

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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Same

**DECLARATION OF JONATHAN WELLS, PH.D.**

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## **I. Introduction**

I, Dr. Jonathan Wells, declare as follows:

1. I have been retained on behalf of Petitioner (Apple Inc., Microsoft Corporation, Microsoft Mobile Oy, and Microsoft Mobile Inc. (f/k/a Nokia Inc.)) to provide expert opinions in connection with this *inter partes* review. Specifically, I have been asked to provide my opinion relating to an inquiry into the patentability of claims of the U.S. Patent No. 7,881,236 (the “236 patent”).

## **II. Qualifications**

2. I have over 25 years of academic and industry experience in wireless networks (*e.g.*, 2G, 3G and 4G networks, comprising GSM, EDGE, WCDMA, HSDPA and LTE technologies), cellular infrastructure equipment (base stations, backhaul and handsets), and wireless standards, rules and regulations (*e.g.*, 3GPP, FCC, ETSI and CEPT). Over my career, I have worked with companies to develop and deploy radio frequency (RF) hardware for telecommunication infrastructure equipment for worldwide export, to implement marketing and product development strategies for cellular wireless products, and to participate in Federal Communications Commission (“FCC”), European Conference of Postal and Telecommunications Administrations (“CEPT”), European Telecommunications Standards Institute (“ETSI”) and other technical body meetings.

3. In 1987, I received my Bachelor of Science degree in Physics with Physical Electronics (with 1<sup>st</sup> Class Honours) from the University of Bath, Bath, United Kingdom. In 1991, I received the Doctor of Philosophy (Ph.D.) degree in Physics from the University of Bath. In 1998, I received a Master of Business Administration (with distinction) from Massey University, New Zealand.

4. After completing my Ph.D., I began working at the University of Bath as a Postdoctoral Research Officer. I continued to work at the University of Bath until 1992. During this time, I built novel electronic devices, and developed software models to predict their performance in wireless communication systems.

5. For more than 20 years I worked in private industry designing, developing and implementing various wireless communication products throughout the world.

6. Specifically, from 1993 to 1994, I was a Senior Design Engineer at Matra Marconi Space, where I developed space-qualified electronic components and sub-systems for two satellite systems.

7. From 1994 to 1995, I was a Senior RF Design Engineer, and from 1995-1998, I was RF Group Manager, at MAS Technology (now Aviat Networks), where I, among other things, led the development of three families of innovative wireless products, oversaw the company's European regulatory approvals, and personally designed a wide range of RF devices.

8. From 1998 to 1999, I was an Engineering Group Leader, and from 1999-2000 I was the Director of Wideband Products, at Adaptive Broadband (now GE Digital Energy), where I oversaw the Terrestrial Infrastructure Group, and led the development of a family of digital radio products.

9. From 2000 to 2004, I was the Director of Product Development at Stratex Networks (now Aviat Networks), where I was responsible for the global product development of the company's Outdoor Unit (ODU) portfolio of high-end digital microwave radios, which were primarily directed towards cellular applications.

10. From 2005 to 2007, I was the Director of Product Management and Global Regulatory Affairs at GigaBeam Corporation, where I developed the overall product strategy for a wideband communication system for future cellular applications. During this time I had responsibility for establishing a global regulatory framework for this new product, which included developing FCC (Federal Communications Commission) and ETSI (European Telecommunications Standards Institute) standards to cover the specification and regulation of the system.

11. Since 2007, I have been the Managing Partner of AJIS Consulting—an independent consulting firm specializing in wireless communications and emerging wireless fields. Specifically, I analyze cellular and wireless technologies,

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