

EXHIBIT D

**REBUTTAL EXPERT REPORT OF VIJAY K. MADISETTI, PH.D.
REGARDING VALIDITY OF U.S. PATENT NO. 10,984,911**

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902. Mannheim 756 is also cumulative of the references Masimo submitted to the Patent Office. During prosecution, the Patent Examiner allowed the claims of the ’911 Patent over a combination of Schulz (U.S. Pat. No. 6,580,086, produced as APL_DEL0030522) with Thomas (U.S. Pat. No. 5,355,880, produced as APL_MAS_ITC_00021356) similar to the respective combinations of Nierlich, the OxiMax System, and the Masimo SET System with Mannheim 756 that Dr. Warren asserts here. *See, e.g.*, MASAD00003936 at MASAD00003968-69. The Schulz and Thomas patents are cited on the face of the ’911 Patent. This further confirms my opinion that the Mannheim 756 reference is cumulative.

E. Apple’s Invalidity Contentions Do Not Change My Opinions

903. In Apple’s Invalidity Contentions, Apple asserts that the identified prior art renders obvious the Asserted Claims of the ’911 Patent. Apple’s Invalidity Contentions copy and paste portions of the disclosures of various references without substantive explanation or analysis, and only generically address motivations to modify or combine and reasonable expectation of success. For the reasons explained herein, I disagree with Apple’s Invalidity Contentions (and Dr. Warren’s related opinions). To the extent Apple (or Dr. Warren) provides any additional analysis or reasoning in an attempt to develop, support, or expand any invalidity arguments, I reserve the right to respond.

F. The Asserted Claims of the ’911 Patent Satisfy the Written Description Requirement of 35 U.S.C. § 112

904. Dr. Warren opines that Claims 2, 3, 4, 8, and 20 of the ’911 Patent are invalid under 35 U.S.C. § 112 for lacking written description support for (1) a top of the shoebox structure/light block comprising “only one opening through which light is configured to pass” (claim limitations [1C-3] and [19A-5]), (2) wherein the area of that opening is “smaller than a detection surface area

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of the at least one detector” (claim limitation [1C-4] and Claim 20). Warren Opn. Rpt. ¶¶ 1958, 2439-2504. I disagree with Dr. Warren’s opinion.

905. As shown in the below chart, the ’911 Patent and its relevant priority documents properly describe and convey to a POSITA that the inventors possessed the claim limitations challenged by Dr. Warren. Accordingly, the Asserted Claims of the ’911 Patent satisfy the written description requirement of 35 U.S.C. § 112. I provide additional details responsive to Dr. Warren’s arguments following my written description support chart.

Claim Language	Written Description Support²⁸
Claim Limitation [1C-3]: “wherein a top of the shoebox structure includes only one opening through which light is configured to pass” Claim Limitation [19A-5]: “wherein a top of the light block comprises only one opening through which light is configured to pass”	<u>U.S. Prov. Patent App. No. 60/657,596</u> : FIGS. 3, 13, 16A-H, ¶¶34-35, 50-54. <u>U.S. Patent App. No. 11/367,013</u> : FIGS. 24, 31A-H, 32A-H, 46, ¶¶36-37, 87-94, 114. <u>’911 Patent</u> : FIGS. 4, 13, 16A-H, 24-26, 31A-H, 32A-H, 46, 6:25-55, 13:38-15:23, 19:5-27.
Claim Limitation [1C-4]: “the opening comprising an area smaller than a detection surface area of the at least one detector” Claim 21: “wherein an area of the opening is smaller than a detection surface area of the at least one detector”	<u>U.S. Prov. Patent App. No. 60/657,596</u> : FIGS. 3, 13, 16A-H, ¶¶34-35, 50-54. <u>U.S. Patent App. No. 11/367,013</u> : FIGS. 24, 31A-H, 32A-H, 46, ¶¶36-37, 87-94, 114. <u>’911 Patent</u> : FIGS. 4, 13, 16A-H, 24-26, 31A-H, 32A-H, 46, 6:25-55, 13:38-15:23, 19:5-27.

²⁸ In the following written description chart, citation to a figure also incorporates the disclosure relating to such figure, and citation to the disclosure also incorporates the figures relating to such disclosure.

1. The ’911 Patent Describes an Opening

906. Dr. Warren begins his analysis by stating he “attempted to identify a written description in the ’911 patent of an ‘opening’ located in the ‘top of the shoe box’ (claim 1) or the ‘top of the light block’ (claim 19) through which light may pass to the detector, as required by the claims.” Warren Opn. Rpt. ¶ 2447. He argues that “[t]his was somewhat difficult given that the ’911 patent does not actually use the word ‘opening’ or the phrase ‘light block’ outside of the claims.” *Id.* However, I understand that the claim language need not be used in the specification for the specification to provide adequate written description support for the claims. Further, I disagree with Dr. Warren’s assertion because it would have been readily apparent to a POSITA from the ’911 Patent disclosures cited in my above table (including FIGS. 24, 32, and 46 and the accompanying description) that the ’911 Patent describes an opening in the top of a shoebox structure/light block.

