

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

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APPLE INC.,	)	
	)	
Plaintiff,	)	
	)	
v.	)	C.A. No. 22-1377 (JLH)
	)	
MASIMO CORPORATION and SOUND	)	
UNITED, LLC,	)	
	)	
Defendants.	)	

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MASIMO CORPORATION,	)	
	)	
Counter-Claimant,	)	
	)	
v.	)	
	)	
APPLE INC.,	)	
	)	
Counter-Defendant.	)	

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APPLE, INC.,	)	
	)	
Plaintiff,	)	
	)	
v.	)	C.A. No. 22-1378 (JLH)
	)	
MASIMO CORPORATION and SOUND	)	
UNITED, LLC,	)	
	)	
Defendants.	)	

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MASIMO CORPORATION and	)	
CERCACOR LABORATORIES, INC.,	)	
	)	
Counter-Claimants,	)	
	)	
v.	)	
	)	
APPLE INC.,	)	
	)	
Counter-Defendant.	)	

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**MARKMAN OPINION**

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Wilmington, Delaware  
October 8, 2024



**JENNIFER L. HALL, U.S. DISTRICT JUDGE**

This opinion addresses the parties’ claim construction disputes for Apple’s utility patents. The asserted Apple utility patents are U.S. Patent Nos. 10,627,783 (the “’783 patent”), 10,942,491 (the “’491 patent”), 10,987,054 (the “’054 patent”), 11,106,352 (the “’352 patent”), and 11,474,483 (the “’483 patent”).<sup>1</sup> The Court held a *Markman* hearing on September 14, 2023. (C.A. No. 22-1377, D.I. 358 (“Tr. \_\_”).) The matters were reassigned to me in January 2024.

The parties agreed on the construction of five claim terms.<sup>2</sup> In accordance with the parties’ agreement, IT IS HEREBY ORDERED that those terms are construed as follows:

	<b>Term</b>	<b>Court</b>
1	“water-tight seal”; “water-proof seal” (’783 patent; ’491 patent)	plain and ordinary meaning
2	“power savings state” (’352 patent)	plain and ordinary meaning
3	“home screen user interface” (’352 patent)	plain and ordinary meaning

IT IS FURTHER ORDERED that the following disputed claim terms are construed as follows:

	<b>Term</b>	<b>Court</b>
1	“biosensor module” (’783 patent, claims 1, 2, 9, 11, 13, 14, 15, and 19; ’491 patent, claims 7–9, and 14–16; ’483 patent, claims 1 and 10)	“module that includes one or more components that detects and/or measures a physiological signal”
2	“transparent” (’054 patent, claim 1; ’491 patent, claims 3 and 14; ’483 patent, claims 1, 10, 12, 16, and 20)	plain and ordinary meaning (The Court rejects Masimo’s proposal.)
3	“formed from a transparent [material/substrate]” (’054 patent, claim 1; ’491 patent, claim 3)	plain and ordinary meaning (The Court rejects Masimo’s proposal.)
4	“carrier member” (’054 patent, claims 1, 3, 4, 6, 8–10, 12, 15–17, and 19)	“structure on which electrodes are positioned”
5	“application” (’352 patent, claims 1, 9, and 17)	The Court rejects Masimo’s proposal.

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<sup>1</sup> Apple is no longer asserting U.S. Patent No. 10,076,257. (C.A. No. 22-1378, D.I. 698.)

<sup>2</sup> (C.A. No. 22-1377, D.I. 273 at 1; C.A. No. 22-1378, D.I. 295 at 5.)

