

RADIO SPECTRUM AND TECHNICAL STANDARDS
ADVISORY COMMITTEE

Minutes of the Thirteenth Meeting
held at 2:30 p.m., Thursday, 10 November 2016
in Conference Room 2020, Wu Chung House, Wanchai

Present

Mr C K Cheng	Chairman (OFCA staff)
Mr Desmond Chan	Representative of Wharf T&T Limited
Ms Diana Chan	Representative of the Hong Kong Police Force
Mr Henry Chan	Representative of Hutchison Telephone Company Limited / Hutchison Global Communications Limited / Genius Brand Limited
Mr Larry Chan	Representative of Hong Kong Productivity Council
Mr Eric Chau	Representative of licensees not providing domestic retail fixed services as a group
Mr Alex Cheng	Representative of China Mobile Hong Kong Company Limited
Mr Alan Choi	Representative of Hong Kong Cable Television Limited / Fantastic Television Limited
Ms C K Chu	Representative of Radio Television Hong Kong
Mr H M Ho	Ad Personam
Mr H C Hung	Representative of licensees not providing domestic retail fixed services as a group
Mr Kan Kan	Representative of the Hong Kong Police Force
Mr S M Ko	Representative of Metro Broadcast Corporation Limited
Mr Allan Kwan	Representative of PCCW Media Limited / HK Television Entertainment Limited
Ir Wilson Kwok	Representative of the Hong Kong Institution of Engineers
Mr Cyrus Lai	Representative of SmarTone Communications Limited / SmarTone Mobile Communications Limited
Mr Paul Lam	Representative of Hong Kong Commercial Broadcasting Company Limited
Mr Michael Lee	Representative of EU ICT Council in Hong Kong and Macau
Dr W C Lee	Representative of the Institution of Engineering and Technology Hong Kong
Mr Richard Leung	Representative of Hong Kong Broadband Network Limited / HKBN Enterprise Solutions Limited
Mr M K Li	Representative of local certification bodies as a group
Ms C Y Lo	Representative of Hong Kong Broadband Network Limited / HKBN Enterprise Solutions Limited
Mr George Mak	Representative of Consumer Council

Mr Karson Ng	Representative of licensees not providing domestic retail fixed services as a group
Mr S Y Ngan	Representative of Radio Television Hong Kong
Mr Johnny Siu	Representative of amateur radio societies as a group
Dr S M Wong	Representative of Independent Commission Against Corruption
Ms Vicky Wong	Representative of Asia Satellite Telecommunications Company Limited
Mr Sheldon Yau	Representative of Hong Kong Telecommunications (HKT) Limited / PCCW-HKT Telephone Limited and Hong Kong Telecommunications (HKT) Limited
Mr L K Yeung	Representative of Civil Aviation Department
Mr Man Yuen	Representative of Television Broadcasts Limited / TVB Network Vision Limited
Mr L H Ting	Secretary (OFCA staff)

Absent with Apologies

Mr Y P Cheung	Representative of the local industry associations as a group
Mr Dickson Ip	Representative of external FTNS/ fixed carrier licensees/ unified carrier (external fixed services) licensees as a group
Mr C T Wong	Representative of services-based operators (MVNO and ETS operators only) as a group
Mr Ken Yiu	Representative of Hong Kong Mobile Television Network Limited

In Attendance

Mr P H Ma	OFCA staff
Mr Warren Kwok	OFCA staff
Ms Yvonne Lee	OFCA staff
Mr C H Chan	OFCA staff
Mr S Y Yung	OFCA staff

Observer

Mr Kevin Chu	Representative of Hong Kong Telecommunications (HKT) Limited / PCCW-HKT Telephone Limited and Hong Kong Telecommunications (HKT) Limited
Mr W L Ho	Representative of amateur radio societies as a group
Mr Simon Kwok	Representative of SmarTone Communications Limited / SmarTone Mobile Communications Limited
Mr Peng Li	Representative of APT Satellite Company Limited
Mr K H Yip	Representative of licensees not providing domestic retail fixed services as a group
Mr Ricky Yiu	Representative of APT Satellite Company Limited

Agenda Item 1: Matters Arising from the Previous Meeting

Item 2 of the 12th SSAC Meeting (Proposed Performance Specification for Radiocommunications Apparatus Operating in the 60 GHz Band)

1. The Secretary reported that OFCA received no comment from Members on the proposed specification HKCA 1074 for 60 GHz devices after the last meeting. A public consultation on the proposed creation of a class licence to cover the sale and use of 60 GHz devices had been completed. There was no objection to the proposed creation of the class licence. OFCA would arrange to seek CA's approval to create the class licence accordingly.

