RADIO SPECTRUM AND TECHNICAL STANDARDS ADVISORY COMMITTEE

Minutes of the Third Meeting
held at 2:30 p.m., Wednesday, 23 January 2013
in Function Room 2501, Wu Chung House, Wanchai

Present

Mr T F So	Chairman (OFCA staff)
Mr Desmond Chan	Representative of Wharf T&T Limited
Mr Henry Chan	Representative of Hutchison Telephone Company Limited and Hutchison Global Communications Limited
Mr Kenneth Chan	Representative of services-based operators (MVNO and ETS operators only) as a group
Mr Raymond Chan	Representative of Hong Kong Cable Television Limited
Mr Y C Chan	Representative of Television Broadcasts Limited and TVB Pay Vision Limited
Mr Eric Chau	Representative of TraxComm Limited
Mr Brian Cheng	Representative of Consumer Council
Ms C K Chu	Representative of Radio Television Hong Kong
Mr Simon Heung	Representative of Digital Broadcasting Corporation Hong Kong Limited
Mr Andrew Hung	Representative of HKC Network Limited
Mr H C Hung	Representative of Reach Networks Hong Kong Limited
Mr Wai Ho	Representative of Asia Television Limited
Mr Dickson Ip	Representative of ComNet Telecom (HK) Limited
Mr Cyrus Lai	Representative of SmarTone Communications Limited and SmarTone Mobile Communications Limited
Mr Paul Lam	Representative of Hong Kong Commercial Broadcasting Company Limited
Mr Jimmy Lee	Representative of Telstra International HK Limited and Telstra International Limited
Mr Michael Lee	Representative of EU ICT Council in Hong Kong and Macau
Mr K C Liu	Representative of PCCW Media Limited
Mr Kenneth Ng	Representative of New World Telecommunications Limited
Ms P Y Ngai	Ad Personam
Mr Mike Pan	Representative of China Mobile Hong Kong Company

	Limited and China Mobile Hong Kong Corporation Limited
Mr Ken Sit	Representative of Local Certification Bodies as a group
Mr Johnny Siu	Representative of amateur radio societies as a group
Dr K F Tsang	Representative of Institution of Engineering and Technology Hong Kong
Mr Leong Wai	Representative of Hong Kong Productivity Council
Mr Adam Wong	Representative of Hong Kong Telecommunications (HKT) Limited, PCCW-HKT Telephone Limited and Hong Kong
Mr Leslie Wong	Representative of CSL Limited
Dr Simon Wong	Representative of Independent Commission against Corruption
Ms Vicky Wong	Representative of Asia Satellite Telecommunications Company Limited and External FTNS / Fixed Carrier / Unified Carrier (External Fixed Services) Licensees as a group
Mr Charles Yeung	Representative of Hong Kong Broadband Network Limited
Mr S T Yiu	Representative of Phoenix U Radio Limited
Mr C K Yuen	Representative of Civil Aviation Department
Mr L H Ting	Secretary (OFCA staff)

Absent with Apologies

Mr Tim Chan	Representative of Metro Broadcast Corporation Limited
Mr Xun Chen	Representative of APT Satellite Company Limited
Mr H M Cheung	Representative of the Hong Kong Police Force
Mr Eric Fan	Representative of local industry associations as a group
Mr Clifford Ho	Representative of Towngas Telecommunications Fixed Network Limited
Ir Dr C K Li	Representative of the Hong Kong Institution of Engineers

Guest Speakers

Ir W Y Chu	Representative of CLP Power Hong Kong Limited ("CLP")
Mr Y C Fong	Representative of CLP

In Attendance

Mr P H Ma	OFCA staff
Mr Warren Kwok	OFCA staff
Mr W K Leung	OFCA staff

Mr K L Tang	OFCA staff
Mr K K Wong	OFCA staff
Mr C H Chan	OFCA staff

Observer

Mr H W Chan	Representative of MTR
Mr Y H Chan	Representative of Asia Satellite Telecommunications Company Limited and External FTNS / Fixed Carrier / Unified Carrier (External Fixed Services) Licensees as a group
Mr W K Cheung	Representative of Hong Kong Telecommunications (HKT) Limited, PCCW-HKT Telephone Limited and Hong Kong
Mr W L Ho	Representative of amateur radio societies as a group
Mr W K Leung	Representative of HKIE
Mr George Mak	Representative of Consumer Council
Mr K H Yip	Representative of MTR

1. The Chairman welcomed the representatives of CLP as guest speakers for agenda item 2 of the meeting, and other new comers joining the meeting as observers.