6	“side” (’483 patent, claims 1, 3, 5, 10, 16, and 18)	The parties agreed that no construction is necessary.
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## I. LEGAL STANDARD

The purpose of the claim construction process is to “determin[e] the meaning and scope of the patent claims asserted to be infringed.” *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995) (en banc), *aff’d*, 517 U.S. 370 (1996). When the parties have an actual dispute regarding the proper scope of claim terms, their dispute must be resolved by the judge, not the jury. *Id.* at 979. The Court only needs to construe a claim term if there is a dispute over its meaning, and it only needs to be construed to the extent necessary to resolve the dispute. *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

“[T]here is no magic formula or catechism for conducting claim construction.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1324 (Fed. Cir. 2005). But there are guiding principles. *Id.*

“The inquiry into how a person of ordinary skill in the art understands a claim term provides an objective baseline from which to begin claim interpretation.” *Id.* at 1313. In some cases, the ordinary meaning of a claim term, as understood by a person of ordinary skill in the art, is readily apparent even to a lay person and requires “little more than the application of the widely accepted meaning of commonly understood words.” *Id.* at 1314. Where the meaning is not readily apparent, however, the court may look to “those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean.” *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1116 (Fed. Cir. 2004). Those sources include “the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art.” *Id.*

“The claims themselves provide substantial guidance as to the meaning of particular claim terms.” *Phillips*, 415 F.3d at 1314. For example, “the context in which a term is used in the asserted claim can be highly instructive.” *Id.* Considering other, unasserted, claims can also be helpful. *Id.* “For example, the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim.” *Id.* at 1314–15.

In addition, the “claims must be read in view of the specification, of which they are a part.” *Id.* at 1315 (quoting *Vitronics Corp. v. Conceptoronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). The specification “is always highly relevant to the claim construction analysis.” *Id.* (quoting *Vitronics*, 90 F.3d at 1582). The specification may contain a special definition given to a claim term by the patentee, in which case, the patentee’s lexicography governs. *Id.* at 1316. The specification may also reveal an intentional disclaimer or disavowal of claim scope. *Id.* However, “even when the specification describes only a single embodiment, the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction.” *Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1372 (Fed. Cir. 2014) (internal marks omitted).

Courts should also consider the patent’s prosecution history. *Phillips*, 415 F.3d at 1317. It may inform “the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be.” *Id.* Statements made by a patentee or patent owner during inter partes review may also be considered. *Aylus Networks, Inc. v. Apple Inc.*, 856 F.3d 1353, 1362 (Fed. Cir. 2017).

In appropriate cases, courts may also consider extrinsic evidence, which “consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises.” *Markman*, 52 F.3d at 980. For example, dictionaries, especially technical dictionaries, can be helpful resources during claim construction by providing insight into commonly accepted meanings of a term to those of skill in the art. *Phillips*, 415 F.3d at 1318. Expert testimony can also be useful “to ensure that the court’s understanding of the technical aspects of the patent is consistent with that of a person of skill in the art, or to establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field.” *Id.*; see also *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 574 U.S. 318, 331–32 (2015).

## II. DISCUSSION

### A. “biosensor module”

The first Apple utility patent term to be construed is “biosensor module.” It appears in claims 1, 2, 9, 11, 13, 14, 15, and 19 of the ’783 patent, claims 7–9 and 14–16 of the ’491 patent, and claims 1 and 10 of the ’483 patent.<sup>3</sup> The ’783, ’491, and ’483 patents share substantially the same specification.

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<sup>3</sup> For example, claim 1 of the ’783 patent recites:

1. An electronic device, comprising:
  - a housing defining a first opening opposite to a second opening;
  - a band attached to the housing and configured to secure the electronic device to a user;
  - a display positioned in the first opening;
  - a ceramic cover disposed over the second opening and forming a portion of an exterior surface of the electronic device;
  - a biosensor module disposed within the second opening below the ceramic cover; and
  - a wireless charging receive coil aligned with the second opening and below the ceramic cover;wherein:

Apple proposes the term be construed as “module that includes one or more components that detects and/or measures a physiological condition or property.” Masimo proposes “a structure containing one or more components that sense physiological signals.”

