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

JAWBONE INNOVATIONS, LLC,	
Plaintiff,	Civil Action No. 6:23-cv-00158-ADA
v.	
META PLATFORMS, INC. d/b/a META,	
Defendant.	JURY TRIAL

**DECLARATION OF AKBAR M. SAYEED, PH.D. IN SUPPORT OF
PLAINTIFF JAWBONE INNOVATIONS, LLC'S MARKMAN BRIEF**

I, Akbar M. Sayeed, 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. 10,779,080, 11,122,357, 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 of the Patents-in-Suit. I have also reviewed the declaration of Cliff Reader,

Ph.D submitted with Meta's opening claim construction brief.

2.   QUALIFICATIONS

3.   I received my B.S. degree in Electrical and Computer Engineering (ECE) from the

University of Wisconsin-Madison in 1991. I received my M.S. and Ph.D. degrees

in ECE from the University of Illinois at Urbana-Champaign in 1993 and 1996,

respectively. In my undergraduate and graduate studies, I took a variety of courses

generally focusing on the areas of signal processing, communication theory, information theory, electromagnetics and antennas, and statistical techniques in signal processing and communications.   My Ph.D. dissertation was entitled "Statistical Time-Frequency Analysis" in which I proposed new framework for statistical signal processing using time-frequency representations, mathematical tools that extend the powerful theory of Fourier transforms and Fourier analysis to time-varying signals and systems.

4.   I currently work as an Independent Researcher, Engineer and Technical Consultant, and worked as professor of Electrical and Computer Engineering at the University of Wisconsin-Madison from 1997-2021, where I directed the *Wireless Communications and Sensing Laboratory* until my retirement on August 1, 2021 to pursue a career as an independent researcher and consultant.

5.   My current work as an independent researcher and consultant spans STEM (science, technology, engineering & mathematics) fields through the lens of information science and technology. My STEM skills and experience cover a broad range of areas, including:

6.   Wireless technologies for sensing, processing, and communication of information (5G/6G/XG), internet of things, and emerging technologies for untapped spectrum (e.g., millimeter-wave, THz).

7.   Sensing and acquisition of data in new modalities through technological innovation.

8.   Machine learning and statistical techniques for extracting useful information from data.

9. Quantum information science and technology (computing, sensing, and communication) spanning foundational concepts, algorithms, and platforms.

10. Conception, design, and development of new information technologies through basic theory, computational modeling, and hybrid software-hardware prototyping and experimentation.

11. I have written/co-written 200+ papers in leading journals and conferences. I am an inventor/co-inventor of 10 patents.

12. After receiving my Ph.D. in 1996, I spent a year at Rice University as a postdoctoral research fellow where I expanded the scope of my research to the growing field of wireless communications that underpins much of mobile cellular technology. In particular, the propagation channels encountered in mobile cellular communication are inherently time-varying in nature and that provided a natural connection to my Ph.D. research. After spending a year at Rice University, I accepted a position as an Assistant Professor in the ECE Department at the University of Wisconsin-Madison in 1997. I was granted tenure and promoted to Associate Professor in 2003, and was promoted to Professor in 2008.

13. I founded and directed the Wireless Communication and Sensing Laboratory at UW-Madison and engaged in research, teaching, and innovation in the basic science, engineering, and technology of sensing, processing, and communication of information. In particular, I led a team in the conception, design, development, and successful demonstration of a state-of-the-art prototype for multi-beam MIMO (multiple input multiple output) communication at 28 GHz based on the concept of a lens array that I had pioneered.

14. I co-founded and co-led the NSF-sponsored Research Coordination Network (RCN) on millimeter-wave wireless (2016-2019) for bringing together researchers from academia, industry, and government agencies to address critical technical challenges in the area.

15. From 2017-2019 I served as a Program Director in the Electrical, Communications and Cyber Systems (ECCS) Division of the Directorate of Engineering at the National Science Foundation. At the NSF, I managed existing programs and initiated new research programs involving sensing, processing, and communication of information in all possible physical modalities, architectures, and technologies, including quantum information science and engineering. I actively contributed to three NSF-wide working groups: Electromagnetic Spectrum Management (ESM) working group, and the working groups of two of the 10 NSF Big Ideas: i) Quantum Leap and ii) Harnessing the Data Revolution. In particular, I co-led the team that developed the NSF solicitation for Quantum Leap Challenge Institutes (Feb 2019) in response to the National Quantum Initiative (NQI) Act signed in December 2018.

16. I have a demonstrated history (25 yrs.) of leading an interdisciplinary research and development group at the forefront of foundational and technological innovations in wireless communication and sensing. Physics-based accurate and computationally tractable system modeling has been a key underlying theme in my work, spanning communication & sensor networks, multipath propagation over highly dynamic environments, wideband MIMO systems, mm-wave and THz wireless, and prototype development (hardware & software).

17. My technical background, experience and skills are directly relevant to the subject

matter in this case. The modeling, analysis, and processing of information bearing

signals and waves, including transmission and reception through antennas and

antenna arrays, and propagation over channels, has been an underlying theme

throughout my career. In particular, I have extensive experience in the conception,

modeling, development, and analysis of techniques and algorithms for processing

and filtering of signals from an array of sensors or antennas, including

beamforming, interference and noise suppression, and adaptive filtering methods.

While most of my work has focused on electromagnetic signals, the underlying

physics and mathematics are very similar to acoustic signals.

3. COMPENSATION

18.   My compensation for time worked on this proceeding is not dependent on any

issues related to the Asserted Patents, the outcome of this litigation, or the substance

of my opinions. My compensation for time worked on this litigation is at my

customary rate of $200 per hour. I have no financial interest in, or affiliation with,

the Patent Owner or any other party in this case.

4. LEGAL UNDERSTANDING

19.   Below I include my understanding of several pertinent legal principles. I have

applied these principles in reaching my opinions discussed herein.

4.1. Claim Construction

20.   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

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