within that cavity formed between the two housing components.

Similarly, Figures 16A and 16B—which the patent describes as “Inner/Outer Bands with U Shaped Window”—depicts another double-enclosure housing embodiment having “an integral inner wall and outer wall 1612 and 1614” where “[t]he space 1620 between the inner and outer walls 1612, 1614 can receive a PCB 1640, battery, components, etc.” JX-0001.0078, 20:50-65. This is shown in annotated Figures 16A and 16B below:

178 Patent – Exemplary Double-Enclosure Embodiments

IV. Inner/Outer Bands with U Shaped Window

FIG. 16A is an exploded view of a housing 1610 and a PCB of a WCD according to one or more aspects of the disclosure. The WCD 1600 comprises a housing 1610 with an integral inner wall and outer wall 1612 and 1614. The housing can be made of any material, such as any material described above with respect to the internal/external housing structures. In this example, the inner and outer walls 1612, 1614 each define a window in the shape cutaway portions 1616. The cutaway portions are bounded on three sides by the walls 1612 and 1614 and unbounded at the other side thereof. The cutaway portions 1616 can be aligned with one another to ensure transmission of radiation into/out of the housing 1610. The space 1620 between the inner and outer walls 1612, 1614 can receive a PCB 1640, battery, components, etc.



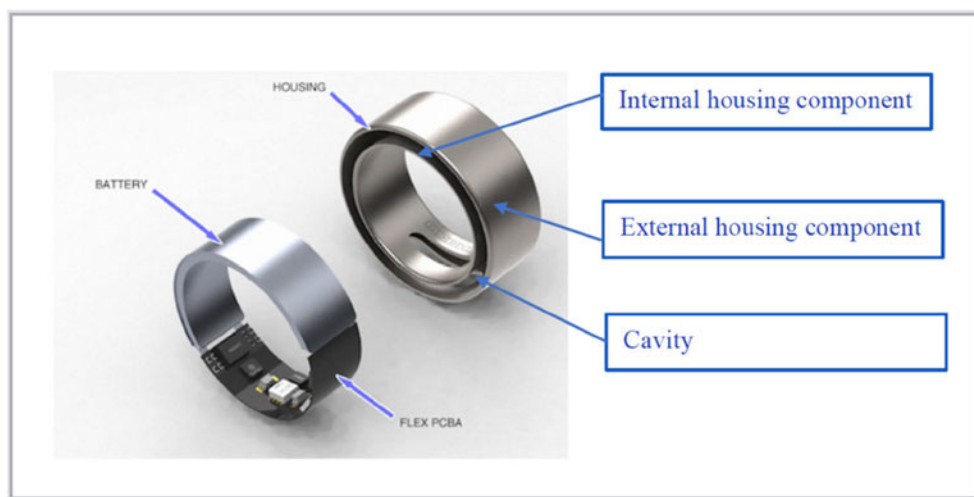
JX-0001.0078, 20:50-65

JX-0001, Fig. 16A & 16B

RDX-0011 - 9

RDX-0011-9, JX-0001.0028-0029. Once again, the components (including the battery) are of a size and shape configured to fit within space 1620.

As shown below, the original prototype designed by Motiv—the original assignee of the '178 Patent family—was also a double-enclosure/cavity-between embodiment similar to the embodiments shown in Figures 15 and 16.



RX-0068. This initial prototype had: (1) internal and external housing components enclosing space; (2) a hollow space/cavity formed between those housing components; and (3) a battery specifically designed with a size and shape to fit within the cavity/hollow space.

B. The Claims Do Not Cover Single-Enclosure/No-Cavity-Between Embodiments, Such As The Figure 13 Embodiment

The '178 Patent also discloses single-enclosure/no-cavity-between embodiments. And because those embodiments have no cavity/hollow space, it follows that the battery in those embodiments is not of a “shape and size configured to fit” within any cavity as required by the claims. JX-0001, claim 1. Figure 13 of the '178 Patent—shown below—is an example of a single-enclosure/no-cavity-between embodiment that is *not* within the scope of the claims.

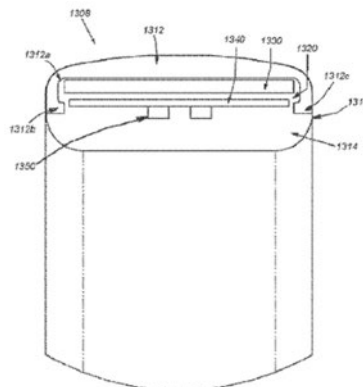


FIG. 13

JX-0001, Fig. 13.

As Respondents’ expert Mr. Alarcon explained, “Figure 13 provides a single enclosing structure without a hollow space.” Tr.819:18-820:13. He knows that because the specification expressly discloses Figure 13 as having only a single structure that “encloses space” as required by the construction of “housing components.” In particular, the embodiment in Figure 13 is described as having an external housing with flanges 1312b-c that define a “*partially enclosed* internal space 1320.”

3 '178 Patent – Figure 13 Provides A Single Enclosing Structure Without Hollow Space

- “housing component” = “structure that encloses space”
- External housing 1312 is the only “structure that encloses space”

such shapes with an external notch or groove. The external housing includes flanges 1312b-c that extend toward each other, beyond portions of the internal surface 1312a, to define a partially enclosed internal space 1320. In an assembled state, the WCD 1300 can include a battery 1330, a PCB 1340, and components 1350, which can be at least partially or completely disposed within the partially enclosed internal space 1320. The internal potting 1314 can extend between the flanges 1312b-c and can seal the partially enclosed internal space 1320. The components can be encapsulated by the internal potting 1314. The PCB 1340 and components 1350 can extend along an inner circumference of the internal surface 1312a.

FIG. 13

RDX-0001C-30

JX-0001.0078 at 19:3-6; RDX-0001C.30. The inventors intentionally chose to describe space 1320 as only “partially enclosed” because there is no other housing opposite external housing 1312 that fully encloses space 1320. If there was, space 1320 would not have been described as only “partially enclosed.” Critically, the specification unequivocally discloses only a single housing structure that performs the disclosed “partial[] enclose[ing]” function: “external housing ... define[s] ... partially enclosed space 1320.” JX-0001.0078 at 19:3-6.

Perhaps most importantly as it relates to this Investigation, the inventors chose to describe space 1320 as only “partially enclosed” despite the fact that potting 1314 is used to fill and fully encapsulate the battery 1330 and PCB 1340. If potting 1314 was a housing component, the specification would not have described space 1320 as “partially enclosed” and would not have described housing 1312 as the **only** structure that performs an enclosing function. The only reasonable takeaway from the specification’s description of Figure 13 is that the potting material

in Figure 13 is *not* a housing component that encloses space, which makes sense because something that fully occupies space does not enclose it.¹

Not only does Figure 13 lack a second housing component, but it also lacks a cavity/hollow space. However, even if the internal space 1320 were considered hollow (it is not because it is filled with potting) and potting material 1314 were considered an internal housing component, Figure 13 would still not be an embodiment of the claims. That is because the claims require that the cavity be “formed between” the two housing components. JX-0001, claim 1. But the potting material 1314 fully occupies space 1320 such that the space 1320 cannot be between the potting material and anything else. Tr.820:16-821:3.

C. Oura Has Other Patents In The '178 Patent Family Directed To Single-Enclosure/No-Cavity-Between Embodiments

The parties agree that some patents within a patent family often cover a subset of disclosed embodiments and other patents in the family cover a different subset of disclosed embodiments. And that is the case here. Indeed, Sarrafzadeh admitted that “claims of a patent are sometimes directed to just some of the disclosed embodiments.” Tr.382:25-383:3. And specifically with respect to the '178 Patent, he admitted that the claims do *not* cover all disclosed embodiments. Tr.382:19-24. The Federal Circuit recognizes that “a claim need not cover all embodiments.” *Intamin Ltd. v. Magnetar Techs., Corp.*, 483 F.3d 1328, 1337 (Fed. Cir. 2007); *see also TIP Sys., LLC v. Phillips & Brooks/Gladwin, Inc.*, 529 F.3d 1364, 1373 (Fed. Cir. 2008) (“Indeed, read in

¹ This is not to say, however, that potting material can never be considered a housing component. Indeed, as Respondents acknowledged at trial, the '178 Patent arguably shows embodiments where potting is used as a housing component in Figures 12D, 14E, 20A, and 31B-C.

the context of the specification, the claims of the patent need not encompass all disclosed embodiments”).

The embodiment of Figure 13 specifically—and single-enclosure/no cavity between embodiments more generally—are patented by Oura, but just *not* in the '178 Patent. Rather, another Oura patent from the same family as the '178 Patent—U.S. Patent No. 11,188,124 (“the '124 Patent”)—claims the single-enclosure/no-cavity-between embodiment in a manner that is distinct from the double-enclosure/cavity-between embodiments claimed in the '178 Patent. Indeed, a side-by-side comparison of claim 1 of the '178 Patent and claim 1 of the '124 Patent reveals that the former claims double-enclosure/cavity-between embodiments (e.g., Figures 4 and 15) while the latter claims single-enclosure/no-cavity-between embodiments (e.g., Figure 13):

Complainants' Other Patents Directed To Single-Housing Embodiments	
Double-Enclosure Patent ('178)	Single-Enclosure Patent ('124)
1. A finger-worn wearable ring device, comprising: “an external housing component AND internal housing component” “a cavity” “a battery positioned within [the] cavity” “a printed circuit board disposed between the internal housing component and the external housing component”	1. A wearable computing device configured to be worn around a finger of a wearer comprising: “an external housing having an outer surface, an interior surface and sidewalls” “an interior space” “a curved rechargeable battery disposed within the interior space” “a printed circuit board disposed within the interior space configured to approximately conform to the interior space” “a potting material disposed in the interior space encapsulating the plurality of components”
JX-0001, claim 1; RX-0407 (Claim 1)	RDX-0011 - 18

RDX-0011-18; JX-0001.0090-91 at 44:45-45:8; RX-0407.

Unlike the '178 Patent claims that require both an internal housing component and an external housing component, the '124 Patent claims recite only an “external housing” (RX-0407.4)

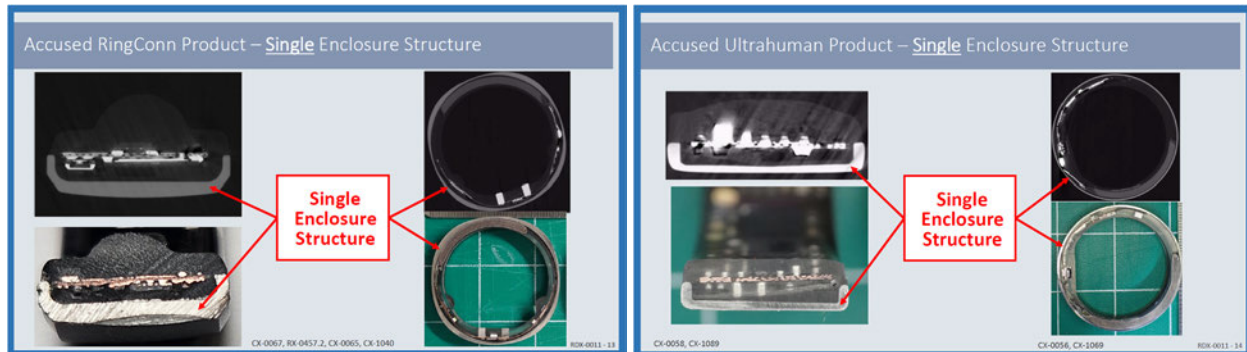
and “potting material disposed in the interior space encapsulating the plurality of components” RX-0407.16. This claim—and not claim 1 of the asserted ’178 Patent—tracks Figure 13. *See Helmsderfer v. Bobrick Washroom Equipment, Inc.*, 527 F.3d 1379 at 1383 (Fed. Cir. 2008) (explaining after construing claims to exclude certain embodiments that “this does not mean that these embodiments are all excluded from the scope of the invention, but rather that they are excluded from the scope *of these particular claims*”). The ’124 Patent also does not claim a “cavity,” much less a battery with a shape and size configured to fit within one. RX-0407. Instead, its claims simply recite an “interior space.”

Importantly, Oura has accused RingConn’s smart rings (both the Gen 1 and the Gen 2 products accused of infringement in this case) of infringing the ’124 Patent. RX-0407. Thus, Oura is seeking to get two bites at the apple by asserting both its double and single-enclosure patents against Respondents. But despite Oura’s attempts to conflate the two, the purposefully distinct language in the two patents has a different meaning.

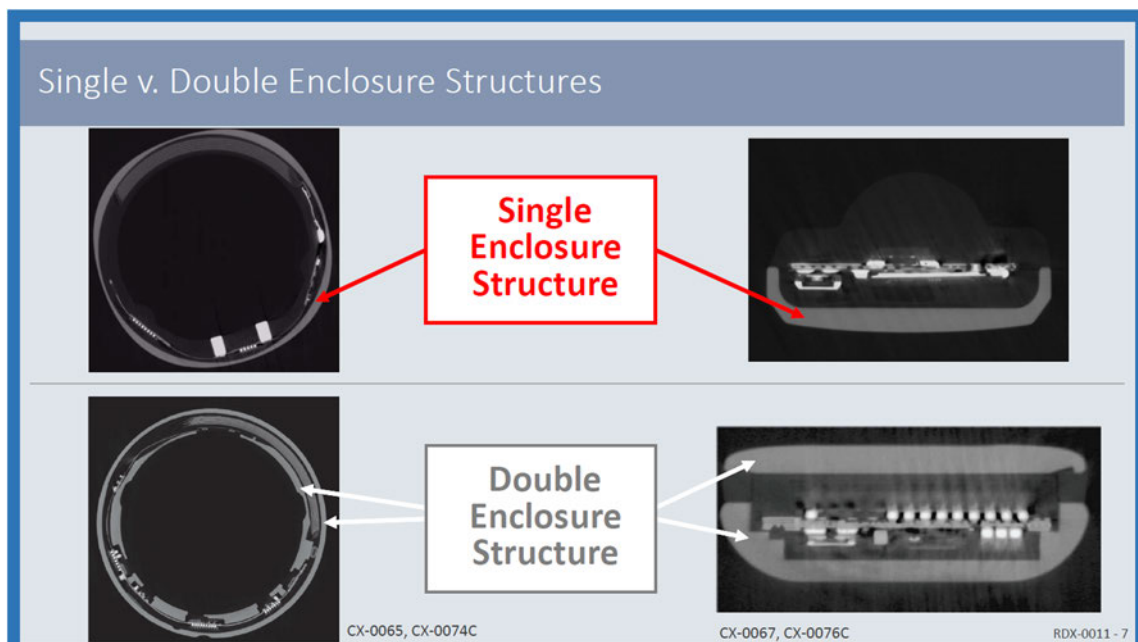
III. THE ACCUSED PRODUCTS ARE FUNDAMENTALLY DIFFERENT THAN WHAT IS CLAIMED

A. The Accused Products Are Single-Enclosure/No-Cavity-Between Embodiments

The Accused Products are fundamentally different than the double-enclosure/cavity-between embodiments claimed by the ’178 Patent, and the reason is simple: the Accused Products are single-enclosure/no-cavity-between embodiments.



RDX-0011.13-14. The above images speak for themselves—there is clearly only a single enclosing structure in these products. It follows, then, that there is no cavity/hollow space formed between two enclosing structures. It further follows that there is no battery of a shape and size configured to fit within any cavity/hollow space. Contrast the single-enclosure structures with double-enclosure structures:

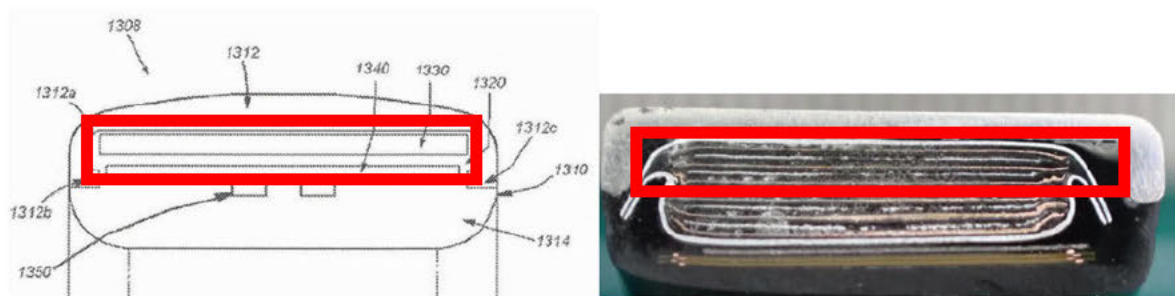


RDX-0011.7. These fundamental differences explain why so many of the '178 Patent's claim limitations are missing from the Accused Products.

B. Even If Figure 13 Of The '178 Patent Was An Embodiment Of The Claims (It Is Not), The Accused Products Would Still Be Fundamentally Different Than What Is Claimed

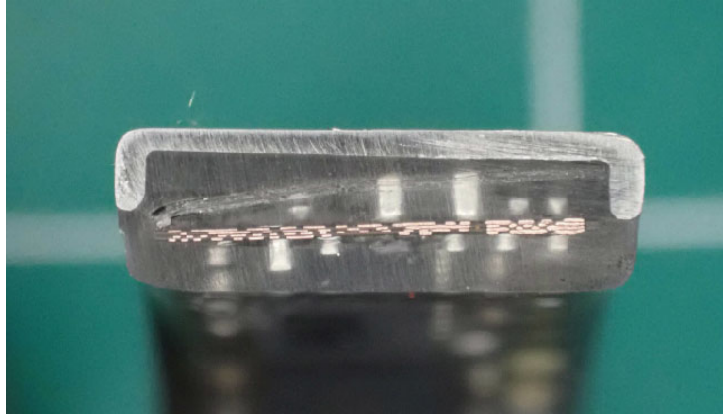
At the hearing, the ALJ asked Alarcon whether the partially enclosed space 1320 is a cavity. As Alarcon explained, space 1320 is not a cavity because, among other things, it is not a hollow space as required by the ALJ's construction of cavity. Tr.910:15-911:17. But even if the internal space 1320 is considered hollow, and potting material 1312 is considered an internal housing component, and space 1320 is somehow considered "formed between" the two housing components—all of which the claims require—Figure 13 and the asserted claims would still be fundamentally different than the Accused Products.

That is because in addition to requiring two housings and a cavity formed between them, the claims further require that the battery be of "a shape and size configured to fit within the cavity." JX-0001, claim 1. And while the battery 1330 in Figure 13 is of a size and shape configured to fit within space 1320, the battery in the Accused Products is not of a size and shape configured to fit within that similar space in the Accused Products, as shown below (Ultrahuman product shown, but RingConn is the same):



JX-0001 at Fig. 13 (annotations added); CX-1088 (annotations added).

Further, in the Ultrahuman product, Oura's own teardown shows the PCB (the copper component) positioned beyond the flanges:



CX-1089; *see* Tr.957:7-958:5 (Alarcon).

Accordingly, even if the ALJ were to find that Figure 13 is an embodiment of the asserted claims (it is not), this important difference between the Accused Products and Figure 13 still makes them fundamentally different.

IV. THE OPINIONS OF OURA'S TECHNICAL EXPERT SHOULD BE AFFORDED LITTLE WEIGHT

Before diving into the merits, it is important to note that the credibility of Oura's only infringement expert (Sarrafzadeh) has been called into question for a number of reasons.

First, Sarrafzadeh's steadfast denial that he changed his position on what he alleges is the claimed IHC is simply not believable. Tr.351:14-24 and Tr.352:3-6. As discussed below in Section V.C.1, the record evidence flatly contradicts Sarrafzadeh's denial that his position on the IHC has changed. By way of example, Sarrafzadeh admitted that he made each of the following annotated Figures throughout the course of this Investigation:

reviewed before it was served on counsel), Sarrafzadeh threw others under the bus, attributing his revised IHC to “an error that the graphics” people had made, and not to his own shifting sands approach to identifying the alleged IHC. Tr.370:2-6 (“I corrected it because of the error of graphic people”). When asked whether he noticed this alleged error before or after Respondents’ opening statement, Sarrafzadeh initially stated “I saw it the night before” opening statements: Tuesday, December 10. Tr.370:25-371:5. But when counsel for Respondents asked Sarrafzadeh to explain why he would wait all night and after openings to seek to correct an error he saw the night before, the story started to unravel. Indeed, just seconds after testifying that he noticed the error “the night before” openings (Tr.370:25-371:5), Sarrafzadeh completely changed course stating “I did *not* notice the error the night before because there were many slides.... I noticed it Wednesday morning.” Tr.371:6-20. Dr. Sarrafzadeh’s testimony—like his position on the alleged IHC in the Accused Products—is hopelessly inconsistent and cannot be explained away.

Third, from expert discovery up until the hearing, Sarrafzadeh asserted that the components within Respondents’ rings are fully encapsulated by potting such that the potting material when “cured and solidifie[d] . . . *forms a seal around* the components”:

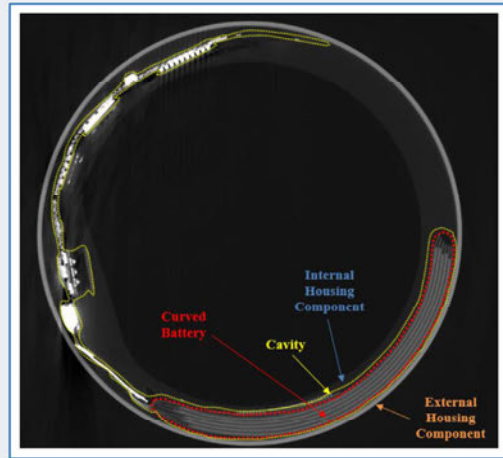
Dr. Sarrafzadeh's Opinion

Dr. Sarrafzadeh identifies no battery with a shape and size **configured** to fit within the cavity

156. As shown above, the curved battery is positioned in a cavity that is formed between the internal housing component (inner molded structure) and the external housing component (metallic external structure). The battery fully occupies the cavity because once the potting material is cured and solidifies, it forms a seal around the components. But if the components were to be removed from the solidified structure, there would exist a hollow space in its place.

157. The battery in the Ultrahuman Accused Product is also a shape and size (curved) to fit between the outer circumferential surface and the inner circumferential surface that are each substantially curved, peripheral, or circular in the portion of the housing where the battery is positioned:

RX-0402C.97 (Sarrafzadeh Opening Report), ¶¶ 156-157



RX-0402C.97-98

RDX-0001C-71

RDX-0001C-71 (emphasis added). That statement is, yet again, inconsistent with his hearing testimony that the internal components are *not* fully encapsulated by potting—a late-breaking change he made in service of the “between” housing components requirement. See Tr.306:14-315:2.

Sarrafzadeh’s credibility on this point is of vital importance, particularly to the Staff. After saying in opening that “this question will turn on expert testimony,” (Tr.77:12-24), the Staff credits Sarrafzadeh’s inconsistent hearing testimony as its justification for finding “it is more likely than not” that the “between” requirement is satisfied. Staff PHB 28.

Fourth, Sarrafzadeh provided clear and unequivocal testimony on direct examination that was factually inaccurate. That was not the most troubling part though. The worst part was that he then compounded that by denying on cross-examination that he ever gave that factually inaccurate testimony.

Specifically, Sarrafzadeh testified on direct examination that there are allegedly two different materials surrounding the components in both the RingConn and Ultrahuman Accused

Products. Sarrafzadeh argued that the RingConn Accused Products include a transparent potting and a “blackish” “soft material” having a “foaming nature”. Tr.277:3-10. He asserted that the Ultrahuman Accused Products include a transparent potting and a “grayish material” of “a soft nature.” Tr.278:4-25. Sarrafzadeh supported those assertions using the following images, which show the transparent material (colored purple) in both Accused Products, and the “blackish” area (in RingConn image on the left) and “grayish” area (in Ultrahuman image on the right) adjacent the purple-colored transparent material.



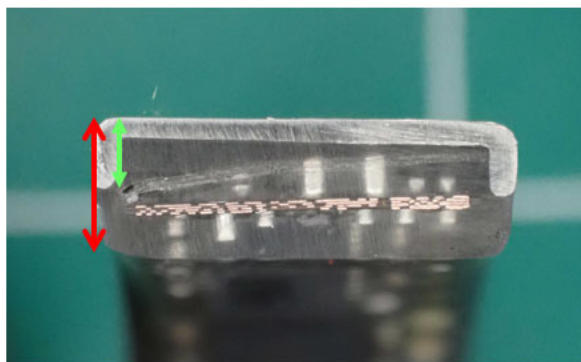
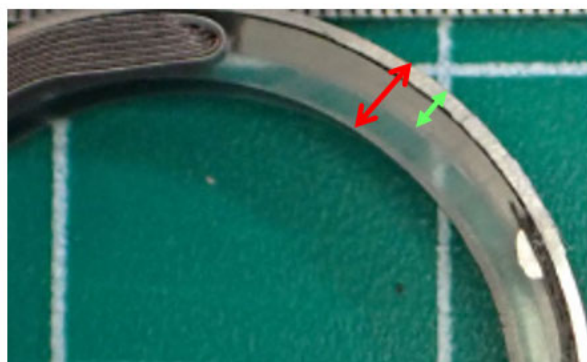
CDX-0003C.46; CDX-0003.49.

But, as Respondents’ fact and expert witnesses testified, and a simple visual inspection of the Accused Products will confirm, the so-called “blackish” and “grayish” materials in the Accused Products are also transparent potting material and only appear to be “blackish” and “grayish” because one of the sidewalls of the external housing is still present behind some of the potting material. Tr.815:16-817:15 (“so that space that he has indicated as black ... you’re actually looking at one of the sidewalls or flanges of the ring ... [r]emember, this ring is cut in half through the middle ... [s]o what looks to be black is actually the inside of the metal [sidewall].); *see also* Tr.940:16-21 (confirming that there is no “portion of [Ultrahuman’s] potting [that is] soft, foamy or spongy.”); Tr.947:21-948:3 (“[the non-highlighted Ultrahuman potting] just doesn’t appear to be transparent because you’re looking at part of the ring from the inside ... that’s why you’re not seeing the green behind it.”); Tr.947:1-948:21 (“the material there that’s not highlighted is the same

durometer [hardness] as the purple highlighted material”). Kumar also confirmed [REDACTED] and of the same type. Tr.660:7-8, 671:8-672:17.

Accordingly, Sarrafzadeh’s imagined line of demarcation has a simple explanation: it is a visual artifact, or “occlusion” that is “caused by the outer metal ring.” Tr.958:22-959:7. Mr. Alarcon explained this in detail when asked by the Court. Tr.949-950 (“You’re looking at the inside of the remaining flange, and that occludes your ability to view the green grid background behind it. If you were to remove that flange, you would be able to see the green grid background behind it.”).

The flange distorts the coloration of the potting material because of the manner in which the ring was cut. The visual discoloration caused by the flanges is about half of the width of the ring, which tracks the size of the flanges when looking at a different cut:



CX-1069; CX-1089.

As Mr. Alarcon explained with reference to the images below, in the image on the left “the ring is cut in half through the middle. So what looks to be black is actually the inside wall of the metal. You’re not looking at any different material in this particular view. You’re looking at the same material, it’s the same potting material.” Tr.815:24-816:5. The “cross-section is shown on the right” and “[t]hat is all the potting material that I have been talking about, the epoxy potting material that is applied during the manufacturing process.” Tr.816:17-817:2.

3 No “Internal Housing Component”



CX-1040; CPX-0196; CX-1035



RDX-0001C-28

RDX-0001C.28; RX-1040; CPX-0196; CX-1035.

When it became clear on cross examination that Sarrafzadeh had advanced a factual inaccuracy, rather than acknowledge it and move on, he denied ever advancing that factual inaccuracy in the first place as shown below.

Dr. Sarrafzadeh's Inconsistent Testimony

Dr. Sarrafzadeh's Direct Testimony

3 Q. So, Doctor, turning back to that black material,
4 blackish material between the transparent inner housing
5 component layer and the external layer, the external shell,
6 we can call that, do you know what that is?
7 A. That's a soft material. It has a foaming nature.
8 And you can see it goes pretty much around the ring for the
9 most part. And that's separate from the potting material
10 that we looked at earlier.

Dr. Sarrafzadeh's Cross Testimony

23 Q. Okay. Yesterday you testified that the image on
24 the right shows two separate materials, right?
25 A. Behind the battery, yes.

1 Q. Yeah. And you actually said you can see that
2 material in black, you distinguished between the black and
3 the transparent, right?

4 A. Right behind the battery, yes, versus the
5 transparent.

6 Q. Okay. But let me just be clear. The portion
7 that we're looking at that's not behind the battery, that's
8 to the left of the battery in these slides, that's all
9 potting material, isn't it?

10 A. What I was referring to is the portion behind the
11 battery. This is all potting material here, as it should
12 be, because there is nothing behind it. Therefore, it goes
13 all the way to the external housing component.

Tr.277:3-10; Tr.378:23-379:13. For example, on direct, Sarrafzadeh said that “black material” that he described as a “soft material” having a “foaming nature” “*goes pretty much around the ring*”

and “that’s separate from the potting material.” Tr.277:3-6. But then on cross, Sarrafzadeh denied giving that testimony, claiming instead that *he “was [only] referring to . . . the portion behind the battery”* and that the blackish material is actually “all potting material here.” Tr.379:6-13.

In short, Sarrafzadeh’s unsupportable denial that he ever changed positions on the IHC, his contradictory and irreconcilable testimony explaining the timing for changing his demonstratives on the IHC after opening statements, his about-face on encapsulation, and his denial that he advanced a factual inaccuracy on direct undermine his credibility, rendering his opinions unreliable and entitled to little weight.

