EXHIBIT D

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
TEXARKANA DIVISION

MAXELL, LTD.,

Plaintiff,

vs.

APPLE INC.,

Defendant.

Civil Action No. 5:19-cv-00036-RWS

DECLARATION OF DR. JOSEPH A. PARADISO IN SUPPORT OF APPLE INC.'S PROPOSED CLAIM CONSTRUCTIONS

I, Joseph A. Paradiso, declare and state as follows:

I. INTRODUCTION

1. My name is Dr. Joseph A. Paradiso. I am Professor and Associate Academic Head, Program in Media Arts and Sciences, at the Media Lab of the Massachusetts Institute of Technology. I am over the age of eighteen, and I am a citizen of the United States.

2. I have been retained by defendant Apple Inc. ("Apple" or "Defendant") in connection with civil action *Maxell, Ltd. v. Apple Inc.*, Case No. 5:19-cv-00036-RWS (E.D. Texas), to provide my opinions regarding technical background, level of ordinary skill in the art, and other subject-matter relevant to interpretation of certain disputed claim terms in the asserted claims of U.S. Patent Nos. 6,748,317 (the "'317 patent"), 6,580,999 (the "'999 patent"), 6,430,498 (the "'498 patent") (collectively, the "Asserted Navigation Patents").

3. I have been asked to provide my opinions on the following topics: (1) the technology relevant to the Asserted Navigation Patents; (2) the state of the art at the time the relevant patent applications were filed; (3) the level of ordinary skill in that field as of the filing date of the application that yielded the Asserted Navigation Patents; (4) how those of ordinary skill in the art at the time of the invention would have understood statements made by the patentee during prosecution of the applications; and (5) how those of ordinary skill in the art at the time of the invention would understand certain terms used in the claims of the Asserted Navigation Patents.

4. My opinions expressed in this declaration rely on my own personal knowledge and experience. However, where I also considered specific documents or other information in formulating the opinions expressed in this declaration, such items are referred to in this declaration. This includes, but is not limited to, the Asserted Navigation Patents, their prosecution histories (including, if applicable, *inter partes* review proceedings before the Patent

Trial and Appeal Board), prior art references cited during prosecution, certain extrinsic evidence cited by Apple and/or Maxell as part of their claim construction disclosures, and *Maxell Ltd. v. Huawei Device USA Inc. et al.*, Case No. 5:16-cv-00178-RWS, Dkt. No. 175, Claim Construction Memorandum and Order (January 31, 2018).

II. QUALIFICATIONS

5. I received a B.S. in electrical engineering and physics from Tufts University in 1977 and a Ph.D. in physics from the Massachusetts Institute of Technology (MIT) in 1981. Currently, I am the Alexander W. Dreyfoos (1954) Professor and Associate Academic Head in the Program in Media Arts and Sciences at the MIT Media Laboratory.

6. For over three decades, I have been involved with the research and development of sensor technology in a variety of applications. For example, after receiving my Ph.D., I was a post-doctoral researcher at the Swiss Federal Institute of Technology (ETH) in Zurich from 1981 to 1983, where I worked on sensor technology for high-energy particle physics. Following my post-doctoral position at ETH, I was a physicist at the Draper Laboratory until 1994, where I was a member of the Control and Decision Systems Directorate and Sensor and Signal Processing Directorate. There, my research encompassed spacecraft control systems, image processing algorithms, underwater sonar, and precision alignment sensors for large high-energy physics detectors.

7. In 1994, I joined the MIT Media Lab, a research laboratory, founded in 1985, that promotes a unique, Interdisciplinary culture and focuses on highly-collaborative research that joins seemingly disparate technological and academic fields. Researchers at the MIT Media Lab have pioneered areas such as wearable computing, tangible interfaces, and affective computing, which has led to numerous products and platforms that have become a ubiquitous part of consumer life today. Examples of technologies that have spun off from the Media Lab's

research include e-readers, such as the Amazon Kindle and Barnes & Noble Nook, the popular video game Guitar Hero, the MPEG-4 structured audio format, the first bionic lower-leg system for amputees, wireless mesh networks developed by Nortel, and the Mercury RFID Reader, commercialized by spin-off ThingMagic. Today, the Lab is supported by more than 80 members, including some of the world's leading corporations that represent the fields of electronics, entertainment, fashion, health care, toys, and telecommunications, among others. Currently, faculty members, research staff, and students work in over 25 research groups and initiatives on more than 450 projects that range from digital approaches for treating neurological disorders, to advancing imaging technologies that can "see around a corner," to the word's first "smart" powered ankle-foot prosthesis.

8. When I joined the Media Lab, I focused on developing new sensing modalities for human-computer interaction, which, by 1997, evolved into wearable and non-wearable wireless sensing and distributed sensor networks to measure movement activity. This work anticipated and influenced transformative products and industries that have blossomed in recent years.

9. For example, in 1997, I developed a shoe with wireless sensors for measuring dynamic movement of the human foot during, for example, interactive dance and other physical activities. The shoe was intended to capture motion data, which were mapped into different information representations to facilitate interactivity. The design of this sensor-laden wireless shoe is now recognized as a watershed in the field of wireless sensing for activity tracking and was an inspiration for the Nike+, one of the very first activity trackers and the first commercial product to integrate dynamic music with monitored exercise. My team went on to pioneer on-shoe sensor architecture for clinical gait analysis in collaboration with the Massachusetts General Hospital (MGH) in 2002. We then worked in sports medicine with another MGH collaboration

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