

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD.
Petitioner

v.

BELL NORTHERN RESEARCH, LLC
Patent Owner

Patent No. 7,039,435

**DECLARATION OF DR. JONATHAN WELLS
IN SUPPORT OF PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 7,039,435**

TABLE OF CONTENTS

I.	ASSIGNMENT	1
II.	QUALIFICATIONS	1
III.	LEGAL PRINCIPLES	6
A.	Anticipation	6
B.	Obviousness.....	7
C.	Claim Construction.....	8
IV.	PERSON OF ORDINARY SKILL IN THE ART	9
V.	MATERIALS CONSIDERED	11
VI.	BACKGROUND OF THE '435 PATENT.....	14
A.	Subject Matter Overview.....	14
B.	File History of the '435 Patent	16
VII.	INTERPRETATIONS OF THE '435 PATENT CLAIMS AT ISSUE.....	17
VIII.	OVERVIEW OF CONCLUSIONS FORMED AND PRIOR ART REFERENCES.....	20
IX.	ANALYSIS OF BAIKER.....	20
X.	ANALYSIS OF BAIKER IN VIEW OF WERLING	39
XI.	ANALYSIS OF IRVIN.....	48
XII.	ANALYSIS OF IRVIN AND MYLLYMÄKI.....	68
XIII.	ANALYSIS OF BODIN AND IRVIN	73
XIV.	ADDITIONAL REMARKS	86

Declaration of Dr. Jonathan Wells
U.S. Patent No. 7,039,435

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 Samsung Electronics America, Inc. (“Samsung” or “Petitioner”). I understand that Samsung is requesting that the Patent Trial and Appeal Board (“PTAB” or “Board”) institute an *inter partes* review (“IPR”) proceeding of U.S. Patent No. 7,039,435 (“the ’435 patent”) (EX1001).

2. I have been asked to provide my independent analysis of the ’435 patent in light of the prior art publications cited below.

3. I am not, and never have been, an employee of Samsung. I received no compensation for this declaration beyond my normal hourly compensation based on my time actually spent analyzing the ’435 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 ’435 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.

Declaration of Dr. Jonathan Wells
U.S. Patent No. 7,039,435

In 1991, I earned my 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.

5. I have over 30 years of wireless communications experience in areas 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.

6. I began my career in 1985, as an Engineer for Plessey Research, Caswell, United Kingdom, developing high-speed fiber optic transmitter/receiver devices. In 1987, I worked at British Aerospace, Filton, Bristol, United Kingdom, designing and fabricating novel mixer devices, to support my Ph.D. research. Later

Declaration of Dr. Jonathan Wells
U.S. Patent No. 7,039,435

in 1990, as a Post-Doctoral Research Officer for University of Bath, I designed and fabricated novel quantum amplifiers in a clean room environment and developed computer models to predict semiconductor device performance.

7. In 1993, I joined Matra Marconi Space, Portsmouth, United Kingdom, as a Senior Software Engineer and developed GaAs MMIC mixer and MIC transmitter board for two satellite payloads and performed theoretical analysis and modeling of low noise VCOs.

8. From 1994 to 1998, I worked for MAS Technology (now Aviat Networks), Wellington, New Zealand, first as Senior RF Design Engineer and later as RF Group Manager. I was responsible for RF hardware development for cellular and telecommunications applications; developed three generations of wireless transmission, switching, and multiplexing products; designed and sustained responsibility for satellite ground station terminals; and was responsible for company's European regulatory approvals.

9. In 1998, I joined Adaptive Broadband (now GE Digital Energy), Rochester, New York, first as Engineering Group Leader and later as Director Wideband Products. I was responsible for the Terrestrial Infrastructure Group, providing telecommunications products for cellular and private network applications; managed P&L responsibility for \$4M wireless division; and was

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