

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE, INC.,
Petitioner,

v.

SCRAMOGE TECHNOLOGY LTD.,
Patent Owner

IPR2022-00117
Patent No. 9,843,215

**DECLARATION OF DR. DAVID S. RICKETTS IN SUPPORT OF
PATENT OWNER'S RESPONSE**

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I, David S. Ricketts, PhD, hereby declare as follows:

I. Introduction

1. I am over the age of eighteen (18) years and otherwise competent to make this declaration.

2. I have been retained as an expert witness on behalf of Scramoge Technology Limited (“Scramoge”) for the above-captioned *inter partes* review (“IPR”). I understand that the petition for *inter partes* review involves U.S. Patent No. 9,843,215 (“the ’215 Patent”).

3. I make this declaration based on my personal knowledge, educational background and training, consideration of the materials I discuss herein, and my expert opinions.

4. I am being compensated at a rate of \$650 per hour for my time in this matter. My compensation does not depend on the outcome of this proceeding, and I have no financial interest in its outcome.

5. In preparing this Declaration, I have reviewed and considered the ’215 Patent, the ’215 Patent’s prosecution history, the Petition, the declaration of Dr. Joshua Phinney submitted in this proceeding, the deposition testimony of Dr. Phinney, and each document cited in my declaration.

II. BACKGROUND AND QUALIFICATIONS

6. My qualifications for forming the opinions given in this declaration are summarized here and are addressed more fully in my curriculum vitae, which is submitted as Exhibit 2017. That exhibit also includes a list of my publications.

7. I am currently Full Professor of Electrical and Computer Engineering at the North Carolina State University. In my position I conduct research and teach undergraduate and graduate students in the area of electrical and computer engineering. The courses I teach include Advanced Analog Integrated Circuit (“IC”) Design, Radio System Design, Analog Circuit Laboratory and Power Management IC Design. I also lead a research group that conducts research and design of electrical and electronic circuits, including millimeter wave and microwave circuits and systems, radio frequency identification (“RFID”) circuits, wireless power transfer circuits, antenna and inductor design, analog circuits, and radio frequency (“RF”) circuits. I lead research in power electronics and power conversion integrated circuits. I also conduct research in mixed signal RF/digital systems. I have served in my current position since 2012.

8. Prior to my current position, I served as an Assistant Professor of Electrical and Computer Engineering and held a courtesy appointment in the Materials Science Department at Carnegie Mellon University from 2006 to 2012.

9. I received my B.S. and M.S. in Electrical Engineering in 1995 and 1997, respectively, from Worcester Polytechnic Institute in Worcester, Massachusetts. I received my Ph.D. in Electrical Engineering from Harvard University in Cambridge, Massachusetts in 2006.

10. Prior to entering academia, I worked as an engineer in private industry holding several engineering and managerial positions where I developed and oversaw the development of electrical and electronic circuits, including those related to power transfer, power conversion, and semiconductor design in wired and wireless circuits and systems.

11. From 1995 to 1999, I held a position as an engineer and senior engineer at American Power Conversion, where I designed AC-DC and DC-DC converters. In 1996 I did completed my Master's Thesis with Analog Devices on the design of a 622 MHz Frequency Synthesizer.

12. From 1999 to 2001, I held a position as a Principal Consultant at Renaissance Design, Inc., where I designed power management ICs.

13. From 2000 to 2002, I held a position as a Manager of New Product Development at ON Semiconductor Corp., where I was responsible for six product development teams including market analysis, business development, system design, integrated circuit design and testing. In that role I oversaw the

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