Item 3 of the 12th SSAC Meeting (Proposed Performance Specification for Short-Range Radar Equipment Operating in the 79 GHz Band)

2. The Secretary reported that OFCA received no comment from Members on the proposed specification HKCA 1075 for 79 GHz short-range radar after the last meeting. A public consultation on the proposed creation of a class licence to cover the sale and use of 79 GHz short-range radar had been completed. There was no objection to the proposed creation of the class licence. OFCA would arrange to seek CA's approval to create the class licence accordingly.

Item 4 of the 12th SSAC meeting (Proposed Performance Specification for Digital Multipoint Radio Equipment Operating in the 2.3 GHz Band)

3. The Secretary reported that OFCA received no comment from Members after the last meeting. Accordingly, the revised specification HKCA 1076 was adopted and posted on OFCA website in July 2016.

Agenda Item 2: Spectrum Supply for IMT Services (SSAC Paper 9/2016)

4. Ms Yvonne Lee introduced [SSAC Paper 9/2016](#) that covered the latest development on the identification of spectrum for International Mobile Telecommunications ("IMT") advocated by the International Telecommunication Union ("ITU"), regional standardisation bodies and different economies including Mainland China, the United States, Japan, Korea, etc. She further explained the constraints of using the 3.5 GHz band (3400 – 3600 MHz), 1.4 GHz band (1427 – 1518 MHz) and 700 MHz band (703 – 748 MHz / 758 – 803 MHz) for public mobile services in Hong Kong.

5. Mr Sheldon Yau on behalf of HKT presented their views on the spectrum supply for public mobile services in Hong Kong. He pointed out that shortage of spectrum supply had led to network congestion and degradation of service quality. More frequency bandwidths would be needed to alleviate the situation. He opined that consideration should be given to opening up the 3.5 GHz band for public mobile services in Hong Kong. He added that this frequency band had been adopted by many overseas economies, with network and user equipment readily available on the market.

6. Ms Vicky Wong pointed out that sharing studies conducted by both ITU and the Asia-Pacific Telecommunity (“APT”) on compatibility between mobile service and fixed-satellite service (“FSS”) in the 3.5 GHz band showed that the separation distances between a mobile base station and FSS receiving earth station for co-existence ranged from tens to hundreds of kilometres, indicating that such sharing was not feasible in Hong Kong. She said that an ITU study report as published in 2015 covered the scenario of IMT small-cell indoor deployment in addition to other scenarios of macro-cell and small-cell outdoor deployments. For small-cell indoor deployment, the separation distances were still in the order of kilometres. In addition, she highlighted that signals from the mobile services would affect FSS reception not only in the 3.5 GHz band, but the entire 3.4 – 4.2 GHz band.

7. Mr Michael Lee said that the interference study conducted by ITU might not be applicable to the Hong Kong environment and trials in Hong Kong might be required. He suggested that consideration should be given to migrating FSS from C-band to Ku-band so as to release C-band for IMT services in the long term. Ms Vicky Wong said that developing countries in the Asia-Pacific region still heavily relied on the use of C-band to provide FSS. While it might be justifiable to deploy a Ku-band satellite beam targeting at the developed economies, say Europe or the United States, this was not the case for a small place like Hong Kong and other developing countries in the Asia-Pacific region. She further said that in the United States, in order to protect the existing C-band earth stations and to allow sharing between the mobile services and FSS in the 3.5 GHz band, exclusion zones of 150 km radius surrounding C-band satellite earth stations were implemented where the sharing of the frequency band in question by the mobile services would be constrained. Since one such zone would cover the entire territory of Hong Kong, it would not be possible to implement such exclusion zones in Hong Kong. Mr H C Hung pointed out that FSS equipment was designed to receive very weak signals from satellites and it was therefore very susceptible to interference. Signals from terrestrial mobile services in the 3.5 GHz band could easily drive FSS receiving equipment into saturation and block the signal reception in the entire 3.4 – 4.2 GHz band. He added that Ku-band was susceptible to much more serious rain attenuation than C-band and that the climatic conditions in the Asia-Pacific region might prohibit the proposed migration of FSS from C-band to Ku-band.

8. Mr Michael Lee said that Mainland was considering to use the 3.5 GHz band for mobile services and asked whether such deployment in, say, Shenzhen would interfere with FSS in Hong Kong. The Chairman said that there were some 1,600 Satellite Master Antenna Television systems operating in C-band in Hong Kong with some 900,000 outlets and that matters about potential radio interference between Hong Kong and Guangdong Province would be handled following the established frequency coordination mechanism. Mr Sheldon Yau said that the feasibility of using the 3.5 GHz band for mobile services could be explored in certain implementation scenarios, such as indoor and underground deployments which were less likely to cause interference to FSS. The Chairman welcomed the industries' initiative to conduct more trials to explore the possible use of the 3.5 GHz band for mobile services in Hong Kong and OFCA would offer facilitation where necessary.

