

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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APPLE INC.,  
Petitioner

v.

TELEFONAKTIEBOLAGET LM ERICSSON,  
Patent Owner

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*Inter Partes* Review Case No. IPR2022-00716  
U.S. Patent No. 9,705,400

**DECLARATION OF DR. MARWAN HASSOUN, PH.D. IN SUPPORT OF  
PETITION FOR INTER PARTES REVIEW OF  
U.S. PATENT NO. 9,705,400**

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## LIST OF EXHIBITS FOR THE PETITION

<b>Exhibit 1001</b>	U.S. Patent No. 9,705,400
<b>Exhibit 1002</b>	File History of U.S. Patent No. 9,705,400
<b>Exhibit 1003</b>	File History of European Patent No. EP2811646
<b>Exhibit 1004</b>	International Publication WO 2010/111433 A2 (“Smith”)
<b>Exhibit 1005</b>	United States Patent No. 5,506,493 (Stengel)
<b>Exhibit 1007</b>	Curriculum Vitae of Dr. Marwan Hassoun, Ph.D.
<b>Exhibit 1008</b>	Hart, Daniel W., <i>“Power Electronics,”</i> McGraw-Hill, 2011
<b>Exhibit 1009</b>	Maxim Integrated, <i>“Fundamentals of Class D Amplifiers,”</i> Application Note 3977, Jan. 31, 2007.
<b>Exhibit 1010</b>	Honda, Jun et al. <i>“Class D Audio Amplifier Basics,”</i> Application Note AN-1071, Internal Rectifier, Feb. 8, 2005
<b>Exhibit 1011</b>	Sattar, Abdus, <i>“Insulated Gate Bipolar Transistor (IGBT) Basics,”</i> IXYS Corp., 2008
<b>Exhibit 1012</b>	Dodge, Jonathan, <i>“IGBT Tutorial,”</i> Application Note APT0201 Rev. B, Advanced Power Technology, July 1, 2002
<b>Exhibit 1013</b>	<i>In the Matter of Certain Mobile Phones and Tablet Computers, All With Switchable Connectivity</i> , ITC-337-TA-1300, Exhibit 15A to Complaint, Complainant’s Proof of Infringement (ITC Jan. 18, 2022)
<b>Exhibit 1014</b>	<i>In the Matter of Certain Mobile Phones and Tablet Computers, All with Switchable Connectivity</i> , ITC-337-TA-1300, Proposed Scheduling Order (ITC Mar. 11, 2022)

I, Dr. Marwan Hassoun, hereby declare as follows:

## **I. ASSIGNMENT**

1. I have been retained as an expert witness on behalf of Apple Inc. (“Apple” or “Petitioner”) to offer technical opinions in connection with the above-captioned Petition for Inter Partes Review (“IPR”) of U.S. Patent No. 9,705,400 (“the ’400 patent”) (Ex. 1001).

2. I have been asked to provide my independent analysis of the ’400 Patent in light of the prior art patents and publications cited below.

3. I have been asked to provide my opinions regarding whether certain limitations of claims 1, 2, 8, 10, and 14 (the “Challenged Claims”) of the ’400 patent were known in the art to a person having ordinary skill in the art (“POSITA”) at the time of the alleged invention and whether a POSITA would have been motivated to modify *Smith’s* disclosed circuit in view of *Stengel*.

4. In preparing my Declaration, I reviewed the ’400 patent, the file history of the patent, prior art references, technical references, and the other publications set forth in the Exhibit List above from the time of the alleged invention, which are discussed herein.

5. For the purposes of my Declaration, I have been asked to assume that the priority date of the alleged invention recited in the Ericsson ’400 patent is June 3, 2013 (hereinafter the “Priority Date”).

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