V. THE ACCUSED PRODUCTS DO NOT INFRINGE THE ’178 PATENT

A. No “cavity”: Limitations 1[c-i], 1[c-ii], 1[c-iii], and 1[d]

Claim 1 requires a “battery positioned within a *cavity* formed between” the IHC and the EHC. JX-0001, claim 1. The ALJ adopted the parties’ agreed construction that “cavity” is “a hollow space.”

The Accused Products Do Not Have A “Cavity”

“Cavity” – construed to mean “a hollow space”

The parties agree on the following constructions:

Claim Term and Asserted Claim	Agreed Construction
A finger-worn wearable ring device	The preamble is limiting
claim 1 [positioned/configured to fit] within a cavity	Plain and ordinary meaning, which is [positioned/configured to fit] within a hollow space
claim 1 [the internal housing component] coupled with [the external housing component]	Plain and ordinary meaning, which is [the internal housing component] is connected with [the external housing component]
claim 1	

Supplemental Joint Chart at 2. The above constructions are adopted in this investigation.

JX-0014.0005 RDX-0011 - 22

RDX-0011.22; JX-0011.5. Thus, to satisfy claim 1, a ring must have: (1) a “hollow space”; and (2) a cavity/hollow space “between” the IHC and EHC. Respondents’ Accused Products have neither.

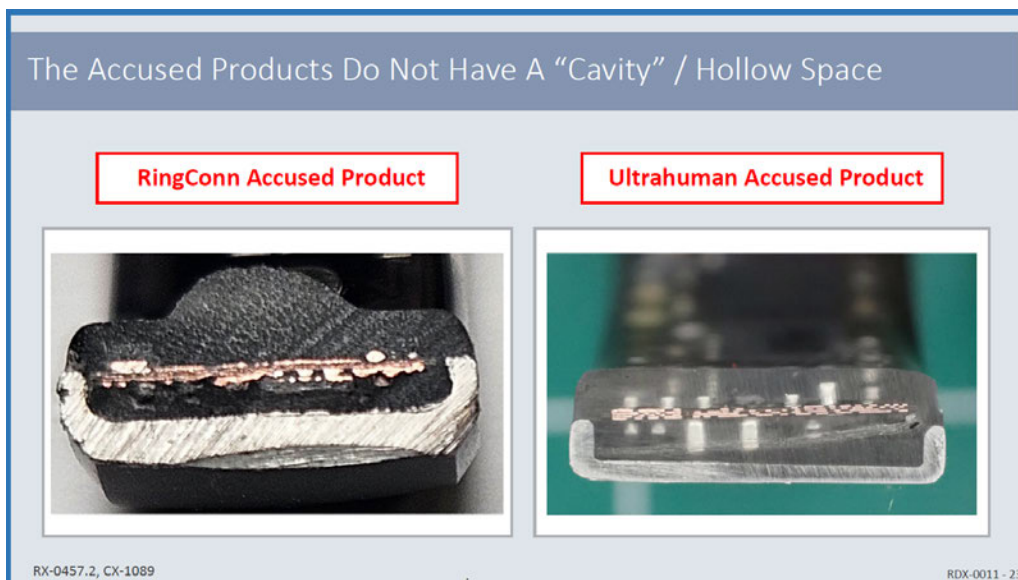
1. Respondents’ Designed Their Rings to *Never* Have Hollow Space

There can be no credible dispute that Respondents’ Accused Products lack a hollow space. Indeed, the images below and the corresponding physical products make clear that Respondents’ Accused Products are completely solid, as confirmed by the testimony from Respondents’ fact witnesses, who are responsible for the design and manufacture of the Accused Products.



RDX-0011.24; CX-1040; CX-1069; *see also* RDX-001C.11, CPX-0196, CPX-0198, CPX-0199.

Cross-sectional cuts of the Accused Products similarly demonstrate how the entire body in each of Respondents’ Accused Products is completely solid, which is the opposite of hollow.



RDX-0011.23; RX-457.2; CX-1089; RPX-0013; CPX-0199.

(a) **Oura And Its Expert Read Cavity / Hollow Space Out Of The Claims And Admit To Doing So**

Recognizing that the Accused Products do not have any hollow space as required by the construed claims, Oura and Sarrafzadeh admittedly read the “hollow space” limitation completely out of the claims. Indeed, Oura’s expert expressly and unequivocally admitted to doing so. When asked point blank “[d]o you read claim 1 as requiring a hollow space in the finished ring product,” Sarrafzadeh answered “[t]here is no need for a hollow space.” Tr.314:19-315:2. Dr. Sarrafzadeh tried to justify reading “hollow space” out of the claims, offering the following explanation: “[w]hen you have the product, *what’s the use of a hollow space? You don’t need it.* In fact, ... there are embodiments which explicitly teach that, that you don’t need a hollow space.” *Id.* But just because certain embodiments do not have hollow spaces does not warrant ignoring the claim construction requiring a hollow space. All that means is that certain embodiments lacking a hollow space (e.g., Figure 13) are not claimed embodiments.

A review of Oura’s and the Staff’s PHBs further confirms they both read “hollow” out of the claims. For its part, the Staff’s PHB only uses the term “hollow” once, and that was when he

recited the construction of “cavity.” Staff PHB at 17. Oura did not fare much better, having only used the term “hollow” twice in its PHB—once when reciting the construction (Oura PHB at 22) and another time when improperly equating a filled space with a hollow space (Our PHB at 43—stating that “the batteries and PCBs ... take up space (i.e., hollow space”). This failure to even address the ALJ’s claim construction alone dooms the infringement analysis of both Oura and the Staff.

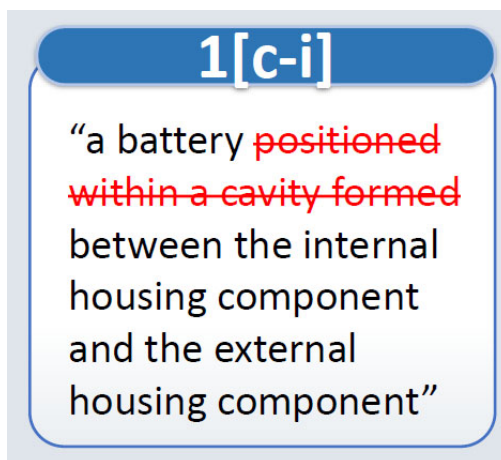
Reading limitations out of claims is plainly improper. *Bio-Rad Lab’ys, Inc. v. USITC*, 998 F.3d 1320, 1331 (Fed. Cir. 2021) (“Bio-Rad’s ... argument fails because it is premised on ... removing all limitations that differentiate the recited structures from each other”); *Certain Elec. Connectors & Cages, Components Thereof, & Prods. Containing the Same*, Inv. No. 337-TA-1241, Final Initial Determination at 271-72, 2022 WL 1124999 at *152 (Mar. 11, 2022) (rejecting expert opinion that “relie[d] on an improper claim construction”). And doing so with an agreed-upon construction is “suspect.” *Treehouse Avatar LLC v. Valve Corp.*, 54 F.4th 709, 715 (Fed. Cir. 2022) (“When the court has adopted a construction that the parties requested and agreed upon, any expert theory that does not rely upon that agreed-upon construction is suspect.”) On cross-examination, even Sarrafzadeh had to acknowledge as much. Tr.392:9-19 (when asked if one can ignore the term “hollow”, Sarrafzadeh answered “Absolutely not. That’s part of the claim.”).

The ALJ’s claim constructions confirm that the word “hollow” has independent meaning, and that it would be improper to read it out of the claim. For example, the ALJ included “space” within the “internal housing component” and “cavity” constructions, but chose to qualify “space” with the term “hollow” only when construing “cavity.”

“Internal Housing Component” and “Cavity” Claim Constructions	
<u>“internal housing component”</u> <i>[internal] structure that encloses <u>space</u> and which does not necessarily exclude potting material”</i>	<u>“cavity”</u> <i><u>hollow space</u></i>
Order No. 17, Construing Claim Terms (Oct. 23, 2024) RDX-0009-27	

RDX-0009.27. The term “hollow” cannot be ignored. *See* RX-409 (Webster’s Dictionary similarly defining “hollow” as an “unfilled space; cavity; hole”). Indeed, “[i]nventors are masters of their claims, and the words they use to describe and claim their invention are decisive and binding.” *Bio-Rad*, 998 F.3d at 1331.

Yet Oura and the Staff do just that to make “cavity”—a crux of the claims—a dead letter. They effectively rewrite the “cavity” limitation to read as follows:

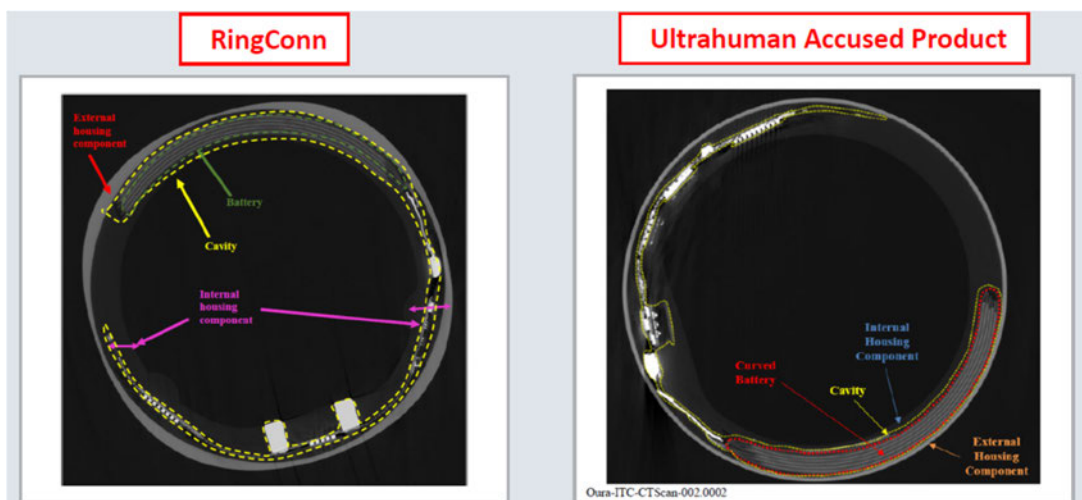


RDX-0001.22. Under their interpretation, the cavity limitation would become a *fait accompli* whenever the ring includes an internal battery and PCB—it would exist so long as the PCB and battery exist. *See* Oura PHB at 43 (“[T]he batteries and PCBs in Respondents Accused Products

are located within the ring and they take up space (i.e., hollow space)[.]”); Staff PHB at 21 (“[T]hose components are indisputably physical objects and thus, by definition, have weight and take up space.”). Indeed, any solid object could be said to comprise a cavity—in fact, an infinite number of cavities—if the only requirement is to identify some subset of the object that has mass. That cannot be what the inventors meant via the purposeful inclusion of term “cavity,” which is a specific structure with dimensions driving the size and shape of the “configured” battery.

(b) Because Oura Reads “Hollow” Out Of The Claims, It Never Even Attempts To Identify A Hollow Space, And Its Alleged Cavity Never Even Exists As A Hollow Space

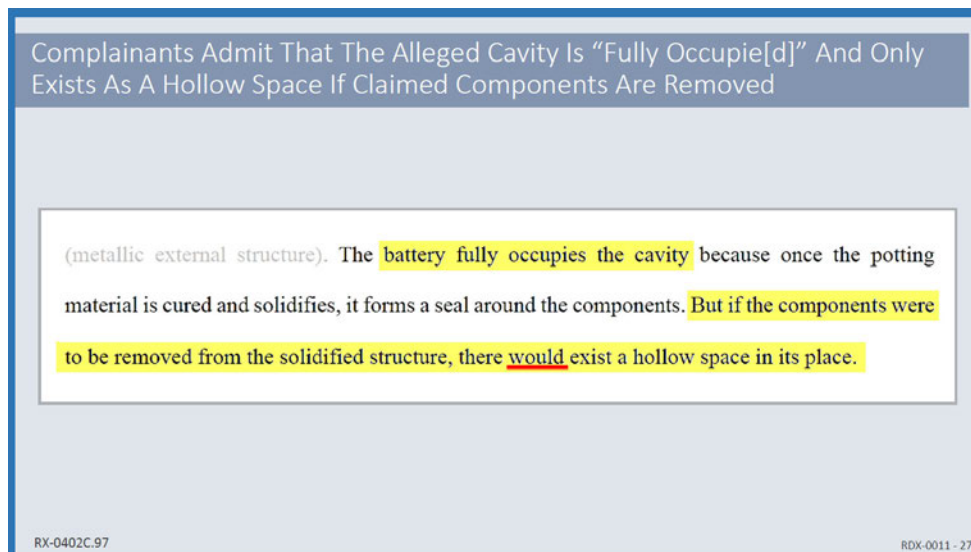
Because Oura and its expert believe a hollow space is unnecessary, they do not even attempt to identify one in the Accused Products. Neither does the Staff. Instead, they gerrymander a cavity by drawing yellow lines around *an area that is fully occupied* by the battery and PCB in the accused rings.



RDX-0011.25; RX-0225.32; RX-0402.97. (Sarrafzadeh) Tr.396:1-6 (The yellow lines “are boundaries ... [a]nd they represent cavities.”); Staff PHB at 26-27. This arbitrary line drawing exercise cannot satisfy Oura’s burden.

First, as Sarrafzadeh concedes, the area in yellow identified as the alleged cavity is fully occupied by the battery and PCB. Tr.397:19-23 (agreeing that “the components in the accused products ... fully occupy the [alleged] cavity”). ***But an area that is fully occupied and completely filled is the exact opposite of a hollow space.*** RX-409 (defining “hollow” as “**un**filled space; cavity; hole.”) Indeed, if a fully occupied space can constitute a “hollow space,” then the ALJ’s construction of cavity would be rendered meaningless. A “hollow space” would encompass, for example, a “filled space,” or any space for that matter. But as the ALJ’s constructions make clear, the terms “space” and “hollow space” are not the same.

Oura attempts to overcome this problem by arguing that “if the components were to be removed from the solidified structure, there **would** exist a hollow space in its place[.]”



RDX-0011.27; Tr.397:24-398:2. But Oura’s attempt to modify the products in order to allege infringement runs afoul Federal Circuit precedent. *High Tech Med. Instrumentation, Inc. v. New Image Indus., Inc.*, 49 F.3d 1551, 1555 (Fed. Cir. 1995) (“[A] device does not infringe simply because it is possible to alter it in a way that would satisfy all the limitations of a patent claim.”). Further, the removal of the claimed PCB and battery to try to create a hollow space would render the product non-infringing for new reasons, as the PCB and battery are both claimed components.

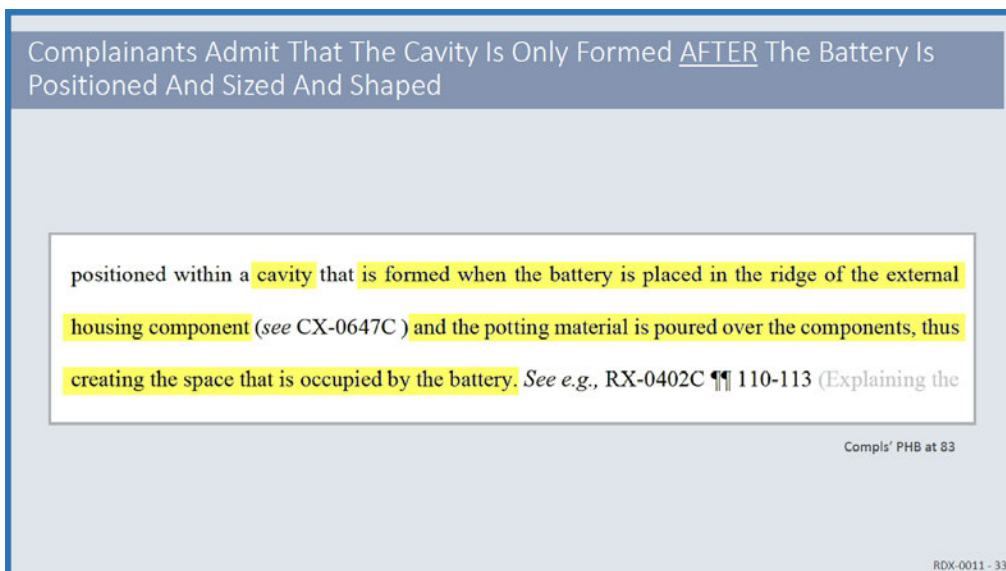
JX-0001, Claim 1. And as Sarrafzadeh testified, and as the images below show, once the PCB and battery are removed, the Accused Products are so damaged that the alleged cavity would *not* actually exist at all.



RDX-0009.30; (Sarrafzadeh) Tr.400:20-401:6.

Second, as much as the claims do not require a hollow space in a finished ring product, a hollow space within the ring must exist *at some point in time*. Otherwise, the cavity limitation and the ALJ's construction of it would be totally eviscerated from existence altogether. Perhaps most fatal to Oura's argument, however, is the fact that *Oura's purported cavity never exists as a hollow space*. Indeed, Sarrafzadeh admitted that Oura's alleged cavity "doesn't get formed until *after* you put the battery into the EHC and until *after* you pour the potting material over it." Tr.405:9-15. The battery and potting material are what creates that alleged cavity and, therefore, that alleged cavity is always fully occupied. Put differently, without the battery and potting, there is no alleged cavity to which Oura can point.

Oura likewise admitted in its pre-hearing brief that the alleged cavity is only formed when the battery is placed in the EHC and the potting material is poured over the components – that's what "create[s] the space that is occupied by the battery."



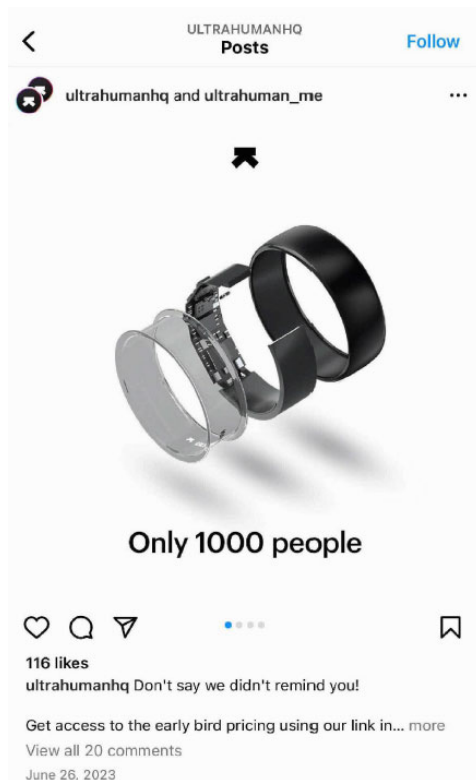
RDX-0011.33; Oura Pre-Hrg. Br. at 83. But again, at the point in time when the alleged cavity is first created, the battery is already fully occupying it. That space only exists because the battery exists and is encapsulated with potting material. Thus, unlike the many embodiments in the '178 Patent where hollow spaces exist independently and the battery is “positioned within them” (see, e.g., Figs. 4, 8, 12D, 14E, 15 and 16), the alleged cavity in the Accused Products *never* exists as a hollow space into which the battery is positioned as required by the claims.

Third, Oura’s gerrymandered cavity is totally unrecognizable to and unsupported by the '178 Patent. It is not a cavity under any fair reading of the claims and specification of the '178 Patent. Indeed, there is nothing in the '178 Patent that even remotely resembles the area encircled by the yellow lines that Sarrafzadeh points to as the alleged cavity. It is clear, therefore, that the inventors never envisioned or contemplated that the outer surfaces of the components themselves would define the claimed cavity. And that makes sense because under Oura’s flawed reasoning, any physical object would create its own cavity (i.e., the space it occupies). Rather, the inventors disclosed actual hollow spaces between housing components in which batteries are positioned and sized and shaped to fit. *See, e.g.*, JX-0001, Figure 8, 12D, 14D, 15 and 16.

Tellingly, Oura did not include in the portion of its post-hearing brief where the cavity limitation first appears (i.e., Limitation 1[c-i] at pages 38-46) the annotated images above showing Sarrafzadeh's gerrymandered cavity, even though it had relied on those images extensively throughout this entire Investigation to illustrate the alleged cavity. Oura's decision to omit those images in Oura's first and most relevant section addressing the cavity limitation speaks volumes.

(c) Oura's Reliance on Marketing Materials and Social Media Posts is Misplaced And Is Intended To Distract The ALJ

Oura's attempts to distract the ALJ from the actual design of the Accused Products by relying on artistic graphics used in social media and on websites fall flat. While this case is about carefully manufactured consumer-health products—where no fewer than eight engineers testified—Oura inexplicably does not turn to engineering and manufacturing documents, instead turning to Instagram (Ultrahuman) and a website advertisement (RingConn). Indeed, Oura's purported “smoking gun” evidence is an Ultrahuman social media post (CX-0537) and a RingConn marketing document (CX-0567.0008).



But neither of those documents accurately depict the Accused Products. Oura PHB at 38, 44. Indeed, RingConn’s CEO Dr. Wu testified that the marketing document relied on by Oura is an artistic “graphic used by our RingConn Marketing Department” that does not “accurately reflect the structure of the RingConn ring.” Tr.759:17-760:19. Ultrahuman’s CEO Mr. Kumar similarly testified that the “artistic expression” from Ultrahuman’s social media post relied on by Oura “is not a technical document,” is “100 percent inaccurate,” and that the actual Ultrahuman product has “no clear inner layer.” Tr.673:15-675:12.

With respect to the RingConn marketing document, Dr. Wu explained some of the inaccuracies, including that the RingConn Accused Product “does not have a plastic material shown here as an inner ring, as part of our components” (Tr.759:17-760:19) which is also apparent from each and every image of the actual RingConn products introduced in this investigation. Mr. Wang provided corroborating testimony. Tr.1178:22-1179:12. Of course, these marketing

documents do not depict reality: publicly posting confidential design information “would not be typical” in Mr. Alarcon’s decades of designing consumer products. Tr.952:1-22.

Despite that testimony, throughout the hearing and in its post-hearing briefing, Oura relies extensively on these inaccurate artistic graphics to support its infringement allegations. Oura PHB at 38, 44. The Staff does as well. *See, e.g.*, Staff PHB at 20. Oura elevates these artistic renderings over the product-teardown evidence and engineering schematics presumably because it recognizes that the latter—more reliable—evidence does not actually support its infringement allegations.

With respect to the cavity limitation, Oura relies on these inaccurate artistic expressions to vaguely assert that “the battery is positioned within the space that is created between the external metallic structure and ... a layer of solidified epoxy.” Oura PHB at 38; *see also* Oura PHB at 43 (referring to the “external housing component, the internal housing component, [and] the battery will go between the two”). These arguments should be rejected for improperly relying on inaccurate and irrelevant artistic graphics. But even putting aside the fact that the so-called “layer of solidified epoxy” does not even exist as depicted in the artistic renderings, Oura does not even say whether it is alleging that the undefined “space between the external metallic structure and ... [alleged] layer of solidified epoxy” is the cavity, and if so, what precise space between those structures is the cavity. *Id.* at 44. Is it all of the space, some of it, only the portion occupied by the components, or something else?

Oura has the burden of proof here. Its decision to rely on inaccurate artistic renderings combined with its failure to even state whether the undefined space it refers to in those renderings is the cavity—and if so, what space is precisely being referred to as the cavity—falls far short of carrying that burden.

[REDACTED]

Respondents' manufacturing processes show these marketing materials do not reflect the technical details of the products.

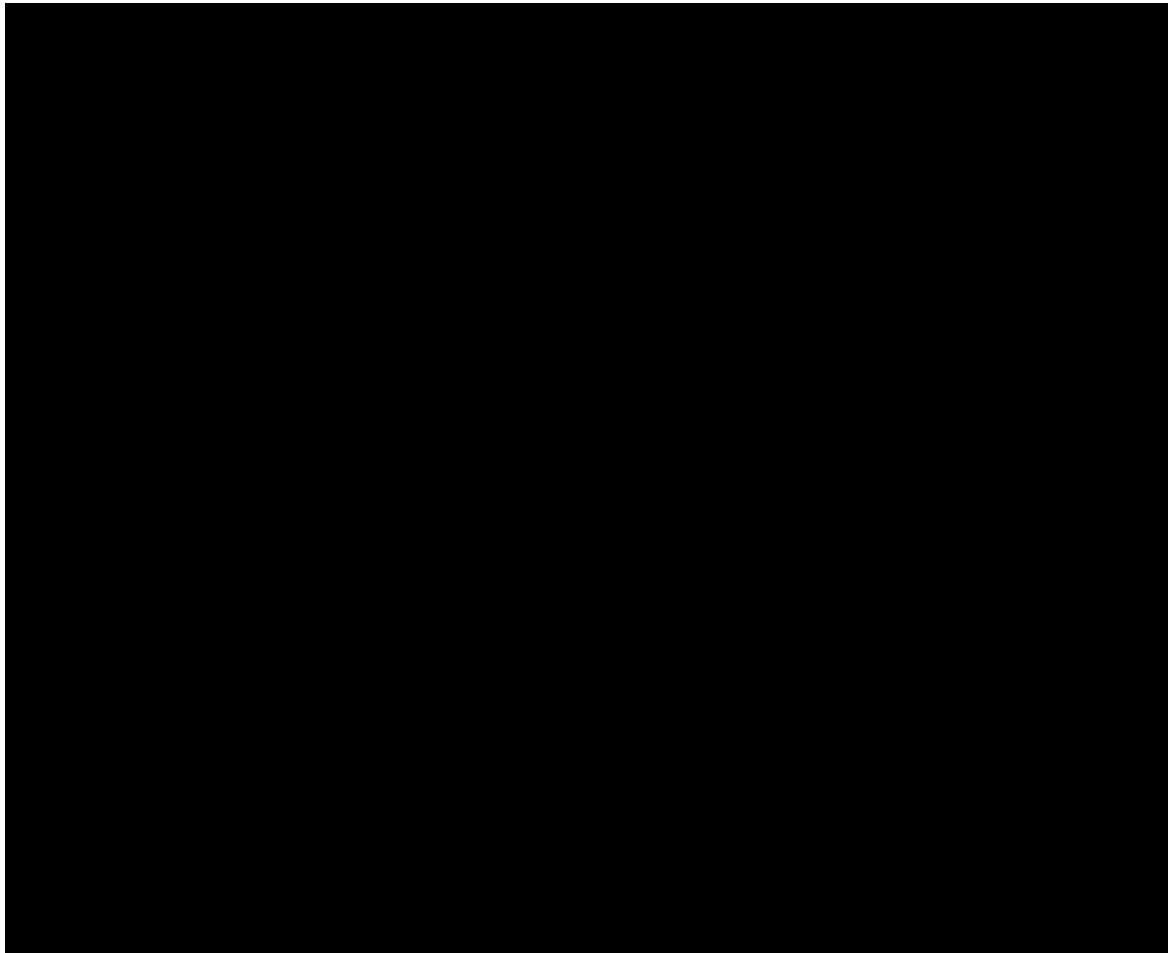
Ultrahuman. Mohit Kumar testified at length that Ultrahuman's manufacturing process ensures [REDACTED]

[REDACTED]
[REDACTED]. Tr.655:18-656:4. Every teardown corroborates his testimony. *See* CX-1089, RPX-0014; RX-0458 (image of RPX-0015); RX-0459 (image of RPX-0014).

Nor does the requisite cavity/hollow space ever exist with Ultrahuman's rings at any point during the manufacturing process. As Mr. Kumar explained, [REDACTED]

[REDACTED] Tr.648:19-650:13. [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]. Tr.655:2-17, 657:6-658:10.



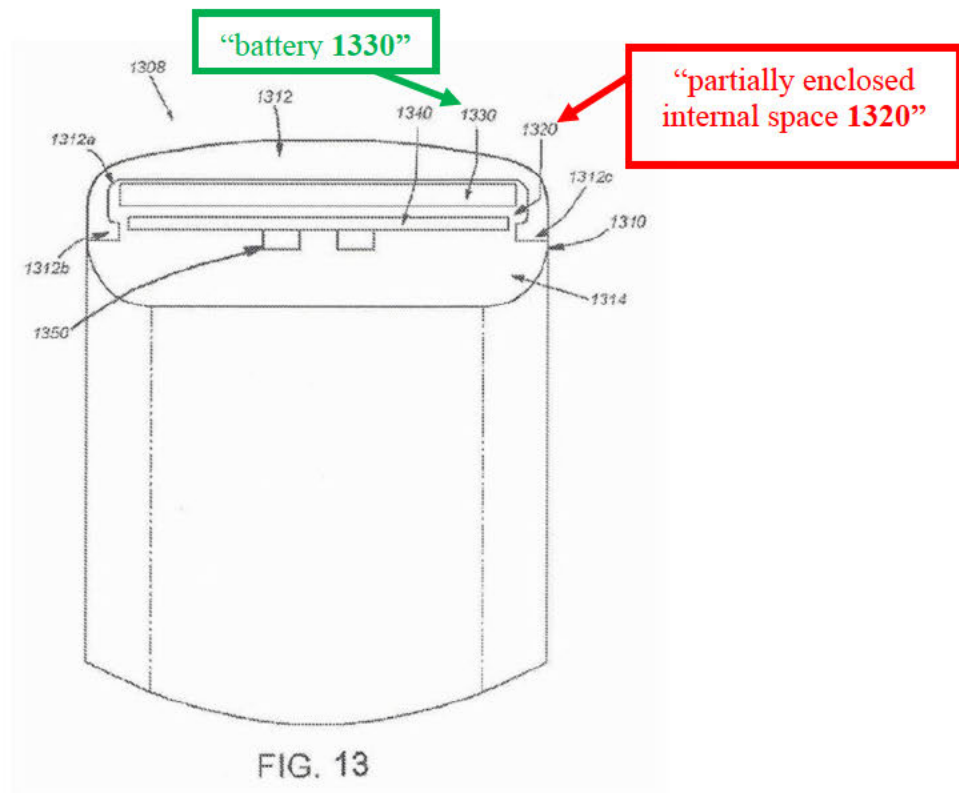
Tr.660:9-24. Any space that might exist between the mold and the outer metal band prior to the pouring of resin is entirely filled by potting. Again, the internal volume within the mold cannot be the claimed cavity because it is created by the mold itself, a temporary component used in manufacturing that is not a ring housing structure. *See* Tr.231:25-232:3 (von Badinski) (“Q. The mold is the space-enclosing structure, not the ring itself? A. I don’t consider the mold part of the ring, though. That’s just the manufacturing process.”).

