CONFIDENTIAL – ATTORNEYS' EYES ONLY

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

APPLE INC., *Plaintiff*, v. MASIMO CORPORATION and SOUND UNITED, LLC, *Defendants*.	C.A. No. 22-1377-MN-JLH **JURY TRIAL DEMANDED**
MASIMO CORPORATION, SOUND UNITED, LLC *Counter-Claimants*, v. APPLE INC. *Counter-Defendant.*	
APPLE INC., *Plaintiff,* v. MASIMO CORPORATION and SOUND UNITED, LLC, *Defendants.*	C.A. No. 22-1378-MN-JLH **JURY TRIAL DEMANDED**
MASIMO CORPORATION, CERCACOR LABORATORIES, INC., SOUND UNITED, LLC *Counter-Claimants,* v. APPLE INC. *Counter-Defendant.*	

EXPERT REPORT OF MAJID SARRAFZADEH, Ph.D. REGARDING NON-INFRINGEMENT OF U.S. PATENT NOS. 10,687,743 & 10,722,159

Signed: _____
Date: December 15, 2023

[redacted]

[redacted]

b. The Accused Products Do Not Meet The "Configured To . . . Shape An Output Light Pattern" Limitation Under The Doctrine Of Equivalents

458. As discussed above in Section XII.A.1.b, the [redacted] of the Accused Products does not meet Masimo's theory of infringement based on the doctrine of equivalents at least because 1) Masimo's doctrine of equivalents theory would vitiate the claim limitation at issue, 2) the alleged equivalents do not perform substantially the same function in substantially the same way to achieve substantially the same result, and 3) Masimo disclaimed these equivalents during prosecution of related patents.

459. For at least these and the reasons described above, the Accused Products do not meet the "configured to … shape an output light pattern" limitation under the doctrine of equivalents.

3. The [redacted] of the Accused Products Does Not Include An "Opening Defined In The Dark-Colored Coating"; The [redacted]

460. All asserted claims require an "opening defined in the dark-colored coating." Both independent claims 1 and 14 require "wherein ***an opening defined in the dark-colored coating*** is configured to allow at least a portion of light reflected from the tissue to pass through the surface."

461. I disagree with Dr. Zavislan's and Dr. Madisetti's opinions that the Accused Products meet the "opening defined in the dark-colored coating" limitation. Based on my analysis, I conclude that the Accused Products do not meet this limitation.

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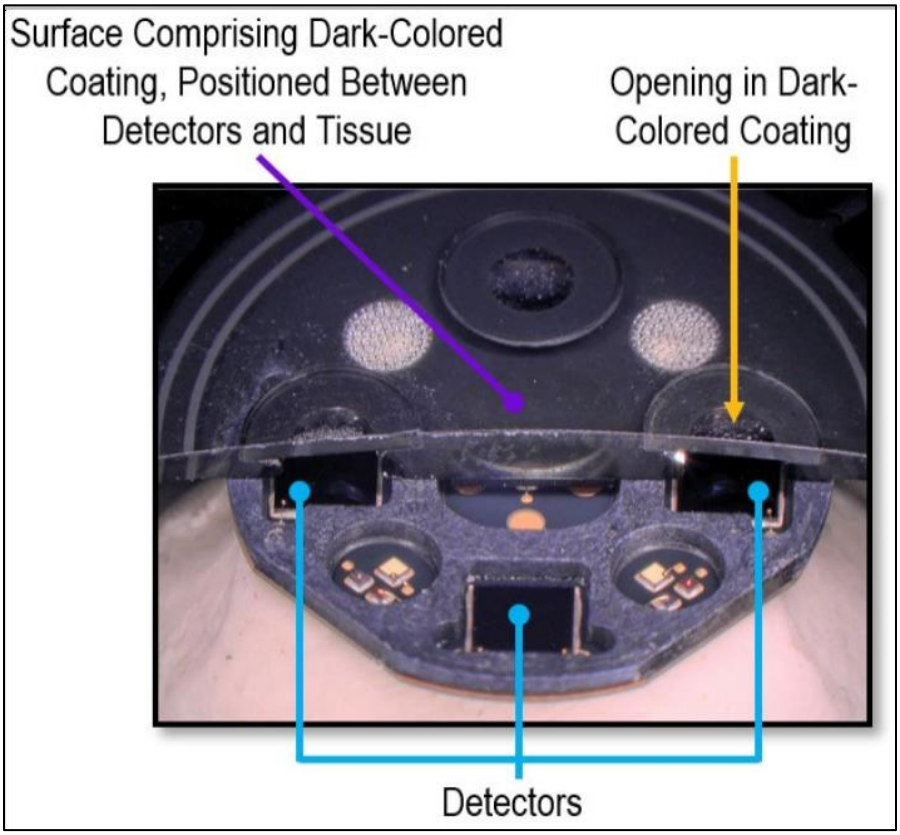
a. The Accused Products Do Not Literally Meet The "Opening Defined In The Dark-Colored Coating" Limitation