Agenda Item 3: Proposed Spectrum Release Plan for 2017-19 (SSAC Paper 10/2016)

9. Mr C H Chan introduced [SSAC Paper 10/2016](#) on the proposed Spectrum Release Plan ("SRP") covering the period 2017-2019.

10. Mr Henry Chan said that shortage of spectrum supply for public mobile services was a problem faced by Hong Kong as well as other economies. He considered that the availability of additional spectrum for public mobile services needed to be explored, particularly for those harmonised spectrums which had been identified and widely adopted for IMT services in most of the advanced and developed countries; otherwise, Hong Kong might lag behind other economies. In this connection, Mr Henry Chan suggested OFCA to review the spectrum planning with the latest development of spectrum assignment elsewhere taken into consideration. Mr P H Ma said that the work on identification of new spectrum for IMT was underway in ITU and standardisation development organisations ("SDOs") like the Third Generation Partnership Project ("3GPP"). With inputs from the industry worldwide, 3GPP identified many frequency bands (i.e. the 3GPP bands) to facilitate equipment development and deployments by the industry. However, while some 3GPP bands were usable in other countries or territories, they might not be applicable to Hong Kong. Mr P H Ma pointed out that the vacant bands in the 2 GHz range as introduced in the proposed SRP for 2017-2019 were 3GPP bands. He welcomed the industry to explore possible use of these vacant bands and to share information on any other candidate IMT bands, including those under discussion by SDOs like 3GPP, that might potentially be available in Hong Kong.

11. The Chairman invited comments from Members on the proposed SRP for 2017-2019, including any indication of interest on using the vacant bands in the 2 GHz range, within two weeks by 24 November 2016.

Agenda Item 4: Proposed Performance Specification for Mobile Communications Onboard Aircraft System (SSAC Paper 11/2016)

12. Mr S Y Yung introduced [SSAC Paper 11/2016](#) that proposed the adoption of a new HKCA 1077 specification for the performance specification for mobile communications onboard aircraft (“MCA”) systems. He said that MCA systems, which operated at a height of above 3000 meters, provided in-flight communications services to air passengers in the same manner as mobile roaming services on ground. In Hong Kong, the provision of MCA service was covered by a Services-Based Operator (“SBO”) Licence. Since October 2010, GSM service had been available on some Hong Kong registered aircrafts. With the amendment of Decision ECC(DEC)06/07 of the Electronic Communications Committee in March 2014, MCA systems were enhanced to cover GSM/UMTS/LTE services. The proposed HKCA 1077 was developed to cover those enhanced MCA systems drawing reference to the harmonised European standard EN 302 480 V2.1.1 issued in July 2016 and the relevant HKCA specifications for GSM/UMTS/LTE radio base stations respectively. He added that type approval of MCA systems installed on Hong Kong registered aircrafts was compulsory in order to meet the licensing requirements of the SBO Licence.

13. In response to the comment of Mr L K Yeung on the airworthiness requirements, the Chairman clarified that radio equipment installed onboard Hong Kong registered aircrafts would be covered by the Aircraft Station Licence which would be subject to the Civil Aviation Department’s approval on airworthiness.

14. The Chairman invited Members to provide comments on the proposed new specification HKCA 1077 within two weeks by 24 November 2016.

Agenda Item 5: Outcome of World Telecommunication Standardization Assembly 2016 (SSAC Paper 12/2016)

15. Mr Warren Kwok introduced [SSAC Paper 12/2016](#) that briefed Members on the major outcomes of the World Telecommunication Standardization Assembly 2016 (“WTSA-16”), which was held in Hammamet, Tunisia from 25 October to 3 November 2016. Organised by ITU, WTSA-16 established the work structure and program of the ITU Telecommunication Standardization Sector (“ITU-T”) for the following four years (i.e. 2017 –

2020). OFCA participated in WTSA-16 in order to keep track of the standardisation work of ITU-T that would shape the future of standards development. In brief, WTSA-16 approved five ITU-T Recommendations, 16 new and 31 revised resolutions and decided to maintain 11 study groups in the next four years. The major standardisation works of ITU-T in 2017 – 2020 would focus on the fixed network part of IMT-2020, interconnection of Voice over LTE/Video over LTE-based networks, Internet of Things, smart cities and technical solutions for combating mobile device theft and counterfeit, among others.

16. In reply to the question of Mr Michael Lee about ITU-T activities on security aspects of information and communications technologies, Mr Warren Kwok said that Study Group 17 was studying the use of Digital Object Architecture (“DOA”) for safeguarding the security of Internet of Things as well as combating mobile device counterfeit. He added that apart from DOA, anti-counterfeit of mobile devices might be implemented by means of digital certificates managed under the X.509 public key infrastructure standard developed by Study Group 17.

Agenda Item 6: Any Other Business

17. There being no other business, the meeting was adjourned at 4:15 p.m.

**Office of the Communications Authority
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