

RADIO SPECTRUM AND TECHNICAL STANDARDS
ADVISORY COMMITTEE

Minutes of the Sixteenth Meeting
held at 2:30 p.m., Thursday, 13 December 2017
in Conference Room 2020, Wu Chung House, Wanchai

Present

Mr C K Cheng	Chairman (OFCA staff)
Mr Desmond Chan	Representative of WTT HK Limited
Ms Diana Chan	Representative of the Hong Kong Police Force
Mr Henry Chan	Representative of Hutchison Telephone Company Limited /Genius Brand Limited
Mr Eric Chau	Representative of licensees not providing domestic retail fixed services as a group
Mr Brian Cheng	Representative of Consumer Council
Mr Alan Choi	Representative of Hong Kong Cable Television Limited / Fantastic Television Limited
Ms C K Chu	Representative of Radio Television Hong Kong
Mr Carlson Chu	Representative of PCCW Media Limited / HK Television Entertainment Limited
Mr H M Ho	Ad Personam
Mr Joseph Ho	Representative of Civil Aviation Department
Mr H C Hung	Representative of licensees not providing domestic retail fixed services as a group
Mr S H Hung	Representative of amateur radio societies as a group
Mr S M Ko	Representative of Metro Broadcast Corporation 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 Tony 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 Simon Leung	Representative of Hong Kong Mobile Television Network Limited
Ms C Y Lo	Representative of Hong Kong Broadband Network Limited / HKBN Enterprise Solutions Limited

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 Mike Pan	Representative of China Mobile Hong Kong Company Limited
Mr Michael Shiu	Representative of Hutchison Global Communications Limited
Mr Jing Su	Representative of APT Satellite Company Limited
Mr Raymond Tang	Representative of external FTNS/ fixed carrier licensees/ unified carrier (external fixed services) licensees as a group
Ir Angel Wong	Representative of Hong Kong Productivity Council
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 Man Yuen	Representative of Television Broadcasts Limited
Ms Rui Zhang	Representative of Asia Satellite Telecommunications Company 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 M K Li	Representative of local certification bodies as a group
Mr C T Wong	Representative of services-based operators (MVNO and ETS operators only) as a group
Dr S M Wong	Representative of Independent Commission Against Corruption

In Attendance

Mr C H Chan	OFCA staff
Mr Warren Kwok	OFCA staff
Ms Yvonne Lee	OFCA staff
Mr P H Ma	OFCA staff
Mr Francis Soo	OFCA staff

Observer

Mr Y H Chan	Representative of Asia Satellite Telecommunications Company Limited
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Mr K L Ho	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
Ms Katherine Kwan	Representative of Hong Kong Telecommunications (HKT) Limited / PCCW-HKT Telephone Limited and Hong Kong Telecommunications (HKT) Limited
Mr Simon Kwok	Representative of SmarTone Communications Limited / SmarTone Mobile Communications Limited
Mr Richard Li	Representative of APT Satellite Company Limited
Dr K F Tsang	Representative of the Institution of Engineering and Technology Hong Kong
Mr K H Yip	Representative of licensees not providing domestic retail fixed services as a group

Agenda Item 1: Matters Arising from the Previous Meeting

Item 4 of the 15th SSAC Meeting (Proposed Revision to HKCA 1065 Performance Specification for Multi-Standard Radio (MSR) Base Station)

1. The Secretary reported that after the last SSAC meeting, OFCA had not received comments from Members on the draft revised specification HKCA 1065. Accordingly, the revised HKCA 1065 was adopted and posted on OFCA's website in September 2017.

Agenda Item 2: Compatibility between Intelligent Transport System and Fixed-Satellite Service in the 5.9 GHz Band : Presentation by Hong Kong Telecommunications (HKT) Limited ("HKT")

2. Mr K L Ho shared with Members information on experience and practices in Australia, Canada, Europe, New Zealand, Singapore and the United States in relation to the co-existence between Intelligent Transport Systems ("ITS") and uplink earth stations in the fixed-satellite service ("FSS") in the frequency band 5850 – 5925 MHz ("the 5.9 GHz band"). It included information on the ITS frequency allocations, the results of compatibility studies between ITS and FSS in the 5.9 GHz band, and the spectrum management policies and regulations in these countries/region.

