UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner

v.

THETA IP, LLC,
Patent Owner

Case No. IPR2024-00817

U.S. Patent No. 10,129,825

DECLARATION OF DR. ASAD ABIDI
IN SUPPORT OF PETITION FOR *INTER PARTES* REVIEW OF
U.S. PATENT NO. 10,129,825

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I, Dr. Asad Abidi, hereby declare the following:

I. INTRODUCTION

1. My name is Asad Abidi, and I am over 21 years of age and otherwise competent to make this Declaration. I make this Declaration based on facts and matters within my own knowledge and on information provided to me by others. If called as a witness, I could and would competently testify to the matters set forth herein.

2. I have been retained by counsel for Petitioner as a technical expert in the above-captioned case. Specifically, I have been asked to render certain opinions relating to the accompanying Petition for *Inter Partes* Review of 10,129,825 (the "'825 Patent"), challenging all claims in the patent ("Challenged Claims"). My compensation in this matter is not based on the substance of my opinions or the outcome of this matter, and I have no financial interest in Apple Inc.

A. Background and Qualifications

3. I have summarized in this section my educational background, career history, and other qualifications relevant to this matter. I have also included a current version of my curriculum vitae, which is attached as Appendix A.

4. I received a Master of Science degree in Electrical Engineering in 1978 and a PhD in Electrical Engineering in 1981, both from the University of California, Berkeley. In 2015, I received UC Berkeley's Distinguished EECS Alumnus Award

5. After earning my doctorate degree, I went to work at Bell Laboratories in Murray Hill, NJ, from 1981-1984, where I was a member of the Technical Staff in the Advanced LSI Development Laboratory. My research here was focused on MOS integrated circuits with gigahertz bandwidths for optical-fiber interface electronics.

6. In 1985 I joined the University of California, Los Angeles (UCLA) as a member of the faculty of Electrical Engineering. Today, I hold the title of Distinguished Professor at UCLA. My research focuses on advanced analog integrated circuits for RF communications, signal processing, and data conversion.

7. In 1996, I was elevated to Fellow of the Institute of Electrical and Electronics Engineers (IEEE). In 2007, I was elected Member of the US National Academy of Engineering (NAE). Election to the NAE is one of the highest professional honors accorded in the US to an engineer.

I have received many major awards for my research. They include the IEEE Donald G. Fink Prize Paper Award in 1997, and the IEEE Donald O. Pederson Solid-State Circuits Award in 2008. My publications have received the Best Paper Award twice from the IEEE Journal of Solid-State Circuits, in 2012 and 2022.

8. My opinions are based on my years of education, research, and experience, as well as my study of relevant materials. In forming my opinions, I have also considered the materials identified in this declaration and in the Petition.

9. In sum, I have extensive experience as a researcher relating to wireless communications devices.

10. In writing this declaration, I have considered my own knowledge and experience, including my work, research, and teaching experience. I have also reviewed the following references and materials:

Exhibit 1001	U.S. Patent No. 10,129,825 (the "'825 Patent")
Exhibit 1002	File History for U.S. Patent 10,129,825 (the "'825 File History")
Exhibit 1003	*Intentionally left blank*
Exhibit 1004	Farbod Behbahani et al., *Adaptive Analog IF Signal Processor for a Wide-Band CMOS Wireless Receiver*, 36 IEEE Journal of Solid-State Circuits 1205, (Aug. 2001) ("*Behbahani*")
Exhibit 1005	Farbod Behbahani et al., *A 2.4-GHz Low-IF Receiver for Wideband WLAN in 0.6μm CMOS – Architecture and Front-End*, 35 IEEE Journal of Solid-State Circuits 1908, (Dec. 2000) ("*Leete*")
Exhibit 1006	Farbod Behbahani et al., *A Broad-Band Tunable CMOS Channel-Select Filter for a Low-IF Wireless Receiver*, 35 IEEE Journal of Solid-State Circuits 476, (April 2000) ("*Tan*")
Exhibit 1007	*Intentionally left blank*
Exhibit 1008	*Intentionally left blank*
Exhibit 1009	*Intentionally left blank*
Exhibit 1010	*Intentionally left blank*
Exhibit 1011	Y. Tsividis et al., *Internally Varying Analog Circuit Minimize Power Dissipation,* IEEE Circuits & Devices Magazine, Jan. 2003.
Exhibit 1012	Mihai Banu & Yannis Tsividis, *Fully Integrated Active RC Filters in Technology*, 18 IEEE Journal of Solid-State Circuits 644, (Dec. 1983) ("Fully Integrated")
Exhibit 1013	Farbod Behbahani et. al, *An Adaptive 2.4GHz Low-IF Receiver in 0.6μm CMOS for Wideband Wireless LAN*, IEEE International Solid-State Circuits Conference, 2000 ("*Kishigami*").
Exhibit 1014	U.S. Patent No. 6,335,952 to Lee et al. ("*Lee*")
Exhibit 1015	Reinhold Ludwig, et. al, *RF Circuit Design,* 2000, *("Ludwig")*
Exhibit 1016	"AN-844 Integrated LNA and Mixer Basics" by Texas Instruments (April 1993) ("*Texas*")

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