Filed on behalf of Valencell, Inc.

By: Justin B. Kimble (JKimble-IPR@bcpc-law.com) Jeffrey R. Bragalone (jbragalone@bcpc-law.com) T. William Kennedy Jr. (bkennedy@bcpc-law.com) Marcus Benavides (mbenavides@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

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC., Petitioner,

v.

VALENCELL, INC., Patent Owner.

Case IPR2017-00317 U.S. Patent No. 8,989,830

DECLARATION OF ALBERT H. TITUS IN SUPPORT OF PATENT OWNER RESPONSE TO PETITION

Mail Stop PATENT BOARD Patent Trial and Appeal Board U.S. Patent & Trademark Office P.O. Box 1450 Alexandria, Virginia 22313-1450

DOCKE

Patent Owner Response to Petition for *Inter Partes* Review of U.S. Patent No. 8,989,830 Declaration of Dr. Albert H. Titus

I, Albert H. Titus, do hereby declare and state, under penalty of perjury under the laws of the United States of America, that all statements made herein of my own knowledge are true and correct and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Executed on September 22, 2017, from Buffalo, NY

1 Ment 97 Stus

Albert H. Titus

TABLE OF CONTENTS

I.	INTRODUCTION
	A. Engagement5
	B. Background and Qualifications5
	C. Compensation and Prior Expert Witness Experience
	D. Information Considered 8
II.	MY UNDERSTANDING OF THE LEGAL PRINCIPLES9
III.	THE '830 PATENT
	A. Priority Date of the '830 Patent Claims
	B. Overview of the '830 Patent
	1. Background14
	2. Discussion of Selected Embodiments15
	3. Exemplary Claim23
	C. Grounds in the Petition
	D. Overview of Certain Prior Art Relied-Upon
	1. Goodman25
	2. Asada27
	E. Level of Ordinary Skill in the Art
	F. Claim Construction

1. "cladding material"
2. "light guiding interface"
IV. PATENTABILITY ANALYSIS OF THE '830 PATENT
A. GROUND 1
 A "window formed in the layer of cladding material that serves as a light-guiding interface to the body of the subject"
2. "The first and second directions are substantially parallel"47
 "Light transmissive material" Configured to Deliver Emitted Light "along a first direction" and Deliver Collected Light "in a second direction"
B. GROUND 2
C. GROUND 3 59
1. Goodman as a Whole compared to Asada as a Whole60
2. Goodman as a Whole compared to Hannula as a Whole62
3. Apple's Premise for Combining Goodman and Hannula is Incorrect65
4. Apple's Premises for Combining Goodman and Asada are Incorrect67
5. Claims 6 and 16 – Adding Missing Limitations to Goodman69
D. GROUND 4
E. GROUND 5

I. <u>INTRODUCTION</u>

A. Engagement

1. My name is Dr. Albert H. Titus, and Valencell, Inc. ("Valencell" or "Patent Owner") asked me to submit a declaration in this matter.

2. I understand that Valencell intends to use my declaration in support of its Patent Owner's response (the "Response") to the petition of Apple Inc. ("Apple" or "Petitioner") for *inter partes* review of U.S. Patent No. 8,989,830 ("the '830 patent").

3. I understand that this matter has a case number of IPR2017-00317 and is pending before the Patent Trial and Appeal Board ("PTAB" or the "Board") of the United States Patent and Trademark Office ("PTO" or "USPTO).

4. Valencell retained me as a technical expert to provide my opinions on the disclosures of the prior art cited in IPR2017-00317, the understandings of one of ordinary skill in the art, and how those things relate to the patentability of claims 1-6, 8-16, and 18-20 of the '830 patent.

B. Background and Qualifications

5. I am a tenured, Full Professor of Biomedical Engineering at the University at Buffalo, The State University of New York. I am also the current Department Chair. My curriculum vitae (CV), has the complete outline of my

DOCKET A L A R M



Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.