

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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JUNIPER NETWORKS, INC., BROCADE COMMUNICATIONS SYS., INC.,  
RUCKUS WIRELESS, INC.,  
Petitioners,

v.

MOBILE TELECOMMUNICATIONS TECHNOLOGIES, LLC  
Patent Owner.

U.S. Patent No. 5,659,891  
Issue Date: August 19, 1997  
Title: MULTICARRIER TECHNIQUES IN BANDLIMITED CHANNEL

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*Inter Partes* Review No.: Unassigned

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**DECLARATION OF DR. TIM A. WILLIAMS IN SUPPORT OF PETITION  
FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 5,659,891**

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I, Tim A Williams, hereby declare under penalty of perjury under the laws of the United States of America:

## **I. INTRODUCTION**

1. My name is Tim A. Williams. I understand that I am submitting a declaration offering technical opinions in connection with the above-referenced Inter Partes Review proceeding pending in the United States Patent and Trademark Office for U.S. Patent No. 5,659,891 (the “891 Patent”) and prior art references relating to its subject matter. My current curriculum vitae is attached as Appendix A and some highlights follow.

2. I have personal knowledge of the facts and opinions set forth in this declaration, and believe them to be true. If called upon to do so, I would testify competently thereto. I have been warned that willful false statements and the like are punishable by fine or imprisonment, or both.

## **II. BACKGROUND AND QUALIFICATIONS**

3. I have over 40 years of professional experience in wireless communications and telecommunications technology. I earned a Bachelor of Science (B.S.) in Electrical Engineering from Michigan Technological University in 1976. I subsequently earned a Master of Science (M.S.) in 1982 and Doctor of Philosophy (Ph.D.) 1985 in Electrical Engineering from the University of Texas at Austin. My

Ph.D. dissertation was titled “Digital Signal Processing Techniques for Acoustic Log Data.”

4. Between 1976 and 1991, I worked at Motorola, Inc. as an engineer, and later senior engineer, project leader and business manager. Between 1976 and 1979, I was an engineer on the team that built the first commercial digitally encrypted two-way FM land mobile radio system. Between 1979 and 1991, I was a senior engineer on teams responsible for product development of chipsets for cellular communications including: GSM voice codec and channel model; TDMA voice codec and channel modem; CDMA voice codec and channel modem; and Japanese digital cellular voice codec and channel modem.

5. In 1991, I cofounded Wireless Access, Inc., a startup company focusing on the Narrow Band PCS equipment market, which developed over the air protocols, subscriber equipment and ICs to deploy two-way paging services. In 1999, I served as the interim chief executive officer for Atheros Communications, a company that built ICs for wireless LAN products including 802.11 based LANs. Between 2004 and 2006, I founded and served as the chief executive officer for SiBEAM Inc., a fabless semiconductor company developing high-speed 60 GHz wireless LAN networking ICs.

6. I am a named inventor on twenty-six patents. These are listed in my attached CV.

7. In preparing this declaration, I was asked to review and analyze a number of documents. Specifically, I have reviewed and am familiar with the content of the '891 Patent and its prosecution history. In addition, I have considered the various documents referenced in my declaration as well as additional background materials, including the three prior art references: (1) Mobile Telecommunications Technologies, LLC ("MTel"), *Petition for Rulemaking to Allocate 150 kHz in the 930-931 MHz Band and to Establish Rules and Policies for a New Nationwide Wireless Network (NWN) Service*, Federal Trade Commission (July 14, 1992) ("MTel Petition"); (2) WO 94/11960, titled "Mobile Two-Way Communication System" (May 26, 1994) ("960 Publication"); and (3) Dr. Rade Petrovic, et al., *Permutation Modulation for Advanced Radio Paging*, IEEE Proceedings of Southeastcon '93 (April 7, 1993) ("Petrovic"). I have also reviewed the claim construction orders from *Mobile Telecommunications Technologies, LLC v. T-Mobile USA, Inc., et al.*, Case No. 2:13-cv-00886-JRG-RSP (E.D. Tex.); *Mobile Telecommunications Technologies, LLC v. Sprint Nextel Corp. et al.*, Case No. 2:12-cv-00832-JRG-RSP (E.D. Tex.); *Mobile Telecommunications Technologies, LLC v. Leap Wireless International, Inc., et al.*, Case No. 2:13-cv-00885-JRG-RSP (E.D. Tex.); and *Mobile Telecommunications Technologies, LLC v. Clearwire Corp., et al.*, Case No. 2:13-cv-00308-JRG-RSP (E.D. Tex.). I have also reviewed the institution decisions issued by the Patent Trial and Appeal Board ("Board") instituting

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