907. Moreover, Dr. Warren acknowledges the ’911 Patent’s description of the claimed opening. He acknowledges that: (1) “Figures 32B and 32C of the ’911 patent both depict the ‘top’ of the shoebox” and “the detector window 3210, which ‘provides an optical path from a tissue site to the detector 2410 (FIG. 24),’” and (2) that this detector window 3210 is an “element discussed in the ’911 patent that might plausibly comprise an ‘opening’ in the top of the light block/shoe box through which light may pass to the detector [i.e., the claimed opening].” Warren Opn. Rpt. ¶ 2447. I agree that the ’911 Patent’s detector window 3210 in the shoebox 3200 provides written description for the claimed “opening.” This exemplary opening is also described by the additional figures and associated disclosures cited in my chart above with respect to claim limitations [1C-3] and [19A-5], including, for example, the FIGS. 32A and 32D-H and FIG. 46 that Dr. Warren ignored.

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908. Dr. Warren states that he “did not find any additional potential ‘opening’ in the top of the light block/shoe box through which light may pass to the detector in the ’596 provisional or ’013 application.” Warren Opn. Rpt. ¶ 2447. However, Dr. Warren does not dispute that the disclosures of the ’596 provisional and ’013 application identified in my above chart provide written description support for the claimed “opening.” Dr. Warren’s acknowledgement is consistent with my opinion that the ’911 Patent (and its priority applications) provide written description support for the claimed opening.

909.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Dr. Warren does not account for this testimony.

910. Accordingly, the ’911 Patent provides written description support for the claimed “opening.”

2. The ’911 Patent Describes a Detection Surface Area

911. Dr. Warren continues his analysis by stating he “attempted to identify a written description in the ’911 patent of ‘a detection surface area of the at least one detector,’ as required by the claims.” Warren Opn. Rpt. ¶ 2448. He opines that “[t]his was somewhat difficult given that the ’911 patent does not use the phrase ‘detection surface area’ or otherwise discuss what portion of detection 2410 within detector assembly 2400 actually detects light.” *Id.* I again note my understanding the claim language need not be used in the specification for the specification to provide adequate written description support for the claims. Further, I disagree with Dr. Warren’s characterization that finding written description support for the challenged claim limitations is difficult. It would have been readily apparent to a POSITA from the ’911 Patent disclosures cited in my above table (including FIGS. 24, 32, and 46 and the accompanying description) that the ’911 Patent describes that the opening in the top of a shoebox structure/light block is an opening as claimed—with an area smaller than a detection surface area of the at least one detector.

912. A POSITA would have known that the detection surface area of a given detector is essentially the entire surface area of the detector. Dr. Warren “adopted” that same understanding “for purposes of [his written description analysis].” Warren Opn. Rpt. ¶ 2449. Thus, there is no dispute that the detection surface area of a given detector is the entire surface area of the detector.

913. Accordingly, the ’911 Patent provides written description support for the claimed “detection surface area of the at least one detector.”

3. **The ’911 Patent Reasonably Conveys To A POSITA That The Inventors Had Possession Of The Claimed “Only One Opening Through Which Light Is Configured To Pass” Wherein The Area Of That Opening Is “Smaller Than A Detection Surface Area Of The At Least One Detector”**

914. Dr. Warren continues his analysis by stating he “attempted to identify a written description in the ’911 patent that might indicate the relative sizes of the detector window 3210 as compared to the detector 2410.” Warren Opn. Rpt. ¶ 2450. He opines that:

[T]here is nothing in the ’911 patent’s written description or figures that indicates the relative size of the detector window 3210 as compared to the detector 2410. Specifically, the text of the ’911 patent’s written description gives no indication of the size of the detector window 3210, the size of the detector 2410, or their relative sizes. The ’911 patent’s figures likewise do not indicate the size of the detector window 3210, the size of the detector 2410, or their relative sizes.

Id. Based on his view that there is no indication or disclosure of the relative sizes of the opening and detector (detection surface area), Dr. Warren concludes that “the ’911 patent does not reasonably convey to a POSA that the inventors had possession of “a top of the shoebox structure/light block comprising ‘only one opening through which light is configured to pass’ wherein the area of that opening is ‘smaller than a detection surface area of the at least one detector.’” *Id.* ¶ 2451. For the reasons explained below, I disagree, and in my opinion the ’911 Patent provides written description support for an “opening” in the top of the shoebox structure/light block that has an area “smaller than a detection surface area of the at least one detector,” as required by Claims 2, 3, 4, 8, and 20 of the ’911 Patent.

a. **Dr. Warren’s Discussion of “Additional Relevant Legal Standard”**

915. Dr. Warren states it is his understanding that “patent drawings do not define the precise proportions of the elements and may not be relied on to depict particular sizes of features if the specification is completely silent on the issue,” and that “the figures in a patent are not assumed to be drawn to scale unless the specification indicates otherwise.” Warren Opn. Rpt.

¶ 2452. However, I understand that the disclosed structures and their relative sizes depicted and/or described in the patent’s specification should not be ignored in the written description analysis.

916. Further, I note that Dr. Warren repeatedly states that the claim language or other specific words are not used verbatim in the specification to support his conclusion that the challenged claim limitations lack written description. However, I understand that patent figures form part of the written description and cannot be ignored. Rather, in the ’911 Patent, the figures are consistent with the text of the specification and further inform a POSITA.

b. The ’911 Patent Describes That The Area Of The Opening Is Smaller Than The Detection Surface Area Of The At Least One Detector

917. Dr. Warren opines that “[t]he ’911 patent does not reasonably convey to a POSA that the inventors had possession of a top of the shoebox structure/light block comprising ‘only one opening through which light is configured to pass’ wherein the area of that opening is ‘smaller than a detection surface area of the at least one detector.’” Warren Opn. Rpt. ¶ 2453; *id.* ¶¶ 2453-2468. For many reasons, I disagree.