Agenda Item 1: Matters Arising from the Previous Meeting

Item 1 of the minutes of the 2nd SSAC Meeting (review of channel arrangements in the 38 GHz and 26 GHz bands)

2. The Secretary reported that the new 26 GHz and 38 GHz channel arrangements had been incorporated in the latest version of Hong Kong Table of Frequency Allocation issued in early January 2013, as posted on OFCA's website. The new Table also incorporated the changes to Region 3 Allocation as concluded at WRC-12, which were discussed at the last RSAC meeting in March 2012 based on RSAC Paper 2/2012.

Item 12 of the minutes of the 2nd SSAC Meeting (revision to HKCA 1108, technical standard for digital terrestrial television baseline receiver requirements)

3. The Secretary reported that OFCA had received no further comment on the proposed revision to HKCA 1108 specification after the meeting. The revised HKCA 1108 specification had been issued and posted on OFCA website.

New HKCA 1063, technical standard for digital fixed link equipment operating in the 26 GHz band

4. The Secretary reported that OFCA had received no comment on the SSAC Paper 13/2012, which covered a proposed new HKCA 1063 specification, issued by email circulation in early December 2012. The HKCA 1063 specification had been issued and posted on OFCA website.

Agenda Item 2: Presentation on Radio communication for Smart Grid

5. Ir W Y Chu introduced the power transmission network and the metering infrastructure of CLP. His presentation covered the use of smart grid system to promote energy conservation and efficiency, which required the use of wireless applications. It also covered a review of overseas development in smart grid system, the spectrum arrangements of which were outlined as follows -

- Canada: 30 MHz allocated for smart grid of electrical utilities
- United States: 902 - 928 MHz unlicensed band for smart grid. The US Government was also considering assignment of the 700 MHz spectrum for shared use among public safety utilities and federal government users
- Japan: 920 MHz band for RFID
- Taiwan and China : 920 - 925 MHz band for RFID
- Singapore: 920 - 925 MHz band for short range devices

6. Mr Michael Lee said that the smart grid systems adopted by European countries made use of public mobile network to distribute information of charging locations for electric cars. He opined that the use of public mobile network might be considered for smart grid applications on top

of using dedicated radio network. Mr Adam Wong added that public mobile service coverage in Hong Kong would be good enough to support territory-wide smart grid applications, thus reducing the need of spectrum for dedicated network. Ir W Y Chu responded that they would consider all available options and go for a cost effective solution meeting the operational requirements of their smart grid system. He said that a trial was in progress using public mobile services. Nevertheless, they once experienced insufficient coverage of public mobile services in confined areas, such as a meter room. Dr K F Tsang suggested that data aggregator might be installed at a location of building with good coverage of public mobile services. He also pointed out that there was a report of inaccurate data found in US smart grid systems and asked CLP to note the potential problem. Ir W Y Chu replied that they would learn from overseas experiences when deploying the smart grid system in Hong Kong. The trial currently under progress was meant to find out various potential problems and the future implementation would be in phases to ensure proper service delivery.

7. The Chairman asked whether CLP would make use of the exempted frequency bands of RFID and how CLP could avoid mutual interference between future smart grid system and other systems operating in the bands. Ir W Y Chu replied that the effectiveness of interference mitigation measures could only be verified on site. They would gain more experiences through future trials.

8. Mr Ken Sit enquired whether OFCA would offer any measures to facilitate or regulate implementation of smart grid system and whether CLP would specify the technical requirements of in-home display units, which had been deployed in Australia's smart grid system. The Chairman replied that OFCA would consider the spectral efficiency and electromagnetic compatibility in handling applications for radio spectrum, noting that OFCA had not yet received any application or details of the spectrum requirement for smart grid implementation. Ir W Y Chu said that they were evaluating various means, including in-home display units, to handle the data conveyed by the smart grid system, but there had not been any decision. Mr Ken Sit followed up on whether CLP would specify the technical requirements of smart grid components, drawing reference to the Australian quality control scheme. Ir W Y Chu replied that they would refer to relevant overseas standards when

devising the specifications of smart grid components.

9. Dr K F Tsang asked whether OFCA would consider allocating certain frequency bands for smart grid application without imposing any licence fee. The Chairman replied that the 920 - 925 MHz band for RFID in Hong Kong, which had been used for smart grid application elsewhere, was already licence-exempted spectrum. OFCA would consider the social implication, among others, if smart grid application required other frequency bands with existing service deployment. The Chairman thanked CLP for the informative presentation and concluded that OFCA would keep in view the development of smart grid system.

Agenda Item 3: Spectrum Release Plan for 2013 – 2015 (SSAC Paper 1/2013)

10. Mr K L Tang introduced SSAC Paper 1/2013 that covered a draft spectrum release plan for the coming three years. The status of some frequency bands listed in previous spectrum release plans had been updated but no more new spectrum was released in this round.