RingConn. RingConn also brought two corporate witnesses to trial who testified that the RingConn Accused Products are specifically designed to ensure there is no cavity. In particular,

Dr. Wu and Mr. Wang both testified unequivocally that a primary purpose of the RingConn manufacturing process is to ensure that potting material fully encapsulates the PCB and battery so that there is no cavity. Mr. Wang, for example, testified that *“/b/y design, I want the epoxy to fully encapsulate PCB and other components.”* Tr.1157:16-20. Likewise, Dr. Wu testified that “we used a potting process to *ensure that the PCB and the battery of our products can be completely encapsulated in this potting material* in order to create the molded structure.” Tr.745:15-20. Dr. Wu and Mr. Wang explained in excruciating detail how RingConn’s manufacturing process ensures that the potting material fully encapsulates the PCB and battery, the steps of which are summarized below in Section V.D.3(a).

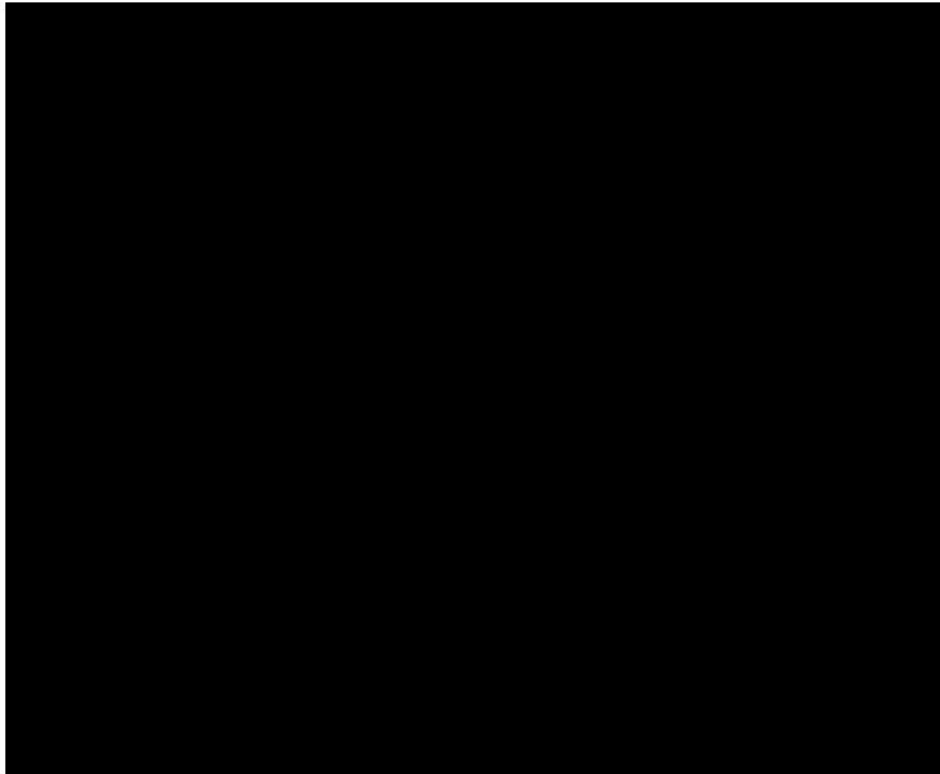
(d) To the Extent Oura Now Tries to Argue that the Cavity is the Space Between the Sidewalls of the Metallic Ring, that Argument Fails

While Respondents’ expert Mr. Alarcon was discussing Figure 13 of the ’178 Patent (shown below) and explaining why it is not a claimed embodiment, the ALJ asked the following question: “[i]s the partially enclosed internal space [1320 in Figure 13] a cavity?” Tr.820:16-17.



Mr. Alarcon opined that internal space 1320 is not a cavity at least because it is filled with potting 1314 and, therefore, is not a hollow space. Tr.911:25-912:5 (“there is internal potting ... [that] fully occupies the partially enclosed space, 1320, ... [s]o there is no hollow space.”). Further, this “partially enclosed” space cannot be the cavity because it exists *within* one component—the external housing—not *between* an IHC and an EHC. Tr.820:18-821:3; Tr.911:8-17.

It seems that the ALJ’s question piqued the interest of Oura, as it now at least suggests *for the first* time in its post-hearing brief that the claimed cavity is the space “within the ridge of the outer ring.” Oura PHB at 38, 46 (RingConn), 44, 49 (Ultrahuman). For example, when addressing whether the Accused Products have “*a battery positioned within a cavity*”, Oura asserts with reference to the image below that “*the battery ... [is] positioned within the ridge or space of the ‘Outer Ring’*” (i.e., external housing component) prior to the application of the potting.”



Oura PHB at 39; *see also*, Oura PHB at 40 (referring to “battery ... positioned within the ridge of the external housing component...”); *see also*, Oura PHB at 44, 49 (same for Ultrahuman).

That “space within the ridge” in each Accused Product is shown more clearly below using red rectangles.



RX-0457.2; CX-1089. To the extent that Oura is in fact now claiming that this space is the alleged cavity in which the battery is positioned, that argument must be rejected for several reasons.

First, any argument that the space in the so-called ridge is the alleged cavity is a new argument not in Oura's pre-hearing brief and therefore has been waived. *See* Oura Pre-Hrg. Br. at 77 ("cavity that is formed when the battery is placed in the ridge of the external housing component (*see* CX-0647C) and the potting material is poured over the components, thus creating the space that is occupied by the battery," and "[t]he battery fully occupies the cavity because once the potting material is cured and solidified, it forms a seal around the components."). *See also id.* at 83 (same for RingConn). Thus, it is waived. G.R. 11.2.

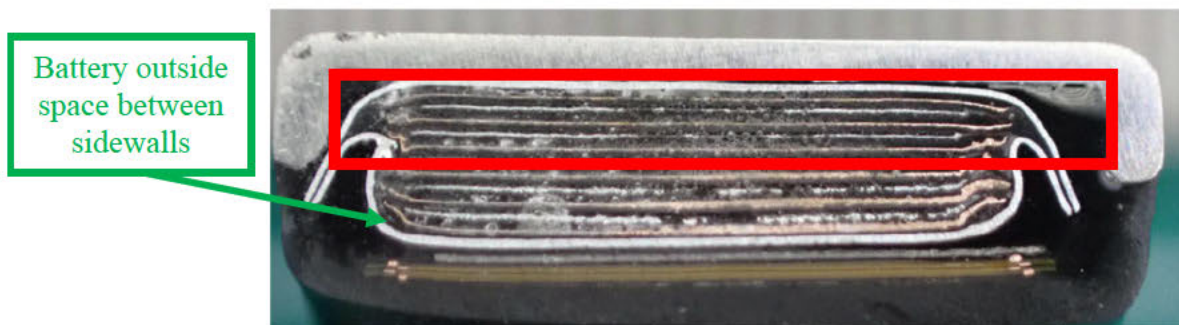
Second, as Mr. Alarcon testified and the images of the Accused Products clearly illustrate, the so-called "ridge" or "space within the outer ring" of the Accused Products is completely filled with potting material—it is not hollow.



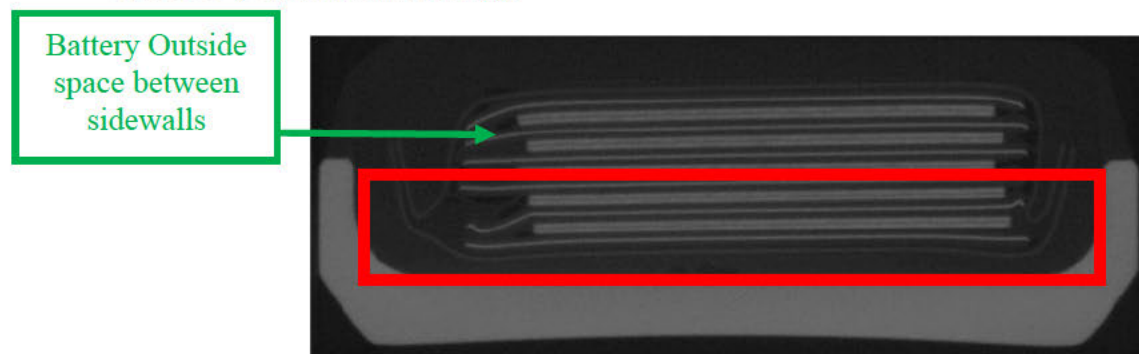
Tr.800:6-18; *see also* Tr.911:25-912.5; RDX-0011.24; CX-1040; CX-1069; RX-0457.2; *see also* RDX-001C.11, CPX-0196, CPX-0198, CPX-0199, RPX-0013.

Third, claim 1 of the '178 Patent requires that the "battery comprises a shape and size configured to fit *within* the cavity." JX-0001, claim 1. But the battery in the Accused Products

does *not* “fit within” the so-called ridge in the Accused Products, but rather extends well outside that space as shown in the images below:

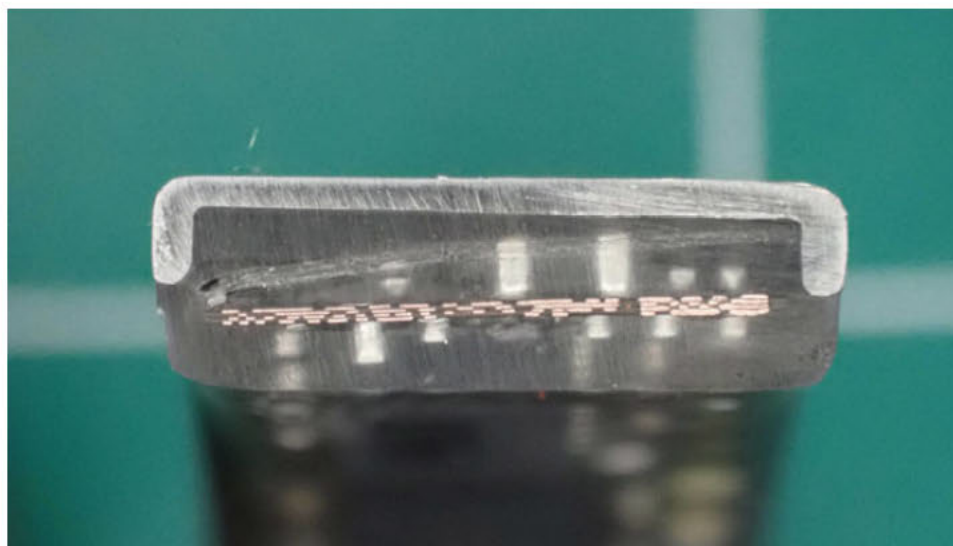


CX-1088 (Ultrahuman Battery).



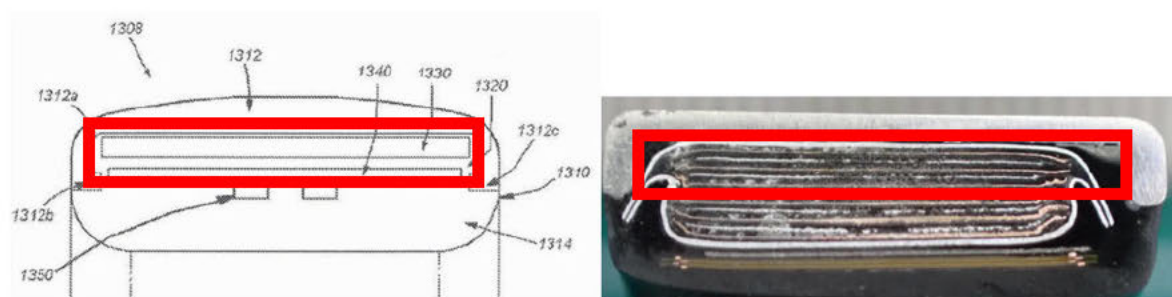
CX-0649C.002 (RingConn Battery).

Further, in the Ultrahuman product, *Oura's own* teardown shows the PCB (the copper component) positioned beyond Oura's so-called ridge of the outer ring:



CX-1089. Thus, even if Oura is permitted to change its position now to argue that the “ridge” is the cavity, there would be no infringement.

This highlights an important difference between Figure 13 of the '178 Patent and the Accused Products. In contrast to the Accused Products—where the battery extends outside the space between the sidewalls of the metal ring (as shown in Ultrahuman’s product shown on right below)—the battery 1330 in Figure 13 actually fits within the partially enclosed space 1320 (as shown in the Fig. 13 on the left below):

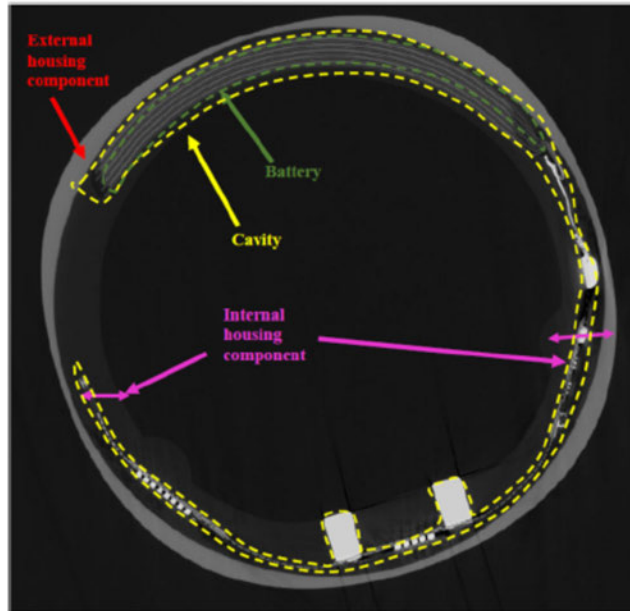


JX-0001 at Fig. 13 (annotations added); CX-1088 (annotations added). Accordingly, even if the ALJ were to find that Figure 13 is an embodiment of the asserted claims (it is not), the Accused Products are fundamentally different from Figure 13.

2. The Cavity In The RingConn Accused Product Is Not Between The IHC And EHC For A Reason That Is Unique To RingConn

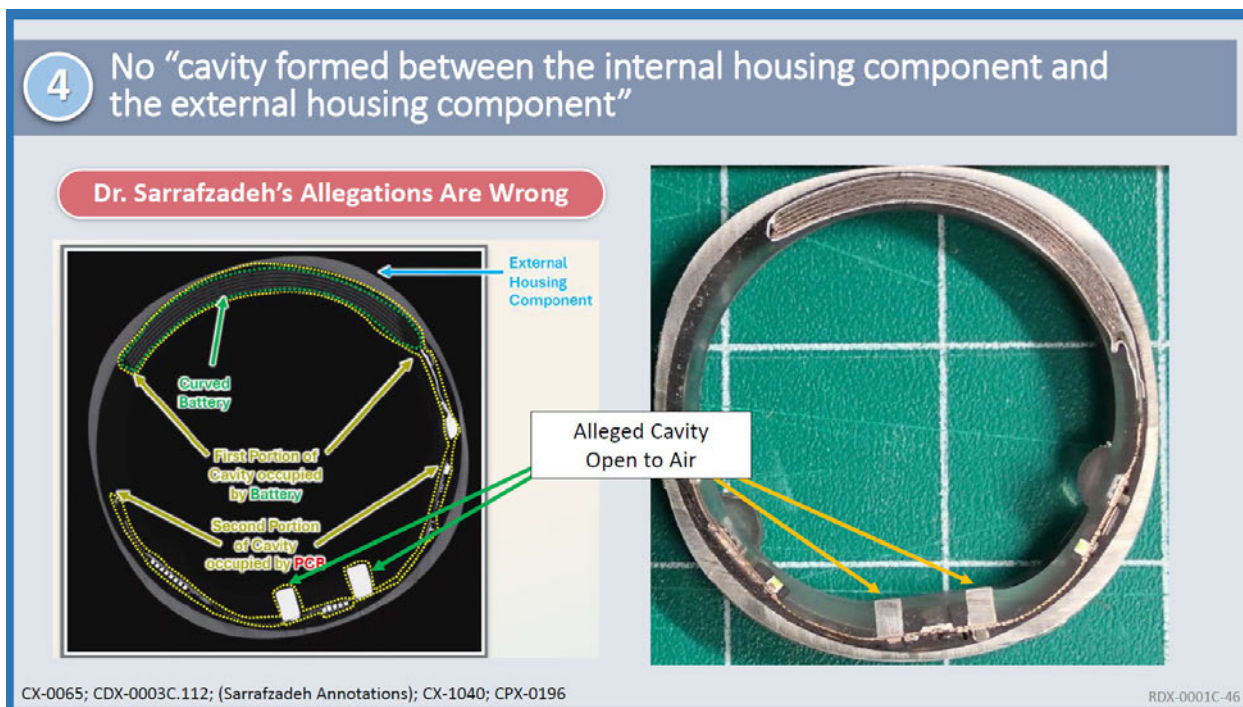
The claims of the '178 Patent require all three of the cavity, PCB and battery to be disposed “between” the IHC and EHC. JX-0001, claim 1. Those three “between” limitations are addressed together in Section V.D below. However, RingConn’s product has a unique feature that results in non-infringement of the “cavity between” limitation that logically makes sense to address here with the rest of the cavity limitations.

In particular, and as shown below, RingConn’s product includes charging contacts (i.e., the two light gray rectangles in the image below), and Oura’s gerrymandered cavity goes around those contacts.



RDX-0011.25; RX-225.32. Sarrafzadeh admitted that “the cavity that [he] point[s] to ... in yellow ... goes all the way around those charging contacts and covers [the tops of] them.” Tr.403:3-6; Tr.403:7-10.

But this is fatal to Oura’s infringement read. In particular, Sarrafzadeh’s alleged cavity is exposed to air, a fact he admitted on cross examination. (Sarrafzadeh) Tr.403:11-15 (Q. And as a result of that, *a portion of your alleged cavity in the RingConn products is exposed to air?* A. Well that’s supposed to be a flat with the internal housing component. And, *yes, part of it is exposed to air.*”); RDX-0001C.46 (citing CDX-0003C.112 (Sarrafzadeh annotations)).



RDX-0001C.46. And because it is exposed to air, Sarrafzadeh’s alleged IHC does not cover his alleged cavity, a fact he conceded. Tr.402:20-403:2 (Q. Do you know what the top surface of the charging contacts are? A. I do. Q. Is there any potting material on top of those? A. No. Q. You point to potting material as your internal housing component, right? A. Correct).

Mr. Alarcon likewise testified that it is not “possible to cover the battery contacts in RingConn’s ring” with potting material because “[i]t would destroy the function of the charging” causing the ring to never connect to the charging pins on the case, which would render the device inoperable. Tr.916:3-15. As a result of the foregoing, including the fact that Oura’s alleged cavity is open to air and not covered by Oura’s alleged IHC (i.e., potting material), Oura’s alleged cavity simply cannot be between the IHC and EHC as required by the claims. Tellingly, Oura did not address this argument in its post hearing brief, despite RingConn maintaining it throughout the course of this Investigation.

Notably, the claims require that the “cavity” be “formed between” the IHC and EHC, not a “portion of the cavity” be formed between. The inventors knew exactly how to refer to only a portion of the cavity in the claims when they wanted to; they actually did exactly that in claim 1 when referring to a “first portion of the cavity” and a “second portion of the cavity.” JX-0001, claim 1. In the limitation requiring that the cavity is “formed between,” the inventors intentionally chose not to qualify the term “cavity” with the language “a portion.”

If the claim were interpreted to allow portions of the cavity to be outside the housings, it would defeat the entire purpose of the claimed invention, which is to have two housings *enclosing* a hollow space/cavity so that components (e.g., a PCB and battery) can be placed inside the hollow space/cavity that is enclosed by the housings.

B. No “battery positioned within and... compris[ing] a shape and size configured to fit within the cavity”: Limitations 1[c-i] and 1[c-ii]

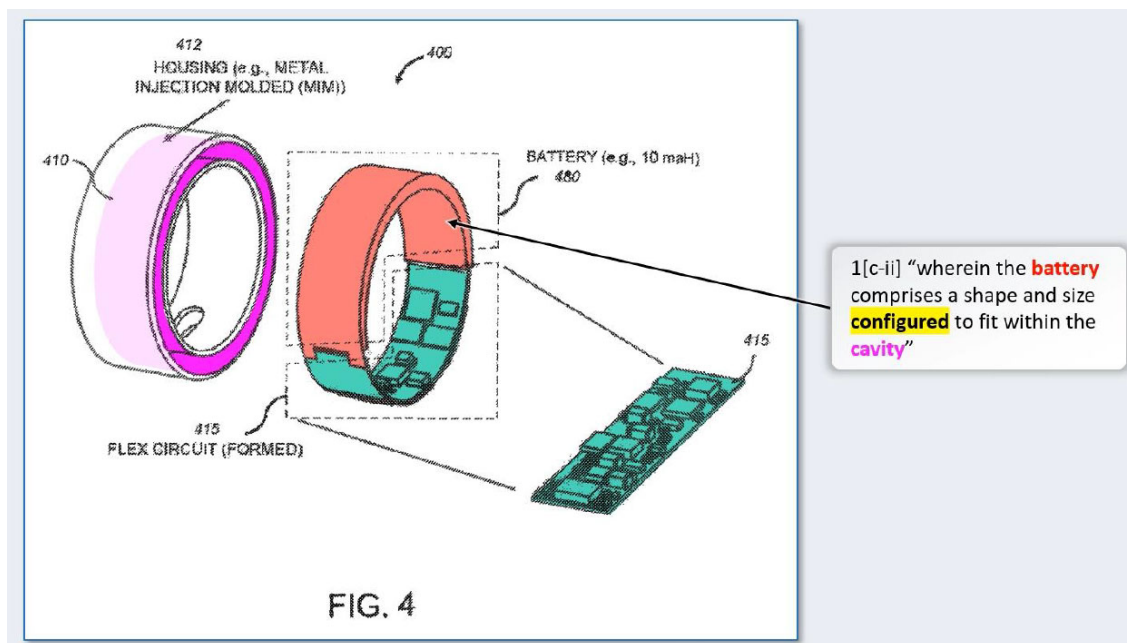
This claim limitation, perhaps more than any other, underscores how fundamentally different the Accused Products are from the asserted claims. The key language in this claim limitation requires the battery to be “*positioned within* the cavity” and comprise a “*shape and sized configured to fit within the cavity*.” JX-0001, claim 1. That language unequivocally mandates that the claimed cavity exists prior to and independent of the battery. But that is not the case in the Accused Products.

Indeed, in order for a battery to be “positioned within” and of a “shape and size configured to fit within” a cavity, that cavity has to be a defined space that exists prior to and independent of the battery so that the battery can be positioned and shaped and sized to fit within it. Courts have consistently construed “configured to” to require “intentional design.” *McHugh v. Hillerich & Bradsby Co.*, No. C07-03677, 2010 WL 682339 at * 6 (N.D. Cal. Feb. 24, 2010), *aff’d*, 413 F. App’x 240 (Fed. Cir. 2011); *Acuity Brands Lighting, Inc. v. Ultravision Techs., LLC*, No. 19-2207,

2021 WL 3187439, at *7 (D. Del. July 28, 2021) (construing “configured to / configured so” as “designed to / designed so” rejecting argument that “configured is simply the hypothetical ability to do something”).

Notably, the ALJ was on to this issue very early on in the Investigation. During the claim construction hearing, the ALJ asked a very poignant question: “[D]oes the claim require there be a cavity independent of the components that fill that cavity?” *Markman Tr.*, Aug. 15, 2024 at 57:1-3. And that question gets to the very heart of the issue as it relates to this limitation. The answer to the ALJ’s question, as demonstrated above, is a resounding yes: if the cavity is not independently defined and does not exist independent of the battery, there is no way for the battery to be positioned and shaped and sized to fit within it.

The ’178 Specification supports this conclusion. It discloses several examples of batteries “positioned within” and of a “shape and size configured to fit within” a cavity that exists independently of the battery. For example, Figure 4 (annotated below) discloses a housing 412 having internal and external walls that define a cavity (shown in magenta).



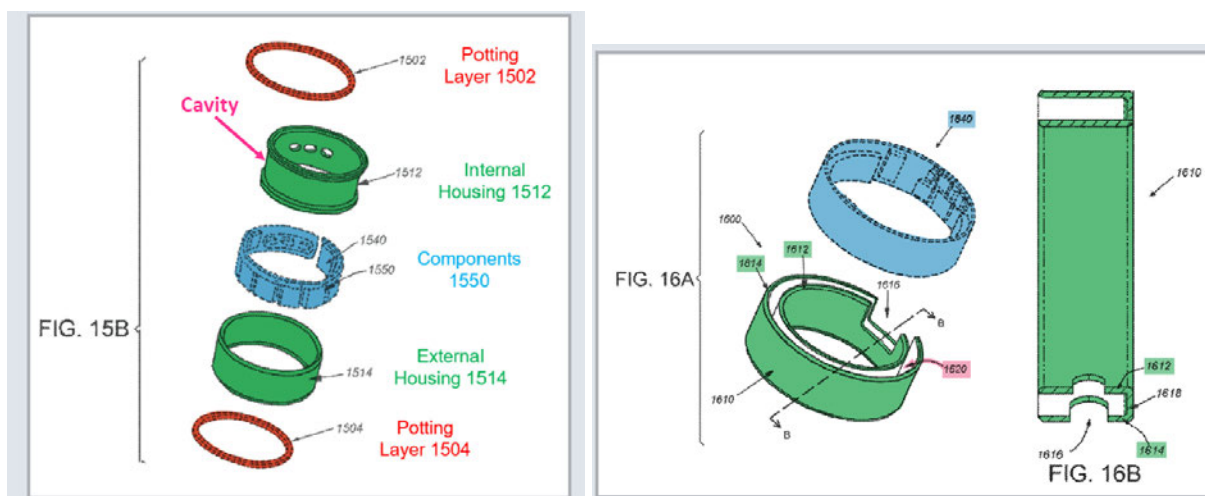
RDX-0001.63.

That **cavity** is defined and exists independent of the **battery**. As a result, the **battery** 480 can be “positioned within” and of a “shape and size configured to fit within” the **cavity**. Thus, in this embodiment, the size of the battery does not dictate or define the cavity. In fact, just the opposite is true. The cavity is formed independently, and then the battery’s shape and size are dictated by the dimensions of the cavity so that the battery will fit within the cavity.

This is consistent with Mr. Alarcon’s view, who testified that in claim 1 and the embodiments that practice that claim, “the cavity drives the dimension of the battery, not the reverse.” Tr.926:21-927:6. In other words, “you look for the cavity, and then you can shape and size the configuration of that battery to fit” in the cavity. Tr.1051:4-15. Inventor von Badinski concurs. Tr.233:10-15 (“Q. One of the important aspects of the process would be to know the dimensions of the cavity in order so you can get a battery that’s of the appropriate size and shape, right? A. Yeah. I mean, it’s applicable for pretty much all rings.”). Mr. Alarcon further testified with respect to Figure 4 that “with that cavity being known, you can understand how to or where to position the battery, as well as how to shape and – how to configure its shape and size to fit within that cavity ... [s]o, yes, ... this is an example” of a battery comprising a shape and size to fit within the cavity. Tr.810:11-24.

Figure 4 is not the only embodiment where the battery is “positioned within” and of a “shape and size configured to fit within” the cavity. At least Figures 8, 15 and 16A also illustrate a battery “positioned within” and of a “shape and size configured to fit within” a space. For example, annotated Figures 15A and 16A/B shown below discloses **internal housings 1512/1612** and **external housings 1514/1614**, a **cavity (shown in pink)** between those two housings, and

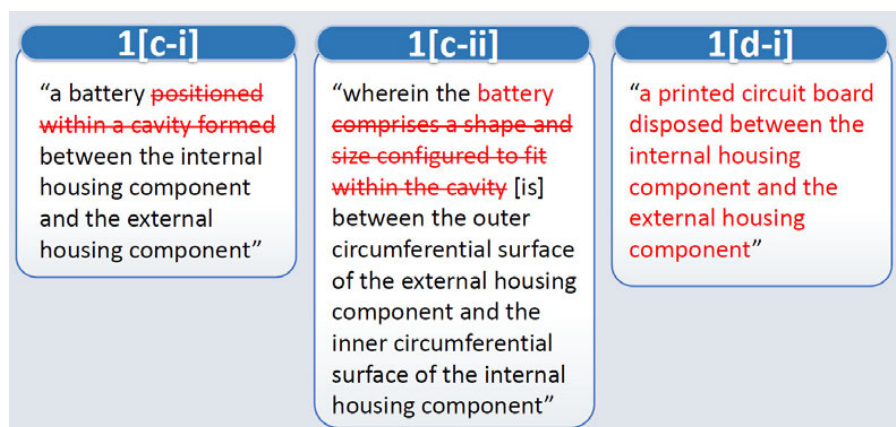
components (including a battery) that are “positioned within” and of a “shape and size configured to fit within” the cavity.



