

**EXPERT DECLARATION OF DR. KEVIN NEGUS**

**FOR**

***INTER PARTES* REVIEW OF U.S. PATENT NO. 8,648,717**

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## I. INTRODUCTION AND QUALIFICATIONS

### A. Introduction

1. I, Dr. Kevin Negus, submit this declaration in support of Sierra Wireless America, Inc., Sierra Wireless, Inc. and RPX Corp.'s ("Petitioners") Petition for *Inter Partes* Review of United States Patent No. 8,648,717 ("the '717 Patent"), owned by M2M Solutions LLC.

2. I make this declaration based upon my personal knowledge. I am over the age of 21 and am competent to make this declaration.

3. The statements herein include my opinions and the bases for those opinions, which relate to the following documents<sup>1</sup> of the pending *inter partes* review petition:

- 1001 U.S. Patent No. 8,648,717 ("the '717 patent")
- 1002 Prosecution History for U.S. Patent No. 8,648,717 ("the '717 prosecution history").
- 1003 Int'l Patent Pub. No. WO99/49680 ("Whitley")
- 1004 Digital cellular telecommunications system, Phase 2+; Specification of the Subscriber Identity Module - Mobile Equipment, SIM - ME interface, GSM 11.11 version 7.4.0 Release 1999 ("SIM+ME Spec")
- 1007 Digital cellular telecommunications system (Phase 2+); AT command set for GSM Mobile Equipment (ME) (GSM 07.07 version 5.8.1 Release 1996) ("AT Command Set")
- 1009 Digital cellular telecommunications system, Phase 2+; General Packet Radio Service (GPRS); Service description; Stage 2 (GSM 03.60 version 6.3.2 Release 1997) ("GPRS Service Description")

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<sup>1</sup> Certain exhibit numbers are not used in this declaration in order to maintain consistency between exhibit numbering of this declaration and my declaration submitted in IPR2015-01823.

- 1014 Digital cellular telecommunications system, Phase 2+; Specification of the SIM Application Toolkit for the Subscriber Identity Module – Mobile Equipment (SIM-ME) interface (GSM 11.14 version 7.3.1 Release 1998)
- 1015 The Subscriber Identity Module, European Telecommunications Standardization and the Information Society, The State of the Art 1995 (“State of the Art”)
- 1017 U.S. Patent No. 6,275,710
- 1018 U.S. Patent Pub. No. 2002/0037744 A1
- 1019 Digital cellular telecommunications system (Phase 2+); Subscriber Identity Module Application Programming Interface (SIM API); SIM API for Java Card™; Stage 2 (GSM 03.19 version 7.0.0 Release 1998) (“SIM API Spec”)
- 1020 U.S. Patent No. 6,005,942
- 1021 Declaration of ETSI

4. Although I am being compensated for my time at a rate of \$500 per hour in preparing this declaration, the opinions herein are my own, and I have no stake in the outcome of the review proceeding. My compensation does not depend in any way on the outcome of the Petitioner’s petition.

B. Qualifications

5. I am qualified by education and experience to testify as an expert in the field of telecommunications. Attached, as Attachment A, is a copy of my resume detailing my experience and education. Additionally, I provide the following overview of my background as it pertains to my qualifications for providing expert testimony in this matter.

6. I am a Full Professor of Electrical Engineering at Montana Tech University in Butte, MT. I lead a research program at Montana Tech to improve the delivery of mobile

broadband communications services to rural and remote areas. I mentor, supervise and teach both senior undergraduate and graduate students of Electrical Engineering in the general fields of telecommunications and networking with an emphasis on wireless systems.

7. In 1988, I received my Ph.D. in Engineering from the University of Waterloo in Canada. My Ph.D. research on the modeling of bipolar semiconductor devices was jointly supervised by the Departments of Electrical Engineering and Mechanical Engineering. My graduate course work was primarily in Electrical Engineering and included such subjects as semiconductor device physics and fabrication, wireless circuit design, and wireless propagation analysis. For my Ph.D. work, I received the Faculty Gold Medal in 1988 for the best Ph.D. thesis in the entire Faculty of Engineering across all Departments for that year. My Ph.D. thesis research also formed the basis of a paper published in 1989 that won the award for Best Paper in 1989 for the IEEE (Institute of Electrical and Electronic Engineers) journal in which it was published.

8. In 1984 and 1985, respectively, I received the B.A.Sc. and M.A.Sc. degrees in Mechanical Engineering from the University of Waterloo in Canada. My coursework and research work included, amongst many other topics, extensive embedded firmware development for automation applications and implementation of networks and communications protocols. For my M.A.Sc. research and academic achievements, I received the prestigious University Gold Medal in 1985 for the best Masters thesis in the entire University of Waterloo for that year.

9. In 1986, I joined the Palo Alto Research Center of Fairchild Semiconductor in Palo Alto, CA. I worked directly for Dr. James Early who was the well known discoverer of the Early effect in bipolar semiconductor devices and pioneer of the common emitter amplifier topology that forms the basis of many wireless circuits to this day. At Fairchild, I participated in

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