

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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ALIVECOR, INC.,  
Petitioner,

v.

APPLE INC.,  
Patent Owner

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Case IPR2023-00950  
U.S. Patent 10,076,257

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**PATENT OWNER'S SUPPLEMENTAL  
CLAIM CONSTRUCTION BRIEFING**

**TABLE OF CONTENTS**

|      |                                                                                                                                                                                 |   |
|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| I.   | Issue 1: whether it is necessary to adopt a claim construction for “embedded in” or “embedded” for this proceeding.....                                                         | 1 |
| II.  | Issue 2: what specific issues may be impacted by that claim construction and what issues are not impacted .....                                                                 | 2 |
| III. | Issue 3: whether the parties have set forth any distinct evidence or argument in this proceeding that would warrant a different claim construction than adopted in 745-IPR..... | 4 |

**LIST OF EXHIBITS**

|            |                                                                                                                              |
|------------|------------------------------------------------------------------------------------------------------------------------------|
| APPLE-2001 | Declaration of Dr. Thomas Kenny                                                                                              |
| APPLE-2002 | Curriculum Vitae of Dr. Thomas Kenny                                                                                         |
| APPLE-2003 | Complaint, <i>Apple Inc., v Masimo Corporation, et al.</i> , Case No. 1-22-cv-01378 (D. Del., Oct. 20, 2022)                 |
| APPLE-2004 | Second Declaration of Dr. Thomas Kenny                                                                                       |
| APPLE-2005 | Definition of “embedded” from Wiley Electrical and Electronics Engineering Dictionary, IEEE Press, Wiley-Interscience (2004) |
| APPLE-2006 | Finland Patent No. 119716 B (Application No. 20002304) (patent application to which Nissilä (EX1006) claims priority)        |
| APPLE-2007 | Certified English Translation of Finland Patent No. 119716 B (Application No. 20002304)                                      |
| APPLE-2008 | Definition of “bezel” from Wiley Electrical and Electronics Engineering Dictionary, IEEE Press, Wiley-Interscience (2004)    |
| APPLE-2009 | Definition of “bezel” from Meriam-Webster’s Collegiate Dictionary, Eleventh Edition (2006)                                   |
| APPLE-2010 | Definition of “bezel” from McGraw-Hill Dictionary of Scientific and Technical Terms, Sixth Edition (2002)                    |
| APPLE-2011 | U.S. Patent Application Publication No. 2014/0171776 (“Lin”)                                                                 |
| APPLE-2012 | U.S. Provisional Application No. 61/111,498                                                                                  |
| APPLE-2013 | Transcript of March 27, 2024 deposition of Dr. Ronald D. Berger                                                              |

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|------------|----------------------------------------------------------------------------------------------|
| APPLE-2014 | Definition of “membrane” from ASM Materials Engineering Dictionary, ASM International (2006) |
| APPLE-2015 | Definition of “membrane” from Collins English Dictionary, HarperCollins Publishers (1998)    |
| APPLE-2016 | U.S. Patent App. Ser. No. 14/136,658                                                         |
| APPLE-2017 | U.S. Patent App. Ser. No. 12/358,905                                                         |
| APPLE-2018 | Transcript of July 26, 2024 deposition of Dr. Ronald D. Berger                               |
| APPLE-2019 | U.S. Patent No. 6,549,756 to Engstrom (“Engstrom-756”)                                       |

On October 21, 2024, the Board issued an Order regarding Conduct of the Proceeding (Pap. 37) authorizing both parties to “submit up to five pages of additional briefing” addressing specific issues related to the Board’s adoption, in an IPR proceeding involving the same ’257 patent and a different petitioner, of Apple’s proposed claim construction for the term “embedded in.” Pap. 37, 1-3; *see also Masimo Corp. v. Apple Inc.*, IPR2023-00745, Pap. 44 (“745-IPR”). Below, Apple addresses each of the three issues identified for briefing by the Board.

**I. Issue 1: whether it is necessary to adopt a claim construction for “embedded in” or “embedded” for this proceeding**

Apple’s proposed construction for the term “embedded in” in this proceeding is the same construction that the Board adopted in the 745-IPR. *See* POR, 7-9; 745-IPR, Paper 44 at 12–21 (adopting “at least partially set in or partially surrounded by a material”). Although Apple’s construction is certainly pertinent to this proceeding, formal construction for the term “embedded in” is not strictly necessary, because Apple has additionally demonstrated AliveCor’s failure to meet its burden with respect to Grounds 1 and 2 (the only Grounds challenging the independent claims) based on arguments that do not require formal construction of that term. For example, the Grounds fail to provide all limitations required by the “first pad” recited in the independent claims, among other reasons.

*See e.g.* POR, 22-37; *see also id.*, 39-67. As such, the Board need not reach an express construction for the term “embedded in” to rule in Apple’s favor.