RDX-0011.8-9; JX-0001, Figs. 15B, 16A-b.

Yet with respect to the Accused Products, Oura offers no proof on this issue, instead arguing that the limitation is met merely because a battery exists in the final ring. But the inventors did not claim a ring comprising a battery—they claimed a ring comprising a “cavity” within which a “configured” battery of an appropriate size and shape is positioned. The inventors could have claimed the former, but chose not to. Indeed, that is precisely how they claimed the PCB limitation, which only requires that the PCB be “disposed between the internal housing component and the external housing component.” JX-0001, claim 1. But the battery limitations require more, including that the battery be “positioned within” and “shape[d] and size[d] to fit within” the *cavity*. That is the balance the inventors struck when carefully choosing the words of their claims.

Nevertheless, Oura and Staff rewrite the battery claim limitations in the following manner so that they read more like the PCB limitation:



RDX-0001.22.

1. Respondents' Accused Products Do Not Have A Battery Shaped And Sized To Fit Within Oura's Alleged Cavity Because That Alleged Cavity Does Not Exist Until After the Batteries Are Shaped and Sized

In contrast to the claims and the embodiments discussed above, Respondents' Accused Products do not have a battery "positioned within" and of a "shape and size configured to fit within" a cavity. The reason for that is simple—Oura's alleged cavity (i.e., the space occupied by the battery) does not exist until *after* the battery is positioned and shaped and sized. As a result, the battery in the Accused Products simply cannot be "positioned within" and "shape[d] and size[d] to fit within a cavity" that does not exist until *after* the battery has already been positioned and sized and shaped. Oura has the claim backward, thus reading out a crux of the invention in the process.

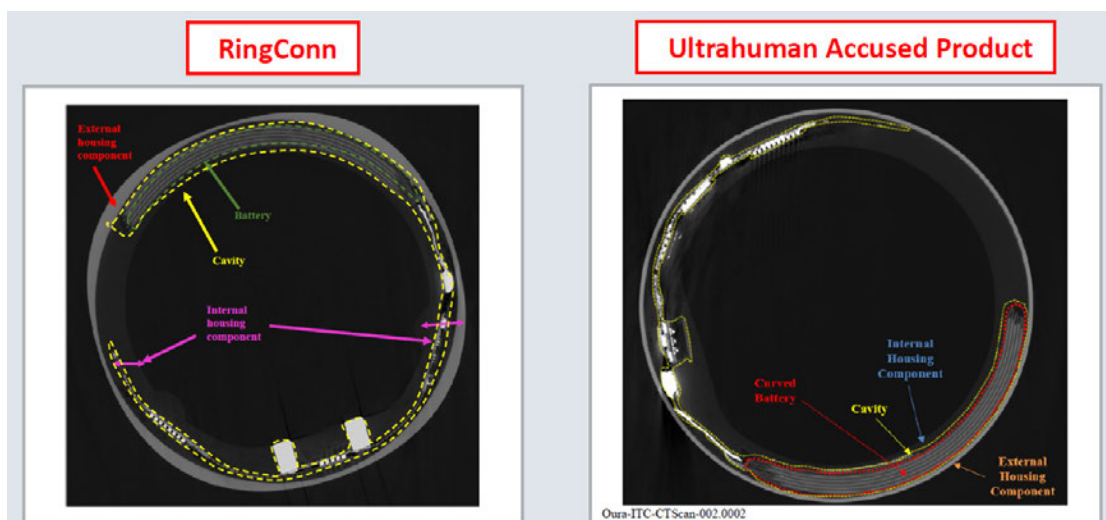
As discussed above, there is no dispute that Oura's alleged cavity does not exist until after the battery is positioned and sized and shaped. Oura admitted in its pre-hearing brief that the cavity is only formed when the battery is placed in the external housing component and the potting material is poured over the components – that's what "create[s] the space that is occupied by the battery." RDX-0011.33; Oura Pre-Hrg. Br. at 83.

Similarly, Sarrafzadeh admitted that his alleged cavity “doesn’t get formed until *after* you put the battery into the external housing component and until *after* you pour the potting material over it.” Tr.405:9-14. This assertion cannot be squared with his testimony that “there was a cavity where the battery was placed in,” (Tr.316:14-17) and that “the battery fits right in between that cavity.” Tr.323:2-7. Indeed, as Mr. Alarcon explained, “there is no preexisting or independent cavity [in the Accused Products], into which a battery can be positioned or configured to fit within.” Tr.810:1-5, 936:-937:7. And as much as Sarrafzadeh is referencing the mold as the “cavity where the battery was placed in,” the mold’s internal volume cannot be the claimed “cavity” since the mold is not part of the ring—much less a ring housing component. See *supra* Section V.A.1.

2. Oura Does Not Even Allege That The Battery In The Accused Products is “positioned within” and of a “shape and size configured to fit with” Oura’s Alleged Cavity.

Oura recognizes that the battery in the Accused Products cannot be “positioned within” and “shape[d] and size[d] to fit within” Oura’s alleged cavity because that alleged cavity only comes into existence *after* the battery in each Accused Product is positioned and sized and shaped. As a result, Oura alleges that the battery in each Accused Product is sized and shaped to fit within something other than Oura’s cavity. But these attempts at misdirection fail.

Throughout this Investigation, including through the trial, Oura (and the Staff) alleged that the cavity in the Accused Products is just the space occupied by the battery and PCB as shown below.

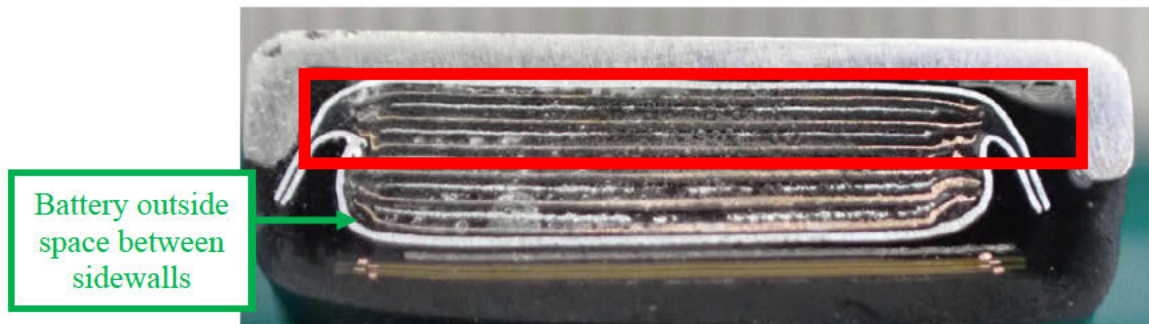


RDX-0011.25; RX-0225.32; RX-0402.97. (Sarrafzadeh) Tr.396:1-6 (The yellow lines “are boundaries ... [a]nd they represent cavities.”); (Sarrafzadeh) Tr.397:19-23 (agreeing that “the components in the accused products, for example the battery, *fully occupy* the cavity.”); Staff PHB at 26-27. Yet, Oura does not even attempt to allege that the battery in each Accused Product is “positioned within” and “shape[d] and size[d] to fit within” that alleged cavity, and for good reason. That alleged cavity comes into existence after the battery is positioned and sized and shaped and, thus, the battery cannot be positioned and sized/shaped to fit within it.

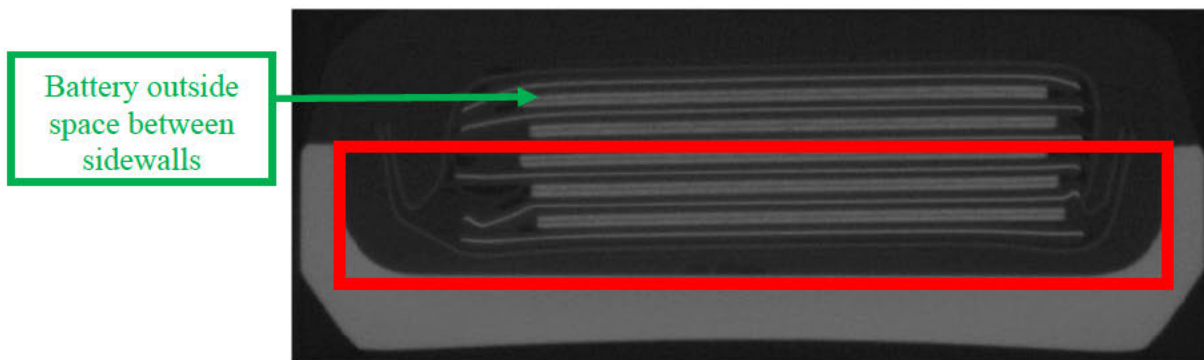
To overcome this problem, and as noted above, Oura argues in its PHB *for the first time* that the battery is “configured to fit within ... the ridge of the outer ring....” Oura PHB at 46, 49. Oura also asserts that battery “is configured to fit within the outer circumferential surface portion of the external housing component ... and the inner circumferential surface of the alleged internal housing component formed of potting material.” *Id.* But neither the “ridge” nor the entire space between the alleged outer and inner circumferential surfaces was ever argued by Oura to be the alleged cavity. To the extent Oura is attempting to argue such areas are the cavity, those arguments have been waived and should be rejected. G.R. 11.2.

(a) The So-Called “Ridge” in the Accused Products Cannot Be the Claimed Cavity

Even if Oura is permitted to argue that the “ridge of the outer ring” is the cavity, it cannot be the cavity for multiple reasons. As an initial matter, the space in this so-called ridge is created by one component—the outer band—not two. Thus, this is not a cavity formed between two housing components, as required by the claim. *See e.g.*, JX-0001, Figs. 15 and 16 (showing a cavity between two housing components) *compare with* Fig. 13 (internal space 1320 “partially enclosed” by only one component). But more significantly, the battery is not “shape[d] and size[d] to fit within that ridge for the reasons discussed above. Most notably, the battery in each of the Accused Products extends well beyond the so-called ridge (space in red) and does not fit in that ridge as shown below:



CX-1088 (Ultrahuman Battery).



CX-0649C.002 (RingConn Battery); Tr.1155:10-13 (Wang testifying that “the height of the battery in the RingConn Smart Ring extend[s] past the height of the sidewalls”).

(b) **Oura's Other New Assertion That The Cavity Is The Space Between The Inner and Outer Circumferential Surfaces Reads Limitations Out of the Claim**

Oura's argument that the battery "is configured to fit within the outer circumferential surface portion of the external housing component ... and the inner circumferential surface of the alleged internal housing component formed of potting material" reads important limitations out of the claims. That argument abandons any argument that the battery be "positioned within" and "shape[d] and size[d]" to fit within Oura's gerrymandered cavity and simply requires that the "battery is disposed between the internal and external housing components." But the inventors of the '178 Patent knew how to write a claim limitation that simply required a component to be disposed between the internal and external housing components. Indeed, that is precisely how they claimed the PCB limitation, which only requires that the PCB be "disposed between the internal housing component and the external housing component." JX-0001, claim 1. But the battery limitations require more, including a requirement that the battery be "positioned within" and "shape[d] and size[d] to fit within" the cavity. Oura and Staff are rewriting the battery claim limitations in the following manner so that they read more like the PCB limitation:

1[c-i]	1[c-ii]	1[d-i]
"a battery ~~positioned within a cavity formed~~ between the internal housing component and the external housing component"	"wherein the battery ~~comprises a shape and size configured to fit within the cavity~~ [is] between the outer circumferential surface of the external housing component and the inner circumferential surface of the internal housing component"	"a printed circuit board disposed between the internal housing component and the external housing component"

RDX-0001.22. That is improper. *Bio-Rad*, 998 F.3d at 1331 (Fed. Cir. 2021).

C. No “internal housing component”: Limitations 1[b], 1[c-i], 1[c-ii], 1[d-i], 1[e]

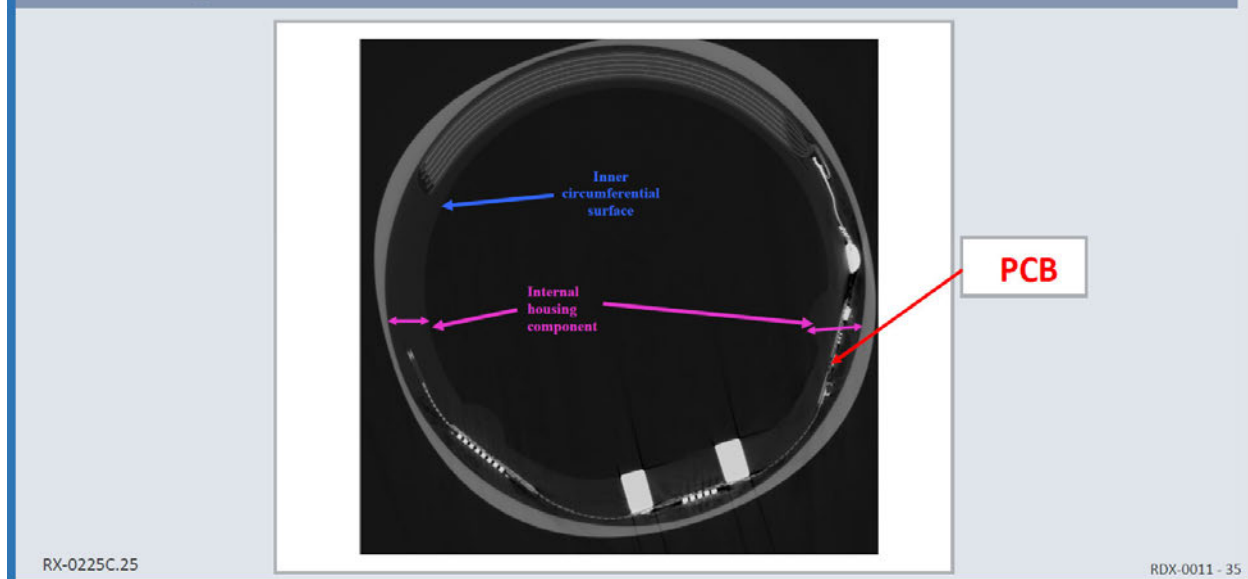
1. Oura’s Alleged Internal Housing Component Has Been A Moving Target That Has Materially Changed Many Times

Oura has had at least ten months to identify an IHC in the Accused Products, and still to this day it has been unable to clearly identify what it is alleging as the IHC. Oura’s position has changed so many times that it is difficult to track how many different IHCs Oura has alleged in this case. This constantly changing approach to identifying an alleged IHC in the Accused Products is compelling evidence that there is none.

(a) Oura Originally Argued that the IHC Is The Entirety of Potting Material Surrounding Internal Components

For most of this case, through contentions and expert reports, Oura consistently argued that the IHC is the *entirety* of the potting material used in Respondents’ Accused Products. That is shown very clearly in Oura’s final infringement contentions where Oura used a double-sided purple arrow to point to the potting material on *both* sides of the printed circuit board that spans from the inside surface of the alleged EHC all the way to the surface of the potting material that touches the finger.

Complainants' Original "Internal Housing Component" Was The Entirety Of The Potting Material

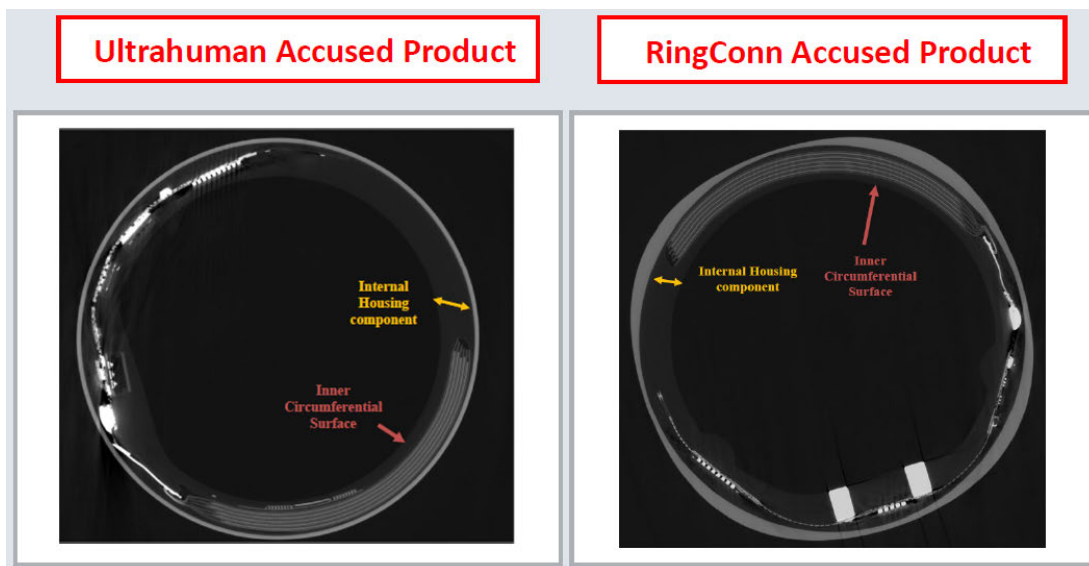


RDX-0011.35; RX-00225C.25.

Sarrafzadeh followed suit. As shown below, he, too, argued in his expert report that the IHC spans the entire thickness of the potting material, as the yellow arrows below illustrate.



RDX-0009.11; RX-0402C.67. And while the image above is of Oura's Gen.3 product, Dr. Sarrafzadeh made the exact same argument with respect to the Accused Products in his expert report.



RDX-0011.36.

Sarrafzadeh doubled down on the IHC being the entirety of potting around the components when he said in his expert report that “the internal molded structure encloses space *surrounding* the battery, PCB and other components and thus satisfies the ‘internal housing component’ limitation.”

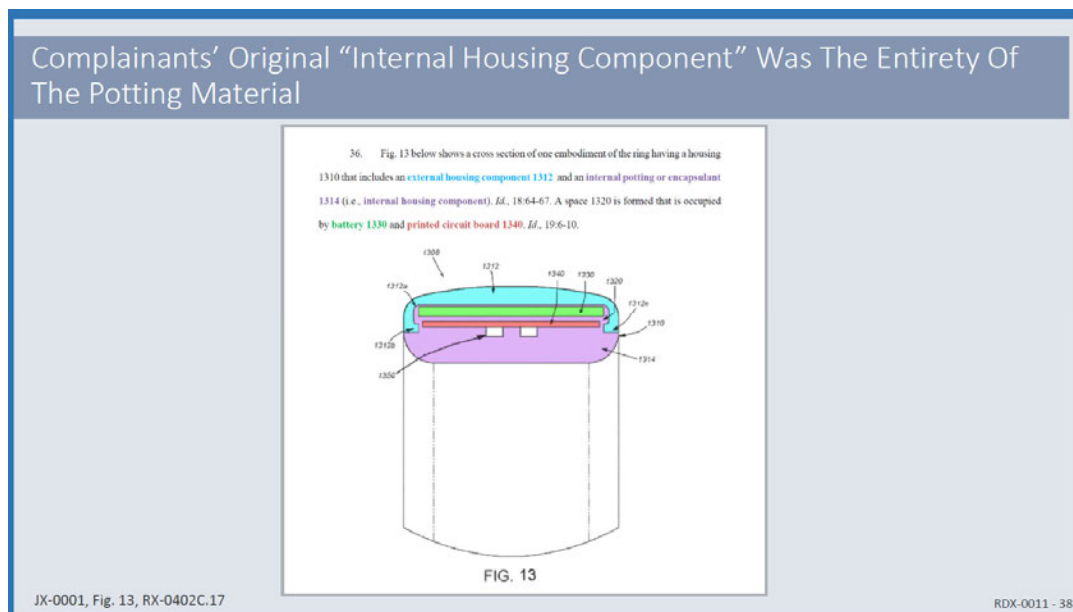
Complainants' Original "Internal Housing Component" Was The Entirety Of The Potting Material

material"; RingConn: "an external structure that encloses, rather than fills, space"). Under each of these proposed constructions, the internal molded structure of the RingConn Accused Product (highlighted below) encloses the space surrounding the battery, printed circuit board, and other components and thus satisfies the "internal housing component" limitation.

RX-0402C.57 RDX-0011 - 37

RDX-0011.37; RX-0402C.57. If the IHC surrounds the components, then it is on all sides of the PCB and battery.

Sarrafzadeh's original argument that the entirety of the potting material surrounding the components is the IHC is consistent with what Sarrafzadeh alleged as the IHC in Figure 13 of the '178 Patent. In particular, Sarrafzadeh alleged that the IHC in Figure 13 is the entirety of the potting material 1314, which he colored purple in his annotated Figure 13.

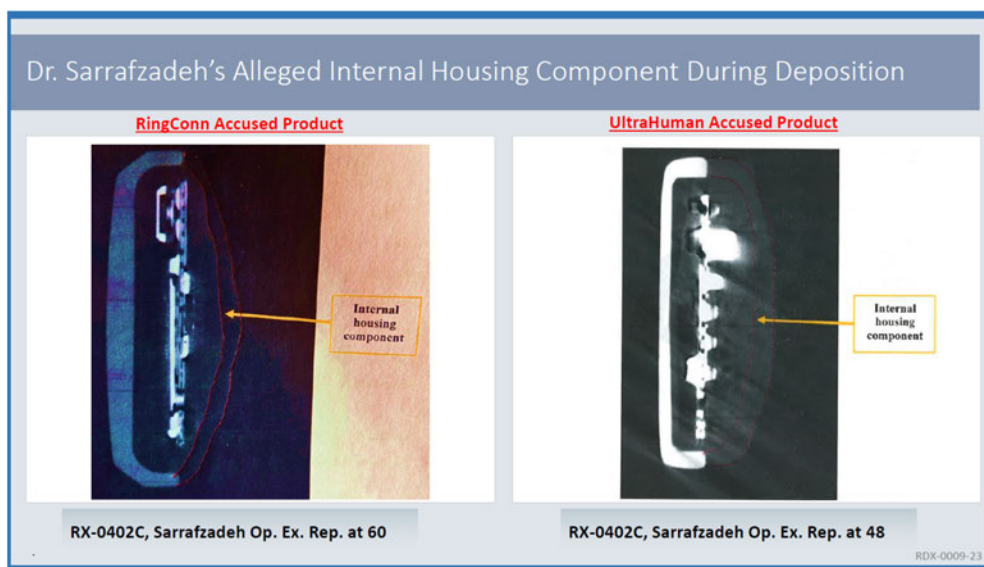


RDX-0011.38; RX-0402.17. And just as Dr. Sarrafzadeh originally opined that alleged IHC in the Accused Products “encloses the space surrounding” the PCB and battery (RDX-0011.37), Sarrafzadeh asserted that the purple color representing the alleged ICH in Figure 13 is “above,” “below,” and “to the left and to the right” of the battery 1330 and PCB 1340. Tr.358:10-18. Thus, as Sarrafzadeh also confirmed, the purple coloring representing his alleged IHC at the time of his expert report is “between the battery and the external housing component.” *Id.*

Based on the foregoing, there can be no credible dispute that Oura and Dr. Sarrafzadeh originally argued that the IHC is the entirety of the potting material that surrounds the PCB and battery in the Accused Products.

(b) Dr. Sarrafzadeh Changed His Alleged IHC During his Deposition And After Submitting His Expert Report

After many months asserting that the IHC is the *entirety* of potting material that surrounds the PCB and battery, Sarrafzadeh switched course at his deposition where—for *the first time*—he asserted that only *a portion* of the potting material is the IHC. Sarrafzadeh drew his new alleged IHC using red pen at his deposition as only a layer of the potting material.

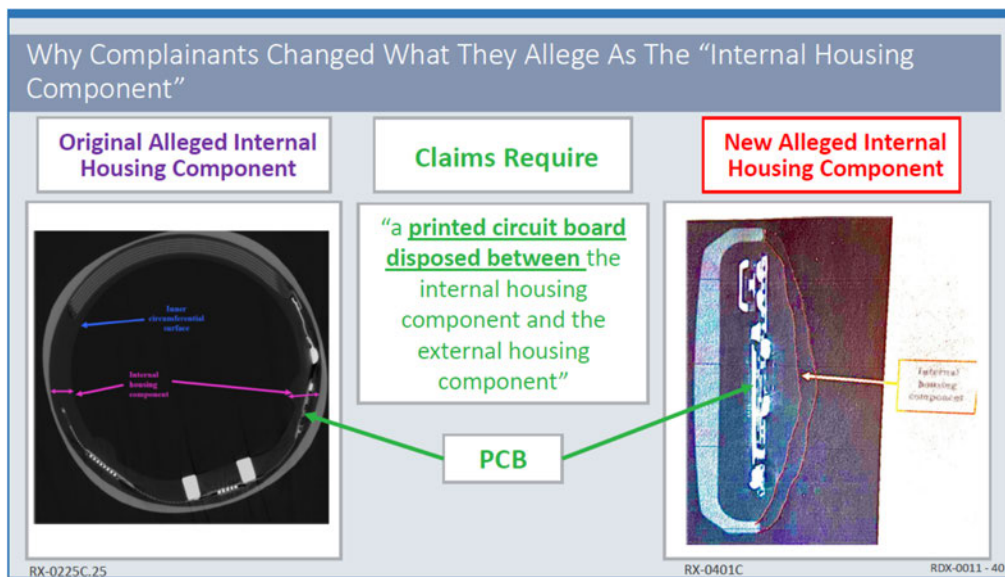


RDX-0009.23; RX-0402C at 48, 60; Tr.353:5-17. Sarrafzadeh referred to this arbitrary layer of potting material as “the outer layer or crust” of the potting material. Tr.352:7-18. And during his deposition, Sarrafzadeh made abundantly clear what his new alleged IHC was: “I have defined it 15 times today. I call it the crust.” Tr.353:23-354:2

Contrary to what he had alleged earlier in his expert report, Sarrafzadeh alleged during his deposition that this so-called crust (i.e., his new IHC) does not comprise all of the potting material in the Accused Products, but only “the layer of potting material that is closest to the inside of the ring in the” IHC. Tr.354:3-15. Sarrafzadeh confirmed that in the annotated images above where he drew the IHC with red pen, “there is actually potting material immediately to the left of” the alleged IHC so that the potting material that comprises the alleged IHC simply “abuts more potting

material.” Tr.355:4-24. Said another way, and as also confirmed by Sarrafzadeh, “there’s potting material to the right of the PCB that [Sarrafzadeh] does not include as [his] alleged [IHC].” Tr.356:18-21. In Sarrafzadeh’s view—at least as of his deposition—“the crust is the relevant part of potting material that is used in defining the internal housing component as recited in the claims of the ’178 patent.” Tr.354:20-24.

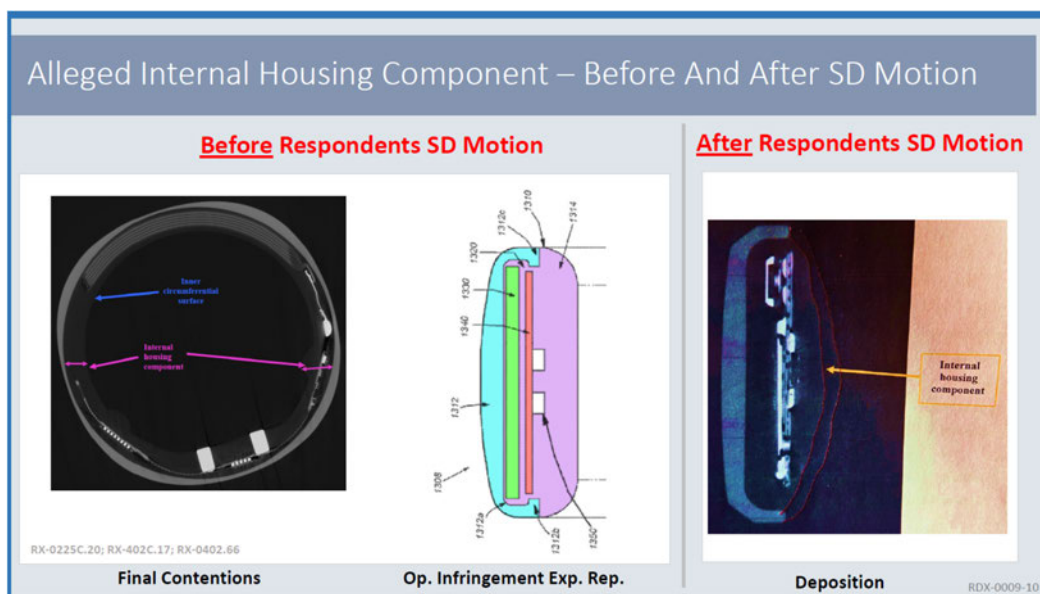
It appears that Oura and Sarrafzadeh materially changed what they alleged as the IHC to avoid summary judgment of non-infringement. The asserted claims require that the PCB be “disposed between the internal housing component and the external housing component.” JX-0001, claim 1. But as shown below, Oura’s original IHC was on either side of and completely surrounding the PCB, such that the PCB could not be said to be between the IHC and EHC (or anything else for that matter) as required by the claims.



