

RADIO SPECTRUM AND TECHNICAL STANDARDS
ADVISORY COMMITTEE

Minutes of the Twenty-third Meeting
held at 2:30 p.m., Tuesday, 27 October 2020
in Conference Room 2020, Wu Chung House, Wan Chai

Present in person

Mr C K Cheng	Chairman (OFCA staff)
Mr Desmond Chan	Representative of Hong Kong Broadband Network Limited / HKBN Enterprise Solutions Limited
Mr S P Chan	Ad Personam
Mr Alex Cheng	Representative of China Mobile Hong Kong Company Limited
Mr Carlson Chu	Representative of PCCW Media Limited / HK Television Entertainment Limited
Ir W Y Chu	Representative of the Hong Kong Institution of Engineers
Mr C Y Ho	Representative of Civil Aviation Department
Mr Toby Yuen	Representative of Independent Commission Against Corruption
Mr Alex Tang	Secretary (OFCA staff)

Present online

Mr Henry Chan	Representative of Hutchison Telephone Company Limited / Genius Brand Limited
Mr Samuel Chau	Representative of ComNet Telecom (HK) Limited
Mr K K Cheung	Representative of external fixed carrier/unified carrier (external fixed services) licensees as a group
Mr H C Hung	Representative of carrier licensees not providing domestic retail fixed services as a group
Mr S M Ko	Representative of Metro Broadcast Corporation Limited
Mr Allan Kwan	Representative of PCCW Media Limited / HK Television Entertainment Limited
Mr Voller Lam	Representative of HGC Global Communications Limited
Mr W T Lam	Representative of Hong Kong Productivity Council
Mr Dennis Lau	Representative of SmarTone Communications Limited / SmarTone Mobile Communications Limited
Mr K H Lau	Representative of Civil Aviation Department
Mr Henry Lee	Representative of 21 ViaNet Group Limited
Mr Larry Lee	Representative of Hong Kong Cable Television Limited / Fantastic Television Limited

Dr Tony Lee	Representative of the Institution of Engineering and Technology Hong Kong
Mr Gary Li	Representative of local certification bodies as a group
Mr Keith Li	Representative of local industry associations as a group
Dr Keith Kwok	Representative of Consumer Council
Mr George Mak	Representative of Consumer Council
Mr Silas Ng	Representative of services-based operators (MVNO and ETS operators only) licensees as a group
Mr Jordan Ngan	Representative of Radio Television Hong Kong
Mr W K Shiu	Representative of the Hong Kong Police Force
Mr S M Shuen	Representative of Hong Kong Telecommunications (HKT) Limited / PCCW-HKT Telephone Limited and Hong Kong Telecommunications (HKT) Limited / PCCW Global (HK) Limited
Mr Jing Su	Representative of APT Satellite Company Limited (APT)
Dr K F Tsang	Representative of the Institution of Engineering and Technology Hong Kong
Mr Henry Wang	Representative of Localised Wireless Broadband Service (LWBS) / Public Radiocommunications Service (PRS) / Wireless Internet of Things (WIoT) licensees as a group
Ir Angel Wong	Representative of Hong Kong Productivity Council
Ms Vicky Wong	Representative of Asia Satellite Telecommunications Company Limited (AsiaSat)

Absent with Apologies

Mr Paul Lam	Representative of Hong Kong Commercial Broadcasting Company Limited
Mr Michael Lee	Representative of EU ICT Council in Hong Kong and Macau
Mr Johnny Siu	Representative of amateur radio societies as a group

In Attendance in person

Mr T S Chew	OFCA staff
Mr C H Chan	OFCA staff
Mr Ken Sit	OFCA staff
Mr Ivan Chan	OFCA staff
Mr Kenneth Cheung	OFCA staff
Mr Jack Yip	OFCA staff
Mr Charles Chow	OFCA staff

Observer in person

Dr Billy Chan	Representative of Hong Kong Applied Science and Technology Research Institute Company Limited (ASTRI)
Dr Eddy Chiu	Representative of ASTRI
Mr Vincent Hou	Representative of ASTRI
Ms Candy Ho	Representative of Transport Department (TD)
Ms Priscilla Sum	Representative of TD
Mr Michael Leung	Representative of Motor Traders Association of Hong Kong (MTAHK)

Observer online

Mr Y H Chan	Representative of AsiaSat
Mr Alvin Lee	Representative of MTAHK
Mr K H Yip	Representative of Airport Authority Hong Kong

The Chairman welcomed all members to the first meeting of the 2020 – 2022 term where 22 and 29 participants attended the meeting in person and online respectively.