11. Mr Adam Wong considered that if the analogue television broadcasting switch-off ("ASO") in Hong Kong would take place in 2015, the broadcasting spectrum in the 700 – 800 MHz band (the "digital dividend") might be released for telecommunications applications. He asked about the band plan of the digital dividend. The Chairman responded that end 2015 was a target date for ASO as announced by the Government earlier. According to a country footnote in the Radio Regulations, the deployment of IMT services in the 698 – 790 MHz band in the Mainland would not start before 2015. OFCA would continue to coordinate with the Mainland regarding the use of the UHF band. If ASO took place in Hong Kong but not in the Mainland around the same time, the frequency coordination with a view to deployment of the UHF band for public mobile services in Hong Kong would be challenging. As for the band plan, OFCA would make reference to the IMT band plan devised by the Asia-Pacific Telecommunity (the "APT band plan"), in the range 703 – 748 MHz paired with 758 – 803 MHz.

12. Mr Adam Wong said that there had been keen competitive demand for spectrum suitable for broadband wireless services and asked the rationale of reserving 40 MHz spectrum for government use in the 2500 – 2690 MHz band (the "2.5 GHz band"). The Chairman said that it was necessary to assign sufficient spectrum for various government applications. He pointed out that all economies allocated certain spectrum for government use, and the overall government spectrum assigned in Hong Kong was relatively low when compared to other economies. Furthermore, the efficiency of spectrum usage by the government was subject to regular review by OFCA. In comparison, Hong Kong had released much more spectrum for public mobile service, and we were among the leading ones in terms of the amount of spectrum made available for such services.

13. Mr Adam Wong further enquired how Hong Kong might use the spectrum in the 2.5 GHz band, as offered by auction earlier and some more to be offered in the near future, in frequency division duplex mode in harmony with the Mainland's time division duplex ("TDD") systems in the same frequency band. Mr P H Ma replied that the Mainland had announced its decision to allocate the 2.5 GHz band for TDD systems only a few months earlier in September 2012 and OFCA would follow up this issue with the Mainland in due course..

14. Mr Michael Lee opined that Hong Kong would lag behind other advanced economies if the UHF band could not be released for other services after ASO. He asked whether the spectrum release plan would cover fixed link frequencies for building mobile network backhaul, for example the 60 GHz band. The Chairman replied that the frequency coordination for releasing the UHF spectrum after ASO would be difficult for Hong Kong, unlike economies like Australia or the EU which got no problem with harmonisation across borders. Mr P H Ma supplemented that the spectrum release plan only covered spectrum that was subject to competitive demand. It would be updated annually to indicate spectrum to be released by auction in the following three years. OFCA would review overseas experiences and local demand before each update of the spectrum release plan. At present, there was no competitive demand for the 60 GHz band. Dr K F Tsang opined that fixed links operating in the 60 GHz band would suffer severe path loss and therefore might serve as short links only.

15. Mr Henry Chan asked whether it would need spectrum refarming of the UHF band after ASO to relocate the channel 62 currently assigned to RTHK. The Chairman replied that re-farming of the spectrum in the UHF band would be a huge exercise that would involve many parties. The industry would be thoroughly consulted. Ms C K Chu supplemented that RTHK had been conducting trials on channel 62 and public members might receive the trial signal broadcasted from the Temple Hill transmitter station.

16. The Chairman invited comment from Members on the proposed spectrum release plan for the coming three years within two weeks, i.e. any comment should be submitted to the Secretary by 6 February 2013.

[Post meeting notes: The Secretary received the following comments on this agenda item from Mr Cyrus Lai on 14 February 2013.

SmarTone opined that (a) With the proliferation of mobile service and tremendous growth in data service, OFCA should make available more spectrum for mobile use, including for example, those reserved for government use but not fully utilized. OFCA should continue to seek for and make available frequency spectrum in according with 3GPP band plan for mobile service. (b) OFCA should take active coordination and seek to have agreement with Mainland to allow release of UHF band immediately after ASO in 2015. The preferred band plan is APT700 as it allows more bandwidth for mobile service. Up to 90MHz of spectrum can be made available and will help to sustain continuous growth of mobile service. (c) OFCA should take all possible steps to ensure the widest bandwidth is available in the UHF band for mobile service. This includes, for example, relocating the digital channel 62 now used by RTHK for DTT trial transmission. Considering the likely impact and potential benefit, we believe the benefit of making the frequency block available for mobile service far exceeds the temporary inconvenience of relocating it to other frequency range.]

