

RADIO SPECTRUM AND TECHNICAL STANDARDS
ADVISORY COMMITTEE

Minutes of the Ninth Meeting
held at 2:30 p.m., Wednesday, 7 May 2015
in Conference Room 2020, Wu Chung House, Wanchai

Present

Mr P H Ma	Chairman (OFCA staff)
Mr Desmond Chan	Representative of Wharf T&T Limited
Ms Diana Chan	Representative of the Hong Kong Police Force (HKPF)
Mr Henry Chan	Representative of Hutchison Telephone Company Limited and Hutchison Global Communications Limited
Mr Tim Chan	Representative of Digital Broadcasting Corporation Hong Kong Limited
Mr Y C Chan	Representative of Television Broadcasts Limited and TVB Network Vision Limited
Mr Y H Chan	Representative of Asia Satellite Telecommunications Company Limited
Mr Alex Cheng	Representative of China Mobile Hong Kong Company Limited / China Mobile Hong Kong Corporation Limited
Dr Lawrence Cheung	Representative of Hong Kong Productivity Council
Ms C K Chu	Representative of Radio Television Hong Kong
Mr Carlson Chu	Representative of PCCW Media Limited
Mr Kelvin Hong	Representative of Hong Kong Broadband Network Limited
Mr H C Hung	Representative of Reach Networks Hong Kong Limited and Reach Cable Networks Limited
Mr Kan Kan	Representative of the Hong Kong Police Force
Mr Cyrus Lai	Representative of SmarTone Communications Limited / SmarTone Mobile Communications Limited
Mr Paul Lam	Representative of Hong Kong Commercial Broadcasting Company Limited
Mr George Mak	Representative of Consumer Council
Mr Barry Ng	Representative of services-based operators (MVNO and ETS operators only) as a group
Mr Karson Ng	Representative of China Telecom Global Limited
Ms P Y Ngai	Ad Personam

Ir Wallace Poon	Representative of the Hong Kong Institution of Engineers
Mr Johnny Siu	Representative of amateur radio societies as a group
Mr Jing Su	Representative of APT Satellite Company Limited
Mr Adam Wong	Representative of Hong Kong Telecommunications (HKT) Limited, PCCW-HKT Telephone Limited and Hong Kong Telecommunications (HKT) Limited, and Genius Brand Limited
Mr Raymond Wong	Representative of local certification bodies as a group
Mr S C Wong	Representative of Asia Television Limited
Dr S M Wong	Representative of Independent Commission against Corruption
Ms Vicky Wong	Representative of Asia Satellite Telecommunications Company Limited
Mr L K Yeung	Representative of Civil Aviation Department
Mr Terence Yiu	Representative of Phoenix U Radio Limited
Mr L H Ting	Secretary (OFCA staff)

Absent with Apologies

Mr S M Ko	Representative of Metro Broadcast Corporation Limited
Mr Michael Lee	Representative of EU ICT Council Hong Kong and Macau
Mr Keith Li	Representative of Hong Kong Wireless Technology Industry Association
Mr Ken Yiu	Representative of Hong Kong Mobile Television Networks Limited
Ms M H Yoon	Representative of Telstra International HK Limited and Telstra International Limited
Mr Simon Yu	Representative of Hong Kong Cable Television Limited

In Attendance

Mr Warren Kwok	OFCA staff
Ms Annie Lo	OFCA staff
Mr K K Wong	OFCA staff
Mr Kent Yu	OFCA staff
Mr S Y Yung	OFCA staff

Observer

Mr Eric Chau	Representative of TraxComm Limited
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Mr W L Ho	Representative of amateur radio societies as a group
Ir Wilson Kwok	Representative of the Institution of Engineering and Technology Hong Kong
Mr Richard Leung	Representative of New World Telecommunications Limited
Mr K H Yip	Representative of TraxComm Limited
Mr Ricky Yiu	Representative of APT Satellite Company Limited

Agenda Item 1: Matters Arising from the Previous Meeting

Item 3 of the 8th SSAC Meeting (performance specifications for Base Station and User Equipment for Use in Evolved Terrestrial Radio Access (E-UTRA) Time Division Duplex (TDD) Network)

1. The Secretary reported that OFCA had received no further comment on the proposed new specifications HKCA 1072 and HKCA 1073 after the last meeting. Accordingly, the specifications HKCA 1072 and HKCA 1073 had been adopted and posted on OFCA's website.