RDX-0011.40; RX-00225C.25. Relying on Oura’s and its expert’s original contentions that the IHC was the entirety of potting material on all sides of the PCB, Respondents filed their MSD arguing that the PCB is not “disposed between” the IHC and the EHC. In response to Respondents’ MSD, and to avoid SD, Oura and Sarrafzadeh selected an arbitrary portion of the potting material

on only one side of the PCB (as opposed to on both sides of it as previously argued) in an effort to salvage an argument that the PCB is between the IHC and the EHC. As discussed below, however, this arbitrary portion of potting material is not an IHC.

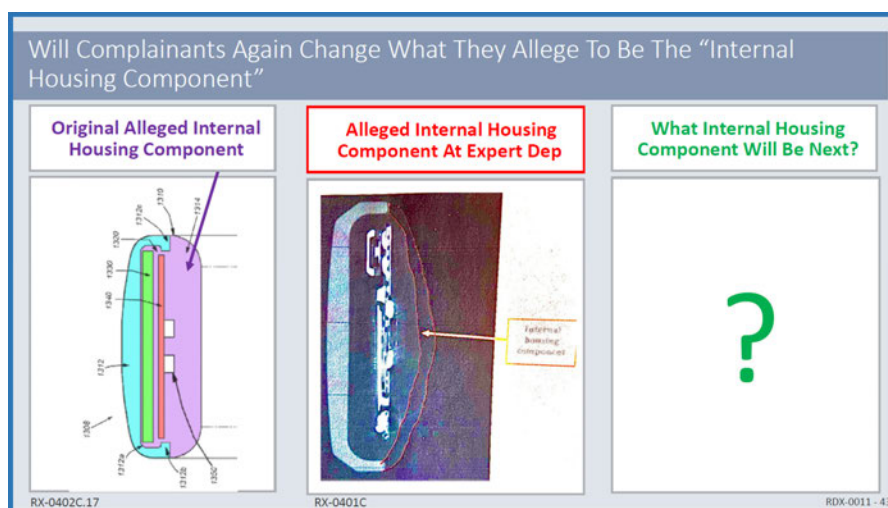
They say that a picture is worth a 1000 words, and the following image certainly is. It indisputably shows that Oura and its expert Sarrafzadeh materially changed what they alleged as the IHC after Respondents filed their MSD:



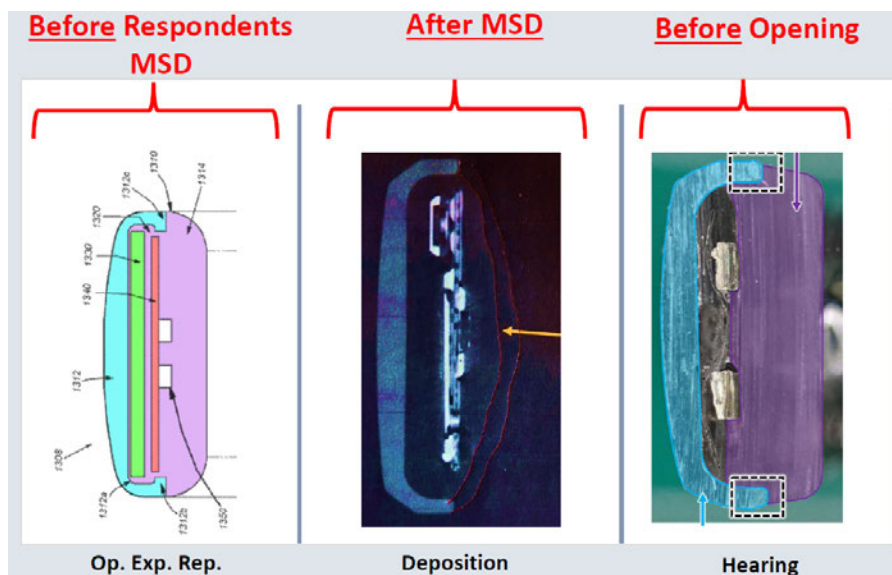
Investigation—which speaks volumes about his credibility. (Sarrafzadeh) Tr.351:14-352:6 (“100 percent” denying changing what he referred to as the IHC; “100 percent correct” that he pointed to an IHC with the exact same meaning throughout this case; agreeing that it would be “completely inaccurate to suggest” he did change his position on the IHC.).

(c) Oura’s and Dr. Sarrafzadeh’s Alleged IHC Continued to Change Through Opening Statements

Oura’s and Sarrafzadeh’s alleged IHC continued to change after Sarrafzadeh’s deposition, including during and right after opening statements. The night before opening statements were delivered, Oura circulated Sarrafzadeh’s direct demonstratives. Based on those demonstratives, it was clear that Oura and Sarrafzadeh were going to yet again change what they would allege as the IHC. Relying on those demonstratives, Respondents’ counsel previewed to the ALJ during opening statements that Sarrafzadeh might be offering yet another new alleged IHC.



RDX-0011.43. Sarrafzadeh did not disappoint, as his initial direct demonstratives offered an entirely new IHC shown in the third image below.



RDX-0009C.17. Even though Sarrafzadeh had defined the IHC “15 times” during his deposition (Tr.353:23-354:2) in such a way that it did not abut the PCB components (Tr.356:18-21—“there’s potting material to the right of the PCB that” is not included in the IHC), his new IHC introduced in his original direct demonstratives did abut PCB components.

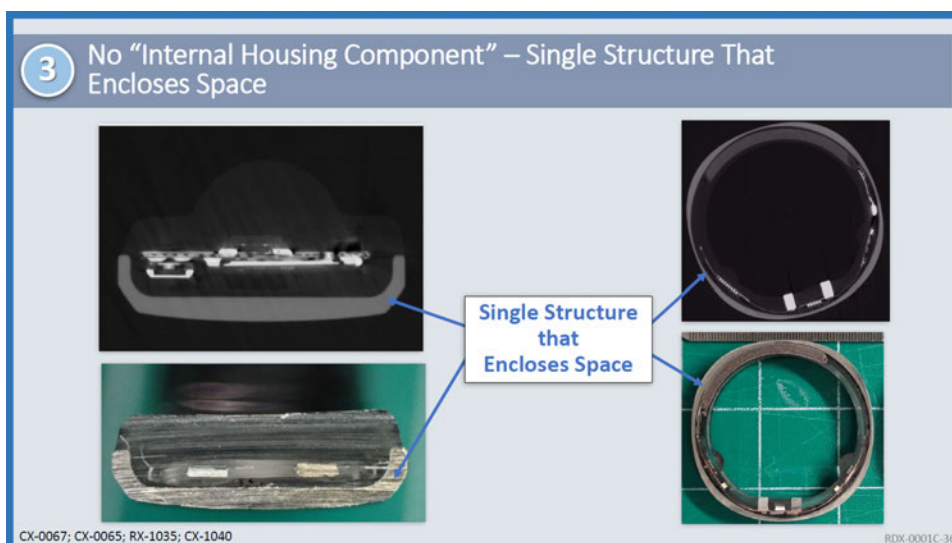
The problem with the IHC that Sarrafzadeh included in his original demonstratives is that it was entirely new and looked nothing like his previously alleged IHCs. Then, after counsel for Respondents called out Sarrafzadeh during opening statements for yet again changing what he alleged as the IHC, Sarrafzadeh decided to revise his demonstratives during a break after openings (see revised image on the far right below) in an effort to make his alleged IHC look more like the one he drew during his deposition:

As the foregoing plainly demonstrates, Oura's and its expert's assertions regarding the IHC have been a moving target throughout this Investigation. (Alarcon) Tr.812:2-814:11 (testifying that Sarrafzadeh's assertions about the IHC are "hard to follow" and include "a number of different opinions throughout this investigation ... [a]nd ... they all ... seem to be different."); *see* Tr.944:1-7 ("it's hard to keep track" of all of his permutations). The fact that they have had so much difficulty pinning down an IHC in the Accused Products is compelling evidence on its own that there is no IHC in the Accused Products.

2. Respondents' Accused Products Lack an Internal Housing Component

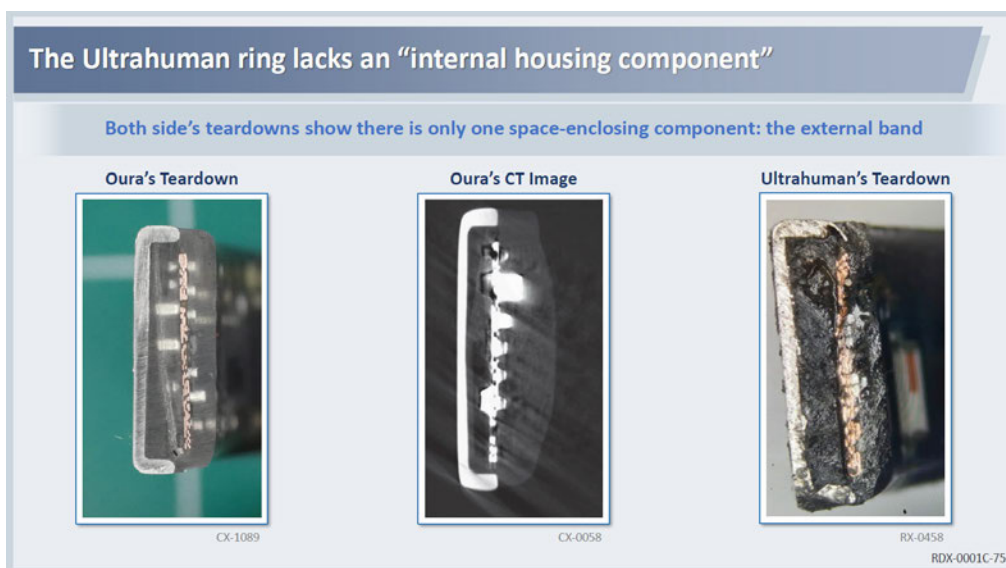
(a) Respondents' Accused Products are Single-Enclosure Structures, not Double-Enclosure Structures

As Mr. Alarcon testified, and the following images illustrate, the RingConn Accused Products include only a single structure that encloses space.



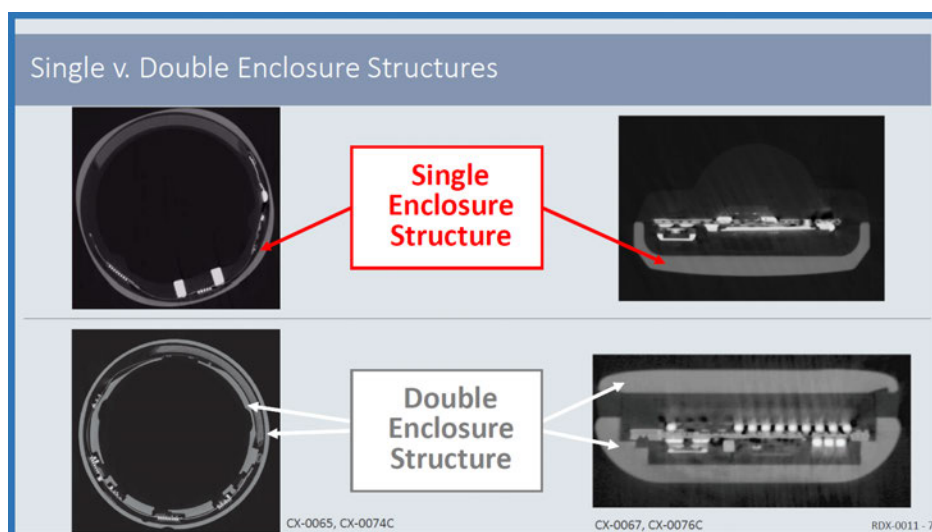
RDC-0001C.36. Tr.824:1-12 (testifying that these images are "identifying that single structure that encloses space...."). There is the metallic U-shaped housing that partially encloses space, but there is no opposing housing component that encloses anything.

Ultrahuman's Accused Products likewise are single-enclosure structures, as shown in the images below.



RDX-0011.75; CX-0058; CX-1089. Tr.940:3-6 (Alarcon) ("all three of these images on this slide demonstrate that ... there's only a single structure that encloses space ... [a]nd that's the outer metal band.").

The difference between Respondents' single-enclosure structures and double-enclosure structures is best exemplified by comparing Respondents' Accused Products to double-enclosure structures, such as Oura's Gen. 4 DI Product as shown below:

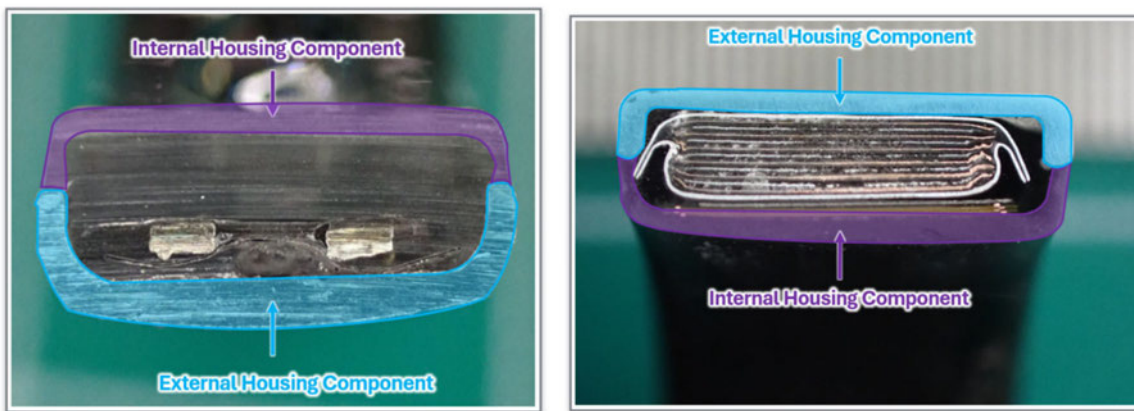


RDX-0011.7; CX-0065; CX-0074C; CX-0067; CX-0076C. The bottom images have both an internal and external housing component while the images on top (which are representative of Respondents' Accused Products) do not. Notably, Oura does not point to the potting material in Oura Gen. 4 as the internal housing component—it points instead to the inner metal band. That's because unlike the potting material in the Accused Products which *fills* space, the inner metal band *encloses* space. And while the Accused Products do have potting material applied to the internal surface of the outer metal housing, that potting material is not an IHC as explained below.

(b) Neither Oura's Nor The Staff's Alleged Internal Housing Component Is An Internal Housing Component as Claimed

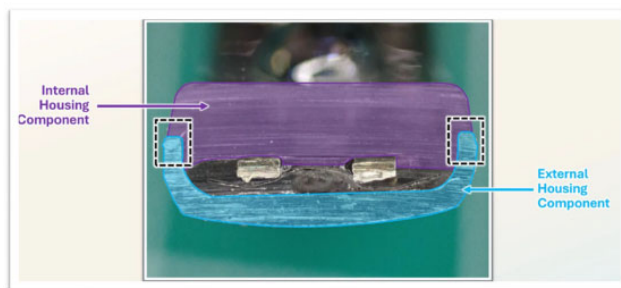
While Oura and the Staff both allege that the Accused Products have an IHC, they do not agree on what the alleged IHC is. This highlights how Oura has not met its burden.

Oura, for its part, seems to have finally settled on asserting that the IHC is some arbitrary *portion* of potting material (but not the entirety of it) used in the Accused Products that consists of the outermost layer of potting material.



Oura's PHB at 30 (showing RingConn on left) and 34 (showing Ultrahuman on right); *see also* Oura PHB at 29 and 31 (referring to just a “layer of potting” and “layer of cured epoxy” as the IHC.) However, Oura still equivocates about the amount of potting to arbitrarily include: for the

RingConn product, Oura provides an alternative annotation, which again arbitrarily slices the potting material:



RDX-0009-15 (citing CX-1035).

Id. at 30.

While Sarrafzadeh was anything but clear, Oura’s line-drawing exercise appears to track Sarrafzadeh’s position at trial. Tr.354:20-24 (confirming he believes that “the crust is the relevant part of the potting material that is used in defining the internal housing component as recited in the claims of the ’178 patent.”)

On the other hand, the Staff appears to argue that the IHC is the *entirety* of the potting material² in the Accused Products. Staff PHB at 27 (questioning whether the entirety of the “potting material forming the internal housing component entirely encapsulates the internal components of the Accused Products such that the alleged cavities are formed entirely within the internal housing components”).

Neither Oura’s alleged “crust” nor the entirety of the potting material argued by the Staff is an IHC as required by the claims of the ’178 Patent.

² As described in Section V.D, to the extent the entirety of the potting material is deemed the internal housing component, the “between” limitation is not met by the Accused Products and they thus do not infringe.

(i) **Oura's Arbitrary Layer of Potting Material is not an Internal Housing Component**

There are multiple reasons why the arbitrary portion of the potting material that Sarrafzadeh refers to as the crust is not an IHC.

First, the claims require an “internal housing *component*”, and an arbitrary *portion* of potting material is not a housing *component*. Indeed, nowhere in the specification is there any suggestion, hint or even mention of a *portion* of potting material being anything, let alone a housing component. In fact, when given the opportunity to describe and identify an IHC in Figure 13 where potting material fills the area where the components reside, Sarrafzadeh did not identify a *portion* of the potting material as the IHC. Instead, as shown below, he called the *entirety* of the potting material the IHC, which is compelling evidence that not even he truly believes that a mere portion of potting material is an internal housing component.

36. Fig. 13 below shows a cross section of one embodiment of the ring having a housing 1310 that includes an external housing component 1312 and an internal potting or encapsulant 1314 (i.e., internal housing component). *Id.*, 18:64-67. A space 1320 is formed that is occupied by battery 1330 and printed circuit board 1340. *Id.*, 19:6-10.

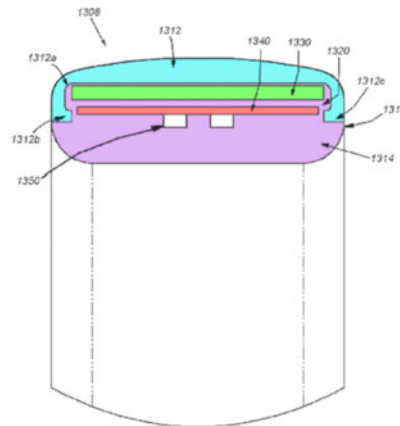
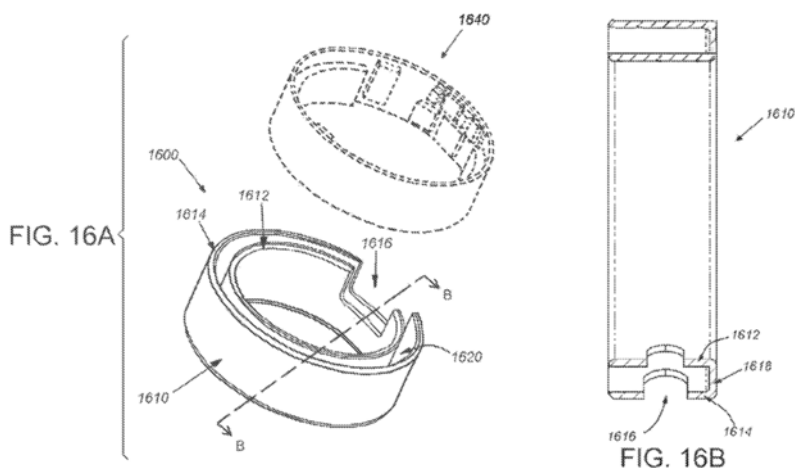


FIG. 13

RDX-0011.38. If Sarrafzadeh truly believed that the IHC can be some arbitrary portion of the potting material, he would have certainly identified the IHC as such in Figure 13 of the '178 Patent.

Indeed, Oura's own experts provided testimony and have taken positions that support the notion that an arbitrary *portion* of a structural component cannot be a housing *component*. For example, Sarrafzadeh opines that Figure 16 of the '178 Patent (shown below) is not an embodiment of the claims. Tr.382:19-24.



According to Sarrafzadeh, “inner and outer walls” 1612 and 1614 in Figure 16 “are integral, meaning the housing is a unitary structure.” Tr.383:17-19. Thus, inner wall 1612 and outer wall 1614 are each just a *portion* of housing 1610. Tr.384:13-23. And Sarrafzadeh is of the opinion that even though these two wall *portions* are opposite one another and have space therebetween, they are not internal and external housing *components* because they are part of “one unitary structure” and you can’t have that structure be parsed into “two different things.” Tr.385:20-23. Most importantly, Sarrafzadeh does not believe Figure 16 is an embodiment of the claims because inner and outer walls “1612 and 1614 simply describe[e] different *parts* of the housing and *not the components* that is required in claim 1.” Tr.386:8-18. Thus, at least with respect to Figure 16, Sarrafzadeh does not believe that different “parts” or portions of a unitary structural component can themselves be considered housing components.

Had Sarrafzadeh applied the same rationale used in his opinions for Figure 16 to the Accused Products, Sarrafzadeh would have concluded that an arbitrary *portion* of the potting is not an internal housing *component*. Indeed, there is no demarcation marking or indicating where Sarrafzadeh's arbitrary IHC begins and ends. Put differently, there is no principled way to divide the potting into crust and non-crust portions (how thick is the "crust?"), or to parse the potting into space-enclosing and non-space-enclosing portions (what makes certain parts of potting, but not other parts, space-enclosing?). The potting in the Accused Products is one contiguous material, and no arbitrary portion of it can fairly be considered an IHC.

During cross, Sarrafzadeh attempted to equate this "crust" to Figure 12D from the '178 Patent, which describes an embodiment where the metal band is an internal housing. But like Figure 13, Figure 12D does not partition the potting into subcomponents. Instead, external potting 1214 is represented as one unitary component that seals internal space 1220.

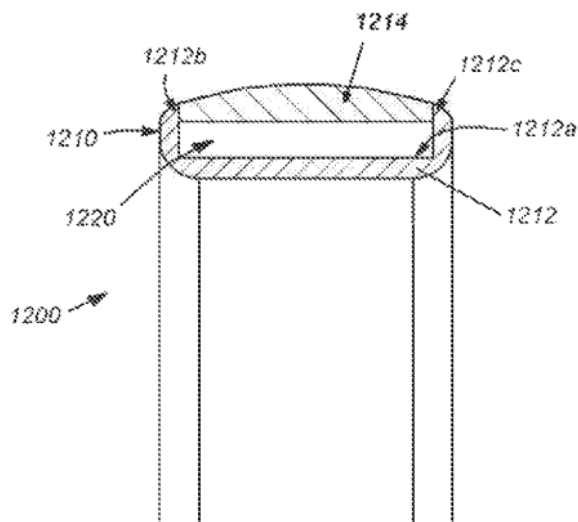


FIG. 12D

Had the inventors intended to disclose in the specification that potting could be parsed into IHC and non-IHC portions, they would have said so explicitly. Sarrafzadeh is not a lawyer, and

the ALJ should decline his invitation to re-construe the claims based on nonexistent disclosure he alone cobbles together from disparate parts of the specification.

Oura has likewise taken positions that support the notion that an arbitrary portion of potting material cannot be an internal housing component. In particular, and as shown below, Oura is attempting to distinguish prior art (including in PTAB proceedings) on the ground that a *portion* of a unitary structure cannot be an internal or external housing *component*.

Complainants Distinguished Prior Art On Ground That A Portion Of A Unitary Structure Cannot Be A Housing Component

Alleging “Respondents appear to simply point to different portions of the same unitary structure, rather than a component, as allegedly meeting both the external housing component and internal housing component limitation” RX-0432.2.

Criticizing Petitioner for “identifying sections of the unitary housing 40 as being ‘components’”. Id. at 53 Complainants concluded that “Petitioner’s interpretation of Niwa reads ... ‘component’ ... completely out of the claims.” RX-0123.60-61.

Arguing “Niwa does not disclose or suggest internal and external housing components, as claimed. Rather, Niwa discloses a unitary, component-less housing 40, shown in Fig. 23[.]” RX-0123.60.

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RDX-0011.42; RX-0432.2; RX-0123.60-61. Oura should be held to these positions, which cannot be reconciled with its current argument that only a portion of potting material can be a housing component.

Second, the arbitrary portion of the potting that Oura now alleges is the IHC is not a “structure that encloses space” as required by the claim construction. Indeed, the arbitrary portion of potting in the Accused Products encloses nothing. As Sarrafzadeh testified, his alleged arbitrary IHC just abuts more potting material—“there is actually potting material immediately to the left

of” the alleged IHC so that the potting material that comprises the alleged IHC simply “abuts more potting material.” Tr.355:4-24. A finding that any arbitrary layer of a larger, solid structure is a “structure that encloses space,” would mean that outer surfaces of any solid objects can be considered a “housing component”—an absurd result. For example, a snowball, and an ice-cube—both solid structures made of a homogenous material—would be said to comprise an indefinite number of layered “housing components.” That makes no sense and certainly is not what the ’178 Patent specification and claims contemplated.

(ii) The Entirety of the Potting Material—the Staff’s Alleged IHC—is not an IHC

The Staff’s argument that the entirety of the potting material in the Accused Products is an IHC should be rejected for the very simple reason that the potting material is not a structure that encloses space. It is just the opposite in fact—the potting material in the Accused Products fully occupies all empty space, rather than enclose it.

The specification of the ’178 Patent makes clear that potting that entirely fills space where the PCB and battery reside does not enclose space. For example, in Figure 13, internal potting 1314 entirely fills the space 1320 where the PCB 1340 and battery 1330 reside.

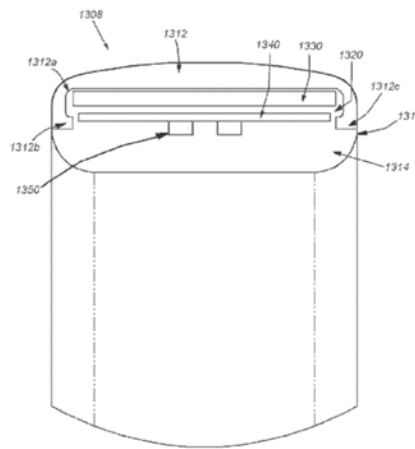


FIG. 13

But the '178 Patent expressly discloses that internal potting does *not* enclose anything, including space 1320. Rather, the '178 Patent discloses that space 1320 is only “partially enclosed” and that partial enclosing is performed *solely* by external housing 1312: “The external housing includes flanges 1312b-c that extend toward each other, beyond portions of the internal surface 1312a, to define a *partially enclosed* internal space 1320.” '178 Patent at 19:3-6. When speaking of the internal potting 1312, the '178 Patent does not disclose that it encloses anything. In fact, it expressly notes that even after internal potting 1314 is applied, space 1320 is still only partially enclosed: “The internal potting 1314 can extend between flanges 1312b-c and can seal *partially* enclosed space 1320.” *Id.* at 19:10-13. If internal potting 1314 enclosed space, then space 1320 would not be referred to as only “partially enclosed,” but rather enclosed or fully enclosed. Thus, Staff’s argument that the potting material in its entirety is an internal housing component should be rejected.

D. No PCB, Battery Or Cavity “between” The IHC And EHC: Limitations 1[c-ii] and 1[d-i]

The claims of the '178 Patent require that each of the PCB, battery, and cavity be positioned or disposed “between” the IHC and the EHC. JX-0001, claim 1. If any one of those three requirement are not between the IHC and EHC, then there is no infringement. Here, none of the PCB, battery or cavity satisfy the “between” limitations.

At least according to the Staff, “the primary question as to infringement is whether” the three “between limitations” are met. Staff PHB at 27. In his view, *infringement of the three “between” limitations turns entirely on a single issue*: whether the potting material “entirely encapsulates the internal components of the Accused Products, such that the alleged cavities are formed entirely within the internal housing component, as opposed to between the internal and external housing components as required by the claim.” Staff PHB at 27-28.

But Sarrafzadeh already admitted in his expert report that the potting material “encloses the space surrounding the battery, printed circuit board, and other components,” “is cured to form a molded structure around,” and “forms a seal around” those components. (RX-0402.50-51, 57, 97, 103.) Still, the Staff believes it a “a close call” as to whether the potting material in the Accused Products fully encapsulates any of the PCB, battery or alleged cavity. *See, e.g.*, Staff’s Pre-Hrg. Br. at 26. Respectfully, the overwhelming weight of the evidence demonstrates that in each of the Accused Products, the potting material fully encapsulates the PCB, battery, and alleged cavity such that none can be said to be between the potting material and anything else.

1. Oura’s And Staff’s Argument Is A Red Herring – It Hinges Entirely On Glue Adhering Components To The Outer Metal Band, But The ’178 Patent Defines Potting To Include Glue

The Staff and Oura’s argument that the PCB and Battery are not encapsulated by potting material hinges *entirely* on the false premise that glue is used to adhere those components to the metal ring rather than potting epoxy. For example, Staff argues that the internal components are “glued to” the EHC “before potting material is applied” and “[f]or this reason” the components are “not entirely within the [IHC], but extends between” the IHC and EHC. Staff PHB at 28. Oura argues the same. Oura PHB at 75 (Respondents “contended that the potting completely surrounded the PCB, “but the evidence does not support that conclusion. The evidence supported that both the battery and the PCB are glued to the outer ring using glue...”). But even if true (it is not), this argument is a total red-herring meant to distract the ALJ and can be quickly and easily rejected.