3. Ms Vicky Wong said that in those countries/region covered in HKT's presentation, C-band (embracing the 5.9 GHz band) was not widely used for satellite services. On the contrary, in the Asia-Pacific region, C-band was much

more heavily used in this regard. In particular, for satellite news gathering systems using FSS, mobility nature of the system deployment would further complicated the matter. She concluded that the sharing scenarios for the countries/region introduced by HKT might not be representative cases in the Asia-Pacific region.

4. Mr Jing Su added that C-band was basically not used for satellite services in Australia whereas in the United States C-band was mainly used in large earth stations, thus facilitating 5.9 GHz ITS deployments in these countries. In this regard, the situation in Hong Kong was very different. C-band was also used for the essential functions of telemetry, tracking and control (“TT&C”) of satellites in Hong Kong. In addition to station keeping of satellites, TT&C functions were particularly important during satellite launching and drifting phases. Interruption to the communications between the satellite and the TT&C earth station might result in serious consequence. During emergency where a satellite encountered problems that risked loss control, the TT&C earth station would need to transmit in higher power in order to re-gain the control. In view of these factors, the specific situation in Hong Kong would need to be addressed.

5. Mr K L Ho said that the Government stance was important for the deployment of 5.9 GHz ITS in Hong Kong. Regarding compatibility between ITS and FSS in the 5.9 GHz band, Dr K F Tsang suggested that the concerned parties might consider releasing key parameters of the relevant systems so that link budget calculations might be performed to assess the specific situation in Hong Kong.

6. The Chairman said that the discussion was a follow-up of the deliberation of SSAC Paper No. 2/2017¹ of the last SSAC meeting. However, whether the 5.9 GHz band would be used for ITS or other mobile applications had yet to be decided. Nonetheless, use of ITS applications on vehicles would fall under the ambit of the Transport Department. He noted that some economies had already been making active preparation for early introduction of ITS while the International Telecommunication Union (“ITU”) was still studying the matter. OFCA would take into account members’ views before making recommendation to the Communications Authority on the proposed frequency allocation of the 5.9 GHz band.

¹ Entitled “Proposed Allocation of the 5850 – 5925 MHz Band to the Mobile Service”.

Agenda Item 3: Proposed Spectrum Release Plan for 2018-2020 (SSAC Paper 5/2017)

7. Mr C H Chan introduced [SSAC Paper 5/2017](#) that proposed updates on the Spectrum Release Plan (“SRP”) for its coming release that covered the period 2018-2020. There was new spectrum in the 24.25 – 27.5 GHz band (“the 26 GHz band”), the 27.5 – 28.35 GHz band (“the 28 GHz band”) and the 3.4 – 3.6 GHz band (“the 3.5 GHz band”) which might be released in the coming three years. In addition, after conducting two rounds of public consultation, the CA would soon promulgate its decisions on re-assignment of spectrum in the frequency ranges 890 – 915 MHz paired with 935 – 960 MHz and 1710 – 1785 MHz paired with 1805 – 1880 MHz after the existing assignment for public mobile telecommunications services expired in 2020/21.

[Post meeting note: According to the decision of the CA promulgated on 19 December 2017,² right of first refusal for 80 MHz of spectrum in the frequency bands 1720 – 1730 MHz, 1740 – 1770 MHz, 1815 – 1825 MHz and 1835 – 1865 MHz would be offered to the incumbent spectrum assignees administratively in the second half of 2018, while an auction of the remaining spectrum (together with any spectrum that may become available due to the decision of any incumbent spectrum assignee not to exercise their right of first refusal to take up the relevant spectrum) would be conducted around end 2018.]

