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.

IMMERSION CORPORATION,
Patent Owner.

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Case IPR2016-01381
Patent No. 8,773,356

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DECLARATION OF NATHAN J. DELSON, PH.D.
IN SUPPORT OF IMMERSION CORPORATION'S
PATENT OWNER RESPONSE

I, Nathan J. Delson, declare as follows:

I. INTRODUCTION

1. My name is Nathan J. Delson. I am a Teaching Professor and the Director of the Mechanical Engineering Design Center at the University of California, San Diego (UCSD).

2. I have been engaged by Immersion Corporation ("Immersion") as an expert in connection with matters raised in the Petition for *Inter Partes* Review ("Petition") of U.S. Patent No. 8,773,356 (the "'356 patent") filed by Apple Inc. ("Petitioner"). I was engaged by Immersion as an expert in connection with a separate *Inter Partes* Review of the '356 patent filed by Amit Agarwal, IPR2016-00807, in which I provided an expert declaration. My understanding is IPR2016-00807 has concluded.

3. This declaration is based on the information currently available to me. To the extent that additional information becomes available, I reserve the right to continue my investigation and study, which may include a review of documents and information that may be produced, as well as testimony from depositions that have not yet been taken.

II. SUMMARY OF OPINIONS

4. The '356 Patent in general describes mobile devices such as mobile telephones or Personal Digital Assistants ("PDA") and in particular discloses

providing tactile sensations in such devices when a user interacts with such devices. Multiple embodiments are disclosed. Exhibit 1001, at Abstract, Summary. The Petition challenges claims 1-3, 5, 7, 9-13, 15, 17, 19-23, 25, and 26 of the '356 patent.

5.   The Petition argues the obviousness of claims 1-3, 9-13, 19-23, 25, and 26 of the '356 patent over the combination of U.S. Patent Application Serial No. 09/487,737 to Rosenberg ("Rosenberg 737") and U.S. Patent Application Serial No. 09/103,281 to Rosenberg ("Rosenberg '281"). Petition at 20. Based on studying the Petition, the exhibits cited in the Petition, the Institution Decision, and other documents, it is my opinion that claims 1-3, 9-13, 19-23, and 25, and 26 of the '356 patent are not obvious over the cited references.

6.   The Petition also raises an obviousness ground of rejection for dependent claims 5, 7, 15, and 17 in view of the combination of Rosenberg 737, Rosenberg 281, and Apple Press, Newton 2.0 User Interface Guidelines, ISBN 0-201-48838-8, First Printing, May 1996 ("Newton 2.0"). Petition at 61. It is my opinion that the Petition's challenge of claims 5, 7, 15, and 17 also fails.

III.   QUALIFICATIONS AND EXPERIENCE

7.   I obtained my Ph.D. degree in Mechanical Engineering from Massachusetts Institute of Technology (MIT) in 1994.

8.   I have worked for 20 years as a faculty teaching mechanical

engineering design, first at Yale University and now at the University of California

at San Diego. My current position is Associate Teaching Professor and Director of

the Mechanical Engineering Design Center in the Department of Mechanical and

Aerospace Engineering. I have performed research in Robotics, Medical Devices,

and Design Education. I have lead a team that developed software that uses

touchscreen user interfaces for the educational market. I have also worked for two

years in the Aerospace Industry for United Technologies. I have consulted in

mechanical engineering for companies such as Design Continuum, Sixense,

DriveCam, and others. I have received awards from the National Inventors Hall of

Fame and for teaching design.

9.   I was co-founder of Coactive Drive Corporation ("Coactive"), which

developed and licensed technology for force feedback in computer gaming.

Coactive licensed the technology to Sony and Immersion. I sold my share in

Coactive in 2009. I hold a de minimis amount of Immersion stock as a result of

my former association with Coactive and I also own shares of Apple stock. While

at Coactive, I invented and co-invented several inventions, including an actuator

arrangement and force feedback joystick and was awarded several patents:

- **U.S. 6,002,184**: Actuator With Opposing Repulsive Magnetic Forces
- **U.S. 6,147,422**: Actuator With Opposing Repulsive Magnetic Forces

- **U.S. 6,307,285**: Actuator With Repulsive Magnetic Forces

- **U.S. 7,683,508**: Vibration Device

- **U.S. 7,919,945**: Synchronized Vibration Device For Haptic Feedback

- **U.S. 7,994,741**: Vibration Device

- **U.S. 8,384,316**: Synchronized Vibration Device For Haptic Feedback

- **U.S. 8,390,218**: Synchronized Vibration Device For Haptic Feedback

- **U.S. 8,981,682**: Asymmetric and General Vibration Waveforms From Multiple Synchronized Vibration Actuators

10.   The vibration devices that were invented were controlled by a microprocessor to achieve a desired haptic effect. The force feedback joystick I invented has magnetic actuation that allows for stiffness control without the need for a high speed feedback loop. Based on my education, work, and experience, I am familiar with both microprocessor control for haptic applications as well as alternative control methods to deal with challenges and the limitations of haptic control.

11.   In my classes at the University of California at San Diego, I teach machine design and mechatronics. Over the past 10 years, hundreds of students have built and analyzed microprocessor controlled mechanisms in my classes.

12.   I lead the development of a software package that uses touchscreens to teach spatial visualization and engineering sketching. In this package students sketch assignments on a touchscreen with their finger or a stylus, and an algorithm

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