

Inter Partes Review of U.S. Patent No. 10,804,740
Declaration of Gary Woods

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC
Petitioner

v.

SCRAMOGE TECHNOLOGY LTD.
Patent Owner

Patent No. 10,804,740

DECLARATION OF DR. GARY WOODS

I, Gary Woods, hereby declare as follows.

I. INTRODUCTION

1. I have been retained as an expert witness on behalf of Google LLC (“Petitioner”) for the above-captioned *inter partes* review (IPR). I understand that Petitioner challenges the validity of Claims 1-10 of U.S. Patent No. 10,804,740.

2. I am over the age of eighteen (18) and otherwise competent to make this declaration. I am being compensated for my time in connection with this IPR at my standard consulting rate.

3. I understand that the petition for *inter partes* review involves U.S. Patent No. 10,804,740 (the “’740 Patent”), Ex-1001¹, which resulted from U.S. Application No. 16/264,360 (the “’360 Application”). The ’360 Application was filed on January 31, 2019, and is a continuation of U.S. Patent App. No. 15/430,173 (now U.S. Patent No. 10,277,071), filed February 10, 2017, which is a continuation of U.S. Patent App. No. 15/360,425 (now U.S. Patent No. 10,270,291), filed November 23, 2016, which is a continuation of U.S. Patent App. No. 13/663,012 (now U.S. Patent No. 9,806,565), filed October 29, 2012. The

¹ All exhibit citations refer to the exhibits attached to the Petition for *Inter Partes* Review of U.S. Patent No. 10,804,740, that I am informed will be filed concurrent with my declaration.

'740 patent also claims priority to Korean Patent Applications 10-2012-0029987 and 10-2012-0079004, filed March 23, 2012, and July 19, 2012, respectively. The '740 patent names Jeong Wook An, Jung Oh Lee, Sung Hyun Leem, and Yang Hyun Kim as the inventors. *See* Ex-1001 at Cover. The '740 Patent issued on October 13, 2020, from the '360 application. I further understand that, according to USPTO records, the '740 Patent is currently assigned to Scramoge Technology Limited ("Patent Owner" or "Scramoge").

4. I have been asked to assume that the earliest date to which the '740 Patent is entitled to priority is March 23, 2012.

5. In preparing this Declaration, I have reviewed the '740 Patent and considered each of the documents cited herein, in light of general knowledge in the art. In formulating my opinions, I have relied upon my experience in the relevant art and have also considered the viewpoint of a person of ordinary skill in the art.

6. I am familiar with the technology at issue as of March 23, 2012, the earliest claimed priority date of the '740 Patent. I am also familiar with a person of ordinary skill in the art with respect to the technology at issue as of the March 23, 2012 earliest claimed priority date of the '740 Patent.

II. MY BACKGROUND AND QUALIFICATIONS

7. Since 2008, I have been employed as a Professor in the Practice in the Department of Electrical and Computer Engineering at Rice University in Houston,

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Texas. Since 2020, my title has been Distinguished Professor in the Practice.

Before that, I worked as a postdoctoral fellow at the University of California, Santa Barbara (1996-1998); at Intel Corporation (1998-2000); at Spectralane Inc. (2000-2002); at Optonics (later Credence Systems Corp.) (2003-2006); and as an independent consultant (2006-present). In the summers of 1988 and 1989 I worked at Texas Instruments.

8. My educational background includes undergraduate degrees in Physics and Electrical Engineering from Rice University in 1988 and an MS (1991) and Ph.D. (1997) in Applied Physics from Stanford University.

9. I am familiar with patents both as an inventor and as chief technology officer in charge of the patent portfolio of a company I co-founded, Spectralane. I am an inventor on 16 issued and one pending US utility patents. These patents deal with opto-electronics, integrated circuits, signal processing, and telecommunications.

10. With regard to wireless charging and wireless communication specifically, I have worked on a number of design projects at Rice in this field. Many of them were year-long capstone design projects, where I was the technical mentor on the project. I have worked on projects involving wireless power delivery such as transcutaneous charging of biomedical implants, wirelessly powering a CO₂ sensor for the International Space Station, using RFID to track

bikers in a relay race, and treating cancer with microwave-absorbing implants. I have also worked on projects with a significant charging, but not wireless, aspect including charging cellphones with supercapacitors and with human-powered generators, and harvesting energy from a shock absorber. I have supervised numerous projects involving significant wireless networking aspects, including antenna design, covering protocols including Bluetooth, WiFi, ZigBee, and Bluetooth Low Energy.

11. I have also supervised a number of capstone projects involving significant wireless aspects, including wirelessly powering a multi-element pacemaker; an 11 GHz real-time 4x4 imaging radar array; sending video over cellphone links for ambulance telemedicine; ultra-low power wireless EEG transmission; several off-grid internet-of-things (IOT) systems; and several wirelessly transmitting medical devices.

12. Outside of capstone projects, I have been involved in research activities related to the field of the alleged invention, including developing an experimental setup with the highest magnetic field in Texas, developing a solar-powered, IOT flood-sensor network for Houston, and developing a terahertz generation and detection system.

13. In my educational activities, I regularly teach a laboratory course that includes a final project of building and testing a near-field communication system.

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