8. Ms Rui Zhang said that Asia Satellite Telecommunications Company Limited (“AsiaSat”) had several geostationary orbit (“GSO”) satellites that carried FSS payload in Ka-band (uplink 27 – 31 GHz and downlink 17.7 – 21.2 GHz). Due to the ITU coordination requirements on GSO and non-geostationary orbit satellite systems operating in the 28.6 – 29.5 GHz band, there would likely be restrictions imposed on the operation of the said GSO satellites of AsiaSat in the relevant bands. As such, consideration should first be given to the use of spectrum in the 27 – 28.6 GHz and 29.5 – 31 GHz bands by the said satellites of AsiaSat. Among these two bands, the 27 – 28.6 GHz band overlapped with the 26 GHz and 28 GHz bands as covered in the proposed SRP. There was concern on the co-existence between mobile services in the 26 GHz and 28 GHz bands and satellite services in Ka-band. Ms Rui Zhang pointed out that the 28 GHz band was not a candidate frequency band as identified by ITU for International Mobile Telecommunications (“IMT”). She hoped that OFCA would take into account the requirements of the satellite industry when considering the allocation of the 26 GHz and the 28 GHz bands to IMT services.

² See https://www.coms-auth.hk/filemanager/statement/en/upload/429/ca_statements20171219_en.pdf

9. Mr Jing Su said that APT Satellite Company Limited was planning to launch three satellites carrying Ka-band payload in 2018-2020. These satellite designs had been completed and change of design at this stage was not possible. Mr Jing Su said that although, according to OFCA's record, there was no earth station in operation in the 26 GHz and 28 GHz bands in Hong Kong, there were in-orbit satellites carrying Ka-band payload in operation. He opined that the availability of Ka-band for satellite services was becoming more and more important and that such spectrum availability would be a key to maintain Hong Kong as a regional telecommunications hub.

10. Mr Y H Chan said that the 24.65 – 25.25 GHz band, within the 26 GHz band covered in the SRP, was an important frequency band planned for feeder links of the broadcasting-satellite service. The industry might lose a valuable frequency band for satellite development if the 26 GHz band was allocated for mobile services. Regarding the 28 GHz band covered in the SRP, Mr Y H Chan pointed out that, as this band was not a candidate band identified by ITU for IMT, ITU would not conduct study on the compatibility between FSS and mobile services in this band. Mr Y H Chan said that C-band and Ku-band had been used extensively for satellite services and Ka-band would also be widely deployed in the coming years as per worldwide development trend. In conclusion, Mr Y H Chan expressed great concern on putting the 26 GHz, 28 GHz and 3.5 GHz bands in the SRP.

11. The Secretary said that compatibility between FSS and mobile services in the 3.5 GHz band was being widely studied internationally. As for the 26 GHz and 28 GHz bands, vendors had been actively developing chipsets for use in IMT equipment operating in these bands. Concerning the compatibility between FSS and mobile services in the 28 GHz band, the Secretary said that the results of the relevant studies for the 26 GHz band underway in ITU might provide useful reference for the 28 GHz band as the two bands were spectrally close. The Chairman explained that the purpose of the SRP was to give information to the industry on the potential availability of spectrum to be released. Whether all or part of the spectrum in the specified frequency bands could be released had not yet been determined. The Chairman added that the CA would take into account international/regional development and views of the industry when considering the release of spectrum for mobile services. He invited Members to provide comments on the proposed SRP for 2018-2020 by 2 January 2018.

12. The Chairman said that OFCA issued a document on 7 December 2017 inviting industry players to express interest in using the 26 GHz and 28 GHz bands for the provision of fifth generation mobile services. Interested parties should make submission to OFCA before the deadline for responses on 18 January 2018.

Agenda Item 4: Update on Testing Requirements under the APEC Mutual Recognition Arrangement for Conformity Assessment of Telecommunications Equipment (SSAC Paper 6/2017)

13. Mr Warren Kwok introduced [SSAC Paper 6/2017](#) that provided updates on the testing requirements under the “APEC Mutual Recognition Arrangement for Conformity Assessment of Telecommunications Equipment” (“APEC Tel MRA”). Adopted in July 1999, APEC Tel MRA was essentially a voluntary multilateral agreement among APEC economies to streamline conformity assessment of telecommunications equipment by avoiding duplicative testing and certification. Hong Kong, China had participated in APEC Tel MRA since its inauguration in July 1999.