918. Dr. Warren opines that “the ’911 patent’s written description of the ‘light block’ does not mention, much less describe, the size of the detector window 3210, the size of the detector 2410, or their relative sizes” because (1) “the term ‘light block’ never appears in the ’911 patent’s specification [other than in the claims]” and (2) “[t]here are also no figures that are said to depict the ‘light block,’ according to the specification.” *Id.* ¶ 2454. I disagree.

919. Dr. Warren’s conclusion about the ’911 Patent’s written description support for a “light block” is superficial and incomplete. He improperly ignores the relevant disclosures of the ’911 Patent merely because it does not use the phrase “light block” verbatim. *Id.* However, the phrase “light block” need not appear in the specification for the specification to provide written

description support for that claimed feature. And, indeed, a POSITA would have understood the disclosure of that feature even though the phrase “light block” is not used outside of the claims.

920. For example, the ’911 Patent explains:

The detector assembly 2400 is housed in an enclosure so as to reduce light piping from the emitter assembly to the detector assembly without passing through fingertip tissue. These and other features are described in detail below. Specifically, emitter assembly embodiments are described with respect to FIGS. 5-18. Interconnect assembly embodiments, including the flexible circuit assembly 1900, are described with respect to FIGS. 19-23. Detector assembly embodiments are described with respect to FIGS. 24-26. Attachment assembly embodiments are described with respect to FIGS. 27-39.

’911 Patent at 6:45-55.

921. A POSITA would have understood that “an enclosure ... to reduce light piping” refers to a light block, and that this light block “and other features are described in detail below.” *Id.* The ’911 Patent also describes an exemplary light blocking enclosure for the detector assembly 2400. Specifically, it discloses that “FIGS. 32A-H illustrate a shoe box that accommodates the detector assembly 2400 (FIG. 24),” that the shoe box 3200 includes only one “detector window 3210” on its top, and that “the shoe box 3200 is colored black or other substantially **light blocking** color.” *Id.* at 15:14-23. FIGS. 32A-H show that the detector window 3210 is included on the top of the shoe box 3200. And the ’911 Patent explains that the “detector window 3210 provides an optical path”—an opening—“from a tissue site to the detector 2410.” A POSITA thus would have understood that shoe box 3200 discloses a light block with a top having only one opening through which light can reach the detector. The ’911 Patent identifies and describes the features of this exemplary light block or “shoe box 3200” with explicit reference to FIGS. 32A-H. Thus, I disagree with Dr. Warren’s mischaracterization of the ’911 Patent’s disclosure. Rather, a POSITA would have readily understood the various disclosures, in the text and figures of the specification, pertaining to the light block.

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922. Further, I disagree with Dr. Warren’s conclusion that the ’911 Patent does not describe the relative sizes of the relevant components. For at least the reasons explained below in responding to Dr. Warren’s discussion of the “[d]escription of the relationship between the shoe box and the detector,” the ’911 Patent (and the ’596 provisional and ’013 application) discloses that the area of the opening (detector window 3210) is smaller the area of the detection surface area.

923. Dr. Warren next copies and pastes a portion of the ’911 Patent’s disclosures regarding the shoe box 3200 and, without explanation, opines that “[t]he aforementioned text and figures describes the shoe box 3200 and the detector window 3210 does not mention, much less describe, the size of the detector window 3210, the size of the detector 2410, or their relative sizes.” Warren Opn. Rpt. ¶ 2457. I disagree. Dr. Warren merely copies and pastes 15:14-23 and FIGS. 32A-H of the ’911 Patent into his report, but he fails to explain any reason for limiting his analysis to “the aforementioned text and figures.”

924. Dr. Warren’s conclusion about the ’911 Patent’s written description support for a “shoe box” is incomplete. Dr. Warren did not consider all the relevant text and figures. He inexplicably omits important disclosures relevant to the shoe box. Specifically, he omits FIG. 24 and its accompanying disclosure (describing the detector assembly 2400 that fits into the shoe box 3200, and showing the relative sizing of the detector 2410 to the detector assembly 2400), and he omits FIG. 46 and its accompanying disclosure (describing how the complete sensor assembly goes together, including the area of the detector window 3210 relative to the area of the detector assembly 2400 and its detector 2410). *Id.* ¶¶ 2456-2457.

925. Further, as explained below in response to Dr. Warren’s discussion of the “[d]escription of the relationship between the shoe box and the detector,” the ’911 Patent (and the

’596 provisional and ’013 application) discloses that the area of the opening (detector window 3210) is smaller the area of the detection surface area.

926. Dr. Warren next copies and pastes a portion of the ’911 Patent’s disclosures regarding the detector assembly 2400 and its detector 2410 and, without explanation, opines that “[t]he aforementioned text and figures describing the detector assembly 2400 and detector 2410 does not mention the size of the detector window 3210, the size of the detector 2410, or their relative sizes.” Warren Opn. Rpt. ¶¶ 2458-2459. I disagree.

927. Dr. Warren’s conclusion about the ’911 Patent’s written description support for a “light block” is superficial and incomplete. Dr. Warren again omits FIG. 46 and its accompanying disclosure, which describes how the complete sensor assembly, including the area of the detector window 3210 relative to the area of the detector assembly 2400 and its detector 2410. *Id.*

928. Finally, Dr. Warren turns to the ’911 Patent’s “[d]escription of the relationship between the shoe box and the detector.” *Id.* ¶ 2460. Here, however, he merely copies and pastes FIG. 46 and the accompanying disclosure in the ’911 Patent (19:5-27). He then concludes, for three primary reasons, that “[t]he aforementioned text and figures describing the relationship between the shoe box 3200 and the detector assembly 2400 does not mention, much less describe, the size of the detector window 3210, the size of the detector 2410, or their relative sizes.” *Id.* I disagree.

