

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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**DECLARATION OF BRIAN W. ANTHONY, PH.D.  
IN SUPPORT OF PETITION FOR INTER PARTES REVIEW OF  
U.S. PATENT 8,989,830**

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## I. Introduction

I, Dr. Brian W. Anthony, declare as follows:

1. I have been retained on behalf of Apple Inc. for the above-captioned *inter partes* review proceeding to provide my expert opinions and expert knowledge. I understand that this proceeding involves U.S. Patent No. 8,989,830 (“the ’830 patent”) titled “Wearable Light-Guiding Devices for Physiological Monitoring” by Steven F. LeBoeuf, Jesse B. Tucker, and Michael E. Aumer, and that the ’830 patent is currently assigned to Valencell, Inc.

2. In preparing this declaration, I have reviewed and am familiar with all the references cited herein. I have reviewed and am familiar with the ’830 patent and its file history. I confirm that to the best of my knowledge the accompanying exhibits are true and accurate copies of what they purport to be, and that an expert in the field would reasonably rely on them to formulate opinions such as those set forth in this declaration.

3. The ’830 patent describes non-invasive optical biosensors for health monitoring. I am familiar with the technology described in the ’830 patent as of its September 12, 2014 filing date and its claimed February 25, 2009 priority date.

4. I have been asked to provide my independent technical review, analysis, insights, and opinions regarding the ’830 patent and the references that form the basis for the three grounds of rejection set forth in the Petition for *Inter*

*Partes* Review of the '830 patent.

5. I am being compensated at my rate of \$350 per hour for my work on this case. My compensation is not dependent upon my opinions or testimony or the outcome of this case.

## **II. Qualifications**

6. As indicated in my *curriculum vitae* (“CV”), included as Exhibit 1004, I am currently a Principal Research Scientist at the Massachusetts Institute of Technology (“MIT”). My CV includes additional information about my professional history and contains further details on my experience, publications, patents, and other qualifications to render an expert opinion. Herein, I highlight experiences relevant to the technology of the patent at issue.

7. I earned a Bachelor of Science in Engineering from Carnegie Mellon University in 1994 and a Master’s degree in Engineering from MIT in 1998. My thesis topic related to anisotropic wave guides and acoustic non-destructive testing. In 2006, I earned my Ph.D. in Engineering from MIT. My research focused on high-performance computation, signal processing, and electro-mechanical system design.

8. In 1997, I co-founded Xcitex Inc., a company that specialized in video-acquisition and motion-analysis software. I served as the Chief Technology Officer and directed and managed product development until 2006. Our first demo-

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