Fatal to Staff’s and Oura’s argument is that the specification expressly states that “the external potting **1214...** can be formed of **any material**, solid or gelatinous, that can provide resistance to shock and/or vibration and **can prevent moisture** and/or debris from entering the housing **1210...**such as silicone, epoxy, polyester resin **or any other polymer**. JX-0001.76, 17:35-40. Dr. Sarrafzadeh admitted that the alleged glue behind the PCB battery “is comprised of

polymers” and is, therefore, within the scope of the specification’s definition of “potting.” Dr. Wu testified that the potting glue is applied to the back of the PCB “to help the PCB to become waterproof”(Tr.748:3-14), which is one of the stated functions in the definition of potting in the specification. Mr. Wang likewise testified that the potting glue is applied in part “so that our product can be waterproof.” (Tr.1159:5-9). Therefore, even if Staff and Oura are right, the PCB and battery are still fully encapsulated by potting material.

It is of no consequence that the potting glue and potting epoxy are different forms of potting material. As Dr. Wu testified, the potting glue and potting epoxy are combined to form an integral molded structure. Tr.755:10-18. This can be clearly seen in cross sectional cuts of the RingConn product

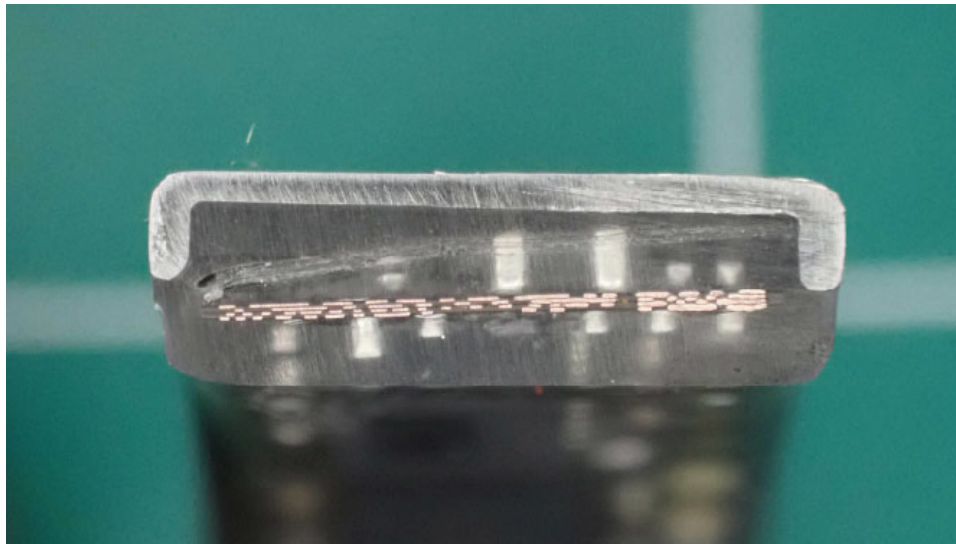


RX-0457.2 Accordingly, Oura and Staff’s fixation on potting glue is a total non-starter—even if it is the only thing present behind the PCB, it does not change the fact that the PCB are battery are still completely encapsulated in potting material. Nonetheless, as explained below, the epoxy used in the Accused Products does completely surround the components.

2. The Potting Material in the Ultrahuman Accused Products Completely Surrounds the PCB, Battery and Cavity

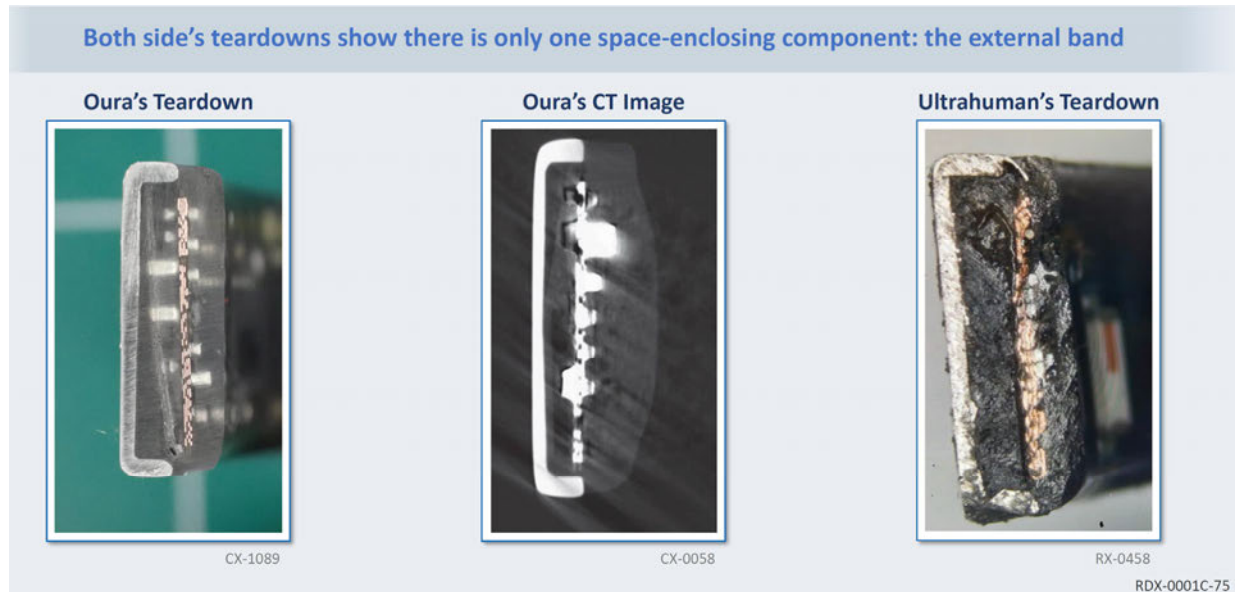
Oura has the burden to show that the “between” requirement is met, not Ultrahuman. Nevertheless, the overwhelming weight of the evidence shows that the PCB and battery in Ultrahuman’s ring is entirely encased in potting material, as Sarrafzadeh himself admitted during expert discovery. RX-0402C.50-51.

PCB. The best evidence that the PCB is fully encapsulated is the teardown *Oura itself* created:



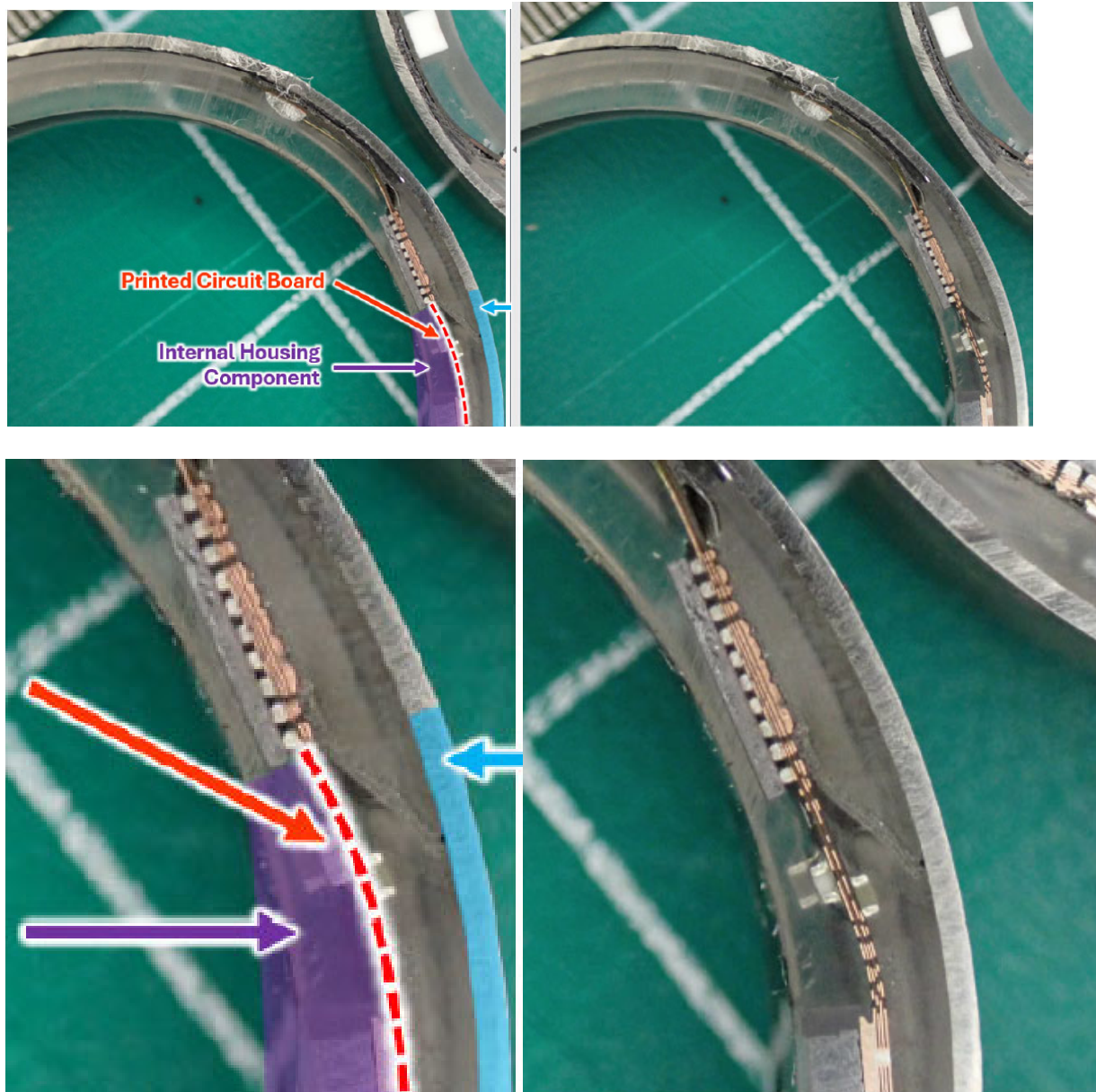
CX-1089. Again, this is *Oura’s* own evidence, not something Ultrahuman itself created to prove noninfringement. Unequivocally, the image shows that “the potting material is completely surrounding the printed circuit board.” Tr.955:14-21 (Alarcon).

Oura’s CT image and Ultrahuman’s own cut show the same.



RDX-0001C.75. Other teardowns Alarcon examined, where the outer band had been removed likewise corroborate that “there’s definitely potting inside, outside, and on the sides of the PCB and battery.” Tr.953:24-954:6; RX-459. Alarcon confirmed that he could not “touch the components on the printed circuit board because there’s epoxy, there’s potting material” surrounding the components. Tr.954:12-16. By “probing with a semi-sharp object,” the hardness—or “durometer”—of the material confirmed to Alarcon that it was potting. Tr.954:17-955:4.

This evidence is no fluke. Sarrafzadeh also made transverse cuts that similarly show that the PCB is fully encapsulated in potting:



PHB at 58, CDX-0003C.118, CX-1070; *see* Tr.956:17-22 (Alarcon explaining that there is “no difference” between the potting “between the circuit board and the external band and . . . the circuit board and the internal surface of the ring”—“[t]hat’s all the same potting material”).

That the potting would fully encapsulate internal electrical components makes sense. Mr. Kumar explained that an important reason why the PCB would have to be surrounded by potting is to prevent electrical shorts. Tr.955:12-23 (Alarcon); 660:9-21 (Kumar). [REDACTED]

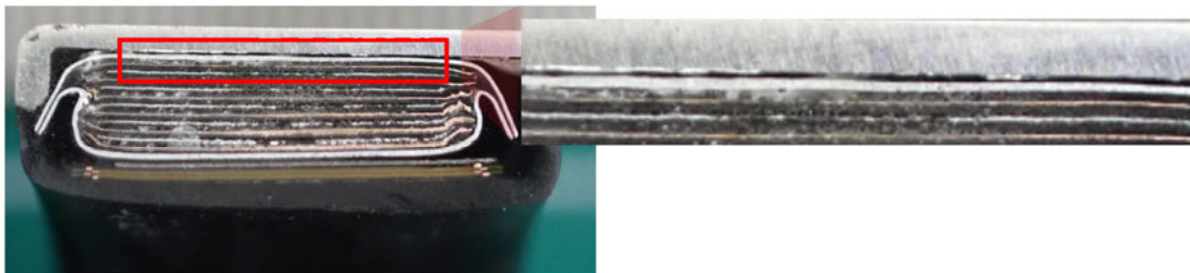
[REDACTED] Tr.648:19-649:4. [REDACTED]

[REDACTED] Tr.661:2-8, 662:11-15. Indeed, the PCB *cannot touch the outer metal shell* at any point because of a risk of an electrical short, particularly where the battery and the PCB interface. Tr.1125:1-19 (Alarcon). Ultrahuman has testing procedures that would reject any product that had a short. (Tr.1126:5-18 (Alarcon); 648:19-649:4 (Kumar), *see* 661:2-8 ([REDACTED])).

The Staff, however, ignores all of this to conclude that the “internal components” in Ultrahuman’s ring are “not entirely” within the potting. Staff Br. 27-28. That is error. So is crediting testimony from Sarrafzadeh that contradicted his expert report. *See supra* Section IV. In any event, the claims require the opposite of what the Staff asserts—that the PCB *in its entirety* be between housing components, not a mere portion of it. *Indus. Tech. Rsch. Inst. v. Int’l Trade Comm’n*, 567 F. App’x 914, 918 (Fed. Cir. 2014) (affirming noninfringement where the claimed “structured arc sheet” required the *entire* sheet to be in the shape of an arc). The inventors used the term “portion” when describing other limitations, such as the “first portion” and “second portion” of the cavity. They did not use similar language when requiring that the PCB be between the housing components. The Staff invites error by suggesting it should be duplicated into the “between” limitations.

Battery. Like the PCB, the battery in Ultrahuman’s ring is also encapsulated in potting material. There is approximately [REDACTED] between the battery and the outer metal

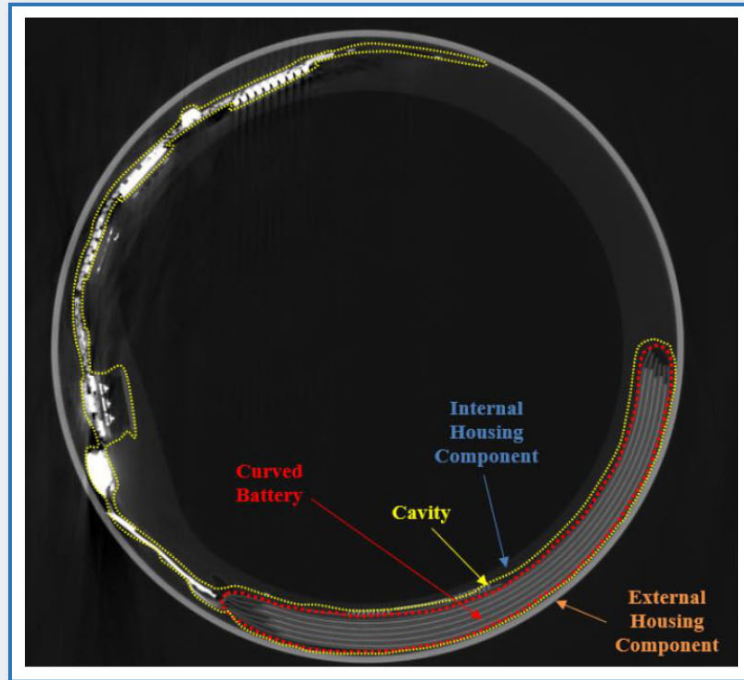
band of the rings. Tr.662:2-10 (Kumar). This can be seen in Oura's cross-section of Ultrahuman's Accused Ring:



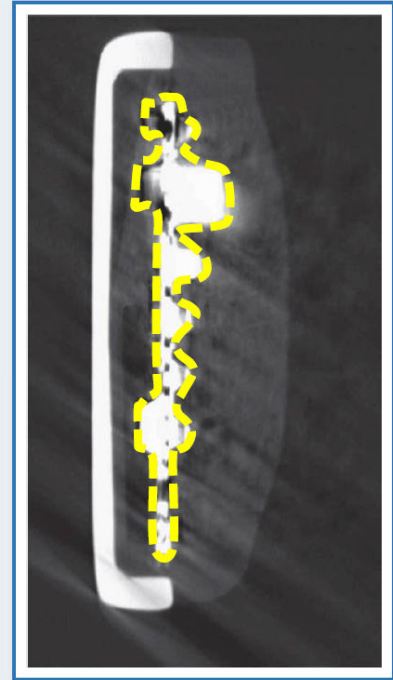
CX-1088 (annotated).

Tr.660:9-21 (Kumar). Indeed, Mr. Alarcon's inspection of the Ultrahuman teardown confirmed that the battery, like the PCB, is encased in potting material. Tr.953:24-954:6. While the "battery and the shell touch at an angle" or "tangent point" where a small amount of glue is applied as a temporary affixant at the beginning of the manufacturing process, glue is a polymer, which the specification identifies as a type of potting. See Tr.349:13-350:14 (Sarrafzadeh admitting that the alleged glue is a polymer, and that the '178 specification defines potting material as "any [] polymer"). Further, the "amount" of glue used is "very small"—about ".05 millimeter"—which is sufficient to hold the battery in place temporarily until resin is poured in. Tr.651:10-17 (Kumar). As much as Oura contends this glue is neither potting nor displaced by resin in the vacuuming process, that one spot of glue cannot create infringement for *Oura. Indus. Tech. Rsch. Inst.*, 567 F. App'x at 918.

Cavity. Not only do Ultrahuman's Accused Rings have no cavity, Oura's gerrymandered outline of internal components is not "between" the internal and external housing components. It is instead entirely within the potting material:



RX-0402C.97



RX-0402C.189-190, ¶1288

RDX-0001C.68. This too compels noninfringement.

3. The Potting Material in the RingConn Accused Products Completely Surrounds the PCB, Battery and Cavity

RingConn brought two corporate witnesses to testify live regarding the manufacture, function and operation of the RingConn Accused Products: (1) RingConn's CEO Dr. Hau Wu; and (2) RingConn's VP of Hardware Development Mr. Min Wang. Their testimony was clear and compelling.

(a) RingConn's Manufacturing Process Is Intentionally Designed To Ensure Potting Material Completely Encapsulates The PCB And Battery

Mr. Wang is the most knowledgeable person in the world regarding the manufacture and composition of the RingConn Accused Product. Indeed, he testified that RingConn's "manufacturing process was established by my team and I from scratch." Tr.1148:19-22. Mr. Wang further testified that he specifically is the one who designed the RingConn product, so he

“know[s] where everything is.” Tr.1175:8-9; *see also* Tr.1173:7 (“I designed it”). Dr. Wu is likewise intimately familiar with the manufacture, design and operation of the Accused RingConn Product. When RingConn was first founded, he worked as the Chief Technical Officer (Tr.739:22-25) and he was involved in the development of the manufacturing process for the RingConn Ring (Tr.746:5-9).

Mr. Wang and Dr. Wu both testified unequivocally that a primary purpose of the RingConn manufacturing process is to ensure that potting material fully encapsulates the PCB and battery. Mr. Wang, for example, testified that “[b]y design, I want the epoxy to fully encapsulate PCB and other components.” Tr.1157:16-20. Likewise, Dr. Wu testified that “we used a potting process to ensure that the PCB and the battery of our products can be completely encapsulated in this potting material in order to create the molded structure.” Tr.745:15-20. Mr. Wang and Dr. Wu explained in excruciating detail how RingConn’s step-by-step manufacturing process ensures that the potting material fully encapsulates the PCB and battery.

STEP 1

RingConn places a

Tr.747:10-11; CX-0647C.

Tr.745:5-8.

[REDACTED]

[REDACTED] Tr.1165:3-4. Indeed, Mr. Wang testified that [REDACTED]

[REDACTED] Tr.1166:3-22.

Importantly, [REDACTED]

[REDACTED] Tr.1179:14-19. But, as explained further below, [REDACTED]

[REDACTED] *Id.* Dr. Wu confirmed this: [REDACTED]

Tr.745:11-14. Mr. Wang also confirmed this—when asked [REDACTED]

[REDACTED] Tr.1179:23-25.

STEP 2

RingConn then [REDACTED]

[REDACTED] Tr.747r:10-22. [REDACTED]

[REDACTED] Tr.1156:17-1157:6.

STEP 3

Next, [REDACTED]

[REDACTED]

Tr.1150:3-5; *see also* Tr.748:3-5. [REDACTED]

[REDACTED]
[REDACTED] Tr.1150:6-13 [REDACTED]
[REDACTED]; Tr.748:3-14.

Dr. Wu and Mr. Wang explained [REDACTED]
[REDACTED]
[REDACTED] Tr.748:12-22. Thus, [REDACTED]
[REDACTED] Tr.749:8-10. But during manufacture, [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] Tr.749:4-7.

To accomplish this, RingConn [REDACTED]
[REDACTED]
[REDACTED] Tr.749:4-7. [REDACTED]
[REDACTED]
[REDACTED] Tr.749:11-20.
[REDACTED]
[REDACTED] *Id.* [REDACTED]
[REDACTED]
[REDACTED]

Importantly, and as discussed further below, the Staff's conclusion that the battery, PCB and cavity are not fully encapsulated by potting material is based *entirely* on the false premise that the potting glue or tape is used to adhere the PCB and battery to the outer metal ring. Staff alleges, for example, that "the internal components of the Accused Products are taped or glued to the external housing component *before* potting material is applied to form the internal housing

[REDACTED]

component” and “[f]or this reason” the PCB and battery are “not entirely within” the potting material (i.e., the Staff’s alleged IHC). Staff PHB at 28. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] *See, e.g.*, Tr.749:4-20.

Moreover, [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Tr.745:11-14. [REDACTED]

[REDACTED] Tr.1179:23-25.

Thus, the sole basis on which Staff finds that the “between” limitations satisfied is based on a factual inaccuracy.

STEP 4

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Tr.1151:2-18.

[REDACTED]

[REDACTED]

[REDACTED]

RDX-0003.2; CX-0034C at 0:26, 0:47. Mr. Wang testified that [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Tr.1151:8-14. [REDACTED]

[REDACTED] Tr.1151:19-22. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] *Id.*

[REDACTED]

[REDACTED]

STEP 5

Next, [REDACTED]

[REDACTED]

[REDACTED] Tr.1152:6-8. [REDACTED]

[REDACTED]

[REDACTED] Tr.1152:9-19.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

RDX-0003C.3; CX-0036C; CX-1040; CPX-0196; CPX-0198.

First, [REDACTED]

[REDACTED]

[REDACTED] Tr.751:19-24.

Second, [REDACTED]

[REDACTED]

[REDACTED] Tr.1153:8-16; CX-0036C. This is very important for reasons discussed below.

[REDACTED]

[REDACTED] Tr.1152:24-1153:2; CX-0036C. [REDACTED]

[REDACTED]

[REDACTED] (Wang) Tr.1153:3-7 [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] Tr.1153:8-11; CX-

0036C. [REDACTED]

[REDACTED]

[REDACTED] Tr.1153:12-25.

Mr. Wang explained [REDACTED]

[REDACTED]

[REDACTED] Tr.1154:10-13. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Tr.1155:1-12.

[REDACTED]

[REDACTED]

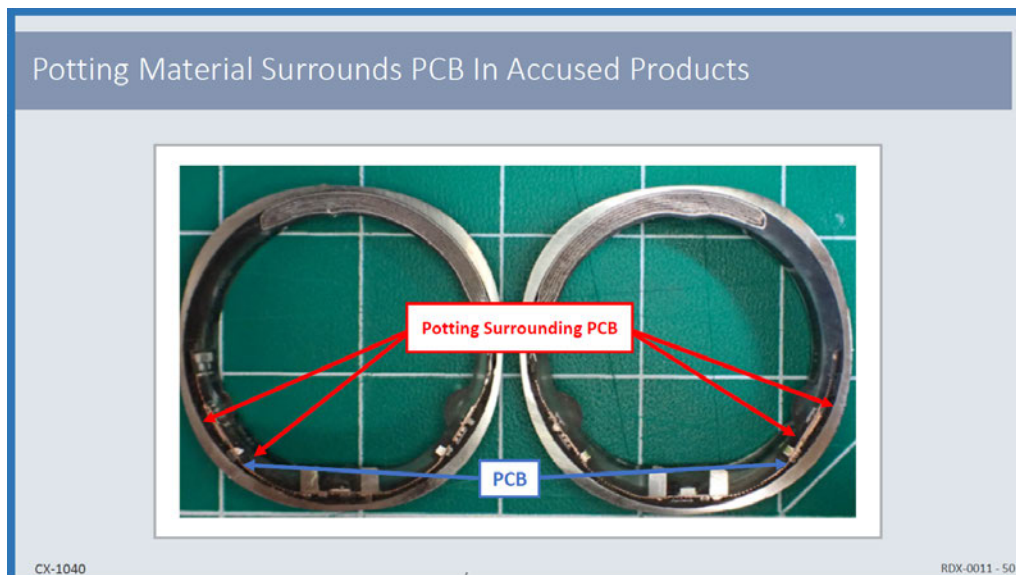
[REDACTED]

(b) A Mountain of Other Evidence Confirms that Potting Material fully Encapsulates the PCB and Battery

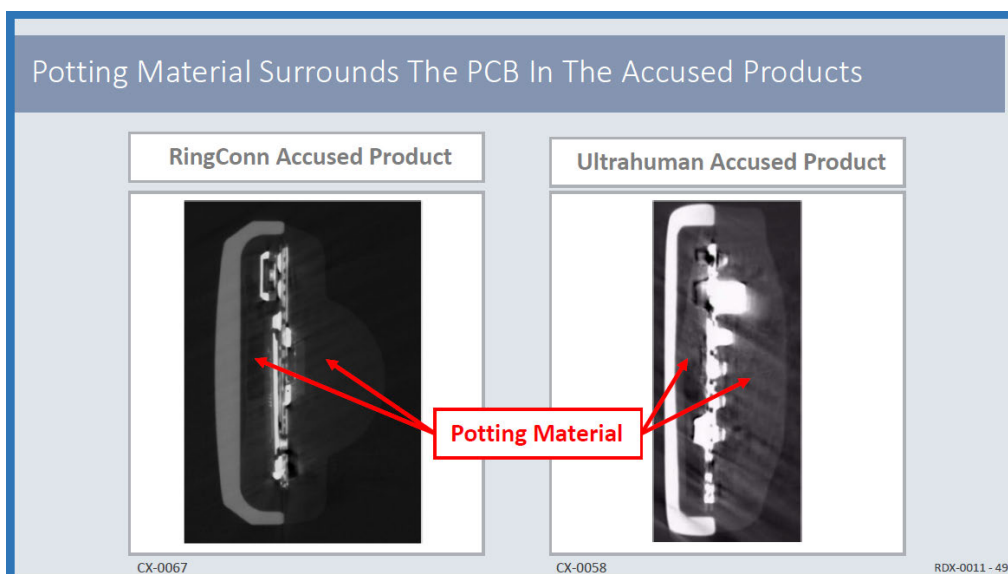
Oura and Sarrafzadeh tore down Respondents' products and a simple visual inspection shows that potting material completely encapsulates the battery and PCB as Mr. Wang and Dr. Wu testified, and as shown below with respect to the PCB.



RDX-0011.48; RX-0457.2; CX-1089. Oura's images of the RingConn Accused Product cut in half likewise show potting material on both sides of the components.



RDX-0011.50; CX-1040. Further, Oura's CT scan images of Respondents' Accused Products similarly show how there is potting material on both sides of the PCB.



RDX-0011.49; CX0067; CX-0058.

Sarrafzadeh performed a visual inspection of a teardown of RingConn's Accused Product where he removed the outer metal ring, tore away some of the black adhesive tape, and made certain notes and observations that are reflected below.

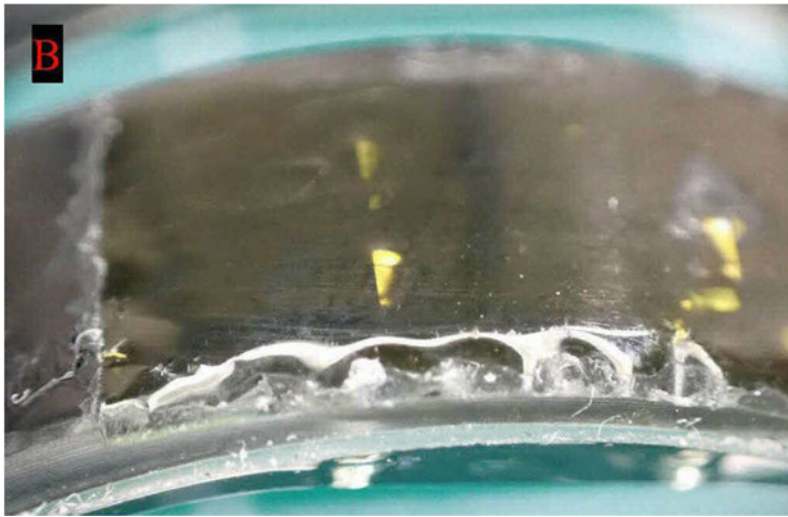
Adhesive coating or tape was visible between the cover and the epoxy ring assembly. The coating was very thin and can be scratched off.



CX-1037.0001. Most interesting here is that Sarrafzadeh's notes referred to the material under the partially-removed black tape as "an epoxy ring assembly," meaning the epoxy surrounds the components to form an assembly. The epoxy can actually be seen under the scratched off black tape fully encapsulating the components. Looking at these notes and the same image above, Mr.