Agenda Item 1: Matters Arising**Item 2 of the 22nd SSAC Meeting (Update on the Use of Sub-6 GHz Spectrum for Public Mobile Services in Hong Kong (II))**

2. The Secretary reported that a public consultation paper entitled “Arrangements for the Frequency Spectrum in the 2.5/2.6 GHz Band upon Expiry of the Existing Assignments for the Provision of Public Mobile Services and the Related Spectrum Utilisation Fee” was issued on 23 September 2020 and the deadline for submitting responses was 10 November 2020.

Item 3 of the 22nd SSAC Meeting (World Radiocommunication Conference 2019 Decisions)

3. The Secretary reported that, after the last SSAC meeting, OFCA received further comment from AsiaSat on the proposed co-primary allocation of the 5850 – 5925 MHz band to mobile services. Having considered all comments of the industry including that of AsiaSat, the Communications Authority (“CA”) approved at its meeting of September 2020 the aforesaid new allocations as proposed in the SSAC Paper 2/2020 to take effect from 1 January 2021. The new frequency allocations would be reflected in the next version of

the Hong Kong Table of Frequency Allocations (“HKTFA”) to be published in January 2021.

Item 4 of the 22nd SSAC Meeting (Proposed Allocation of the 137 – 138 MHz and 148 – 150.05 MHz Bands to the Mobile-Satellite Service)

4. The Secretary reported that OFCA had not received any comment from Members on the proposed additional allocation of the 137 – 138 MHz and 148 – 150.05 MHz bands to mobile-satellite services. Subsequently, approval had been sought to effect the said additional allocation and HKTFA was updated accordingly in April 2020.

Item 5 of the 22nd SSAC Meeting (Proposed Allocation of the 5250 – 5275 kHz Band to the Radiolocation Service)

5. The Secretary reported that OFCA had not received any comment from Members on the proposed additional secondary allocation of the 5250 – 5275 kHz band to radiolocation services. Subsequently, approval had been sought to effect the said additional allocation and HKTFA was updated accordingly in April 2020.

Agenda Item 2: Advent of Radio Local Area Network Device Operating in the 6 GHz Band (SSAC Paper 5/2020)

6. Mr Kenneth Cheung presented SSAC Paper 5/2020 concerning the proposed use of the 5.925 – 6.425 GHz (“6 GHz”) band for radio local area network (“RLAN”) devices in Hong Kong.

7. Mr Carlson Chu said that accordingly to the information of GSM Association, China might allocate the 6 GHz band to International Mobile Telecommunications (“IMT”) services. The Secretary replied that, during the World Radiocommunication Conference 2019 (“WRC-19”), China expressed interest in using the 6.425 – 7.125 GHz band for IMT services. After deliberation, WRC-19 approved a new agenda item for World Radiocommunication Conference 2023 (“WRC-23”) concerning the proposed identification of the 6.425 – 7.025 GHz and 7.025 – 7.125 GHz bands for IMT services in Region 1 and globally respectively. The 6 GHz band in question was not covered by the said WRC-23 agenda item however. The Chairman added that OFCA would clarify the matter with the Mainland if the proposal would be proceeded.

8. Mr Carlson Chu further asked whether New Radio Unlicensed (“NR-U”) for public mobile services could be deployed in the 6 GHz band, similar to Licensed Assisted Access (“LAA”) currently deployed in the 5 GHz bands. The Chairman replied that the deployment of LAA in the 5 GHz bands was approved by the CA. Similarly, notwithstanding that the 6 GHz band would be released for use of RLAN devices, separate approval of the CA would be needed before mobile network operators might deploy NR-U in the same band.