462. Dr. Madisetti and Dr. Zavislan fail to demonstrate that the [redacted] of the Accused Products literally meets the "an opening defined in the dark-colored coating" limitation. [redacted]

463. As an [redacted] matter, Dr. Madisetti and Dr. Zavislan's respective identifications of "an opening defined in the dark-colored coating" are inconsistent and contradict one another. Dr. Madisetti alleges that this limitation is met by the [redacted][404]



[404] Madisetti Rpt. at Ex. A, A-49–A-59; Madisetti Rpt. Ex. B at B-44–B-53.

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464. By contrast, Dr. Zavislan does not allege that [redacted][405]

465. Neither of these contradictory identifications meets this limitation. A POSITA would understand that the ordinary meaning of "opening" is akin to "empty space." A POSITA would not regard solid material as an "opening."[406] But every space that Dr. Madisetti and Dr. Zavislan identified is filled with solid material, not empty space. For example, Dr. Zavislan's image excerpted above fails to capture that, [redacted].[407]

466. First, Dr. Madisetti fails to demonstrate that [redacted]

[405] Zavislan Report ¶ 255.
[406] *See, e.g.*, Joint Claim Construction Brief Regarding Masimo Asserted Patents (08/31/2023) Apple Ex. 24 (defining "opening" as "2 An open space serving as a passage or gap"); *id.*, Apple Ex. 30 (defining "opening" as "2 a vacant or unobstructed space, esp. one that will serve as a passageway; gap"); *id.*, Apple Ex. 31 (defining "opening" as "1 an open place; hole; gap").
[407] Indeed, I understand that the Accused Products are waterproof.

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467.

[408] APL_MAS_ITC_00346267.
[409] Block Dep. Tr. at 52:10-15.
[410] Mannheimer ITC Dep. Tr. at 186:19-22; *see also id*. at 185:10-186:16.
[411]

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[redacted]

[redacted]

[redacted]

[redacted]

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469. Accordingly, Dr. Madisetti and Dr. Zavislan fail to demonstrate that the Accused Products meet the limitation of "an opening defined in the dark-colored coating."

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b. The Accused Products Do Not Meet The "Opening Defined In The Dark-Colored Coating" Limitation Under The Doctrine Of Equivalents

470. The Accused Products also do not meet the limitation of "an opening defined in the dark-colored coating" under the doctrine of equivalents either. Dr. Madisetti asserts that [redacted][412]

> Under the construction apparent in Apple's Final Noninfringement Contentions, the identified "opening" is an "opening" under the doctrine of equivalents because it has substantially the same function, operates in substantially the same way, and achieves substantially the same result as an empty space. [redacted].[413]

471. I disagree. Masimo's doctrine of equivalents theory fails for at least three reasons: (i) Masimo's doctrine of equivalents theory would ensnare prior art, (ii) Masimo's doctrine of equivalents theory vitiates "opening" from the claim limitation, and (iii) there are more than insubstantial differences between the claim limitation at issue and Dr. Zavislan's alleged "equivalent." [414]

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[412] Madisetti Op. Report Ex. A at 58; Ex. B at 52–53.
[413] Madisetti Op. Report Ex. A at 58; Ex. B at 52–53.
[414] Dr. Zavislan does not present any theory of infringement under the doctrine of limitations with respect to this limitation.