929. **First**, Dr. Warren argues that “[t]here is nothing in the ’911 patent, ’596 provisional, or ’013 application indicating that the figures are drawn to scale or otherwise define the proportions of the elements.” *Id.* ¶ 2464. I disagree.

930. The ’911 Patent explains that FIG. 46 provides “a detailed exploded perspective view” with all the various components described throughout the specification, including the shoe

box 3200 and the detector assembly 2400, that make up the exemplary sensor 400. *See, e.g.*, ’911 Patent at FIG. 46, 5:12-13, 19:5-27. FIG. 46 is described in the specification as “a detailed exploded perspective view” of how each component in the overall “sensor” 400 goes together, and thus a POSITA would have readily understood that FIG. 46 is drawn relative to scale. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

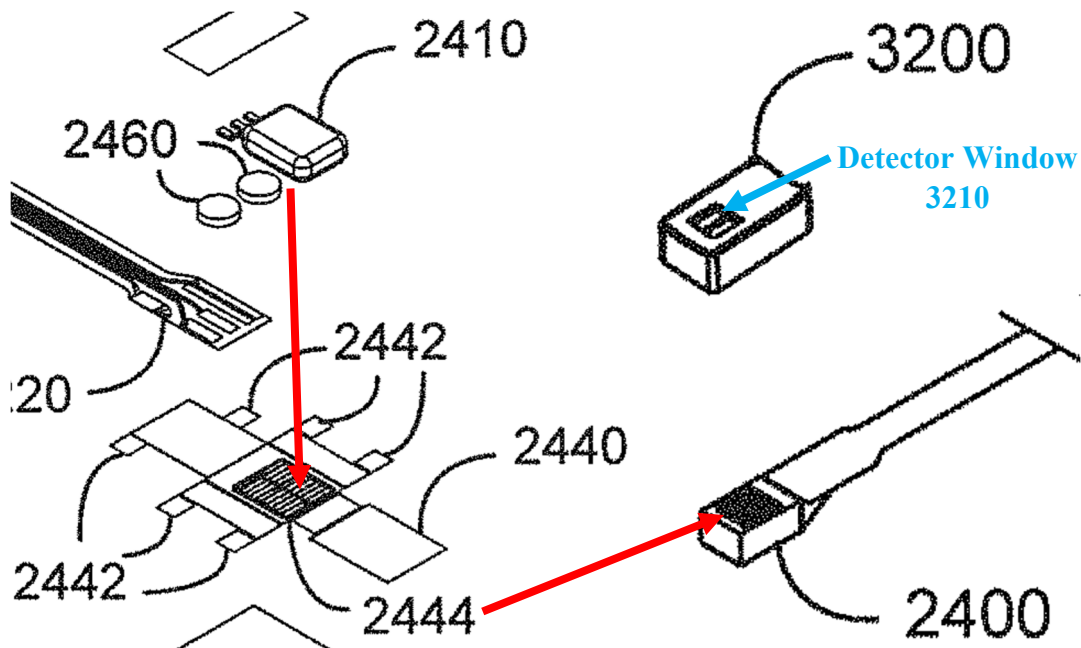
[REDACTED] Accordingly, the ’911 Patent, including the text of its specification, indicates that FIG. 46 is drawn relative to scale and therefore informs a POSITA about the relative sizing of components in the sensor. There is nothing in the ’911 Patent (or its priority documents) to suggest otherwise. And Dr. Warren’s assertion that “[t]here is nothing ... indicating that the figures are drawn to scale or otherwise define the proportions of the elements” (Warren Opn. Rpt. ¶ 2464) improperly ignores the relative sizing of components disclosed in FIG. 46 of the ’911 Patent and the understanding about the relative size of components that a POSITA would have from FIG. 46.

931. *Second*, Dr. Warren argues that “Figure 46 only depicts the entire detector assembly 2400” and not the detector 2410 or its detection surface, and “Figure 46 still does not indicate the size of the detector window 3210, the size of the detector 2410, or their relative sizes.” Warren Opn. Rpt. ¶ 2465. I disagree.

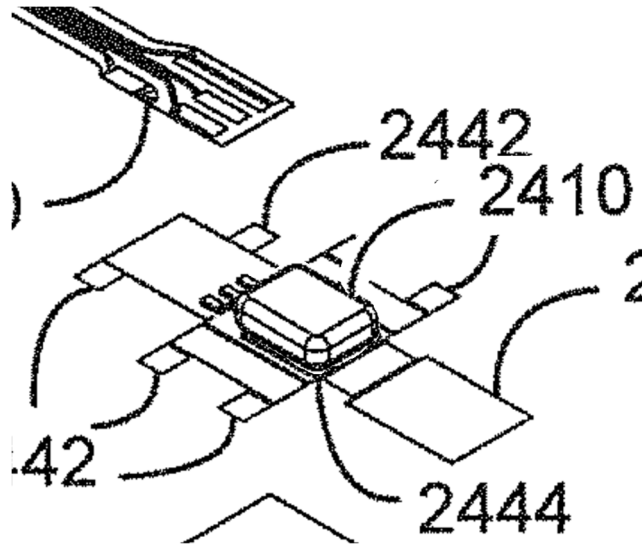
932. Dr. Warren’s arguments improperly assume that patent figures should be viewed in isolation and ignores that a POSITA would have viewed FIG. 46 with the context provided by the ’911 Patent’s disclosures regarding detector assembly 2400, FIG. 24, shoe box 3200, and FIGS. 32A-H. Similarly, Dr. Warren’s argument that the relative sizes of the relevant features is not apparent from FIG. 46 contradicts the ’911 Patent’s disclosure and the understanding a POSITA would have from that disclosure. A POSITA’s understanding of FIG. 46, which shows the exploded view of the entire sensor 400, would have been informed by looking to the ’911 Patent’s disclosures about each part of the sensor, including FIG. 24, FIGS. 32A-H, and the accompanying descriptions, all of which are explicitly linked in the specification as pertaining to the sensor 400 shown in FIG. 46. And, as explained below, when viewed in context of the relevant figures and associated descriptions, a POSITA would have understood that the inventors possessed a top of the shoebox structure/light block comprising “only one opening through which light is configured to pass” wherein the area of the opening is “smaller than a detection surface area of the at least one detector.”

