

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GARMIN INTERNATIONAL, INC. AND GARMIN USA, INC.,

Petitioner

v.

LOGANTREE, LP,

Patent Owner

Case No. IPR2018-00564

U.S. Patent No. 6,059,576

DECLARATION OF VIJAY K. MADISETTI, PH.D.

I. INTRODUCTION

I, Vijay K. Madiseti, do hereby declare:

1. My name is Vijay K. Madiseti, and I have been retained by counsel for LoganTree, LP (“LoganTree”) as a technical expert in the above-captioned case. Specifically, I have been asked to render certain opinions in regards to the Patent Owner Response with respect to U.S. Patent No. 6,059,576 (“the ‘576 Patent”) in response to the IPR Petition submitted by Garmin International, Inc. and Garmin USA, Inc. (“Garmin”). I understand that the Challenged Claims are claims 20-26, 29, 104-107, 110, 113-122, 126-128, 134-138, and 175. My opinions are limited to those Challenged Claims.

2. In reaching my opinions in this matter, I have reviewed the following materials:

- U.S. Patent No. 6,059,576 (EX1001)
- U.S. Patent No. 5,978,972 to Stewart et al. (EX1004) (“Stewart”)
- U.S. Patent No. 5,546,609 to Rush, III (EX1006) (“Rush”)
- U.S. Patent No. 5,197,489 to Conlan (EX1007) (“Conlan”)
- U.S. Patent No. 5,474,083 to Church et al. (EX1008) (“Church”)
- U.S. Patent No. 5,976,083 to Richardson et al. (EX1009) (“Richardson”)
- Petition for *Inter Partes* Review of U.S. Patent No. 6,059,576 (“Pet”)
- Declaration of Dr. Andrew C. Singer (EX1010) (“Declaration”)

- Transcript of Deposition Testimony of Dr. Andrew C. Singer (“Transcript”)
- Decision – Institution of *Inter Partes* Review (“Institution Decision”)

II. EXPERT QUALIFICATIONS AND CREDENTIALS

3. My qualifications to testify about the patent-in-suit, relevant technology, and the prior art are set forth in my curriculum vitae (“CV”), which is attached hereto as Appendix 1. My CV includes my educational background and work history.

4. Briefly, I have over thirty years of experience as an electrical and computer engineer in industry, education, and consulting. I have served as an expert witness in intellectual property cases and other matters. A list of my prior testimony is included in my CV attached as Appendix 1.

5. I obtained my Ph.D. in Electrical Engineering and Computer Science at the University of California, Berkeley, in 1989. I received the Demetri Angelakos Outstanding Graduate Student Award from the University of California, Berkeley and the IEEE/ACM Ira M. Kay Memorial Paper Prize in 1989.

6. I joined Georgia Tech in the Fall of 1989 and am now a Professor in Electrical and Computer Engineering. I have been active in the areas of wireless communications, sensors, internet of things (IoT), digital signal processing,

integrated circuit design (analog & digital), software engineering, system-level design methodologies and tools, and software systems. I have been the principal investigator (“PI”) or co-PI in several active research programs in these areas, including DARPA’s Rapid Prototyping of Application Specific Signal Processors, the State of Georgia’s Yamacraw Initiative, the United States Army’s Federated Sensors Laboratory Program, and the United States Air Force Electronics Parts Obsolescence Initiative. I have received an IBM Faculty Award and the NSF’s Research Initiation Award. I have been awarded the 2006 Frederick Emmons Terman Medal by the American Society of Engineering Education for contributions to Electrical Engineering, including authoring a widely-used textbook in the design of VLSI digital signal processors.

7. I have developed and taught undergraduate and graduate courses in hardware and software design for signal processing and wireless communication circuits at Georgia Tech for the past twenty years. I graduated more than 20 Ph.D. students that now work as professors or in technical positions around the world.

8. I have been an active consultant to industry and various research laboratories (including Massachusetts Institute of Technology (“MIT”) Lincoln Labs and Johns Hopkins University Applied Physics Laboratory). I have founded three companies in the areas of embedded software, military chipsets involving imaging technology, and wireless communications. I have supervised the Ph.D.

dissertations of over twenty engineers in the areas of computer engineering, sensors, signal processing, communications, rapid prototyping, and system-level design methodology, five of which have resulted in thesis prizes or paper awards.

9. My consulting work for MIT Lincoln Labs involved high resolution imaging for defense applications, where I worked in the area of prototyping complex and specialized computing systems. My consulting work for Johns Hopkins Applied Physics Lab (“APL”) mainly involved localization of objects in image fields, where I worked on identifying targets in video and other sensor fields and identifying computer architectures and circuits for power and space-efficient designs.

10. I have developed wireless baseband and protocol stack software and assembly code for a leading telecommunications handset vendor that focused on efficient realization of speech codecs and echo-cancellation.

11. The first of the companies I founded, VP Technologies, offers products in the area of semiconductor integrated circuits, including building computing systems for helicopter imaging systems for the United States Air Force. I remain a director of VP Technologies. The second of these companies, Soft Networks, LLC, offers software for multimedia and wireless computing platforms, including the development of a set-top box for Intel that decodes MPEG-2 video streams and imaging codes for multimedia phones. The technology involved with the design, development, and implementation of the Intel set-top box included parsing the bit

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