

**DECLARATION OF DR. SAYFE KIAEI
IN SUPPORT OF PETITIONER'S REPLY**

Case Nos. IPR2016-01006, 1007, 1008, 1009

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A. Introduction

I, Sayfe Kiaei, do hereby declare as follows:

1. I previously submitted different Declarations as Exhibit 1009 in each of IPR2016-01006, IPR2016-01007, IPR2016-01008, IPR2016-01009, setting forth my background and credentials and my curriculum vitae which provides further details.

2. I submit this Declaration in reply to TQ Delta's arguments and the Declaration of Douglas Chrissan, PhD, filed as Ex-2001.

3. In preparing this declaration I have reviewed the following publications in addition to those identified in my first Declarations:

- a) George Abe, Residential Broadband (Cisco Press, Second Edition 2000) (selected pages), Ex-1101;
- b) Martin Rowe, ADSL Testing Moves Out of the Lab (April 1, 1999), Ex-1102;
- c) Declaration of Robert Short, Ex-1103;
- d) U.S. 6,625,219, Ex-1104;
- e) U.S. 7,292,627, Ex-1105;
- f) Douglas Chrissan, Uni-DSL: One DSL for Universal Service, White Paper (June 2004), Ex-1106;
- g) U.S. 6,374,288, Ex-1107;

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- h) Ata Elahi, Network Communications Technology (Delmar Thomson Learning 2001) (selected pages), Ex-1108;
- i) FCC Filing for Alcatel Model 1000 ADSL Modem, 1999, Ex-1109; and
- j) Deposition Transcript of Douglas Chrissan, Ex-1110.

4. I have also reviewed TQ Delta's Patent Owner's Responses and other documents cited in the below analysis.

B. Construction

1. "*subchannel*"

5. I understand Dr. Chrissan to have concluded that a "*subchannel*," as defined by U.S. Patent Nos. 7,835,430 (the "'430 patent'), 8,432,956 (the "'956 patent'), and 8,238,412 (the "'412 patent') (collectively "the patents at issue"), is "a carrier of a multicarrier communication channel." Ex-2001, ¶32. I disagree with this proposed interpretation.

6. In my opinion, Dr. Chrissan's proposed interpretation, which limits the term "*subchannel*" to a "carrier," improperly excludes other terms that a person of ordinary skill in the art ("POSITA") at the time would have understood as equivalent and interchangeable. In the field of multicarrier communications, a POSITA as of 1999, would have been familiar with the term "subchannel" and would have understood that it is equivalent and interchangeable with the terms

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