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.

PINN, INC.,
Patent Owner.

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Case IPR2021-00220
Patent No. 10,455,066

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DECLARATION OF DR. SCOTT M. NETTLES

TABLE OF CONTENTS

1.   I, Scott Nettles of San Francisco, California, declare that:

I. BACKGROUND AND EXPERT QUALIFICATIONS

2.   I have attached a current copy of my curriculum vitae as Exhibit A. A list of the cases during at least the last five years in which I have signed a Protective Order, have testified as an expert either at a trial, hearing, or deposition, or have submitted statements/opinions is included as Exhibit A.

3.   I attended Michigan State University from 1977 to 1981 as a Merit Scholar and an Alumni Distinguished Scholar, and received a bachelor's degree in Chemistry. I later attended Carnegie Mellon University from 1988 to 1995, during which time I received both a master's degree (1992) and a Ph.D. (1996) in Computer Science. Most of my graduate work was focused on developing on developing programming languages for distributed systems. My dissertation was entitled "Safe and Efficient Persistent Heaps" and focused on high performance automatic storage management for advanced distributed database systems.

4.   Before earning my Ph.D., I worked for over four years in industry at Silicon Solutions, Inc. and Digital Equipment Corporation, developing computer aided design (CAD) software for the semiconductor and computer sectors. For example, I designed and implemented systems for VLSI mask generation and VLSI design rule checking. I also built the first graphical drawing editor for the X window system, Artemis, which included a sophisticated graphical user interface.

5.   I have worked as a professor at three universities since 1995; the University of Pennsylvania, the University of Arizona, and The University of Texas at Austin. I was the recipient of a National Science Foundation CAREER award for "CAREER: Advancing Experimental Computer Science in Storage Management and Education" while I was an Assistant Professor at the University of Pennsylvania. During this time, I also was part of the DARPA funded SwitchWare project, which was one of the pioneering groups in the area of Active Networking ("AN"). My group developed PLAN, the first domain-specific programming language for programmable packets, as well as PLANet, the first purely active inter-network.

6.   I joined the faculty of The University of Texas at Austin ("UT"), in the Department of Electrical and Computer Engineering in 1999. In 2005, I was appointed Associate Professor with tenure. At UT, my graduate teaching has focused on networking, including numerous advanced seminars on mobile and wireless networking. My undergraduate teaching has included networking, operating systems, and one of UT's required programming class, which focuses on programming with abstractions, Java, and data structures.

7.   At UT, I continued to develop AN technology and in 2002, my Ph.D. student, Mike Hicks, won the ACM SIGPLAN dissertation award for our joint work on software updating. Along with my Ph.D. student, Seong-kyu Song, I focused my AN work on mobile and wireless networking. As a result, my research shifted away from AN to mobile and

wireless networking in general, especially interactions between the network, the radios, and the physical world. Most of my current research involves the development of Hydra, which is a working prototype of an advanced software-implemented WiFi network funded primarily by NSF.

8.   I retired from UT Austin in the Spring of 2013. I am currently self-employed. Much of my current work involves consultations with attorneys regarding questions of patent infringement and validity.

9.   I have reviewed U.S. Pat. No. 10,455,066 (the "'066 Patent") and relevant excerpts of the prosecution history of the '066 Patent ("the Prosecution History" or APPLE-1002). I also reviewed the following references and materials, in addition to other materials I cite in my declaration:

- U.S. Patent No. 8.401,219 to Hankey et al. ("Hankey" or "APPLE-1004")

- U.S. Patent No. 8,086,281 to Rabu et al. ("Rabu" or "APPLE-1005")

- U.S. Patent No. 8,078,787 to Lydon et al. ("Lydon" or "APPLE-1007")

- U.S. Patent No. 8,564,544 to Jobs et al. ("Jobs" or "APPLE-1022")

- U.S. Provisional Patent Application No. 62/142,978 ("the '978 Provisional" or "APPLE-1049")

- U.S. Patent Publication No. 2016/0357510 to Watson et al. ("Watson-510" or "APPLE-1051")

- U.S. Provisional Application No. 62/171,338 ("APPLE 1052")

2

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