9. Ms Vicky Wong said that the 6 GHz band was allocated to fixed-satellite service (“FSS”) in the earth-to-space direction (“uplink”) on a primary basis in Hong Kong. Due to the concern on electromagnetic compatibility between RLAN devices and FSS uplinks sharing the same band, AsiaSat did not support to release the 6 GHz band to RLAN devices unless the use of such devices would neither impose additional constraints/restriction nor cause harmful interference to FSS uplinks in Hong Kong. The Chairman said that, in order to better serve the public and the industry, OFCA would make a recommendation to the CA for conducting a public consultation on the creation of a class licence for RLAN devices operating in the 6 GHz band. Similar to other class licences, RLAN devices would share the 6 GHz band with other applications in an uncoordinated manner and would not be protected from harmful interference caused by other legitimate telecommunications installations / equipment.

10. Mr Jing Su said that FSS should be protected in the 6 GHz band as APT heavily relied on the 6 GHz band to provide services. He opined that, although the European Conference of Postal and Telecommunications Administrations (“CEPT”) studies showed that sharing between RLAN devices and FSS was feasible, any different deployment conditions in Hong Kong might affect the co-existence of the two services. The Chairman said that RLAN devices would only be allowed to operate at low power level and they would unlikely cause interference to FSS uplinks which transmitted at a much higher power level. Mr Kenneth Cheung said that, in addition to the technical analysis conducted by CEPT, the Federal Communications Commission and the Office of the Communications (“Ofcom”) all confirmed that low power RLAN devices would unlikely cause interference to FSS uplinks. He added that, further to the United States and the United Kingdom, South Korea had just announced in October 2020 to release the 5.925 – 7.125 GHz band to RLAN devices for unlicensed use as well.

11. Mr Y H Chan said that Ofcom only released the 6 GHz band for low power applications and that, if the 6 GHz band would be released for high power applications for outdoor use, it might cause interference to FSS. Moreover, FSS would cause interference to drones operating in the 6 GHz band

when they passed through a main beam of FSS antenna. The Chairman said that the proposed release of the 6 GHz band for RLAN devices would be restricted to low power applications with a view to providing more wide bandwidth channels, in addition to the existing channel pool in the 2.4 GHz and 5 GHz bands for Wi-Fi, for supporting higher data rates. As RLAN devices would be operating on an uncoordinated and unprotected manner, such RLAN devices should be prepared to accept interference from other legitimate telecommunications installations / equipment.

12. In response to Mr C Y Ho's question, the Chairman said that the 6.425 – 7.025 GHz band had yet to be identified by the International Telecommunication Union as a harmonised IMT band. OFCA would keep monitoring the deliberations in WRC-23 with a view to timely recommending to the CA to release the newly identified IMT bands, if any, to the market.

13. The Chairman invited Members to offer further comments on the proposed use of RLAN devices in the 6 GHz band, if any, by 10 November 2020.

Agenda Item 3: Proposed Revision to HKCA 2001 Compliance Test Specification for Safety and Electrical Protection Requirements for Subscriber Telecommunications Equipment (SSAC Paper 6/2020)

14. Mr Jack Yip presented SSAC Paper 6/2020 concerning a revision to HKCA 2001 specification to align with the worldwide development of international standards and best practice.

15. The Chairman said that the SSAC meeting held in 2018 had foreshadowed the need for replacement of IEC 60950-1 by IEC 62368-1 in HKCA 2001 in respect of the electrical safety requirements for audio/video, information and communication technology equipment. While HKCA 2001 covered both electrical and radiation safety for subscriber telecommunications equipment, this SSAC paper proposed to adopt the revised HKCA 2001 for updating the electrical safety requirements with effect from 20 December 2020. As for the radiation safety requirements, OFCA would keep monitoring the international development on the relevant standards with a view to updating HKCA 2001 again in due course.