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i. Masimo's Doctrine of Equivalents Theory Would Ensnare Prior Art

472. The Accused Products do not meet the "opening" limitation under the doctrine of equivalents at least because Masimo's doctrine of equivalents theory would ensnare multiple prior art references.

473. [redacted]

[415] *See* Section VII.A. above.
[416] APL-MAS_00127516 at APL-MAS_00127528.
[417] *See e.g.*, APL_MAS_ITC_00313254 at APL_MAS_ITC_00313259; APL_MAS_ITC_01187128 at APL_MAS_ITC_01187136.
[418] APL_DEL04011011.

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[redacted]

474. [redacted]

[419] APL-MAS_00127516 at APL-MAS_00127528.

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475. [redacted]

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476. Second, as another example, U.S. Patent No. 8,998,815 ("Venkatraman"), which was filed on June 3, 2014 and issued on April 7, 2015,[420] discloses a window that permits light reflected from a user's tissue to reach one or more photodiodes:

> The biometric monitoring device, in some embodiments, may include a window (for example, a window that is, to casual inspection, opaque) in the housing to facilitate optical transmission between the optical sensors and the user. ***Here, the window may permit light (for example, of a selected wavelength) to be emitted by, for example, one or more LEDs, onto the skin of the user and a response or reflection of that light to pass back through the window to be sampled, measured, and/or detected by, for example, one or more photodiodes***.[421]

477. Masimo cannot assert that a window and/or lens is equivalent to an "opening" for purposes of the doctrine of equivalents as this would ensnare the prior art disclosures of the Venkatraman.

ii. Masimo's Doctrine Of Equivalents Theory Vitiates The Claim Requirement Of An "Opening"

478. The Accused Products do not meet the "opening" limitation under the doctrine of equivalents at least because Masimo's doctrine of equivalents theory would vitiate the claim requirement of an "opening."

479. The '743 Patent specifically requires an "opening defined in the dark-colored coating" which is "configured to allow at least a portion of light reflected from the tissue to pass through the surface." As discussed above, the ordinary meaning of "opening" is "empty space." Material, such as closed windows and solid lenses, are the opposite of an "opening." Stretching the claim term "opening" to encompass a closed window as an equivalent would vitiate the requirement of an "opening."

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[420] U.S. Patent No. 8,998,815 ("Venkatraman"), APL_DEL00030616, at (22), (45).
[421] *Id.* at 33:56-65.

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480. In addition to the language of the claims, the specification and figures of the ’743 Patent make clear that an opening is not merely a clear portion of material. For example, the ’743 Patent indicates the light-absorbing detector filter of an embodiment by shading the corresponding box, as shown below. The “opening,” in contrast, does not have any shading to indicate any material in the opening.[422]

