UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC. and FITBIT, INC.
Petitioners,

v.

VALENCELL, INC.,
Patent Owner

Case IPR2017-00318[1]
Patent 8,886,269

**DECLARATION OF BRIAN W. ANTHONY, PH.D.
IN SUPPORT OF PETITIONER APPLE INC.'S
REPLY TO PATENT OWNER'S RESPONSE**

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[1] IPR2017-01554 has been joined to this current proceeding.

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## I. Introduction and Overview

1. This declaration supplements my declaration (APL1003) submitted with Apple's Petition. I maintain my opinions in that declaration and incorporate here my qualifications and understanding of legal principles. (APL1003, ¶¶1-24.) This declaration more specifically addresses positions in Valencell's Patent Owner Response (Paper 22) ("POR") and the declaration of Dr. Albert Titus (Ex. 2007) submitted therewith.

2. The '269 Patent is directed to the "growing market demand for personal health and environmental monitors" for use "during daily physical activity." (APL1001, 1:21-33.) As I explained in my declaration submitted with Apple's Petition (APL1003), when "cutting the wire," artisans designing a wireless system looked to wired predecessor technology, using solutions and technical innovations previously embodied in wired devices. (APL1003, ¶37.) As I further explained, artisans also understood and routinely considered a variety of design tradeoffs for achieving wireless capability. (*Id.*; Ex. 2010, 160:23-161:5, 202:9-203:14.) During the relevant timeframe for the '269 Patent, the industry was evolving toward wireless optical biosensors. Therefore, in my opinion, it is important to consider this backdrop when analyzing the prior art and not in a vacuum.

3. In view of Valencell's arguments, it is still my opinion that all of the



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claim elements in the ’269 Patent are taught or suggested by Goodman and Asada alone or in combination with the other prior art references presented in the Grounds of the Petition. In my opinion, Valencell’s arguments rely on overly narrow interpretations of the claim elements, inaccurate explanations of the prior art references, and unfounded concerns about the combinations of prior art references that inflate potential “detriments” and ignore an artisan’s understanding of design tradeoffs.

## II. The ’269 Patent claims do not cover the embodiment of Figure 3.

4. Claim 1 of the ’269 Patent recites, in part, “a *band* configured to at least *partially encircle* a portion of the body of a subject.” In my opinion, the ear bud in Figure 3 that Valencell refers to almost exclusively in summarizing the ’269 Patent (*see* POR, pp. 8-15) does *not* have a *band* that at least *partially encircles* a portion of the body, as required by claim 1. A POSA would have understood that a band that “encircles” a portion of the body would “surround” or encompass that portion of the body. (APL1112, p. 410.) The ear bud of Figure 3, for example, is disposed in the ear–it does *not* “encircle” any portion of the ear. In my opinion, Dr. Titus’s interpretation, where “encircle” could include when a body part (*e.g.*, the ear) goes around the device, does not make any sense. (APL1100, 75:16-77:20.) This is essentially the opposite of what the claim element recites–that is, Dr. Titus’s interpretation is such that the ear bud being “encircled” by the ear would



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meet the limitation.

5. Furthermore, I notice that Valencell's summary of the '269 Patent focuses on terms that are not recited in the claims. For example, Valencell refers to "light guide 18" and "light guiding region 19" numerous times in its description of the '269 Patent. (*See* POR, pp. 11-15.) The claims, however, do not recite a "light guide" or a "light guiding region."

## III. Claim Construction

### A. "Cladding Material"

6. In my opinion, Valencell's proposed interpretation of "cladding material" as "a material that *confines* light *within a region*" is not the broadest reasonable interpretation of this term in light of the '269 Patent specification. (POR, p. 21 (emphasis added).) As I mention above, Valencell focuses on the "light guiding region 19," which is not recited in the claims, and the ear bud embodiment of Figure 3, which does not fall within the scope of the claims, as support for its interpretation of "cladding material." (POR, pp. 21-22 (quoting APL1001, 14:58-61 ("[t]he light guiding region 19 of the light guide 18 in the illustrated embodiment of FIG. 3 is defined by cladding material 21 that helps confine light within the light guiding region 19.")) (emphasis in POR).) In all of Valencell's examples from the '269 Patent, two layers of cladding material are required in order to "help[] confine light." (POR, pp. 21-23.) But the claims only



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