Agenda Item 4: The use of white space spectrum (II) (SSAC Paper 2/2013

17. Mr K K Wong introduced SSAC Paper 2/2013 that offered updates

on the white space development in the US, the UK and Singapore.

18. There was no comment from Members on the presentation. The Chairman concluded that white space applications were still under development, and OFCA would keep in view the progress and report to Members in due course.

Agenda Item 5: Proposed technical standard for GSM-R radiocommunications equipment (SSAC Paper 3/2013)

19. Mr C H Chan introduced SSAC Paper 3/2013 that proposed a new HKCA specification for GSM-R radiocommunications equipment, which was compiled to meet the operational requirements of MTR. The GSM-R equipment would be used in the Guangzhou-Shenzhen-Hong Kong Express Rail Link

20. Dr K F Tsang asked whether the proposed technical standard would ensure the equipment performance under high speed condition of some 300 km/hr, and whether it would be in line with the standard adopted by the Mainland. Mr C H Chan replied that the proposed technical standard should have taken the speed condition into account. He said that it was based on ETSI standards, to which the relevant GB standards of the Mainland also referred.

21. Mr Ken Sit said that local certification bodies might receive test reports based on GB standards of the Mainland. There might be difficulties in verifying whether such standards were equivalent to the international standards to which HKCA specifications referred. He asked whether test reports against the GB standards of the Mainland might be taken as equivalent to those against corresponding ETSI standards. Mr W K Leung (representative of HKIE) suggested that OFCA should compile a list of equivalent GB and ETSI standards, to which HKCA specifications referred, for reference by the local certification bodies. Mr C H Chan said that relevant information could be found at webpage of the Standardization Administration of the People's Republic of China ("SAC") http://www.sac.gov.cn/. OFCA would advise local certification bodies on the equivalence of different standards as required.

22. Mr Leong Wai asked whether the proposed standard would include limits of electromagnetic immunity of the equipment, as it might be related to the product safety. Mr C H Chan replied that the proposed standard focused on control of electromagnetic emissions, in line with other HKCA specifications. He supplemented that the proposed standard made reference to HKCA 2001 for subscriber equipment and therefore covered the general safety requirements stipulated by OFCA.

23. The Chairman invited comment from Members on the proposed technical standard for GSM-R radiocommunications equipment within two weeks, i.e. any comment should be submitted to the Secretary by 6 February 2013.

Agenda Item 6: Proposal for developing HKCA specification for multi-standard radio (MSR) base station (SSAC Paper 4/2013)

24. Mr C H Chan introduced SSAC Paper 4/2013 that solicited the views of the industry on the need for a new HKCA specification for Multi-Standard Radio (MSR) base stations, which was triggered by an enquiry from an equipment supplier about the potential use of MSR equipment in Hong Kong.

25. Mr Michael Lee suggested that different configurations of the MSR base station should be considered when preparing the specification. Mr Adam Wong opined that the specification should focus on the technical limits such as transmitter power and spurious emissions, etc., with a view to minimizing interference. Mr C H Chan replied that their suggestions would be taken into account in compiling the HKCA specification.

26. Mr Y H Chan asked whether HKCA specifications were published in bilingual versions. Mr C H Chan replied that most HKCA specification got English version only.

27. The Chairman invited comment from Members on the need for the proposed HKCA specification for MSR base station within two weeks, i.e. any

comment should be submitted to the Secretary by 6 February 2013.

Agenda Item 7: Update on development of IEEE 802.11ac WLAN standard (SSAC Paper 5/2013)

28. Mr Warren Kwok introduced SSAC Paper 5/2013 that informed Members on the development of a new IEEE 802.11ac standard for wireless local area network (WLAN), which was still under development but expected to be ratified by end 2013. Preliminarily, the scope of the existing HKCA 1039 specification "Performance Specification for radiocommunications apparatus operating in the 2.4 GHz or 5 GHz band and employing frequency hopping or digital modulation" already covered the new IEEE 802.11ac standard.

29. Mr Brian Cheng pointed out that newer types of wireless routers were often marketed as being more penetrative and having wider coverage. He asked whether the radiation limit was considered in the HKCA specification. Mr Warren Kwok replied that the new IEEE 802.11ac adopted wider channel bandwidths to achieve higher throughputs. There was no change in transmitted power levels, which would remain the same as the current IEEE 802.11 WLAN standards, so that HKCA 1039 would still be applicable. The Chairman concluded that there was no new regulatory requirement for the use of IEEE 802.11ac products.

Agenda Item 8: Any Other Business

30. There being no other business, the meeting was adjourned at 16:45 p.m.

Office of the Communications Authority
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