IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

JAWBONE INNOVATIONS, LLC,	§	Case No. 6:21-cv-00984-ADA
Plaintiff,	§	**JURY TRIAL DEMANDED**
v.	§	
APPLE INC.,	§	
Defendant.	§	

DECLARATION OF DONALD R. BROWN, PH.D. IN SUPPORT OF PLAINTIFF JAWBONE INNOVATIONS, LLC'S MARKMAN BRIEF

I, Donald R. Brown, do hereby declare as follows:

1. INTRODUCTION

1. I have been retained by Fabricant LLP., counsel for Jawbone Innovations, LLC ("Jawbone"), as an expert in the lawsuit captioned above.

2. I have reviewed U.S. Patent Nos. 8,019,091, 8,280,072, 7,246,058, 10,779,080, 11,122,357, 8,467,543, 8,321,213, 8,326,611, and 8,503,691 (the "Asserted Patents" or "Patents-in-Suit"), the prosecution file history for the Patents-in-Suit, and the parties' proposed claim construction of the terms for the Patents-in-Suit. I have also reviewed Apple Inc.'s Opening Claim Construction Brief, and the exhibits thereto, including the Declaration of Cliff Reader, Ph.D.

2. QUALIFICATIONS

3. I received my Bachelor's and Master's degrees in Electrical Engineering from the University of Connecticut in 1992 and 1996, respectively. I received my Ph.D. degree in Electrical Engineering from Cornell University in 2000. I am currently a Professor and the

Head of the Department of Electrical and Computer Engineering at Worcester Polytechnic Institute in Worcester, Massachusetts. In this position, I am responsible for conducting novel research, teaching undergraduate and graduate courses, and for certain administrative tasks.

4. I was a development engineer at General Electric from May 1992 to December 1996. During this period, I worked on several projects including circuit design, embedded systems design, software and firmware development, communication system design, sensor systems and networks, user interface design, and product commercialization. In 1997, I left General Electric to pursue my Ph.D. degree at Cornell University which I completed in May 2000. Since August 2000, I have been a faculty member at Worcester Polytechnic Institute.

5. During my academic career, I have taught undergraduate-level and graduate-level courses and advised dozens of student projects in the areas of signal processing, sensor systems, microprocessor system design, software and firmware development, communication systems, digital communications, wired and wireless networking, and signal detection and estimation. I have authored or co-authored more than 110 original articles in the fields of communication systems, networking, signal processing, synchronization, and information theory, including several highly cited articles on signal processing and distributed wireless communication systems. I have also authored or co-authored four book chapters on subjects related to signal processing, synchronization, and low-latency networking. I have received significant funding from the National Science Foundation (NSF), the Defense Advanced Research Projects Agency (DARPA), and Bose, Inc. in support of my research. I was elected a Senior Member of the Institute for Electrical and Electronics Engineers

(IEEE) in 2009 for contributions to signal processing and communication systems.

6. Among my various research subjects, I have advised projects and authored original papers on acoustic signal processing. One example is my work on distributed acoustic beamforming which resulted in a 2010 conference paper titled "An Experimental Study of Acoustic Distributed Beamforming Using Round-Trip Carrier Synchronization". Another example is my work on novel a novel speech sensor for high noise environments which was reported in a 2005 journal article entitled "Measuring glottal activity during voiced speech using a tuned electromagnetic resonating collar sensor." Other examples of my peer-reviewed papers on the subjects of signal processing, beamforming, and speech processing can be found in my Curriculum Vitae, attached as Exhibit A.

7. I have worked as a consultant on a variety of projects since receiving my Ph.D. These projects have included the development of sensor systems and signal processing techniques for a wide range of applications including precise synchronization and localization of mobile devices through novel sensor fusion techniques. I have also served as an expert witness on several occasions and have performed extensive code reviews in patent litigation cases.

8. I have served on several government expert panels for the National Science Foundation. From 2016-2018, I also served the National Science Foundation as a Program Director. I was responsible for managing a $20 million annual award budget and a diverse portfolio of projects addressing cutting-edge problems in signal processing, information theory, wireless communications, and networking.

9. I am a co-inventor on three issued patents, U.S. Patents Nos. 5,867,669, 5,862,391, and 8,634,405, and on two additional U.S. Patent Applications.

10. In summary, I have more than 30 years of experience as an Electrical Engineer with a broad background in sensor systems, signal processing, embedded systems design, software and firmware development, and wireless communication systems.

11. A detailed record of my professional qualifications is set forth in the attached Exhibit A, which is my Curriculum Vitae, including a list of publications, awards, research grants, and professional activities. My Curriculum Vitae also lists the depositions, hearings, and trial at which I have testified. I am being compensated $600 per hour for my work in connection with this case. My compensation is in no way related to the outcome of this litigation. If called as a witness, I would testify as to the statements and opinions contained in this report.

3. LEGAL UNDERSTANDING

12. I am not an attorney or a legal expert, and I offer no opinions on the law. I have been informed of the relevant legal principles by counsel for the Plaintiff in preparation for forming the opinions set forth in this Declaration. Below I provide those principles relevant to this Declaration, as explained to me by counsel for Plaintiff and as I understand them. I have applied these principles in reaching my opinions discussed herein.

3.1. Claim Construction

13. I understand that claim terms should be given their ordinary and customary meaning within the context of the patent in which the terms are used, *i.e.*, the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention in light of what the patent teaches, unless it appears that the inventors were using them to mean something else. Additionally, the specification and prosecution history must be consulted to confirm whether the patentee has acted as his/her own lexicographer (*i.e.*, provided

special meaning to any disputed terms), or intentionally disclaimed, disavowed, or surrendered any claim scope.

14. I understand that a person of ordinary skill in the art is deemed to read a claim term not only in the context of the particular claim in which the disputed term appears, but also in the context of the entire patent, including the specification and the prosecution history. The prosecution file history provides evidence of how both the Patent Office and the inventors understood the terms of the patent, particularly in light of what was known in the prior art. Further, where the specification describes a claim term broadly, arguments and amendments made during prosecution may require a narrower interpretation. For these reasons, the words of the claim must be interpreted in view of, and be consistent with, the entire specification. The specification is the primary basis for construing the claims and provides a safeguard such that correct constructions closely align with the specification. Ultimately, the interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim as set forth in the patent itself.

15. I understand that, to determine how a person of ordinary skill would understand a claim term, one should look to those sources available that show what a person of skill in the art would have understood disputed claim language to mean. Such sources include the words of the claims themselves, the remainder of the patent's specification, the prosecution history of the patent (all considered "intrinsic" evidence), and "extrinsic" evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art. I understand that one looks primarily to the intrinsic patent evidence, but extrinsic evidence may also be useful in interpreting patent claims when the intrinsic evidence itself

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