The parties’ proposals use different words. Resolving disputes like this is challenging for the Court, not because the science is hard, but because it is unclear what the dispute even is or how its resolution affects the case. The parties’ dispute initially appeared to be about whether each of the components in the biosensor module had to sense/measure signals, as Masimo’s previous proposal appeared to suggest. (D.I. 273 at 51–55.) But Masimo later modified its construction to make clear that the module itself (but not each of the components in the module) needs to sense signals. (*Id.* at 55; Tr. 102–04.)

By the time of the *Markman* hearing, the parties focused on one difference between their proposals. (I won’t call it a “dispute” because I’m not sure if there is a real dispute over claim scope.) Apple’s construction says that the biosensor module “detects and/or measures a physiological condition or property,” while Masimo’s says that it “sense[s] physiological signals.” The Court will adopt Apple’s proposal. The specification provides, among other things, that “the biosensor module 710 may include one or more light sources, one or more photodetectors, and one or more electrodes or conductive elements that are configured *to detect and measure a physiological condition or property of the user.*” ’783 patent, 28:19–23 (emphasis added). I’m not sure if Masimo’s proposal is narrower than Apple’s—at the *Markman* hearing, the parties couldn’t agree on which proposal was broader, perhaps demonstrating the inchoate nature of their

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the ceramic cover is configured to pass optical signals generated by the biosensor module; and the ceramic cover is configured to pass wireless power from an external charging device to the wireless charging receive coil.

disagreement. But Apple’s proposal is grounded in the language of the specification, so it will be adopted.

**B. “transparent”**

The second Apple utility patent term to be construed is “transparent.” It appears in claim 1 of the ’054 patent, claims 3 and 14 of the ’491 patent, and claims 1, 10, 12, 16, and 20 of the ’483 patent.<sup>4</sup>

Apple proposes that the term be construed in accordance with its plain and ordinary meaning but does not otherwise propose a construction. Masimo originally proposed “able to transmit all light without diffusion.” (D.I. 273 at 55–61.) In its Sur-Reply, Masimo said it “would

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<sup>4</sup> For example, claim 1 of the ’483 patent recites:

1. A wearable electronic device comprising:
  - a housing defining a first opening and a second opening;
  - a display positioned at least partially within the first opening;
  - a front cover positioned over the display and defining at least a portion of a front exterior surface of the wearable electronic device;
  - a biosensor module comprising:
    - a rear cover positioned at least partially within the second opening and defining an optically transparent window and a protruding convex surface;
    - an optical sensor aligned with the optically transparent window;
    - a first electrode positioned along a rear surface of the wearable electronic device;
    - a second electrode positioned along the rear surface of the wearable electronic device; and
  - a third electrode positioned along a side of the wearable electronic device, wherein:
    - the wearable electronic device is configured to measure a first physiological parameter of a wearer using the optical sensor;
    - the wearable electronic device is configured to measure a second physiological parameter using the first electrode, the second electrode, and the third electrode.



be willing to adopt” a construction that referred to “no appreciable diffusion.” (*Id.* at 60.) The night before the *Markman* hearing, Masimo officially changed its proposal to “able to transmit light without appreciable diffusion.” (Tr. 112–13.) Accordingly, the present dispute is whether a “transparent” material must transmit light without “appreciable diffusion.”

Starting with the claims, they don’t shed much light on this dispute. That said, claim 3 of the ’491 patent specifies that “the transparent substrate comprises one or more of a *glass or a sapphire* material.” Apple’s expert, Dr. Arias, explained that a POSITA would understand that those materials may exhibit diffusion in certain parts of the light spectrum. (C.A. No. 22-1377, D.I. 271, Apple Ex. 46 ¶ 16.)

That extrinsic evidence was not rebutted by Masimo and is consistent with the specification, which expressly uses the word “transparent” to refer to material that can pass even just one wavelength of light. ’054 patent, 13:24–26 (“The carrier 404 may be transparent to all wavelengths of light or just some wavelengths (and even one wavelength) of light.”).