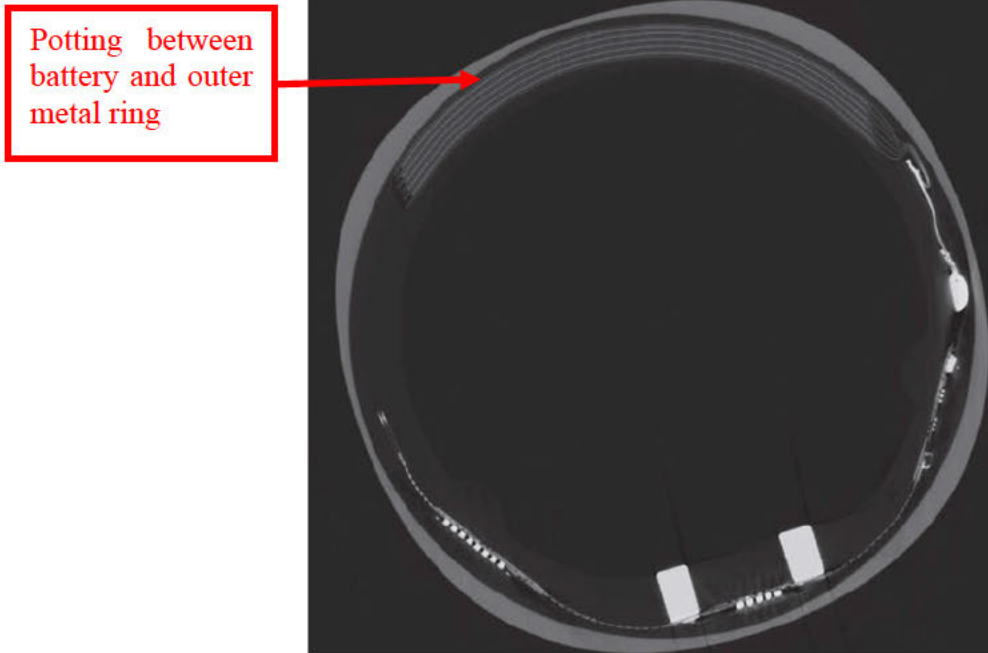
Alarcon concluded that it “confirms that ... there is epoxy in front, behind, and around, again, surrounding the PCB.” Tr.914:23-915:4.

This epoxy ring assembly is more clearly seen in another image from the same teardown performed by Sarrafzadeh.

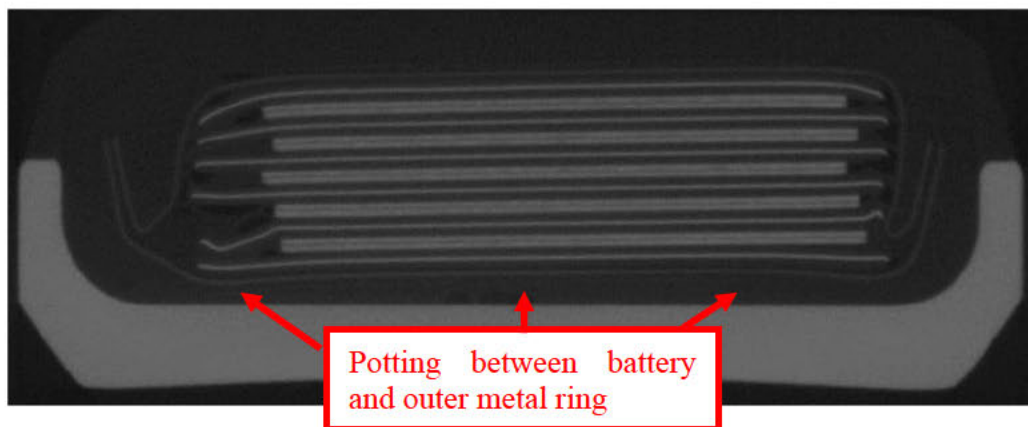


CX-1038.0001. In this image, the outer metal ring is removed in the RingConn product (Tr.832:21) revealing the epoxy between the components and the outer metal ring. Indeed, Mr. Alarcon testified that on visual inspection, one can actually see some of the PCB components under the transparent epoxy that appear as a goldish color in the image above. Tr.832:14-833:10.

It is not just the PCB that has potting material on both sides of it, but the battery does as well. Indeed, in the image below, it is easy to see there is space not only between the PCB and outer metal ring, but also between the battery and the outer metal ring.



CX-0065. Sarrafzadeh agreed that there is space between the battery and the outer metal wall, and that the space is not filled with any tape. Tr.419:12-25. As Mr. Wang and Dr. Wu testified, the material behind the battery is potting material. Tr.745:16-20; 754:11-755.7; 756.17-757.24; 1152.9-1153.7; 1154.10-17; 1159.2-9. Mr. Alarcon measured the distance between the battery and the outer metal ring as 0.2 millimeters. Tr.825:13-826:4.



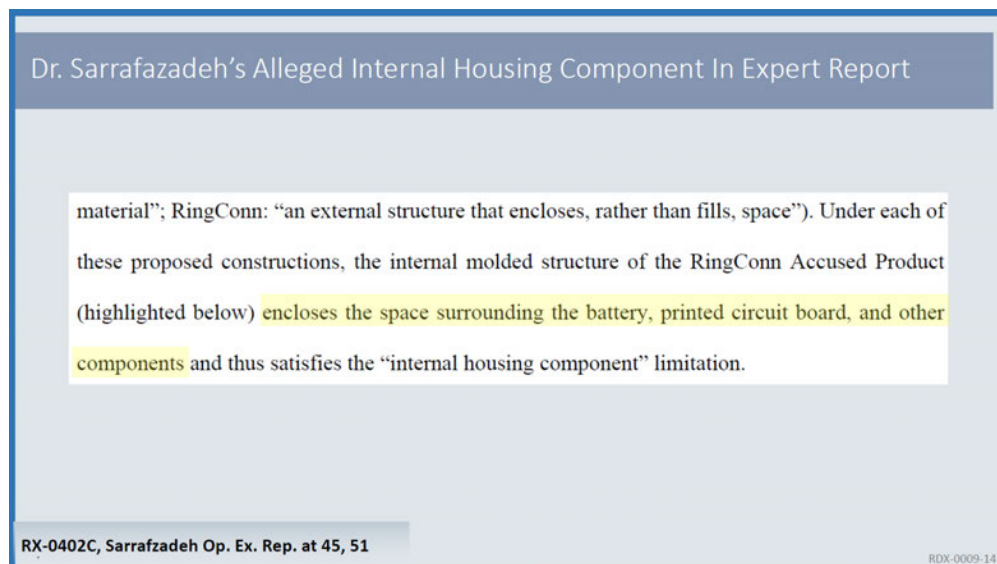
CX-0649C.002 (RingConn Battery cross-section).

Mr. Alarcon also analyzed teardowns of the RingConn product and was able to visually see the potting material left on the internal surface of the outer metal ring after the battery had been removed in the image on the left below.

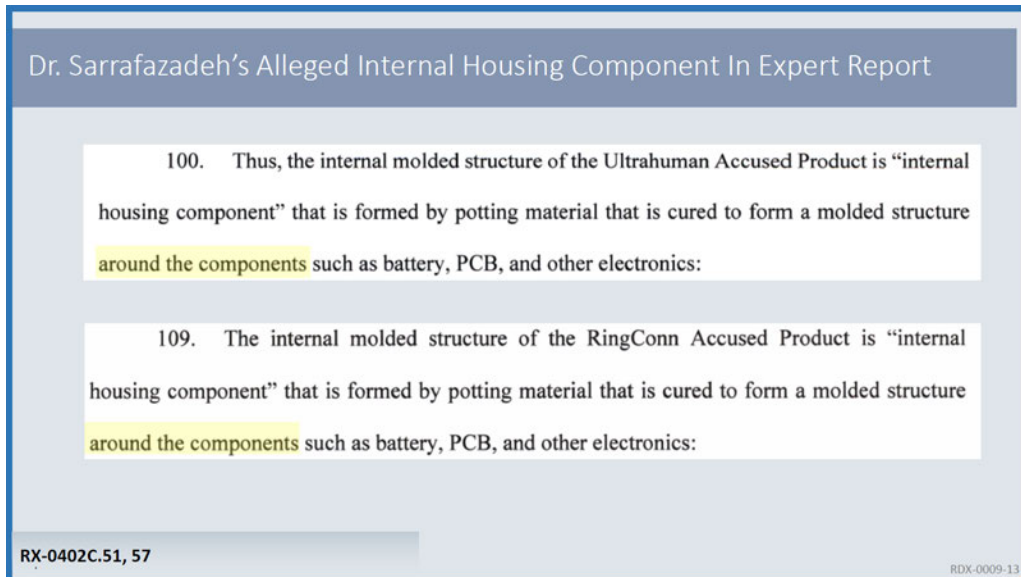


Tr.827:2-22 (“if you look under there, it has very thin ... layer of epoxy”); RDX-0001C.41; RX418C; RX-0425C; CX-1036; RX-0416C; RPX-0006.

Sarrafzadeh originally agreed with Mr. Wang, Dr. Wu, and Mr. Alarcon that potting material fully encapsulates the components. In fact, in his expert report, and as shown below, Sarrafzadeh opined that the internal molded structure formed by potting material “encloses the space *surrounding* the battery, printed circuit board, and other components.”

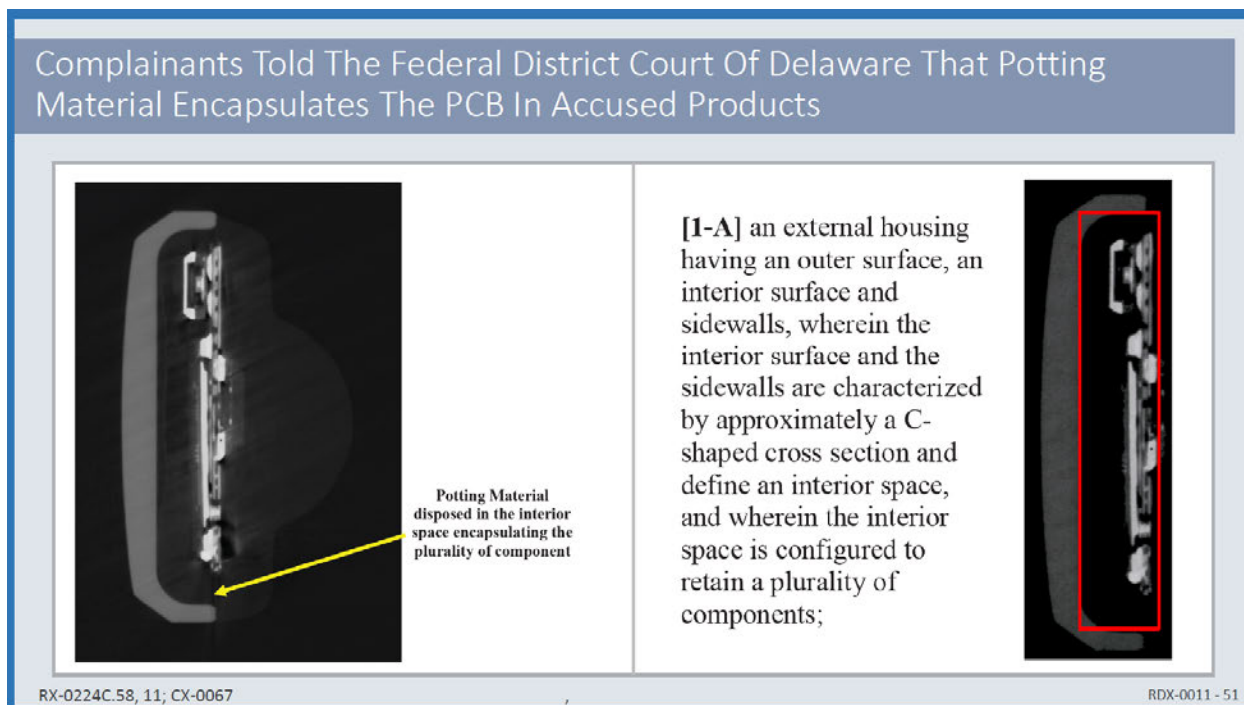


RDX-0009.14. Similarly, Sarrafzadeh opined in his expert report that “potting material is cured ... to form a molded structure around the components such as battery, PCB, and other electronics.”



RDX-0009.13

Oura actually represented to the District Court of Delaware in a complaint filed against RingConn that RingConn’s products have “[p]otting [m]aterial disposed in the interior space encapsulating the plurality of components.”



RDX-0011.51; RX-0407.17.58; CX-0067. As the asserted claim in that Delaware case makes clear, the “interior space” in which “potting material is disposed” is defined by the alleged “C-shaped cross section” of RingConn’s metallic ring. *Id.* Thus, the “interior space” that Oura represented in Delaware is filled with potting material is the entire space represented by the red rectangle above. Thus, Oura itself agrees (at least in Delaware) that the potting material in the RingConn Accused Products completely encapsulates the “plurality of components.” *Id.* Oura should be held to those representations.

(c) Staff Is Not Justified Crediting A Single Snippet of Factually Inaccurate Testimony from Sarrafzadeh over a Mountain of more Reliable Evidence

Without any explanation whatsoever, Staff ignores the mountain of evidence summarized above establishing overwhelmingly that the potting material in RingConn’s Accused Products completely encapsulates the PCB and battery. For example, Dr. Wu and Mr. Wang provided over 80 pages of testimony explaining how RingConn’s manufacturing process is specifically designed to ensure that the PCB and battery are fully encapsulated with potting material. *See* Section

V.D.1(a) *supra*. Although that testimony is unrebutted, Staff did not once cite to any of it in his infringement section, let alone attempt to explain why he was rejecting their uncontroverted testimony.

Likewise, Staff did not address the abundant tear-down evidence showing potting around all of the components in RingConn's products. *See* Section V.D.1(b) *supra*. Nor did Staff address Oura's own statements in a Delaware complaint asserting that potting surrounds the components in RingConn's Accused Products. *See id. supra*. And he did not address Sarrafzadeh's own conflicting representations in his expert report that potting material "surrounds" the components. *See* Section IV *supra*.

Instead, Staff's entire conclusion that potting does not completely surround the components in RingConn's Accused Products is based on a single snippet of inaccurate testimony from Sarrafzadeh. In particular, the Staff credited Sarrafzadeh's testimony that "the internal components of the Accused Products are taped or glued to the external housing component before potting material is applied to form the internal housing component." Staff PHB at 28. For a number of reasons, however, Staff was not justified in crediting Sarrafzadeh's testimony over the mountain of contrary reliable evidence, including the testimony of Dr. Wu and Mr. Wang.

First, Dr. Wu and Mr. Wang are much more reliable sources for how the RingConn products are made. Indeed, Mr. Wang developed the "manufacturing process ... from scratch." Tr.1148:19-22. And because he designed the product, he "know[s] where everything is." Tr.1175:8-9; *see also* Tr.1173:7 ("I designed it"). Dr. Wu is likewise intimately familiar with the manufacture, design and operation of the Accused RingConn Product. When RingConn was first founded, he worked as the CTO (Tr.739:22-25) and he was involved in the development of the manufacturing process

for the RingConn Ring. Tr.746:5-9. Mr. Wang's and Dr. Wu's testimony flatly contradict Sarrafzadeh's and should be credited.

Indeed, Sarrafzadeh's analysis of the Accused Products amounted to little more than a visual inspection. For example, while Sarrafzadeh acknowledged that there is material between the outer metal ring and the PCB/battery (Tr.407:13-16; Tr.419:12-15) he "did not perform any type of chemical analysis to determine the precise chemical composition of th[at] material," such as spectroscopy or x-ray fluorescence." Tr.425:13-426.6. Moreover, Sarrafzadeh is not a material scientist—his degrees are in computer science and electrical/computer engineering. Tr.426:7-19. And Sarrafzadeh was never qualified as an expert in material science or composition analysis. Tr.427:3-6. For these reasons alone, Staff was not warranted in crediting Sarrafzadeh's testimony over that of Dr. Wu and Mr. Wang.

Second, the principal evidence that Sarrafzadeh relied on to support his opinion that RingConn glues the PCB and battery to the metal ring came from vague testimony provided by Mr. Wang himself which Mr. Wang clarified at trial. Specifically, he testified during deposition that when you "put the welded PCBA and battery onto the metal ring ... you have to make sure that some glue has to be applied in order to hold it." Tr.311:1-25. Sarrafzadeh incorrectly interpreted Mr. Wang's reference to "hold[ing] it" as saying "there is some glue in the back of the battery and PCB board ... [t]hat gets stuck to the inside of the external housing component, so they are stuck together." Tr.311:17-22. But as Mr. Wang explained at trial, what he meant was that the "glue has to be applied in order to hold" the bent shape of the PCB so that it can more easily be placed on the circular surface of the metal ring. *See* Section V.D.1(a) *supra*; Tr.1169:23-1170:1 ("the key goal is to use the potting glue to hold PCB's shape."). Nonetheless, Staff and Oura improperly relied on Sarrafzadeh's incorrect understanding of the function of the potting glue—

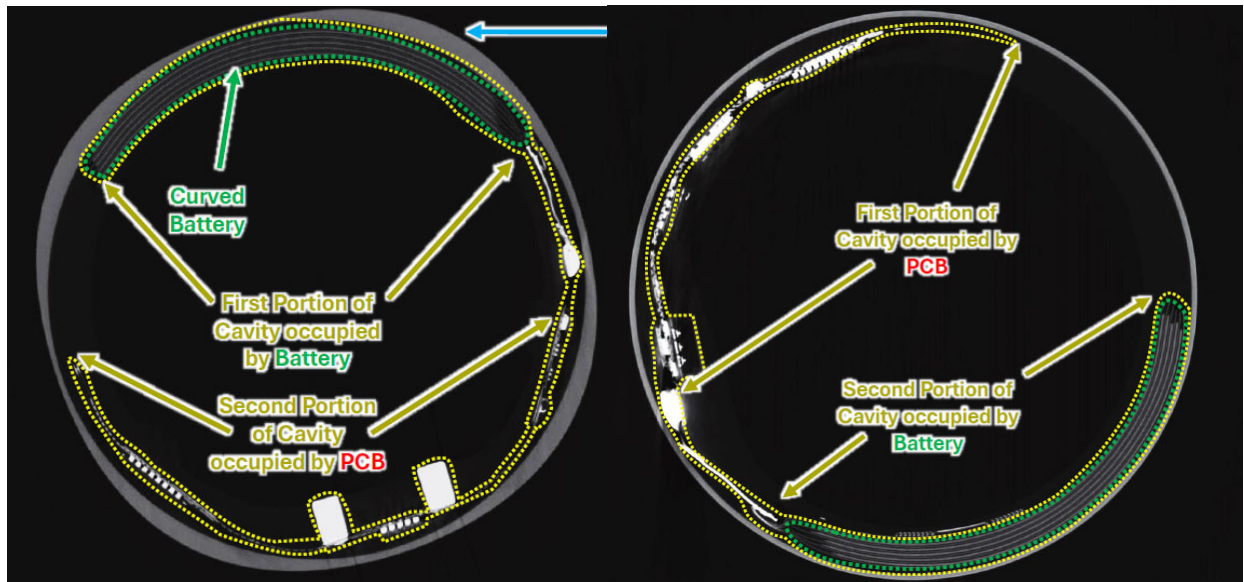
and nothing else—to conclude the components are not completely surrounded by potting material. Staff PHB at 28; Oura PHB at 75.

Third, and perhaps most importantly, even if Staff, Oura and Sarrafzadeh are correct that potting glue is used to adhere the PCB and battery to the outer metal ring, those components would still be completely surrounded by potting material as defined by the '178 Patent. Indeed, Sarrafzadeh admitted that the alleged glue behind the battery “is comprised of polymers” and that the '178 Patent defined “potting” as “any material, solid or gelatinous ... such as silicon, epoxy, polyester resin, or *any other polymer*.” Tr.349:13-350:14. Thus, the material around the battery is all potting material, even if some of that material is glue that adheres the components to the ring as Oura and the Staff argue.

Fourth, as discussed above in Section IV above, while Sarrafzadeh’s credibility has been called into question, and Mr. Wang, Dr. Wu and Mr. Alarcon are significantly more credible witnesses than Sarrafzadeh. Thus, for this additional reason, Staff was not justified in crediting Sarrafzadeh’s testimony over the more credible testimony of Dr. Wu and Mr. Wang, as well as Mr. Alarcon.

E. Respondents’ Accused Products Do Not Have A Cavity Between Circumferential Surfaces Based on Complainants’ Own Admissions

Claim 1 requires that “the cavity [is] between the outer circumferential surface of the external housing component and the inner circumferential surface of the internal housing component.” Complainants allege that the first portion of the cavity is occupied by the battery and the second portion of the cavity is occupied by the PCB, as annotated below.



CDX-0003C.116-119 (Sarrafzadeh's Annotations of RingConn above left and Ultrahuman above right).

After the claim construction hearing, Complainants told the patent office that the planar surfaces in the Niwa prior-art reference are not circumferential. RX-0123.61-62 (Patent Owner Preliminary Response); Tr.918:16-919:5 (Alarcon).

5 No "cavity" between circumferential surfaces

Complainants' Told The Patent Office That Planar Surfaces Are Not Circumferential

Second, as shown in Fig. 22 of Niwa, unit 20 contains battery 24. But the unit is not disposed "between" outer and inner circumferential surfaces of Niwa. Rather, the battery is located between two planar surfaces of the housing protrusion, as shown below in red:

The diagram shows a circular unit 20 with a central battery 24. The battery is positioned between two planar surfaces of a housing protrusion, which are highlighted in red. Other components are labeled with numbers: 1, 2, 10, 30, and 40.

RX-0123.61-62
RDX-0001C-53

RDX-0001C.53 (*citing* RX-0123.61-62). This is clear admission that planar surfaces are not circumferential surfaces as recited in the '178 patent claims. This disclaimer is part of the '178 patent's intrinsic record and occurred after the claim construction hearing in this Investigation and thus was not before the ALJ during claim construction.

Oura's expert Dr. Rosing also said that "Niwa does not disclose that the printed circuit board extends through a cavity 'between the outer circumferential surface of the external housing component and the inner circumferential surface of the internal housing component'" because Niwa's PCB "is disposed in a region of the ring that has a flat (i.e., not circumferential) protrusion from the inner surface of the ring to contact the finger." RDX-0001C.54; (Alarcon) Tr.919:7-920:2.

5

No "cavity" between circumferential surfaces

Complainants' Expert Dr. Rosing: PCB Needs To Be Between Circumferential Surfaces

277. Second, Niwa does not disclose that the printed circuit board extends through a cavity "between the outer circumferential surface of the external housing component and the inner circumferential surface of the internal housing component." Mr. Alarcon, in his report, points to first unit 10's substrate 11 as the "printed circuit board." But, as shown in FIG. 22, the first unit 10 is disposed in a region of the ring that has a flat (i.e., not circumferential) protrusion from the inner surface of the ring to contact the finger:

RX-0266; RX-0411C; RX-0123
RDX-0001C-54

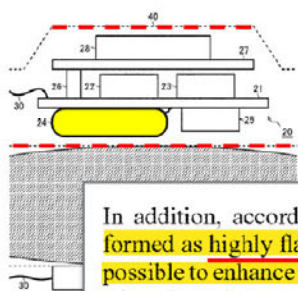
At trial, Dr. Rosing doubled down on the argument that flat portions of a ring are not circumferential surfaces. She testified "[i]t is also clear to me that no part of Niwa battery is positioned between two circumferential surfaces" and Niwa "draws it in Figure 28, again, as very

flat and as part of this rectangular-type structure that sits on top of the finger. So it's clear that Niwa's battery is not positioned between circumferential surfaces." Tr.1209:10-20.

Niwa – No battery positioned between circumferential surfaces

No part of Niwa battery is positioned between two circumferential surfaces

FIG.28



a battery positioned within a cavity formed between the internal housing component and the external housing component, 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, and wherein the battery extends through at least a first portion of the cavity of the finger-worn wearable ring device;

JX-0001

In addition, according to this construction, the battery 24 formed as highly flat is located right above the finger 2, it is possible to enhance an affinity of the plethysmogram sensor 1 when the pulse sensor 1 is worn on the finger 2, furthermore, the consciousness of the examinee for wearing the plethysmogram sensor 1 can be reduced.

CX-1133 (Niwa), FIG. 28; Paragraph[0217]

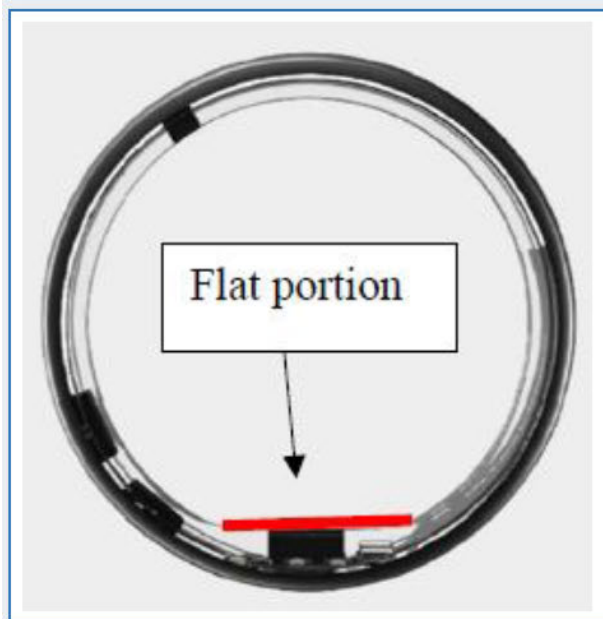
CDX-0005.23

CDX-0005.23 (Rosing Demonstrative). She stated Niwa does not have circumferential surfaces because “you can see here [in Fig. 28] that both lines are very straight and flat.” Tr.1210:3-6. Dr. Rosing also confirmed her position that Niwa's PCB was not between circumferential surfaces because Niwa's PCB “is disposed in a region of the ring that has a flat (i.e., not circumferential) protrusion from the inner surface of the ring.” Tr.1244:25-1245:9.

Both of Respondents' products include a flat portion of the inner surface to orient the ring to the charger, without which the rings would not be able to charge properly.



RDX-0001C.55-56 (RingConn) (citing RPX-0002 and RX-119.1); CX-0403; CX-1040; Tr.917:5-9 (Alarcon) (“at the bottom where the contacts are” is “flat or planar”).



RX-0050.60C



RX-0050.61

RDX-0001C.86-88 (Ultrahuman) (*citing* RX-0050.60-61; RPX-0001); Tr.959:14-960:3 (Alarcon) (“there’s a flat portion there”); CX-1069.

Oura should be held to their positions argued in the PGR and this investigation. *Aylus Networks, Inc. v. Apple Inc.*, 856 F.3d 1353, 1362 (Fed. Cir. 2017); *see also Conoco, Inc. v. Energy & Env’t Int’l, L.C.*, 460 F.3d 1349, 1363 (Fed. Cir. 2006). Indeed, the planar surfaces in Niwa that were distinguished by Oura are very similar to the planar surfaces of Respondents’ products, and a “patent may not, like a nose of wax, be twisted one way to avoid anticipation and another to find infringement.” *CommScope Techs. LLC v. Dali Wireless Inc.*, 10 F.4th 1289, 1299 (Fed. Cir. 2021). Oura cannot have it both ways.

Thus, according to Oura’s own position that they took in the IPR and in this Investigation—that flat portions of the ring are not circumferential—Respondents’ products do not infringe the “cavity between the outer circumferential surface of the external housing component and the inner circumferential surface of the internal housing component” limitation.

F. Respondents Accused Products Do Not Infringe Dependent Claims 2, 12, 13 and 14

Because the remaining claims depend from claim 1, they do not infringe them for the same reasons claim 1 is not infringed.

G. Oura's Assertion That Respondents Non-Infringement Defenses Are Simply Re-Arguing Rejected Claim Construction Arguments Have No Merit

Oura's claim that Respondents are re-packaging rejected claim construction arguments is incorrect.

First, Respondents argue there is no cavity. The construction of cavity was agreed to and adopted. Thus, it was not even the subject of a claim construction dispute. Most importantly, however, is that the ALJ's Order on MSD found that "[t]here are genuine issues of material fact as to whether RingConn's accused products have: (1) an 'internal housing component ... and (2) a cavity 'formed between' the housing components...." Order No. 18 at 2. Thus, contrary to Oura's claims, the ALJ did not reject non-infringement arguments based on the cavity limitation.

Second, the limitation requiring that the battery be "positioned ... and ... of a shape and size configured to fit" within a cavity was not even a disputed term. Thus, there were no Respondent arguments relating to that term that were rejected.

Third, while the IHC limitation was disputed, the ALJ made clear in the ruling on Respondents' MSD that genuine issues of material fact also remained as to whether that limitation was met. *Id.*

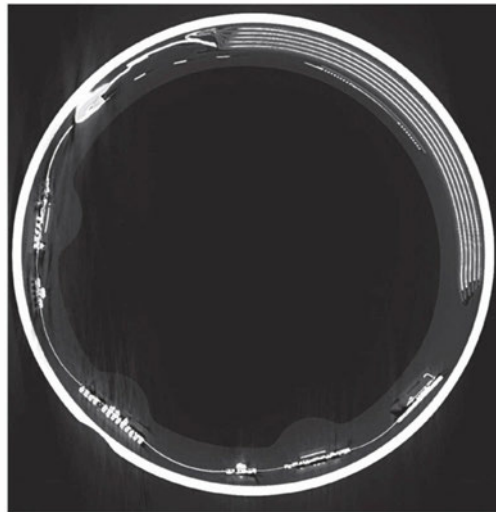
Fourth, none of the "between" limitations were the subject of claim construction. And again, the ALJ found genuine issues of material fact with respect to the "formed between" limitations. *Id.*

Fifth, the limitation requiring that the cavity be formed between circumferential surfaces also was not disputed on claim construction and, thus, is still a live dispute.