16. In response to Mr George Mak's suggestion, Mr C H Chan said that OFCA would study the applicable scope of IEC 62133-2 and compare it with the existing UL 1462, a standard under reference in HKCA 2001 for the electrical safety requirements of lithium batteries. The Chairman said that the

Government had conducted a public consultation on the review of telecommunications regulatory framework from November 2018 to February 2019 with a view to introducing a bill to amend the Telecommunications Ordinance (Cap. 106) for deliberation in the Legislative Council, which might affect the future scope of HKCA 2001 on safety requirements for telecommunications apparatus.

17. The Chairman invited Members to offer further comments on the proposed revision to HKCA 2001, if any, by 10 November 2020.

Agenda Item 4: Brief on Radio Technologies and Standards for Intelligent Transport Systems (ITS) Operating in the 5850 – 5925 MHz Band (SSAC Paper 7/2020)

18. Mr Charles Chow presented SSAC Paper 7/2020 concerning the radio technologies and standards for Intelligent Transport Systems (“ITS”) operating in the 5850 – 5925 MHz band. Dr Billy Chan of ASTRI gave a presentation on the cellular vehicle-to-everything (“C-V2X”) technology and the trials conducted by ASTRI.

19. The Chairman said that, with the CA’s delegation, OFCA was responsible for spectrum management and licensing of telecommunications apparatus. In this regard, OFCA had been closely liaised with the Transport Department (“TD”) to facilitate its plan for the introduction of ITS into Hong Kong. Ms Candy Ho supplemented that C-V2X (an application of ITS) was one of the key smart mobility initiatives being pursued by TD as mentioned in the Hong Kong Smart City Blueprint and that C-V2X would not only improve road safety but also facilitate the development of connected autonomous vehicles. Ms Candy Ho said that C-V2X was a new technology and that TD was collaborating with ASTRI for conducting a trial in Shatin in 2021 to gather more experience with a view to facilitating its planning of ITS deployment in Hong Kong.

20. The Chairman said that OFCA was not aware of any ITS on-board unit (“OBU”) pre-installed in vehicles at the moment and invited MTAHK to share information in this regard. Mr Michael Leung advised that the idea of incorporating OBUs into vehicles received positive feedback from MTAHK members and that technical trials of OBUs had been conducted by some vehicle manufacturers but the timetable of their formal implementation was not available yet. The Chairman invited MTAHK to keep OFCA informed on OBU development in the future.

21. In response to Dr KF Tsang's question, Dr Billy Chan said that the latency and performance requirements of their C-V2X under trials would be better than those specified in the 3GPP specification, and there should be no privacy issue since all data transmissions could be encrypted and only test vehicles would be involved in the ASTRI's trials.

22. Mr Jing Su said that ITS should neither claim protection from nor cause harmful interference to FSS. Ms Vicky Wong said that AsiaSat did not support to the release the 5850 – 5925 MHz band for ITS unless the use of ITS would neither impose additional constraints/restriction nor cause harmful interference to earth stations in Hong Kong. Mr Y H Chan opined that the actual amount of bandwidth in the 5850 – 5925 MHz band to be allocated for ITS in Hong Kong should be based on market demand. The Chairman said that AsiaSat had already raised the aforesaid concern in response to the SSAC Paper 2/2020 in respect of the co-primary allocation of 5850 – 5925 MHz band to mobile services. The CA had already considered AsiaSat's comment prior to granting approval of the relevant allocation. In general, stations of co-primary services would be protected on a first-come-first-served basis. While ITS would not cause interference to FSS uplinks due to its low transmitting power, ITS would need to accept interference from the FSS earth stations operating in the same band already in existence. Nonetheless, it would not be conducive to the efficient use of spectrum if ITS would need to accept interference from any late coming FSS earth station as well. The Chairman added that, subject to TD's plan for the introduction of ITS into Hong Kong, OFCA would recommend to the CA on the appropriate licensing regime for ITS infrastructures and the conduction of a public consultation for the creation of a class licence for OBU in due course.

23. The Chairman invited Members to offer further comments on the paper, if any, by 10 November 2020.

Agenda Item 5: Any Other Business

24. There being no other business, the meeting was adjourned at 4:40 p.m.

**Office of the Communications Authority
January 2021**