

Filed on behalf of Valencell, Inc.

By: Justin B. Kimble (JKimble-IPR@bcpc-law.com)  
Nicholas C Kliewer (nkliewer@bcpc-law.com)  
Jonathan H. Rastegar (jrastegar@bcpc-law.com)  
Bragalone Conroy PC  
2200 Ross Ave.  
Suite 4500 – West  
Dallas, TX 75201  
Tel: 214.785.6670  
Fax: 214.786.6680

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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APPLE INC.,  
Petitioner,

v.

VALENCELL, INC.,  
Patent Owner.

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Case IPR2017-00321  
U.S. Patent No. 8,923,941

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**PATENT OWNER'S PRELIMINARY RESPONSE**

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### TABLE OF EXHIBITS

Exhibit No.	Description
2001	Skip West, Valencell and RapidSOS Honored with CTA's 2016 Innovation Entrepreneur Awards
2002	Biometrics Lab: Performance of Leading Optical Heart Rate Monitors During Interval Exercise Conditions
2003	Valencell website ( <a href="http://valencell.com/customers/">http://valencell.com/customers/</a> )
2004	Electrical (ECG) vs. Optical-based (PPG) Biosensors in Wearable Devices
2005	Estimating Respiratory and Heart Rates from the Correntropy Spectral Density of the Photoplethysmogram,
2006	Continuous Blood Pressure Measurement by Using the Pulse Transit Time: Comparison to a Cuff-Based Method
2007	How an LDV/LDA works
2008	A New Look at the Essence of the Imaging Photoplethysmography

Pursuant to 35 U.S.C. § 313 and 37 C.F.R. § 42.107, Patent Owner Valencell, Inc. (“Valencell” or “Patent Owner”) hereby files this preliminary response (“Preliminary Response”) to the Petition (Paper 2) (the “Petition”) for *Inter Partes* Review of U.S. Patent No. 8,923,941 (Ex. 1001) (the “’941 Patent”) in IPR2017-00321 filed by Apple Inc. (“Apple” or “Petitioner”). The Board should deny institution because Petitioner has not established that “there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a).

This Response is timely under 35 U.S.C. § 313 and 37 C.F.R. § 42.107(b), as it is filed within three months of the December 14, 2016 mailing date of the Notice of Filing Date Accorded to Petition and Time for Filing Patent Owner Preliminary Response (Paper 3). For purposes of this Preliminary Response, Patent Owner has limited its identification of deficiencies in the Petition and does not intend to waive any arguments not addressed in this Preliminary Response.

## **I. INTRODUCTION**

The ’941 Patent is part of a family of patents directed to biometric sensor technology for wearables and hearables. The Petition presents four Grounds for invalidating the system claims of the ’941 Patent, specifically claims 14-21. These four grounds can be divided into two groups: those based on Kosuda as the primary

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