933. The ’911 Patent describes that the “shoe box 3200 [] accommodates the detector assembly 2400 (FIG. 24),” as explained above. ’911 Patent at 15:14-15. That detector assembly 2400 surrounds the detector 2410 with, among other things, “an EMI shield 2440” that includes an “EMI shield grid 2444.” As shown in FIG. 24 (below, left), the EMI shield grid 2444 and the detector 2410 are aligned and occupy virtually the same area of the detector assembly 2400. The

'911 Patent explains that “[t]he EMI shield walls are folded around the detector 2410,” resulting in the detector assembly 2400 as shown in FIG. 46 (below, right).



Id. at FIG. 24 (excerpted and annotated, left), FIG. 46 (excerpted and annotated, right). Further, as shown below, simply moving the detector 2410 in FIG. 24 downward toward the grid 2444 (as it would be in the complete detector assembly 2400) confirms that the area occupied by the detector 2410 is approximately the same as the grid 2444. Indeed, a POSITA would have understood that the grid 2444 and detector 2410 occupy the same area because the grid 2444 is how the EMI shield 2440 allows light to reach the detector 2410.



Id. at FIG. 24 (excerpted). As explained above, there is no dispute that a POSITA would have understood that the detection surface area is the same as the area of the detector. And as shown above, the '911 Patent discloses that the grid 2444 has the same area as the detector 2410. Moreover, a POSITA would have understood that the grid 2444 is apparent in FIG. 46, and as shown in the excerpt of FIG. 46 included above, the area of the detector window 3210 of the shoe box 3200 is smaller than the area of the grid. Thus, the relevant disclosures of the '911 Patent, which are cited in my written description chart and discussed above, would have reasonably conveyed to a POSITA that the inventors were in possession of only one opening in the top of the shoebox structure/light block (i.e., detector window 3210) having an area smaller than the detection surface area of the at least one detector (i.e., detector 2410).

934. Further, the FIG. 24 shows that the detector 2410 occupies approximately all the smaller dimension of the enclosure of the detector assembly 2400 (which I will call width) and most (approximately 75%, if not more) of the larger dimension of the enclosure of the detector assembly 2400 (which I will call length). Put simply, FIG. 24 shows that the detector 2410 occupies a significant majority of the area of the detector assembly 2400's larger face (i.e., the face that has the grid).

935. As explained above, a POSITA would have understood that FIG. 46 shows the components of the sensor 400 relative to scale, meaning that the figure accurately indicates the sizes and proportions of components relative to one another. FIG. 46 shows both the shoe box 3200 (from FIGS. 32A-H) and the detector assembly 2400 that inserts into the shoe box in the assembled sensor 400. '911 Patent at FIG. 46, 19:5-27. FIG. 46 shows that the larger face of the detector assembly 2400 (i.e., the face with the grid) is significantly larger than the area of the detector window 3210 that is apparent in the top of the shoe box 3200. A POSITA would have understood that, in FIG. 46, the detector 2410 occupies the significant majority of the area of the detector assembly 2400's larger face, just as it does in FIG. 24.

936. And, as explained above, there is no dispute that a POSITA would have understood that the detection surface area is the same as the area of the detector. Thus, from the context provided by both FIG. 24 and FIG. 46, a POSITA would have understood that the '911 Patent discloses that the area of the detector window 3210 is smaller than the detection surface area of the at least one detector 2410. Accordingly, this is another way that the relevant disclosures of the '911 Patent, which are cited in my written description chart and discussed above, would have reasonably conveyed to a POSITA that the inventors were in possession of only one opening in the top of the shoebox structure/light block (i.e., detector window 3210) having an area smaller than the detection surface area of the at least one detector (i.e., detector 2410).

937. **Third**, Dr. Warren opines that the '911 Patent lacks written description for an opening as claimed because FIG. 46 is a 2D rendering of a 3D assembly. Specifically, he opines:

Every object in Fig. 46 is collapsed down to a 2D representation of its original 3D structure, with no indication of near versus far object placement in the image. Therefore, since shoe box 3200 and detector assembly 2400 have no specified near versus far placement relative to one another, the 2D depiction makes it impossible to quantify their relative dimensions, even under any assumption that those elements were originally drawn to scale in a computer-aided design (CAD)

software package. Coupled with the lack of information in the ‘911 specification regarding the relative sizes of the detection surface area of detector 2410 and the detector assembly 2400, these 2D depictions offer no aid in terms of dispelling reader confusion with regard to any relative sizing of the opening in shoebox 3200 and the detection surface area of detector 2410.

