

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.

Optis Wireless Technology, LLC  
Patent Owner

Case IPR2020-00466

**DECLARATION OF MR. CRAIG BISHOP**  
**U.S. PATENT NO. 8,411,557**

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I, Craig Bishop, declare as follows:

## **I. INTRODUCTION**

1. My name is Craig Bishop. I am an engineer with 26 years of mobile telecommunications experience, including over 23 years of experience with second, third, and fourth generation (2G/3G/4G) mobile telecommunications technology, standards, and device development. My experience includes extensive knowledge of the European Telecommunications Standards Institute (“ETSI”) and the 3rd Generation Partnership Project (“3GPP”) specifications, publication practices, and procedures that I acquired as a practicing mobile telecommunications engineer since 1996.

2. I have been retained in this matter by Apple Inc. (“Petitioner” or “Apple”) to provide testimony regarding the public availability of certain 3GPP documents based on my knowledge of 3GPP’s standard business practices for record keeping and publishing technical specifications, change request proposals, reports, and other documents developed during the course of standards activities carried out by 3GPP. I am being compensated for the time that I spend on this matter, but my compensation is not dependent on and in no way affects the substance of my statements in this declaration.

3. My qualifications and professional experience are described in my curriculum vitae, a copy of which is attached as Exhibit 1013. The following is a

summary of my relevant qualifications and professional experience.

4. I earned my Bachelor of Electronic Engineering degree with Honors from Polytechnic of Central London in 1989. In 2005, I earned my MSC in Computer Science with Distinction from the University of Kent. After graduating with my first degree, I worked as an operations engineer at the British Broadcasting Corporation (BBC) for 4 years, then as a civil servant at the UK Radiocommunications Agency until 1996, during which time I became involved in telecommunications standardization in ETSI, working in particular in Technical Committee TC RES 2 concerned with the standardization of Private Mobile Radio (PMR). From 1994 through 1996, I acted as Rapporteur for voice and data related PMR standards ETS 300 113, ETS 300 219 and ETS 300 390. I participated as the only TC RES 2 delegate on behalf of the UK Radiocommunications Agency, generating proposals in support of UK administration and business requirements, downloading and reviewing other meeting input documents, and proposing changes as necessary to ensure input documents and the resulting specifications were in line with said requirements.

5. In 1996, I joined Samsung Electronic Research Institute as a Senior Standards Engineer where I worked for 16 years, eventually becoming Director of Standards and Industry Affairs in 2011. My work at Samsung mainly focused on the standardization of GSM/GPRS, UMTS, and LTE/EPS systems. Initially, I

participated in ETSI Special Mobile Group (SMG) committees SMG1, SMG2, SMG4, SMG5, SMG9 and relevant UMTS related sub-committees until 1999, working on the air interface radio access network protocols, service, and terminal aspects of UMTS and GSM/GPRS. I was particularly focused on the activities of ETSI SMG2 leading up to selection of WCDMA as the radio access technology for the Frequency Division Duplex mode of UMTS.

6. From 1998 until 2000, I worked as a Principal Standards Engineer on 3GPP's UMTS, attending Radio Access Network (RAN) Working Group1, RAN Working Group 2, Service & Systems Aspects (SA) Working Group 1, Terminals Working Group 2, and other Working Groups and plenary meetings covering similar technical aspects as in my previous work in ETSI. As examples, RAN1 was, and is, the Working Group responsible for the specification of the physical layer of various wireless cellular standards, and RAN2 was, and is, the Working Group responsible for signaling protocol layers 2 and 3 residing just above the physical layer. As part of this work, I would prepare meeting contributions in support of Samsung's research and development activities. Also, by way of preparation for each meeting, I would identify contributions of interest to Samsung as they arrived in my inbox, review those of interest, and where necessary, prepare additional input to the meeting based on said review. I would also download all contributions that were available prior to the meeting either from the email in

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