That said, consistent adoption of Apple’s construction between the proceedings would be appropriate for at least two reasons. First, Apple’s construction goes to the proper plain and ordinary meaning of the term “embedded in,” and Apple’s arguments based on that meaning are independently dispositive with respect to Ground 1. *See* POR, 37-39. Second, adoption of the same construction for the term “embedded in” as that in the 745-IPR proceeding provides consistency in parallel proceedings involving the ’257 patent, including the related district court proceeding between the present parties.

Notably, Apple does not believe that a construction for the term “embedded” alone is necessary, as neither party has advanced arguments based on the term “embedded” divorced from the narrower term “embedded in.”

## **II. Issue 2: what specific issues may be impacted by that claim construction and what issues are not impacted**

As mentioned above, Apple has presented arguments based on a proper interpretation of the term “embedded in” that are independently dispositive with respect to Ground 1 of the Petition. POR, 37-39. As in the earlier 745-IPR proceeding, Apple has demonstrated on the instant record that, consistent with the plain and ordinary meaning of the term, “embedded in” should be interpreted to

mean “at least partially set in or partially surrounded by a material.” POR, 7-9; Sur-Rep., 2-4. The term “embedded in” therefore requires more than mere parallel contact between two materials or substrates. POR., 8-9, 37-38; Sur-Rep., 7, 11, 20.

In Ground 1, AliveCor has failed to demonstrate that in its modified (and unsupported) version of Markel, the first pad is “embedded in” a first portion of the enclosure which the user contacts to detect the user’s cardiac signal, and has for at least that reason failed to demonstrate obviousness under the proper construction of the term “embedded in.” POR, 37-39. Even if Markel were modified (as AliveCor suggests) to add a second intermediate conductive layer under the exterior electrodes of Markel’s device (a modification with no basis in the prior art of record), AliveCor has made no attempt to demonstrate why such an intermediate layer would have been “embedded in” the external electrode rather than the two layers being merely in parallel contact, or electrically connected in some other manner, such that no portion of the outer electrode at least partially surrounds the lower electrode/pad. POR, 37-39; Sur-Rep., 20; APPLE-2004, ¶¶96-97. This argument is therefore impacted by the claim construction for “embedded in.”

Apple’s arguments with respect to dependent claims 12, 13, and 19 are also potentially impacted by construction of the term “embedded in.” These claims, through their dependence from independent claim 1 or 15, require that the first or

second pad be “embedded in” a bezel. Apple has explained how the prior art of record does not demonstrate an electrode or pad embedded in a bezel. POR, 71-76. As such, the proper construction for the term “embedded in” is also relevant to Apple’s arguments regarding claims 12, 13, and 19.

For similar reasons to those discussed above with respect to claim 1, arguments regarding dependent claim 20 would be impacted by the construction for “embedded in.” POR, 76-77.

The following arguments regarding the ’257 patent would not be impacted by construction of the term “embedded in”: (1) arguments regarding Markel’s lack of disclosure or suggestion to place an electrode pad underneath an enclosure of a device; (2) the fact that Nissilä’s membrane *is* the electrode, rather than a separate structure that encloses the electrode; (3) arguments that a POSITA would not have applied Nissilä to Markel in the proposed manner; and (4) additional arguments made with respect to dependent claims 5-9. POR, 22-37, 39-71.

**III. Issue 3: whether the parties have set forth any distinct evidence or argument in this proceeding that would warrant a different claim construction than adopted in 745-IPR**

Apple has presented evidence and arguments that are completely consistent with, and largely mirror, those presented in the 745-IPR proceeding with respect to construction of the term “embedded in.” Although AliveCor has presented

arguments regarding construction for “embedded in” (*i.e.*, “inclusion within a larger entity”) that nominally differ from those made by the 745-IPR petitioner, AliveCor has presented no new arguments or evidence that would compel a different outcome regarding construction of that term. Similar to the 745-IPR petitioner, AliveCor has instead advocated for a “broader definition of ‘embedded’” while ignoring the implications of the recited term “embedded in” being narrower. *See* Pet. Rep., 4. Additionally, as pointed out in the Sur-Reply, even if AliveCor’s construction were adopted, the claim specifies that the “larger entity” must be “a first portion of the enclosure” having the properties for that “first portion” recited throughout claim 1, not any generic “larger entity.” Sur-Rep., 3; Pet. Rep., 4-5. For at least that reason, AliveCor’s arguments related to configurations in which a pad is embedded in the device as a whole (rather than a conductive first portion, specifically) fail to compel a construction that differs from that in the 745-IPR proceeding. Sur-Rep., 3, 20. And, notably, Petitioner’s expert Dr. Berger offers no testimony regarding the proper scope of the term “embedded in” in any of his three declarations in this proceeding.

For the above reasons, Apple respectfully submits that the Board should consistently adopt Apple’s claim construction for “embedded in,” as the instant IPR’s record does not warrant adoption of a different construction.

Respectfully submitted,

Date: October 30, 2024

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**CERTIFICATE OF SERVICE**

Pursuant to 37 CFR § 42.6(e)(4), the undersigned certifies that on October 30, 2024, a complete and entire copy of this Patent Owner's Supplemental Claim Construction Briefing was provided via email to the Petitioners by serving the correspondence email addresses of record as follows:

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