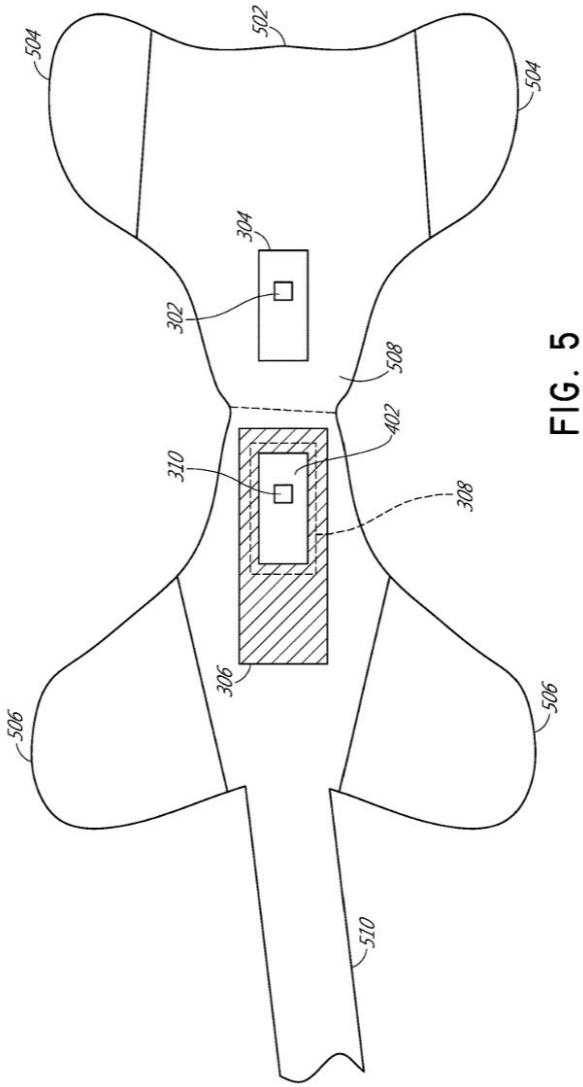

FIG. 5

481. The specification of the ’743 Patent supports that an “opening” is the absence of any material. For example, the ’743 Patent provides an exemplary list of material for components

[422] ’743 Patent at Figure 5; *see also* ’159 patent at Figure 5.

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of the invention which are comprised of material(s). The "light blocker" and "cover" may be comprised of "any material that optically isolates the light concentrator 708 and the detector 710."[423] Additionally, regarding the diffuser, "[e]xamples of materials that can be used to realize the light diffuser 304 include, without limitation, a white surface, glass, ground glass, glass beads, polytetrafluoroethylene (also known as Teflon®), opal glass, and greyed glass, to name a few."[424] The light-absorbing material "can be a black opaque material or coating or any other dark color or coating."[425] In contrast, the '743 Patent provides no examples of any material for the "opening," nor does it even provide any indication that the "opening" is comprised of any material.

482. To put it simply, an opening is an empty space. Especially in the field of optics, light traveling through space in an opening is not equivalent to light traveling through a material, such as a window.

iii. Masimo's Proposed Equivalent Does Not Satisfy The Function/Way/Result Test And Is Not Merely Insubstantial Different From The Claimed "Opening"

483. The Accused Products do not meet the "opening" limitation" under the doctrine of equivalents at least because Masimo's proposed equivalent does not meet the function/way/result test and is not merely insubstantially different from the claimed "opening."

484. I disagree with Dr. Madisetti's opinion that [redacted] "has substantially the same function, operates in substantially the same way, and achieves substantially the same result as an empty space."[426]

485. [redacted]

[423] '743 patent at 11:14-17; *see also* '159 patent at 11:14-17.
[424] *Id.* at 7:49-53; *see also* '159 patent at 7:49-53.
[425] *Id.* at 9:34-36; *see also* '159 patent at 9:34-36.
[426] Madisetti Opening Report Ex. A at 58, Ex. B. at 52.

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486. Second, light propagates differently while traveling through material, such as [redacted], than it does while traveling through empty spaces. As one example, light travels slower through glass than it does through air. [redacted] The higher the refractive index of a material the slower light travels through it. [redacted]

[427] Indeed, I understand that the Accused Products are waterproof.

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487. Dr. Zavislan and I agree that light behaves differently traveling through material than traveling through air.[428] For example, he opines that material such as glass "effects the propagation of light" and will "displace the final image."[429] [redacted]

488. [redacted]

B. [redacted]

[redacted]

[redacted]

[428] Zavislan Opening Report ¶ 58.
[429] Zavislan Opening Report ¶ 58.
[430] See Madisetti Opening Report, ¶ 92; Zavislan Opening Report, ¶¶ 40-42.

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