Warren Opn. Rpt. ¶ 2466. I disagree.

938. Dr. Warren criticizes FIG. 46 without looking to the other disclosures and associated figures concerning each of the structures shown in the “exploded perspective view” of the overall sensor 400 shown in FIG. 46. As I explained above, that does not reflect how a POSITA would have understood the ‘911 Patent’s explicitly linked disclosures regarding the detector assembly 2400 and FIG. 24, the shoe box (light block) and FIGS. 32A-H, and the disclosure in FIG. 46 and 19:5-27 of how those components relate to one another and fit together in the overall sensor 400. Further, Dr. Warren’s argument that FIG. 46 provides “no indication of near versus far object placement” contradicts the figure. The perspective of FIG. 46 shows each component of the sensor 400 with the closer side of the component at the bottom left leading to the farther side of the component at the top right. Indeed, FIG. 46 shows which components are in front of others, and how the various components relate to one another, as demonstrated in the exemplary part of the figure below.

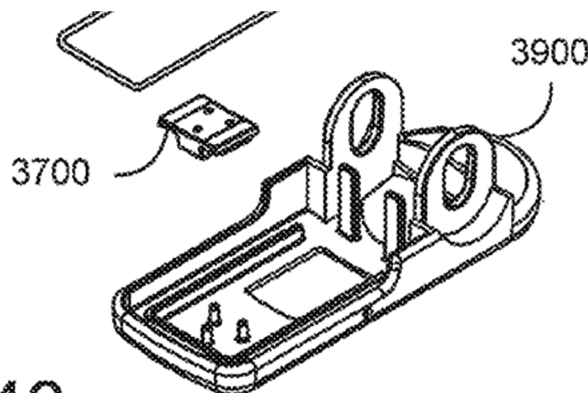
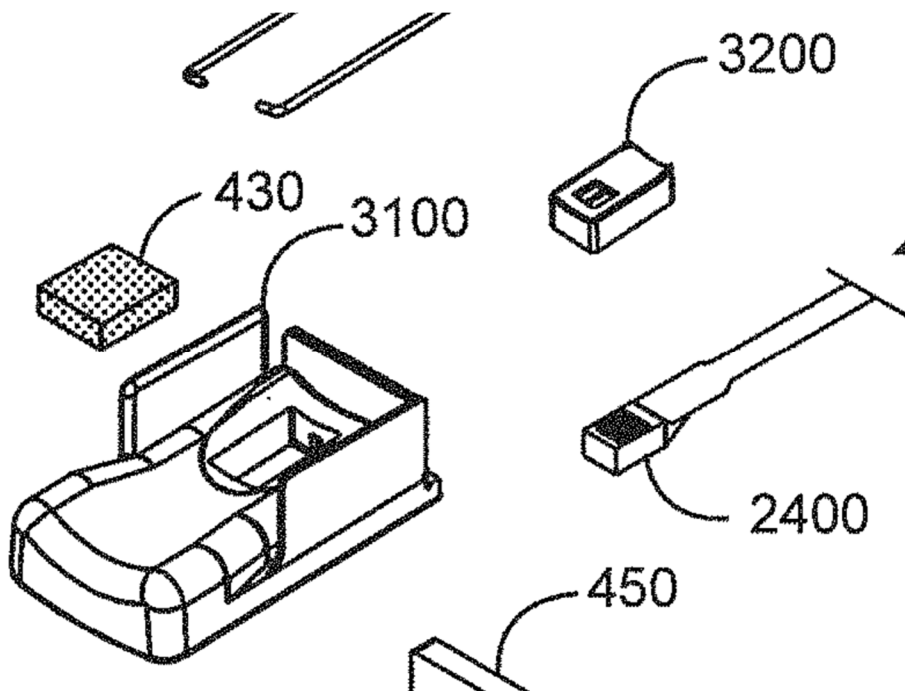


FIG. 46

'911 Patent at FIG. 46 (excerpted). Also, Dr. Warren’s opinion that it is “impossible to quantify the[] relative dimensions” of the shoe box 3200 and detector assembly 2400 ignores FIG. 46. Warren Opn. Rpt. ¶ 2466. As shown below, FIG. 46 depicts the shoe box 3200 and detector assembly 2400 starting from a vertically aligned position the same distance away from the viewer, and indicating, consistent with the specification’s description (15:14-15 and 19:15-17), that the detector assembly 2400 inserts into the shoe box 3200, which in turn inserts into the detector pad 3100.



'911 Patent at FIG. 46 (excerpted).

939. Accordingly, Dr. Warren’s opinion that FIG. 46 somehow provides “no indication of near versus far” contradicts FIG. 46 and fails to show any issue with the written description of the '911 Patent. Moreover, as explained above, FIG. 46 is an “exploded” view of the overall sensor 400 in which the components are drawn relative to scale and in a manner consistent with how they are shown and/or described in earlier parts of the disclosure (e.g., FIGS. 24, 32A-H, and the accompanying text). As such, FIG. 46 provides an accurate depiction of the positioning and

relative sizing of components, including the detector assembly 2400 and shoe box 3200, and how they go together to form the sensor 400.