Item 4 of the 8th SSAC Meeting (Spectrum Release Plan for 2015-17)

2. The Secretary reported that OFCA had received no further comment on the proposed Spectrum Release Plan for 2015-17 after the last meeting. The Spectrum Release Plan for 2015-17 was subsequently agreed by the Communications Authority ("CA") and posted on the websites of OFCA and CA.

Agenda Item 2: Result of Technical Trial on 80 GHz Fixed Links

3. Mr Kan Kan introduced the result of a technical trial on 80 GHz fixed links conducted by HKPF in end 2014. The trial covered two temporary fixed links set up in the commercial area of Hong Kong Island, with a path length of about 1.6 kilometres and 0.7 kilometre respectively.

4. Mr Kan said that the data rate of the fixed links operating in a 250 MHz channel was 400 – 500 Mbps during the trial, which was a dry season with only light rainfall at times. The link with longer path length using a modulation scheme of 16QAM was down when the rainfall rate reached 5 – 10 mm, while

the shorter link using QPSK modulation only recorded one single incident of around 8 dBm signal degrade under light rain condition. Mr Kan opined that 80 GHz fixed links were capable of carrying high data capacity and relatively easy to deploy, but were sensitive to rain attenuation.

5. In response to Dr S M Wong's query about the typical achievable path lengths of 80 GHz fixed links, Mr Kan replied that the Australian Communications and Media Authority had published a related document that estimated the path length to be around one to two kilometres under ITU rain region N, depending on the availability planned for the fixed links. The path lengths of the two links under trial were of the same order. As the trial had been conducted in a season with light rainfall, Mr Kan indicated that further trials might be required to ascertain the effect of rain attenuation in the local environment. The Chairman thanked Mr Kan for sharing the trial results.

6. Mr Adam Wong asked whether this band might be available for backhaul links applications of mobile services. The Chairman said that while the performance of 80 GHz fixed links in local rainy seasons was being evaluated, OFCA would consider putting up a proposal on the band planning and related issues on use of the 80 GHz band for consultation with Members in due course. He said that Members who would like to conduct further field trials might contact the Secretary to apply for the necessary approval.

Agenda Item 3: Proposed Revision to HKCA 1039 Performance Specification for Radiocommunications Apparatus Operating in the 2.4 GHz or 5 GHz Band and Employing Frequency Hopping or Digital Modulation (SSAC Paper 1/2015)

7. Mr Kent Yu introduced [SSAC Paper 1/2015](#) that proposed the adoption of the revised specification HKCA 1039 for radiocommunications apparatus operating in the 2.4 GHz and 5 GHz bands and employing frequency hopping or digital modulation.

8. By way of background, Mr Yu stated that relevant ETSI standards and 47 CFR Part 15 were adopted in HKCA 1039. He then explained how Terminal Doppler Weather Radars (TDWR) in US were interfered by wireless devices, certified to operate in the 5.725-5.850 GHz band without dynamic frequency selection, but illegally modified to operate in the TDWR operating band. To

tackle this problem, the FCC had revised the technical requirements in Section 15.247 and Subpart E of 47 CFR Part 15 by excluding digital modulation devices operating in the 5.725-5.850 GHz band and expanding the frequency range for UNII devices from 5.725-5.825 GHz to 5.725-5.850 GHz respectively. To align HKCA 1039 with the FCC's revisions, the relevant clauses of HKCA 1039 were proposed to be revised as shown in the [Annex of SSAC Paper 1/2015](#).

9. The Chairman invited Members to give their views on the proposed revision of HKCA 1039 within two weeks by 21 May 2015.

Agenda Item 4: Progress Report on Preparation for World Radiocommunication Conference 2015 (WRC-15) (SSAC Paper 2/2015)

10. Ms Annie Lo introduced [SSAC Paper 2/2015](#) that outlined the progress of OFCA's preparation work for WRC-15 and provided updates and observations on issues relevant to the WRC-15 agenda items (AIs).

11. Ms Lo said that OFCA had attended the second ITU Conference Preparatory Meeting for WRC-15 (CPM15-2) held in March 2015. She briefed Members on the outcomes of CPM15-2 on individual WRC-15 AIs covering primarily WRC-15 AIs 1.1 to 1.18, as well as the issue of global flight tracking for civil aviation, which was an additional item lately assigned to WRC-15.

