

EXHIBIT 18

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

JAWBONE INNOVATIONS, LLC,

Plaintiff,

v.

APPLE INC.,

Defendant.

Case No. 6:21-CV-00984-ADA

PATENT CASE

JURY TRIAL DEMANDED

DECLARATION OF CLIFF READER, Ph.D.

I. INTRODUCTION

1. My name is Cliff Reader, Ph.D. I am over 18 years of age and, if I am called upon to do so, I would be competent to testify as to the matters set forth herein.

2. I have prepared this declaration at the request of Defendants Apple Inc. and Google LLC (collectively, “Defendants”). I understand that the parties will be asking the Court to construe certain claim terms in U.S. Patent Nos. 7,246,058 (“the ’058 patent”), 8,019,091 (the “’091 patent”), 8,280,072 (“the ’072 patent”), 8,321,213 (the “’213 patent”), 8,326,611 (the “’611 patent”), 8,467,543 (the “’543 patent”), 8,503,691 (“the ’691 patent”), 10,779,080 (“the ’080 patent”), and 11,122,357 (“the ’357 patent”) (collectively, the “Asserted Patents”).

3. In this declaration, I give my opinions regarding the view of a person of ordinary skill in the art of certain terms in the claims of the Asserted Patents. This declaration is based on information currently available to me, and I am willing to testify on the topics addressed below. This case is ongoing, and I may supplement or amend these opinions based on the results of further analysis and in rebuttal to positions taken by the Plaintiff. Because this declaration is based on information currently available to me, I reserve the right to continue my investigation, to review documents and information that may be produced, and to consider declarations, briefing, and deposition testimony from future depositions in this case. Therefore, I reserve the right to supplement, expand, and/or modify my opinions as my investigation continues and in response to any additional information that comes to my attention, including matters raised by the Plaintiff and other opinions provided by the Plaintiff’s expert(s).

II. QUALIFICATIONS

4. Information concerning my professional qualifications, experience, and publications, and the matters in which I have served as an expert, are set forth in my current curriculum vitae, attached as Exhibit A. I highlight certain relevant experience below.

5. I am currently an independent consultant and I provide technical and marketing consulting services in the areas of digital imaging and digital video, including, for example, image and video & audio compression, audio/video transmission, and real-time processing and display. I have worked in this capacity since 2001. I have over forty-five years of work experience in digital video, audio, and imaging. My career includes technical work in areas of algorithm design, system design, and semiconductor chip design.

6. I received my Bachelor of Engineering degree with Honors in 1970 from the University of Liverpool, England. I received my Doctoral degree in 1974 from University of Sussex, England. My Ph.D. thesis was on “Orthogonal Transform Coding of Still and Moving Pictures.” The research for my thesis was performed in residence at the Image Processing Institute, University of Southern California, Los Angeles. From 1970 to 1973, I performed my graduate research in video compression. I was one of the first to perform adaptive block transform coding and the first to apply this type of coding to video. This is described in my thesis and summarized in a 1975 SPIE paper. *See* Reader C, Intraframe and Interframe Adaptive Transform Coding, SPIE Vol. 66, 1975. These techniques underlie the audiovisual coding standards known as “MPEG” (Moving Picture Experts Group), and virtually all other video compression schemes today.

7. From 1975 to 1989, I worked in the engineering field of real-time, interactive image and video processing and display. Applications included military imaging, reconnaissance imaging, medical imaging and earth resources imaging.

8. In the early 1980s I taught “early bird” classes at Santa Clara University in the fundamentals of digital signal processing.

9. In the 1990 timeframe, semiconductor technology passed a critical threshold that supported logic chips and attendant DRAM capable of processing digital video at real-time rates and costs for consumer devices. While employed by Cypress Semiconductor, I began developing a semiconductor chip to implement an audio, video and systems decoder for the emerging MPEG-1 standard. I designed a hierarchical architecture with an embedded ARM microprocessor running a real-time OS, controlling a programmable “video DSP” and dedicated hardware modules. My work included writing a software implementation of a complete MPEG-1 encoder and decoder. The encoder and decoder included a video encoder and decoder, an audio encoder and decoder, and a “systems” component for multiplexing, buffering and synchronizing the video and audio components. Subsequently, I worked on a similar project for the MPEG-2 standard at Samsung Semiconductor. Both projects included the videoconferencing application, which included the ITU series of speech codecs.

10. I became an accredited member of the Moving Picture Experts Group (MPEG) in 1990. From 1991 to 1992, I was the head of the US delegation to MPEG. I chaired the US ANSI subcommittee, and led the formation of US positions on the emerging video and audio standards. I was the chief editor of the MPEG1 standard, and wrote and edited all three parts of the standard (video, audio and systems).

11. From 1990 to 1995, I was deeply involved in the development of the MPEG1 and MPEG2 audio coding standards. I participated in the development of what became the mp3 audio standard, fostered the involvement of Dolby in the standardization process, and drove the MPEG2 audio standards development that led to the adoption of the AAC family of digital audio coding standards. The audio standards are based on a perceptual model of the human hearing process, and employ transform domain techniques to mask audio noise.

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