14. In relation to the mutual recognition arrangement between Hong Kong, China and the United States, eight conformity assessment bodies (“CABs”) in Hong Kong were recognised by the Federal Communications Commission (“FCC”) to conduct EMC and RF testing to FCC’s technical regulations. In June 2016, the FCC promulgated the publication Knowledge Database 974614 (“KDB 974614”) entitled “Accredited Testing Laboratory Program – Roles and Responsibilities” which updated the recognition requirements of CABs along with new testing standards. KDB 974614 required, among others, that the accreditation of CABs should cover full scope of testing for their respective FCC scopes and that partial scope of testing would not be recognised after 13 July 2017. Some CABs in Hong Kong were affected by the full scope requirement and they were working towards maintaining their recognition status under the new requirements. OFCA would continue to coordinate with the Hong Kong Accreditation Service and the FCC in facilitating these CABs in meeting the KDB 974614 requirements.

Agenda Item 5: Proposed Allocation of the 401 – 402 MHz and 405 – 406 MHz Bands to Mobile Service on a Secondary Basis (SSAC Paper 7/2017)

15. Mr Francis Soo introduced [SSAC Paper 7/2017](#) that proposed the allocation of the 401 – 402 MHz and 405 – 406 MHz bands to the mobile service on the secondary basis to facilitate the introduction of Medical Data

Service (“MEDS”) systems to Hong Kong. There was no comment received from members at the meeting.

16. The Chairman invited Members to provide comments on the proposed allocation, if any, by 2 January 2018.

Agenda Item 6: Any Other Business

Radio Spectrum Allocation for Short Range Devices (“SRDs”) in the Sub-1 GHz Band : Presentation by HKT

17. Ms Katherine Kwan shared with Members information on spectrum allocation for SRDs in sub-1 GHz band. The presentation covered the European harmonisation of the 800 MHz and 900 MHz bands for SRDs, proposed use of SRDs operating in these frequency bands for Internet of Things (“IoT”) applications by some industry alliances including the Zigbee Alliance and the Z-Wave Alliance, and the harmonised use of the 900 MHz band for SRDs in the Asia-Pacific region.

18. In reply to Dr K F Tsang’s enquiry, Ms Katherine Kwan said that the proposed use of sub-1 GHz band for SRDs was not intended to replace the 2.4 GHz band advocated by industry players such as the Zigbee Alliance for similar applications, but aimed to explore opening up new frequency bands instead. SRDs operating in sub-1 GHz band were of low transmitting power so as to facilitate their co-existence. HKT did not have preference for any of the industry standards for sub-1 GHz SRDs. In reply to Mr P H Ma’s enquiry, Ms Katherine Kwan said that SRDs could be consumer-type products that might be acquired by the users, not necessarily provided by network operators.

19. The Secretary pointed out that in Hong Kong the 919.5 – 920 MHz band was a licence-exempted band which could readily be used by SRDs. This licence-exempted band could accommodate the frequency 919.8 MHz which, according to information of the Z-Wave Alliance, was used by Z-Wave for its products targeting Hong Kong and Australia. In Europe, 919.8 MHz was also within the frequency band designated for use by SRDs. In other words, Z-Wave devices operating at 919.8 MHz could be used in Europe as well. In reply to Mr P H Ma’s enquiry, Ms Katherine Kwan said that under the Z-Wave frequency coverage, three operating frequencies had been identified for a few countries which might give the vendors more flexibility. However, most countries had less than three Z-Wave frequencies identified.

20. Dr K F Tsang asked the utilisation of the 915 – 921 MHz band.

[Post-meeting note: The 919.5 – 920 MHz and 920 – 925 MHz bands were licence-exempted bands covered in the Telecommunications (Telecommunications Apparatus) (Exemption from Licensing) Order (Cap 106Z). As for 915 – 919.5 MHz band, under the Hong Kong frequency allocation, this band was allocated to the mobile service and part of this band was in use currently.]

21. There being no other business, the meeting was adjourned at 4:35 p.m.

**Office of the Communications Authority
February 2018**