12. Ms Lo pointed out that under AI 1.1, no consensus had been reached at CPM15-2 on the candidature of the frequency bands proposed for additional allocations to mobile service or identification for International Mobile Telecommunications (IMT). Mr Adam Wong asked if OFCA had any plan to meet the future spectrum demand of mobile services over the next decade. The Chairman replied that future supply of spectrum was outlined in the Spectrum Release Plan, with the latest one indicating that no spectrum would be available for release to mobile services in the coming three years. He said that OFCA would closely monitor the development and outcomes of AI 1.1 at WRC-15 with a view to making available spectrum for IMT services in a timely manner.

13. Mr Adam Wong commented that the Spectrum Release Plan was to indicate the availability of spectrum to meet short-term market requirement only. There should be long-term spectrum plan to meet the surge of mobile

broadband traffic demand (ten-fold increase) in the coming years, say up to and beyond 2020, especially for Hong Kong that was leading Asia in mobile growth.

[Post-meeting note: In relation to the long-term spectrum planning for IMT, Mr Adam Wong offered two documents, one from IDA of Singapore and the other from Ofcom of the UK, as reference for Members. These documents are available at:

<http://www.ida.gov.sg/~media/Files/PCDG/Licensees/SpectrumMgmt/FreqAllocAssign/RSCP.pdf>

http://stakeholders.ofcom.org.uk/binaries/consultations/above-6ghz/5G_CFI_Update_and_Next_Steps.pdf

14. Regarding frequency allocation to amateur services under AI 1.4, CPM15-2 put up a proposal of allocating up to 15 kHz spectrum to amateur services on a secondary basis in the band 5275-5450 kHz. Mr Johnny Siu welcomed the proposal and said that the 5 MHz band was very useful for long-distance communication across intercontinental distances. It was often used in emergency communication scenarios where communications infrastructure was lacking or devastated. He added that the coming International Amateur Radio Union (IARU) Region 3 Conference would be held in October 2015, during which IARU's view on this AI might be further developed. Mr Siu said that he would update OFCA in due course.

15. Noting that the preparation for WRC-15 was on-going, the Chairman welcomed further input from Members on the WRC-15 issues in the meantime. He said that the tentative schedule was to finalise Hong Kong's position by October this year. He said that Members who would like to attend WRC-15 in November this year might contact the Secretary for further information.

Agenda Item 5: Update on Standardisation in Machine-to-Machine Communications (SSAC Paper 3/2015)

16. Mr Warren Kwok introduced [SSAC Paper 3/2015](#) that updated Members on the standardisation in machine-to-machine communications (M2M). He said that OFCA had attended the 25th Asia-Pacific Telecommunity Standardisation Program Forum (ASTAP) held in March 2015. Among the ASTAP Expert Groups, the Expert Group on M2M Applications/Services conducted research and studies on M2M standardisation issues. He briefed

Members on the work of the Expert Group, typical M2M network configurations, applications, challenges in M2M as well as the related standardization work.

17. Mr Kwok remarked that in a broad term, M2M referred to the capability of a machine sending data to other machines without human intervention. It was envisaged that M2M technologies would be applied in smart grids, intelligent transport systems, e-vehicles, intelligent buildings, logistics and e-health services etc. As far as M2M configurations were concerned, the underlying architecture could be divided into four layers, namely, device layer, communications network layer, service layer and the application layer. Except the application layer, major standard development organisations were working closely to define international technical standards for the other three layers with a view to fostering interoperable M2M solutions, greater economies of scale and wider adoption in the vertical markets. In particular, based on M2M characteristics, 3GPP had developed preliminary technical specifications for new type of devices for machine communications and network enhancements to support large scale M2M deployments.

18. Mr Adam Wong pointed out that there were already some M2M deployments over LTE networks. Considering the potential massive use of M2M on mobile networks, Mr Wong stressed the importance of sufficient spectrum supply for mobile services. The Chairman said that OFCA would continue to monitor M2M development and the related standardisation work.

Agenda Item 6: Any Other Business

19. There being no other business, the meeting was adjourned at 4:20 p.m.

**Office of the Communications Authority
June 2015**