

**Declaration of Mr. Craig Bishop regarding
ETSI TS 123 040 V3.5.0, “Universal Mobile Telecommunications System
(UMTS);
Technical realization of the Short Message Service (SMS)
(3GPP TS 23.040 version 3.5.0 Release 1999)”**

I, Craig Bishop, based on my personal knowledge and information, hereby declare as follows:

1. I am an engineer with 26 years of mobile telecommunications experience, including over 22 years of experience with second-, third-, and fourth-generation (2G/3G/4G) mobile telecommunications technology, standards and device development.

2. My experience includes extensive knowledge of the European Telecommunications Standards Institute (“ETSI”) and 3GPP specifications, publication practices, and procedures that I acquired not only as a practicing mobile telecommunications engineer (since 1996) but also as proprietor of a full ETSI member company (from 2016 through the present) and as an member of the ETSI Board from November 2011 through November 2014.

3. The following is a summary of my relevant qualifications and professional experience.

4. I earned my Bachelor of Electronic Engineering degree with Honours from Polytechnic of Central London in 1989. In 2005, I earned my MSC in Computer Science with Distinction from the University of Kent.

Declaration of Mr. Craig Bishop
3GPP TS 23.040 version 3.5.0

5. 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 the European Telecommunication Standards Institute (“ETSI”), working 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 300 086, ETS 300 113, ETS 300 219 and ETS 300 390. During this time period between 1994 and 1996, 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.

6. In 1996, I joined Samsung Electronic Research Institute (SERI) 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 the service requirements, architectures, protocols, and radio transmission technologies for the GSM/GPRS, UMTS, and LTE/EPS mobile communications systems. However, as one of only two standards

Declaration of Mr. Craig Bishop
3GPP TS 23.040 version 3.5.0

engineers in SERI between 1996 and 1999, I was also tasked from time to time to attend other standards meetings and obtain / advise on other standards. Such requests for wider standards support continued throughout my career with Samsung due to my familiarity with standardization, and because of the way in the standards group later evolved under my management.

7. Initially at SERI, 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, services, and terminal aspects of UMTS and GSM/GPRS. I was specifically involved in the ETSI SMG2 meetings leading up to selection of WCDMA as the radio access technology for the Frequency Division Duplex mode of UMTS.

8. From 1998, I worked as a Principal Standards Engineer on the 3rd Generation Partnership (3GPP) on UMTS, attending Radio Access Network committees RAN1 and RAN2, SA1 (Services Aspects), T2 (Terminals), and other working groups and Technical Specification Group (TSG) plenary meetings covering the same technical aspects as in my previous work in ETSI. As part of my work in 3GPP committees, I would prepare meeting contributions in support of Samsung's research and development activities. Also, by way of preparation for each meeting, I would download all contributions and review those of interest to

Declaration of Mr. Craig Bishop
3GPP TS 23.040 version 3.5.0

Samsung, and where necessary, prepare additional input to the meeting based on said review.

9. From 2000, I acted as project manager and then as manager of the Systems Engineering group providing technical requirements for the team working on Samsung's UMTS modem development. This involved scrutiny of ongoing standardization work, particularly that of 3GPP RAN2 and 3GPP Core Networks Working Group 1 (CN1 – responsible for layer 3 Non-Access Stratum signalling between the terminal and the core network of the mobile communications system) from which I would download and assess the impact of meeting contributions on the protocol stack of the development project, ensuring that the development team was kept informed about the latest developments as layers 2 and 3 of the UMTS standard were stabilized.

10. During the period 1998 through 2004, in addition to authoring and presenting technical contributions for the 3GPP standard, and producing technical requirements for the radio modem, I acted as rapporteur for 3GPP Technical Reports covering User Equipment (“UE”) capability requirements (3GPP TR 21.904 under TSG T WG2) from 1999-2000, and the Evolution of the 3GPP System (3GPP TR 21.902 under TSG SA) in 2003 (the first Study Item to consider the 3GPP system beyond UMTS towards LTE/EPS).

Declaration of Mr. Craig Bishop
3GPP TS 23.040 version 3.5.0

11. In 2005, I became Head of Advanced Technologies, Standards and Regulation (ATSR) at Samsung. In addition to my managerial duties which would by 2008 include responsibility for teams of standards and research engineers covering 3GPP, DVB Forum, and mobile applications (Open Mobile Alliance), as well as radio and mobile equipment regulations, I continued to work on 3GPP standardization issues. From 2005 until 2008 I worked in SA2, and from 2008 until 2011 in SA1. I also attended SA plenary meetings from 2008 until I left Samsung in 2013. As well as generating contributions in support of Samsung's research and development in preparation for each meeting, I would download and review documents from other 3GPP members, identifying, and where necessary preparing, additional contributions on those of interest to Samsung. The work required a sound working knowledge of the broader 3GPP system to ensure effective management of the 3GPP standards team, effective participation in meeting discussions, assessment of third-party contributions, and provision of implementation guidance to Samsung developers.

12. From 2006 until the time I stopped attending SA1 meetings in 2011, I authored and presented over 100 contributions to SA2 and SA1 meetings at 3GPP and appeared as an author/co-author on 18 patent applications related to User Equipment operation in the IMS and the 3GPP Core Network.

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.