VI. THE DI PRODUCTS DO NOT PRACTICE THE CLAIMS OF THE '178 PATENT

Oura relies on two products for the technical prong of DI: (1) the Oura Gen. 3; and (2) the Oura Gen. 4.

As shown below, the Oura Gen. 3 is a single-enclosure/no-cavity embodiment and, thus does not practice the claims of the '178 Patent for the same reasons that Respondents' Accused Products do not infringe.

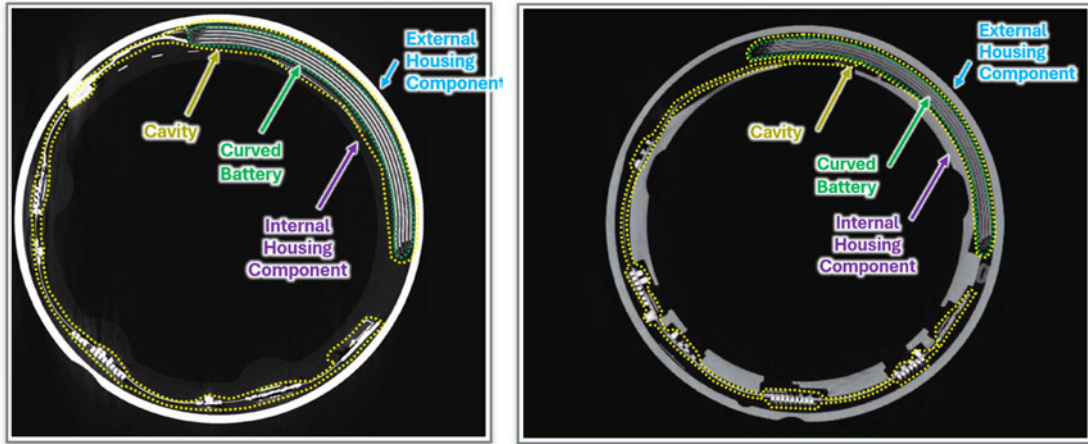


CX-0046.

And even though the Oura Gen. 4 is a double-enclosure embodiment (as shown below) it does not practice the claims of the '178 Patent either.

A. The DI Products Do Not Have “a battery positioned within a cavity”

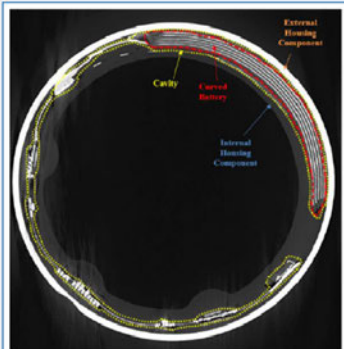
As with the Accused Products, the Oura Gen. 3 and Gen. 4 products are completely solid and lack any hollow space. Tr.961:4-13, 963:1-4 (Alarcon). Moreover, the gerrymandered alleged cavities shown in yellow lines below (Oura Gen. 3 on left and Oura Gen. 4 on right) never even exist as a hollow space as the claims require.



CX-0046; CX-0074.

Oura Ring Gen 3 does not practice the '178 Patent

Dr. Sarrafzadeh provides the same flawed analysis



- **Arbitrary line drawing** – no “cavity”
- **Potting cures around battery** – no battery “configured to fit within the cavity”
- **Components encased in potting** – “between” limitation not met
- **Single-enclosure rings** – no “internal housing component”

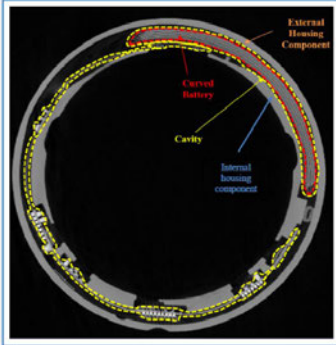
RX-0402C.106 (Sarrafzadeh's Opening Expert Report)

RDX-0001C-91

RDX-0001.91; CX-0046.

Oura Ring Gen 4 does not practice the '178 Patent

Oura Ring Gen 4 has a metal inner band but Dr. Sarrafzadeh's analysis is unchanged



- Same gerrymandered cavity
- Different internal housing component
- Appears to be two cavities

RX-0402C.110 (Sarrafzadeh's Opening Expert Report)

RDX-0001C-92

RDX-0001.92; CX-0074.

As with the Accused Products, these gerrymandered cavities only come to exist after the battery is positioned in the ring and potting material is applied over it. Thus, at the time of creation, these alleged cavities are already fully occupied—the opposite of hollow. Tr.960:25-963-23 (Alarcon testifying Gen. 3 and Gen. 4 do not practice the claims).

B. The DI Products Do Not Have A “battery... compris[ing] a shape and size configured to fit within the cavity”

As with the Accused Products, the alleged cavity in the Oura Gen. 3 and Gen. 4 products do not even exist until after the battery has been positioned in the ring and potting material has been applied over the it. Thus, the battery cannot comprise “a shape and size configured to fit within” a cavity that does not exist until after the battery has already been positioned, shaped and sized. *Id.*; RDX-0001.91-92; CX-0046; CX-0074.

C. The Oura Gen. 3 DI Products Do Not Have An “internal housing component”

As with the Accused Products, the Oura DI Gen. 3 is a single-enclosure structure and, thus does not have two housing components as required by the claims. The potting material used in the Oura Gen. 3 product is not an internal housing component for all the same reasons that the potting

material in the Accused Products is not an IHC. Tr.960:25-961-13 (Alarcon); *see also* V.C *supra*; RDX-0001.91-92; CX-0046; CX-0074.

D. The Oura Gen. 3 DI Products Do Not Have A PCB, Battery Or Cavity Located “between the internal housing component and the external housing component”

As with the Accused Products, the PCB, battery and alleged cavity in the Oura Gen. 3 are completely encapsulated in potting material. For the same reasons discussed above with respect to the Accused Products (*see* Section V.D *supra*), components completely encapsulated in potting material (which the Staff alleges is the IHC) cannot be between the potting material and anything else. Tr.961:12-13 (Alarcon testifying that the Gen. 3 components “are encased in potting”); RDX-0001.91-92; CX-0046; CX-0074.

E. The DI Products Do Not Infringe Dependent Claims 2, 12, 13 and 14

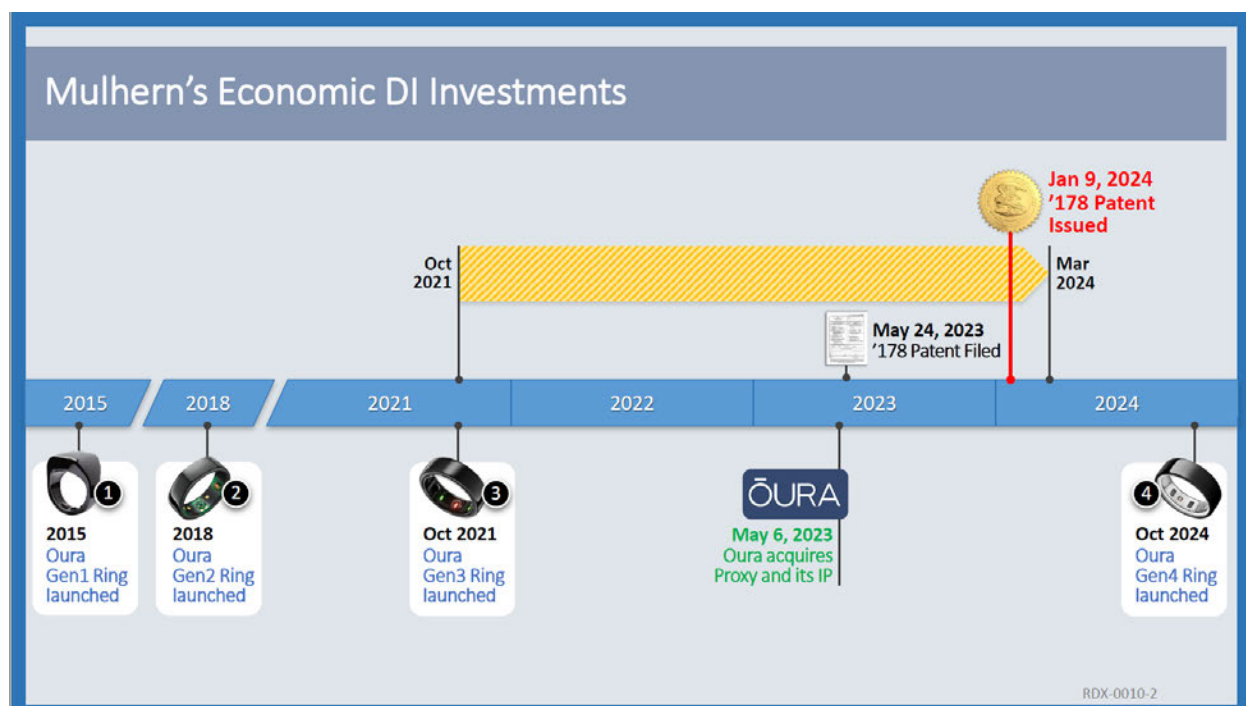
Because the remaining claims depend from claim 1, and the DI Products do not infringe claim 1, they do not infringe the asserted dependent claims for the same reasons.

VII. OURA FAILED TO ESTABLISH AN ECONOMIC DOMESTIC INDUSTRY

Oura failed to establish an economic domestic industry in articles protected by the ’178 Patent for three independent reasons: (1) Oura relies on investments that predate Oura’s acquisition of *any* patent rights from Proxy/Motiv, as well as both the filing and issuance of the ’178 Patent; (2) Oura relies on investments that relate to non-DI products or are otherwise not credible; and (3) Oura fails to demonstrate the alleged investments are “significant” or “substantial.” 19 U.S.C. § 1337(a)(3)(A)-(B); Tr.527:17-528:23 (Mulhern) (“Oura seeks to satisfy the domestic industry requirement under subsections A and B”).

A. The Time Frame Used By Oura Cannot Establish Domestic Industry For The ’178 Patent

The only evidence that Oura relies on to support domestic industry is the total amount that Oura allegedly invested in U.S. R&D and technical support from October 2021 through March 2024. Oura PHB at 112. As shown below, however, it is undisputed that ***Oura did not acquire the Motiv IP from Proxy until May 6, 2023:***



RDX-10.2; Tr.529:16-530:25 (Mulhern). It is also undisputed that the '178 Patent application was not filed until May 24, 2023 and did not issue until January 9, 2024. JX-0001.

Oura's over-inclusive time frame is both legally and economically improper, because the majority of the alleged investments occurred at a time when Oura did not have **any** rights to the invention of the '178 Patent—all rights to the Motiv IP were owned by third-party Proxy, and Oura did not have a license. *Certain Vaporizer Devices, Cartridges Used Therewith, & Components Thereof*, Inv. No. 337-TA-1372, Initial Determination at 158-162 (Dec. 5, 2024) (finding that pre-acquisition expenses could not support domestic industry); *Certain Fluidized Supporting Apparatus & Components Thereof*, Inv. No. 337-TA-182/188, Comm'n Op. at 14 (Oct. 5, 1984)

(finding that absent a license, a company “is nothing more than an infringer, which cannot be part of the industry”). Oura’s domestic industry should be rejected for this reason alone. *Certain Vaporizer Devices*, Inv. No. 337-TA-1372, ID at 158-162.

Oura’s inapposite precedent does not warrant a different result.³ See Oura PHB at 109-110. As noted in the 1372 investigation, the ALJ’s statement in the 1190 investigation that “[h]ypothetically, a domestic industry could be comprised of activities and investments made by an entity that no longer owns the asserted patent” actually supports the requirement of some interest in the patent for domestic activities to count. *Certain Vaporizer Devices*, Inv. No. 337-TA-1372, ID at 159-160 (citing *Certain Wearable Monitoring Devices, Sys., & Components Thereof*, Inv. No. 337-TA-1190, Initial Determination at 130-131 (Feb. 4, 2021)). Oura’s reliance on *Certain Video Game Systems and Controllers* is similarly unavailing, because the expenditures here not only pre-date issuance of the ’178 Patent, they also predate its filing and any acquisition of rights by Oura. Oura PHB at 110 (citing Inv. No. 337-TA-743, Comm’n Op. at 6 (Apr. 14, 2011)).

What is more, Oura went all in on the full period of October 2021 to March 2024 supporting their alleged domestic industry. Ms. Mulhern admitted that she did not attempt to isolate any investments made prior to the patent’s issuance. Tr.531:1-532:6. She likewise made no attempt to isolate any investments made prior to the filing of the patent application on May 24, 2023, or prior to Oura’s acquisition of Proxy and the Motiv IP on May 6, 2023—all of her opinions were based on her total amount of investments from October 2021 through March 2024. Oura’s PHB

³ The Staff’s post-hearing brief does not address this timing issue. See Staff PHB at 62-69.

confirms that the only basis they offer for their alleged domestic industry is the alleged [REDACTED] in plant & equipment and [REDACTED] in labor & capital expenditures dating back to October 2021:

Oct. 2021 – Mar. 2024 (FY 2022 – Q2 FY 2024)		
	Plant & Equipment	Labor & Capital
R&D	[REDACTED]	
Technical Support		
Total		

Oura PHB at 112. It is those totals that Oura contends qualify as “significant” and “substantial” investments pursuant to subsections (A) and (B). Oura PHB at 112-126. Oura has never asserted that any subset of those investments support a domestic industry.

Oura cannot fix their failure of proof after the fact. It made the conscious choice not to allocate the investments into different time frames or present evidence that post-acquisition, post-filing, or post-issuance investments were “significant” or “substantial,” and they should be held to the consequences of that decision—a finding of no domestic industry. It is not the Commission’s job to recalculate the alleged expenditures or “sift through the record evidence to construct an allocation that meets the complainant’s burden.” *Certain Artificial Eyelash Extension Sys., Prods., & Components Thereof*, Inv. No. 337-TA-1226, Comm’n Op. at 47, 61 (Oct. 6, 2022).

B. Oura Includes Investments Relating to Non-DI Products

Oura’s domestic industry also should be rejected because it includes investments related to products that are not covered by the ’178 Patent. 19 U.S.C. § 1337(a)(3)(A)-(B); *Certain Replacement Auto. Lamps*, Inv. No. 337-TA-1291, Comm’n Op., 2024 WL 1298906 at *6 (Mar. 7, 2024). Oura’s claim that “100%” of sales and investments made from October 2021 through

March 2024 necessarily related to the DI product (Tr.532:7-12 (Mulhern)) was contradicted by record evidence. The DI product includes only Oura Gen 3 and Oura Gen 4—Oura Gen 2 is not a DI product. Tr.529:1-9 (Mulhern). Ms. Mulhern conceded the possibility of a sell-off period for Oura Gen 2 products after the release of the Oura Gen 3, but she did not investigate how many sales of Oura Gen 2 products actually occurred during her time frame. Tr.532:7-534:13. Ms. Mulhern further conceded she did not make any attempt to investigate whether any of the technical support or R&D expenditures she relied on actually related to Gen 2 products. Tr.536:9-537:3; Tr.537:25-538:5. She simply relied on Mr. Chapp's conclusory testimony that all of Oura's expenditures related to Oura Gen 3 and Oura Gen 4. Tr.538:6-540:12. She similarly did not attempt to identify any technical support investments that should have been allocated to Oura Gen 2 products. Tr.534:18-537:3. When asked to demonstrate that the activities of particular departments were properly credited as R&D expenses related to the invention of the '178 Patent, Ms. Mulhern again admitted that she relied on Mr. Chapp's identification of "all departments that start with a 7," without further investigation regarding specific tasks or activities of those departments. Tr.538:6-24. The limited information available casts doubt on the reliability of Mr. Chapp's department list, such as the inclusion of all expenses related to 16 employees tasked with maintaining "Oura's online interfaces, including blog content and new partner integration." Tr.538:25-540:12 (Mulhern).

C. Oura's Alleged Investments Are Not Significant Or Substantial

Even setting aside their over-inclusiveness, Oura fails to provide requisite quantitative data supporting their investments as "significant" or "substantial." *Lelo Inc. v. ITC*, 786 F.3d 883, 885 (Fed. Cir. 2015); *In the Matter of Certain Carburetors & Prods. Containing Such Carburetors*, Inv. No. 337-TA-1123, Comm'n Op. at 9 (Oct. 28, 2019). This failure is particularly important given the evidence that Oura is based in Finland, all of its products are wholly manufactured and

assembled in Finland and Estonia, and the Oura Gen 4 ring was developed in Finland. Tr.542:11-18 (Mulhern); Tr.543:10-545:18 (Mulhern); RX-0390. Ms. Mulhern concedes that her analysis did not compare the size of the U.S. facilities to Oura's facilities abroad, and that she did not ask for any data regarding how much Oura invested in its third-party manufacturers. Tr.541:17-542:1; Tr.542:19-543:8. She further concedes that her U.S. R&D plant and equipment costs constitute [REDACTED] of Oura's worldwide R&D plant and equipment investments. Tr.494:22-495:2. Put in context, [REDACTED] during that time frame, and [REDACTED] [REDACTED] can hardly be considered "significant" or "substantial." See Tr.547:13-548:10 (Mulhern).

VIII. REMEDY AND BOND

Oura is not entitled to any remedy in this Investigation against either Ultrahuman or RingConn at least because neither Ultrahuman nor RingConn infringes the Asserted Patent, the Asserted Patent is invalid, and Oura has not met its burden of proof that a domestic industry exists in the U.S.

At any rate, to the extent Oura is entitled to any remedy—it is not—that remedy must be narrowly tailored to the unique facts of this case.

A. Exclusion Order

First, Ultrahuman's and RingConn's mobile apps should not be included in any exclusion order. The mobile app is not imported as it resides on servers based in the U.S. Tr.633:4-17 (Kumar).

Nor can the mobile app infringe the '178 Patent, which is directed to a *ring*, not a software application. An exclusion order can apply only to "articles" that infringe. *Certain Sucralose, Sweeteners Containing Sucralose, & Related Intermediate Compounds Thereof*, Inv. No. 337-TA-604, Comm'n Op. at 100 (Apr. 28, 2009); see *Certain Rd. Constr. Machines & Components*

Thereof, Inv. No. 337-TA-1088, Comm’n Op. at 47 (July 15, 2019) (including carve out in LEO for machines found to be noninfringing); *Certain Silicon Microphone Packages and Prods. Containing the Same*, Inv. No. 337-TA-629, Revised Comm’n Op. at 16 (Aug. 19, 2009) (upholding ALJ’s determination that “any remedy should not apply to those products” that “were not part of this investigation”). Indeed, the parties agree that the preamble is limiting (*see* JX-0011.0005) and the preamble expressly requires a “ring device” and the remaining limitations are directed to hardware components associated with that ring. Other than generally defining the Ultrahuman Accused Products as including the “Ultrahuman Ring AIR and Application,” nowhere does Sarrafzadeh opine that the application infringes the ’178 Patent. (*See* CDX-0003C.16.)

More importantly, “articles” do not include imported data, *ClearCorrect Operating, LLC v. ITC*, 810 F.3d 1283, 1290 (Fed. Cir. 2015), and the Commission has consistently held since *ClearCorrect* that exclusion orders cannot extend to software and electronic transmissions. *See, e.g., Certain Light-Based Physiological Measurement Devices & Components Thereof*, Inv. No. 337-TA-1276, Comm’n Op. at 71-72 (Nov. 14, 2023); *Certain Wearable Elec. Devices with ECG Functionality & Components Thereof*, Inv. No. 337-TA-1266, Comm’n Op. at 50 n.33 (Jan. 20, 2023). Accordingly, no remedy can apply to the mobile app because they comprise electronic data—the transmission of which falls outside ITC jurisdiction.

Second, any exclusion order of the Ultrahuman or RingConn Accused Products will not serve the public interest. For instance, there is clearly demand for health-monitoring devices such as the products at issue in this Investigation. However, as discussed above, Oura recently has been unable to meet demand for its own products. *See* RX-0445.1; *see also* Tr.145:12-14 (Chapp). Precluding the Ultrahuman Accused Products from importation will only serve to prevent the demand for smart rings from being met and will disrupt the ongoing and planned health and

wellness research being conducted with the Accused Products. Tr.677:2-8, 677:14-679:5, 679:11-23 (Kumar); RDX-0004C-22-23, 25-27.) And reducing supply by excluding Ultrahuman's or RingConn's Accused Products will serve only to increase the cost of access to health-monitoring rings, such as by removing subscription-free alternatives from the market. *See* Tr.676:5-10, 681:13-19, 737:4-23 (Kumar).

Moreover, Ultrahuman provides unique and important technology as a health monitoring platform. *See* RDX-0004C-2. For example, Ultrahuman's rings can work in tandem with its M1 and Home health devices to provide tailored insights into a person's metabolic needs, (Tr.676:13-24 (Kumar)), and Ring Air includes lifesaving atrial fibrillation detection. *Id.* 632:13-20, 736:19-737:3 Relatedly, the reliability and accuracy of data collected from smart rings is not necessarily comparable to data collected from other wearable devices. Unlike Oura's ring, the Ring AIR not only collects data but also correlates it with real-time insights, providing an invaluable comprehensive platform. *Id.* 631:20-632:1, 637:4-10, 639:22-640:23. Nor are all other wearables entirely passive. *Id.* 639:17-19. RingConn's ring also provides unique technology having the longest lasting, thinnest, and only ring with sleep apnea monitoring.

Third, any limited exclusion order that issues should also include an exception for service, repair, or replacement articles for products that were imported prior to the effective date of the limited exclusion order. *See, e.g., Certain Automated Teller Machs., ATM Modules, Components Thereof, and Prods. Containing the Same*, Inv. No. 337-TA-989, Comm'n Op. at 32 (Aug. 3, 2017).

Fourth, to the extent a remedy issues, it should include a reporting requirement. And to the extent Oura meets its burden to prove the existence of a domestic industry, such domestic industry is either in decline or does not yet exist. Thus, Oura should be required to certify, at least on a

quarterly basis, that it is exploiting the Asserted Patent, or that it is taking tangible steps to do so. *See, e.g., Certain Biometric Scanning Devices, Components Thereof, Software, and Prods. Containing the Same*, Inv. No. 337-TA-720, Comm’n Op. at 24 (Nov. 10, 2011). To the extent Oura is found to have a domestic industry “in the process of being established,” any remedy must be limited in time such that if Oura has not established a domestic industry within one year of the final determination, any exclusion order should be rescinded.

Fifth, any remedy that issues should likewise include a certification provision to minimize the possibility that U.S. Customers and Board Protection (“CBP”) will exclude non-infringing products from entry into the United States. *See, e.g., Certain Digital Video Receivers and Related Hardware and Software Components*, 337-TA-1103, ID at 314-315 (June 4, 2019) (*quoting Certain Digital Televisions & Certain Prods. Containing Same & Methods of Using Same*, 337-TA-617, Comm’n Op. at 11 (Apr. 23, 2009) (“Certification provisions are necessary to minimize the possibility that non-infringing products will be excluded from entry into the United States when CBP is unable to determine readily by inspection whether an imported product violates a particular exclusion order.”))

B. Cease and Desist Order

Oura also is not entitled to a cease and desist order. For a cease and desist order to issue, the complainant must establish that a respondent maintains a commercially significant inventory of infringing products in the U.S. *See, e.g., Certain Optoelectronic Devices, Components Thereof, and Prods. Containing the Same*, Inv. No. 337-TA-669, Comm’n Op. at 3-5 (July 26, 2010). Mulhern and Oura have failed to meet their burden of proving that Ultrahuman or RingConn maintains a commercially significant inventory of Accused Products in the U.S. Mulhern admits that her original estimate of [REDACTED] is

inaccurate as it effectively double counts inventories, and “that number dropped significantly in [her] ultimate analysis [] presented” at the Hearing. Tr.555:15-556:13, 556:21-557:10; *see also id.* at 501:4-12. Mulhern “ended up issuing a correction” of a factor of [REDACTED]: from [REDACTED] units to [REDACTED] units of the Ultrahuman Accused Products—with the approximate value of the inventory plummeting from [REDACTED] to [REDACTED]. *Id.* at 556:6-13, 557:3-18; CDX-0004C.25; *see* CX-0756C; CX-0757C, CX-0565C. That means that Ultrahuman has [REDACTED] in imported inventory, far less than [REDACTED] that Mulhern referred to as “economically significant.” *See* Tr.557:19-558:2, 558:9-10 (Mulhern); CX-0757C. And Mulhern failed to update this number from over six months ago to reflect current inventories. Tr.558:16-24. RingConn is [REDACTED].

Regardless, sale of remaining products in stock has been allowed when, as is the case here, there is no evidence of large inventories or stockpiling. *See, e.g., Certain Nonwoven Gas Filter Elements*, Inv. No. 337-TA-275, Comm’n Op. at 10 (Sept. 2, 1988).

At a minimum, the Commission should decline to enter an order that would prevent RingConn or Ultrahuman from servicing and repairing products purchased by United States customers as against the public interest.

Alternatively, Ultrahuman should be permitted to re-export remaining U.S. inventory. *See, e.g., Certain Automotive Fuel Caps and Radiator Caps and Related Packaging and Promotional Materials*, 337-TA-319, Comm’n Op. and Order at 7 (Aug. 16, 1991).

C. Bond

Oura has not proven that it is entitled to at least a 60% bond for Ultrahuman or at least 100% for RingConn. Bond is designed to protect a complainant from injury during the Presidential Review Period. *Certain Silicon Microphone Packages and Prods. Containing the Same*, Inv. No.

337-TA-629, Comm'n Op. at 19, (July 16, 2009). But Oura failed to meet its burden on bond and the bond rate should therefore be zero. *Certain Coenzyme Q10 Prods. & Methods of Making Same*, Inv. No. 337-TA-790, Initial Determination at 377-80 (Sept. 27, 2012); *see, e.g., Certain Personal Data & Mobile Commc'n Devices & Related Software*, Inv. No. 337-TA-710, Comm'n Op. at 84-85 (Dec. 29, 2011); *Certain Silicon Microphone Packages and Prods. Containing the Same*, Inv. No. 337-TA-629, Revised Comm'n Op. at 19-20 (Aug. 19, 2009) ("Because Knowles failed to provide any evidence to support a bond, we adopt the ALJ's recommendation that no bond should be set during the period of Presidential review.").

Even if Oura met its burden, it has failed to show that a bond of at least 60% for Ultrahuman or 100% for RingConn is warranted. Mulhern's bond analysis improperly takes into account the subscription cost associated with owning an Oura ring and adds that cost to the cost of the ring to calculate a total cost of ownership, applying an arbitrary three year ownership period. Tr.508:1-9, 14-22. Mulhern admits that this methodology is flawed, stating that she never looked at the percentage of Oura users that never pay for a subscription, nor did she perform any analysis of her own to come up with the three year subscription, instead relying on information from Oura's CEO, Chapp. Tr.550:4-16; *see* CDX-0004C.29. Mulhern additionally points to an Ultrahuman marketing presentation in an attempt justify her use of three years (*see* CDX-0004C.30), despite not undertaking any independent investigation. Regardless, the subscription is not required to use the Oura ring, (*see* Tr.551:12-22; Tr.95:11-21 (Chapp)), and unlocks only certain features that are related to use of the app, (Tr.552:5-8 (Mulhern)), which is unclaimed and thus should not be considered for bond purposes. For similar reasons, Mulhern's attempt to inflate the bond percentage by comparing the Ultrahuman and RingConn Accused Products to the pricier Gen 4 Oura ring with a rose gold finish, priced at \$499 (Tr.510:2-7, 548:16-21, 549:5-11), should be

rejected as being directed to features of the product that are not claimed. Indeed, Mulhern admits that the Ultrahuman Ring AIR doesn't come in rose gold (Tr.549:12-16), and that there is only a single price for the Ring AIR of \$349, regardless of the finish. Tr.510:8-9. She also admits that the RingConn Accused Products do not come in rose gold (Tr.549:12-14), and that the Smart Ring Gen 1 and Gen 2 each have a single price of \$279 and \$299, respectively, regardless of the finish. Tr.510:9-11.

Mulhern further admits that Ultrahuman and RingConn do not charge subscription fees, and removing the subscription cost from the price differential analysis would reduce the percentage of bond significantly. Tr.552:14-19, 553:9-19. In fact, even by lowering the arbitrary three year subscription cost to one year, the bond is significantly reduced. Tr.553:20-23. In such circumstances, the Ultrahuman Accused Product could actually be more expensive than the Oura product, for example when comparing the cheapest Oura product at \$299 to the Ring AIR that costs \$349. Even considering the fact that Oura recently discontinued its cheapest \$299 model, the cheapest Oura ring is now \$349 (plus requiring monthly subscription costs), the same price as Ultrahuman's ring. Tr.508:12-16.

Thus, Oura has failed to prove an entitlement to *any* bond, let alone a bond set at 60% at a minimum, and certainly not at the higher percentage when taking into account rose gold finishes.

IX. CONCLUSION

For the above reasons, the Accused Products do not infringe the claims of the '178 Patent, the DI Products do not satisfy the claims of the '178 Patent, and Oura has failed to establish an economic domestic industry. Thus, no exclusion or cease and desist order should be entered against Respondents.

WORD COUNT CERTIFICATE

The undersigned certifies that Respondents' Responsive Post-Hearing Brief complies with the word limitation set forth in Ground Rule 1.7. The certified word count includes footnotes and excludes the caption, tables of content and authorities, words in figures, the word count certificate, signature block, and the certificate of service.

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