UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

DISH Network L.L.C.,
Petitioner

v.

TQ Delta LLC,
Patent Owner

U.S. Patent No. 8,611,404
Filing Date: May 6, 2013
Issue Date: December 17, 2013

Title: Multicarrier Transmission System with Low Power Sleep Mode and Rapid-On Capability

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DECLARATION OF W. LEO HOARTY IN SUPPORT OF PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 8,611,404

Inter Partes Review No. _____

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1. I, W. Leo Hoarty, declare as follows:

2. I have personal knowledge of the facts stated in this declaration, and could and would testify to these facts under oath if called upon to do so.

I. INTRODUCTION AND QUALIFICATIONS

A. Engagement Overview

3. I have been retained by counsel for DISH Network L.L.C. ("Petitioner" or "DISH") in this case as an expert in the relevant art. I am being compensated for my work at the rate of $545 per hour. No part of my compensation is contingent upon the outcome of this petition.

4. I was asked to study U.S. Patent No. 8,611,404 ("the '404 patent"), its prosecution history, and the prior art and to render opinions on the obviousness or non-obviousness of certain ones of the claims of the '404 patent in light of the teachings of the prior art, as understood by a person of ordinary skill in the art in the 1998 time frame. I understand that the claims being challenged in the Petition are claims 6, 11, 16 and 20 ("the challenged claims").

B. Summary of Opinions

5. After studying the '404 patent, relevant excerpts of its prosecution history, and the prior art, and considering the subject matter of the claims of the '404 patent in light of the state of technical advancement in the area of power conservation in multicarrier communication systems in the 1998 time frame, I

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reached the conclusions discussed herein.

6. In light of these general conclusions, and as explained in more detail throughout this declaration, it is therefore my opinion that each of the challenged claims of the '404 patent addressed in this declaration are invalid as they were anticipated and/or obvious in the 1998 time frame in light of the knowledge of skill in the art at that time and the teachings, suggestions, and motivations present in the prior art. This declaration, and the conclusions and opinions herein, provide support for the Petition for *Inter Partes* Review of the '404 patent filed by Petitioner. I have reviewed the Petition in its entirety as well as its corresponding exhibits.

C. Qualifications and Experience

7. I possess the knowledge, skills, experience, and training to form an expert opinion and testimony in this matter. I have over 40 years of experience in the field of computer systems and networking, including distributed software systems and streaming media technology. I also have deep experience in cable television systems and consumer electronics, including the hardware and software design of media set-top and mobile devices. I have practiced and researched in the field of Digital Signal Processing and Computer Science for approximately 35 years.

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