

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LG ELECTRONICS, INC.,

PETITIONER,

V.

BELL NORTHERN RESEARCH, LLC,

PATENT OWNER.

Case No. IPR2020-00108

U.S. Patent No. 8,416,862

DECLARATION OF EDWIN A. HERNANDEZ-MONDRAGON, PHD

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I, Edwin A. Hernandez-Mondragon, PhD, hereby declare as follows:

I. INTRODUCTION

1. I am over the age of eighteen (18) years and otherwise competent to make this declaration.

2. I have been retained as an expert witness on behalf of Bell Northern Research, LLC for the above-captioned *inter partes* review (“IPR”). I understand that the petition for *inter partes* review involves U.S. Patent No. 8,416,862 (“the ’862 patent”), which was filed on September 28, 2005. The ’862 Patent names Carlos Aldana and Joonsuk Kim as co-inventors. The ’862 Patent issued on May 2, 2006.

3. I make this declaration based on my personal knowledge, educational background and training, consideration of the materials I discuss herein, and my expert opinions.

4. I am being compensated at a rate of \$600 per hour for my time in this matter. My compensation does not depend on the outcome of this proceeding and I have no financial interest in its outcome.

5. In preparing this Declaration, I have reviewed and considered the ’862 Patent, the ’862 Patent prosecution history, and each of the documents cited herein, and I have considered them in light of general knowledge in the art in the time frame of April 21, 2005, the earliest priority date of the ’862 Patent.

In formulating my opinions, I have relied upon my experience, education and knowledge as they relate to the relevant art. I also have considered the viewpoint of a person of ordinary skill in the art in the time frame of the filing date of the '862 patent.

II. BACKGROUND AND QUALIFICATIONS

6. I am an owner and founder of EGLA CORP, an intellectual property, engineering consulting, and startup accelerator incubator in the fields of a) wireless communications, 4G and 5G, b) media streaming, and c) health technologies.

7. I have a Ph.D. in Computer Engineering in Mobile Computing in 2002 and obtained a Masters in Science in Electrical and Computer Engineering in 1999, both from the University of Florida. Prior to that, I graduated with my B.S. in Electronics Engineering from Costa Rica Institute of Technology in 1995. A copy of my *curriculum vitae*, which includes a more detailed summary of my background, experience, patents, and publications, is marked as Exhibit 2005.

8. I have previously been retained as an independent expert consultant in the fields of cable television systems and broadcasting, multimedia streaming, mobile devices and systems, air-interface and Long-Term Evolution (LTE), cloud storage and data synchronization, wireless

communications, block-chain technology, power management, personal area networking, and smart phones and wireless embedded software development.

9. My experience in Wireless Communications, modulation, RF propagation models, and antenna engineering dates back to the 1990s, where I was an engineer working on AX.25 radio node in from 1996 – 1997, working with civil band radio, VHF bands (140 MHz), and FSK (Frequency-Shift Keying) modulation.

10. I founded COMPUNET in 1997 and was its lead engineer from 1997 to 2009. While at COMPUNET, I was a lead developer for authentication services, security services, web services, and networking configuration services.

11. I worked for Microsoft from 2001 to 2003 as a Technical Program Manager. In that position, I was responsible for driving architecture, design, test automation, and security analysis for Bluetooth Personal Area Networking (PAN). I also drove testing over networking protocols, such as IPv4 networks and IPv6 networks, including early versions of 802.11b and candidates in the 2.4GHz bands that used Frequency Hopping Spread spectrum.

12. As part of my PhD, I became an expert in RF system simulation, including propagation models, and selection of appropriate modulation techniques based on SNR (Signal to Noise Ratios) and other parameters experimented with using 802.11b technologies and SISO Antennas.

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