940. And as explained above, a POSITA’s understanding of FIG. 46 would be informed by the other disclosure pertaining to the structures in the sensor 400, including FIGS. 24 and FIGS. 32A-H. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

941. Accordingly, contrary to Dr. Warren’s conclusion, FIG. 46 shows the positioning and relative sizing of the detector assembly 2400 and shoe box 3200. And because a POSITA would have understood FIG. 46 with the context provided by FIG. 24 regarding the size of the detector 2410 relative to the larger face of the detector assembly 2400, there would be no confusion that FIG. 46 depicts an opening with an area smaller than the detection surface area of the detector.

942. Dr. Warren next opines that the ’911 Patent lacks written description support for the challenged claim limitations because it does not use the word (1) bigger, (2) smaller, (3) opening, or (4) detection surface, and because it only uses the words “large” and “size” in other contexts. Warren Opn. Rpt. ¶ 2468. I disagree. Whether the words Dr. Warren selectively looked

for are used at all or used to describe the claim limitations at issue is not the relevant inquiry. The inquiry is whether the written description of the ’911 Patent conveys to a POSITA that the inventors possessed an opening in the top of the shoebox structure/light block with an area smaller than the detection surface area of the at least one detector, and for the reasons I have explained above, the answer to that inquiry is yes.

i. **The Knowledge of a POSITA Confirms the Adequate Written Description of the ’911 Patent**

943. Dr. Warren argues that the knowledge of a POSITA cannot cure the ’911 Patent’s lack of written description. Warren Opn. Rpt. ¶¶ 2471-2473. But for the reasons explained above, the ’911 Patent satisfies the written description requirement for the challenged limitations. Further, it is my understanding that analysis of the sufficiency of a patent’s disclosure requires an objective inquiry into the four corners of the specification from the perspective of a POSITA. I have applied that standard in my analysis and reached the conclusion that the ’911 Patent satisfies the written description requirement for the challenged limitations. Dr. Warren does not appear to have applied that standard in his analysis because he routinely ignores the perspective of a POSITA, such as the facts that: (1) a POSITA’s understanding of the disclosure of an overall sensor (e.g., FIG. 46) would be informed by the specification’s disclosure (figures and text) of features expressly linked to and included in that sensor; (2) FIG. 46 is drawn relative to scale; (3) FIG. 46 is an exploded perspective view of the type commonly used in the art to depict the relative positioning of components. *See, e.g., id.* ¶¶ 2439-2473.

ii. **The ’596 Provisional Provides Written Description Support**

944. Dr. Warren also opines that the ’596 provisional does not provide written description support for an opening in the top of the shoebox structure/light block with an area smaller than the detection surface area of the at least one detector. *Id.* ¶¶ 2474-2480. I disagree.

CONFIDENTIAL – ATTORNEYS’ EYES ONLY

945. The '596 provisional discloses a detector assembly 1300 with a detector 1310, which is described in paragraph 50 and shown in FIG. 13. These disclosures and structures are in all relevant respects substantively the same as, if not literally identical to, the '911 Patent's disclosures relating to the detector assembly 2400 shown in FIG. 24 and described at 13:38-53.

946. The '596 provisional also discloses, in FIGS. 16A-H and paragraph 54, a detector pad 1600 with a “detector window 1620 that provides an optical path from a tissue site to the detector 1310 (FIG. 13)” and a detector assembly cavity 1640 that “accommodates the detector assembly 1300 (FIG. 13).” Paragraph 34 and FIG. 3 of the '596 provisional describe a “bottom shell 2000” that closes the detector assembly cavity 1640. These disclosures and structures are in all relevant respects the same as, if not literally identical to, the '911 Patent's disclosures relating to the shoe box 3200 shown in FIGS. 32A-H and described at 15:14-23.

947. The '596 provisional further discloses an exploded view of the overall sensor 300 in FIG. 3, which is described in paragraphs 34-35 with reference to the detector assembly 1300, detector pad 1600, and shell 2000 discussed above. These disclosures and structures are in all relevant respects substantively the same as, if not literally identical to, the '911 Patent's disclosures of the overall sensor 400 shown in FIG. 46 and described at 19:5-27 with reference to the detector assembly 2400 and shoe box 3200.

948. Accordingly, for the same reasons explained above with respect to the '911 Patent's disclosures of FIGS. 24, 32A-H, and 46 and the associated text, I disagree with Dr. Warren's opinions and it is my opinion that the '596 provisional provides written description support for, and reasonably conveys to a POSITA that the inventors possessed, a top of the shoebox structure/light block comprising “only one opening through which light is configured to pass”

wherein the area of that opening is “smaller than a detection surface area of the at least one detector.”

iii. The ’013 Application Provides Written Description Support

949. Dr. Warren also opines that the ’013 application does not provide written description support for an opening in the top of the shoebox structure/light block with an area smaller than the detection surface area of the at least one detector. *Id.* ¶¶ 2481-2492. I disagree.

950. The supporting disclosure of the ’013 application identified in my written description chart above is identical to the disclosure of the ’911 Patent that I have already discussed in detail above. Indeed, Dr. Warren does not specifically address the ’013 application at Figures 24, 32A-H, 46 and ¶¶ 87-89, 94, and 114 because he concedes they are identical to the disclosures in the ’911 Patent already discussed above. Specifically, as Dr. Warren notes in his report, the following chart summarizes the disclosures of the Masimo ’013 application corresponding to the ’911 Patent disclosures already discussed above.

Masimo ’013 Application Cite	Previously Discussed Identical Evidence
¶¶ 87-89	’911 patent at 13:38-14:14.
¶ 94	’911 patent at 15:14-23.
¶ 114	’911 patent at 19:5-27.
Figure 24	’911 patent at Figure 24.
Figures 32A-H	’911 patent at Figures 32A-H.
Figure 46	’911 patent at Figure 46.

