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

In re Patent of: Aldana et al.

U.S. Pat. No.: 8,416,862 Attorney Docket No.: 50095-0050IP1

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Filing Date: September 28, 2005

Title: EFFICIENT FEEDBACK OF CHANNEL INFORMATION IN

A CLOSED LOOP BEAMFORMING WIRELESS

COMMUNICATION SYSTEM

## **DECLARATION OF JONATHAN WELLS, Ph.D.**



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I, Jonathan Wells, Ph.D., of Pleasanton, California, declare that:

### I. ASSIGNMENT

- 1. I have been retained as a technical expert by counsel on behalf of Apple Inc. ("Apple" or "Petitioner"). I understand that Apple is requesting that the Patent Trial and Appeal Board ("PTAB" or "Board") institute an *inter partes* review ("IPR") proceeding of U.S. Patent No. 8,416,862 ("the '862 patent") (EX1001).
- 2. I have been asked to provide my independent analysis of the '862 patent in light of the prior art publications cited below.
- 3. I am not, and never have been, an employee of Apple. I received no compensation for this declaration beyond my normal hourly compensation based on my time actually spent analyzing the '862 patent, the prior art publications cited below, and the issues related thereto, and I will not receive any added compensation based on the outcome of any IPR or other proceeding involving the '862 patent.

## II. QUALIFICATIONS

4. I received a B.Sc. in Physics with Physical Electronics, awarded with first class honors, from the University of Bath in Bath, United Kingdom, in 1987. In 1991, I earned by Ph.D., also from the University of Bath. I earned my M.B.A., awarded with distinction, from Massey University in New Zealand, in 1998.



I have over 30 years of wireless communications experience in areas 5. including cellular technologies, wireless devices, network infrastructure, and wireless rules and regulations. I have written a textbook and multiple industry reports and journal/conference papers which focus on wireless communications systems. For example, I am the author of "Multi-Gigabit Microwave and Millimeter-Wave Wireless Communications," published by Artech House in 2010. I have also authored four comprehensive industry reports on cellular connectivity for Mobile Experts. I have lectured as part of undergraduate programs at University of California, Berkeley, Carnegie Mellon University, and University of Bath, and have given over two dozen lectures and conference presentations on topics germane to wireless communications. I am also a listed inventor of several patents, and am an author of over 40 academic and commercial publications and presentations. I have been a member of the Institute of Electrical and Electronic Engineers (IEEE) since 1995 and was elected as a Senior Member in 1999. This year I was recognized by the IEEE Santa Clara Valley Section, one of the largest IEEE Sections in the world, as their 2019 "Outstanding Engineer." This was awarded "For his acknowledged expertise in the field of wireless communications and wireless technology, for his willingness to mentor others in the field, and for his work in the development of the next generation of creative and innovative technical products."



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