Masimo relies heavily on a passage in the ’054 patent specification that states as follows: “The surface may be any transparent, semi-transparent, translucent, or opaque surface made out of an amorphous solid, glass, a crystal or crystalline material (such as sapphire or zirconia), plastic, or the like.” ’054 patent, 5:59–63. Masimo argues that “transparent” as used in the claims therefore cannot cover things that a POSITA would consider to be “translucent.” But I’m not persuaded on this record that a POSITA reading that passage in the context of the rest of the patent would understand it to constrain the scope of the meaning of “transparent,” especially since another part of the specification refers to materials passing some but not all wavelengths of light as “transparent.” *See* ’054 patent, 13:24–26.

I also think that Masimo’s “without appreciable diffusion” language only introduces ambiguity as to how much diffusion is “appreciable” (especially since Masimo first proposed “appreciable” after the *Markman* briefing was complete, and there is no evidence that a POSITA would understand what that means).

Accordingly, the Court declines to adopt Masimo’s proposal, and the jury will be instructed to give “transparent” its plain and ordinary meaning.

**C. “formed from a transparent [material/substrate]”**

The third term is “formed from a transparent [material/substrate].” It appears in claim 1 of the ’054 patent and claim 3 of the ’491 patent.

Apple proposes that the term be construed in accordance with its plain and ordinary meaning but does not otherwise propose a construction. Masimo proposed the term be construed as “made entirely of a transparent [material/substrate],” but it did not brief its proposal or argue it at the hearing. Accordingly, the Court will not adopt Masimo’s construction. The jury will be instructed to give the term its plain and ordinary meaning.

**D. “carrier member”**

The fourth term is “carrier member.” It appears in claims 1, 3, 4, 6, 8–10, 12, 15–17, and 19 of the ’054 patent.<sup>5</sup>

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<sup>5</sup> For example, claim 1 of the ’054 patent recites:

1. An electronic watch comprising:
  - a housing member;
  - a display at least partially enclosed by the housing member;
  - a carrier assembly coupled to the housing member and comprising:
    - a carrier member formed from a transparent material;
    - a first electrode positioned on the carrier member, operably coupled to a processor and configured to detect a first voltage; and

In the Joint Claim Construction Brief, Apple proposed that the term be construed as “structure that can support the electrodes, or on which the electrodes can be formed or attached,” and Masimo proposed “structure on which electrodes are positioned.” (D.I. 273 at 70.) In light of the fact that claim 1 otherwise requires electrodes to be positioned on the carrier member as in Masimo’s proposal, I asked Apple at the hearing whether it disagrees with Masimo’s proposal for any reason related to an actual disputed issue in the case. Apple subsequently agreed that it didn’t have an issue with Masimo’s proposed construction. (Tr. 120:22–121:14.)

Accordingly, the term “carrier member” will be construed as “structure on which electrodes are positioned.”

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- a second electrode positioned on the carrier member, operably coupled to the processor and configured to detect a second voltage, the first and second electrodes at least partially surrounding a first region of the carrier member and a second region of the carrier member;
  - a light emitter positioned below the first region of the carrier member;
  - a light receiver positioned below the second region of the carrier member and configured to receive light reflected from a wrist;
  - a third electrode coupled to the housing member, operably coupled to the processor, and configured to detect a third voltage; and
  - the processor positioned within the electronic watch and configured to determine an electrocardiogram using the first voltage, the second voltage, and the third voltage.

## E. “application”

The fifth term is “application.” It appears in independent claims 1, 9, and 17 of the ’352 patent.<sup>6</sup>

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<sup>6</sup> For example, claim 1 of the ’352 patent recites:

1. A method, comprising:
  - at [sic] computer system that is in communication with a display generation component and one or more input devices:
    - while the computer system is in a power saving state,
    - detecting an input that meets display-waking criteria;
    - in response to detecting the input that meets the display-waking criteria, displaying, via the display generation component, a wake screen user interface;
    - while displaying the wake screen user interface, detecting a first input that is directed to a portion of the wake screen user interface and includes first movement;
    - and
    - in response to detecting the first input that is directed to the portion of the wake screen user interface:
      - in accordance with a determination that the first input meets first criteria, wherein the first criteria require the first movement to be in a first direction in order for the first criteria to be met:
        - displaying of a home screen user interface that is different from the wake screen user interface, wherein the home screen user interface includes a plurality of application icons corresponding to different applications, and wherein a respective application icon of the plurality of application icons, when selected, causes display of an application corresponding to the respective application icon; and
      - in accordance with a determination that the first input meets second criteria different from the first criteria, wherein the second criteria require the first movement to be in a second direction that is different from the first direction in order for the second criteria to be met:

Apple proposes that the term be construed in accordance with its plain and ordinary meaning but does not otherwise propose a construction. Masimo proposes “a program that, in response to user commands, performs a task beyond: (a) device control, (b) device status indication, or (c) another task related to the internal function of the device itself.” (D.I. 273 at 76.)

Apple contends that Masimo’s proposal “just invites disputes regarding what is ‘a task beyond’ ‘device control’ or ‘device status indication’ or—particularly problematic—what Masimo’s construction refers to as some other unspecified ‘task related to the internal function of the device itself.’” (*Id.* at 76–77.) That point is well taken, particularly since Masimo doesn’t cite to anything in the specification that might shed light on what a “task related to the internal function of the device itself” refers to. Even more persuasive is Apple’s argument that “Masimo’s construction improperly reads out ‘applications’ explicitly disclosed in the specification.” (*Id.* at 77.) In particular, the specification refers to a “settings application . . . which provides access to settings for device 100 and its various applications.” ’352 patent, 30:65–67. Accordingly, the Court will not adopt Masimo’s proposed construction.

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displaying a widget screen user interface that is different from the wake screen user interface and the home screen user interface, wherein the widget screen user interface includes a plurality of user interface objects corresponding to different applications, wherein a respective user interface object of the plurality of user interface objects contains application content from an application corresponding to the respective user interface object, and when selected, causes display of an application corresponding to the respective user interface object.

Masimo points out that a POSITA would understand there to be a difference between an “application,” as used in the claim, and an “indicator,” such as a battery status indicator or a Bluetooth indicator. That may be true, but Masimo’s proposed construction excludes more than just “indicators,” it also excludes things that the specification expressly refers to as “applications.”

Although the record is not entirely clear on this point, Apple does not appear to dispute that an “application” as used in the claims has to be “a program” and that it must “perform[] a task” “in response to user commands.” Nor does Apple appear to dispute that an “indicator” as used in the patent is not necessarily an “application.”

Further complicating the proceedings is Masimo’s recent “Motion to Supplement the Claim Construction Record,” which asks the Court to “supplement the claim-construction record to include relevant portions of the prosecution history” of the “recently concluded IPR” of the ’352 patent. (C.A. No. 22-1378, D.I. 683 at 1.) According to Masimo, Apple told the PTAB that the “widgets” of a prior art reference were not “applications,” which “undermines [Apple’s] position that the Court should not construe ‘application.’” (*Id.* at 2.) The deadline has not yet passed for Apple to respond to Masimo’s “motion.”

All I will say at this time is that the Court will not adopt Masimo’s current proposal because it is inconsistent with the specification. Should there be any remaining actual disputes as to the proper scope of the term that the law requires the Court to resolve, the Court will resolve them before the case goes to the jury.

**F. “side”**

The sixth Apple utility patent term to be construed is “side.” It appears in claims 1, 3, 5, 10, 16, and 18 of the ’483 patent. In the Joint Claim Construction Brief, Apple proposed that the term be construed in accordance with its plain and ordinary meaning but did not otherwise propose

a construction. Masimo proposed “surface different from the front surface or the back surface.” (D.I. 273 at 82.)

It was revealed at the *Markman* hearing that there was no actual dispute between the parties that would require construction of this term. (Tr. 130:2–131:12.) Accordingly, the Court declines to construe the term “side.”