Warren Opn. Rpt. ¶ 2483.

951. Accordingly, for the reasons explained above with respect to the ’911 Patent’s disclosures of FIGS. 24, 32A-H, and 46 and the associated text, I disagree with Dr. Warren’s

opinions. The ’013 application provides written description support for, and reasonably conveys to a POSITA that the inventors possessed, a top of the shoebox structure/light block comprising “only one opening through which light is configured to pass” wherein the area of that opening is “smaller than a detection surface area of the at least one detector.”

iv. The ’911 Patent Specification Provides Written Description Support

952. Dr. Warren argues that Figures 4, 13, 16A-H, 24-26, 31A-H, 32A-H, 46, 6:25-55, 13:38-15:23, and 19:5-27 of the ’911 Patent do not provide written description support for a top of the shoebox structure/light block comprising “only one opening through which light is configured to pass” wherein the area of that opening is “smaller than a detection surface area of the at least one detector.” Warren Opn. Rpt. ¶¶ 2493-2503. I disagree.

953. For the reasons I explained above, the written description of the ’911 Patent, including 6:42-55, FIG. 24 and the associated discussion (13:38-14:14), FIGS. 32A-H and the associated discussion (15:14-23), and FIG. 46 and the associated discussion (19:5-27), provides written description support for, and reasonably conveys to a POSITA that the inventors possessed, a top of the shoebox structure/light block comprising “only one opening through which light is configured to pass” wherein the area of that opening is “smaller than a detection surface area of the at least one detector.”

954. Additionally, Dr. Warren relies on the testimony of Mr. Diab to assert that 6:25-55 “do[es] not describe or even mention any light block, shoe box, or opening in either.” Warren Opn. Rpt. ¶ 2499. I disagree with Dr. Warren’s characterization of Mr. Diab’s testimony. I also disagree that Mr. Diab’s testimony, even if accurately characterized by Dr. Warren (which it is not), changes the written description of the ’911 Patent. As I have previously explained, 6:42-55 expressly states that “[t]he detector assembly 2400 is housed in an enclosure so as to reduce light

pipng.... These and other features are described in detail below[,]” which refers to the disclosures associated with FIGS. 24, 32A-H, and 46 that I have discussed above. Accordingly, 6:42-55 of the ’911 Patent is relevant disclosure of the ’911 Patent which supports my opinion that the patent’s written description reasonably conveys to a POSITA that the inventors possessed a top of the shoebox structure/light block comprising “only one opening through which light is configured to pass” wherein the area of that opening is “smaller than a detection surface area of the at least one detector.”

c. Apple’s Contentions and Dr. Warren’s Report Do Not Change My Opinions

955. In Apple’s Invalidity Contentions, Apple asserts that the above-discussed claims of the ’911 Patent are invalid under 35 U.S.C. § 112 for lacking sufficient written description support. Apple’s Invalidity Contentions provide little or no substantive explanation or analysis and suffer the same flaws discussed above with respect to Dr. Warren’s analysis. For the reasons explained herein, I disagree with Apple’s Invalidity Contentions (and Dr. Warren’s related opinions). To the extent Apple (or Dr. Warren) provides any additional analysis or reasoning in an attempt to develop, support, or expand any invalidity arguments, I reserve the right to respond.

d. Claims 2, 3, 4, 8, and 20 of the ’911 Patent Satisfy the Written Description Requirement

956. In sum, for the reasons explained above, the written description of the ’911 Patent (and its priority filings) reasonably conveys to a POSITA that the inventors had possession of a top of the shoebox structure/light block comprising “only one opening through which light is configured to pass” wherein the area of that opening is “smaller than a detection surface area of the at least one detector.” Accordingly, it is my opinion that the Asserted Claims of the ’911 Patent

reciting such limitations (Claims 2, 3, 4, 8, and 20) satisfy the written description requirement of 35 U.S.C. § 112.

G. Dr. Warren’s Irrelevant Discussion of Three References Submitted During Prosecution of the ’911 Patent

957. Out the references that Masimo submitted during prosecution of the ’911 Patent, Dr. Warren opines, without explanation or analysis, that three references “are clearly not relevant to the subject matter of the ’911 patent.” Warren Opn. Rpt. ¶¶ 2505-2506. However, I note that Apple’s other expert, Dr. Sarrafzadeh, has repeatedly relied on patents from fields like the automotive industry to opine on the validity of Masimo’s patents, including the ’743 and ’159 Patents. Sarrafzadeh Opn. Rpt. ¶ 67 n. 38 (relying on U.S. Patent No. 6,158,245 (“Savant”), which concerns diffusers used in “headlamps for automobiles”). Regardless, Warren’s conclusory remarks are not relevant to the analysis of the references Apple relies on to challenge the validity of the Asserted Claims of the ’911 Patent.

H. Objective Evidence Supports the Nonobviousness of the Asserted Claims

958. Dr. Warren states “I have reviewed Masimo’s interrogatory response regarding alleged secondary considerations of non-obviousness,” but then proceeds to dismiss Masimo’s evidence of secondary considerations for lacking a nexus to the claims of the ’223, ’507, and ’911 Patents. Warren Opn. Rpt. ¶¶ 2507-2512. I disagree with Dr. Warren, and below, there is substantial objective indicia of nonobviousness that bears a nexus to, and supports the nonobviousness of, the Asserted Claims.