RADIO SPECTRUM AND TECHNICAL STANDARDS ADVISORY COMMITTEE

Minutes of the Seventeenth Meeting held at 2:30 p.m., Thursday, 26 April 2018 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 Alex Cheng	Representative of China Mobile Hong Kong Company Limited
Mr Ken Cheung	Representative of SmarTone Communications Limited / SmarTone Mobile Communications Limited
Mr Carlson Chu	Representative of PCCW Media Limited / HK Television Entertainment Limited
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 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
Mr Dennis Lau	Representative of SmarTone Communications Limited / SmarTone Mobile Communications 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 S Y Ngan	Representative of Radio Television Hong Kong
Mr Michael Shiu	Representative of HGC Global Communications Limited
Mr S M Shuen	Representative of Hong Kong Telecommunications (HKT) Limited / PCCW-HKT Telephone Limited and Hong Kong Telecommunications (HKT) 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
Dr S M Wong	Representative of Independent Commission Against Corruption
Ms Vicky Wong	Representative of Asia Satellite Telecommunications Company Limited
Mr Man Yuen	Representative of Television Broadcasts Limited
Ms Rui Zhang	Representative of Asia Satellite Telecommunications Company Limited
Mr Wilson Lee	Secretary (OFCA staff)

Absent with Apologies

Mr Y P Cheung	Representative of the local industry associations as a group
Mr H M Ho	Ad Personam
Ir Wilson Kwok	Representative of the Hong Kong Institution of Engineers
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 Simon Leung	Representative of Hong Kong Mobile Television Network Limited
Mr Johnny Siu	Representative of amateur radio societies as a group
Mr C T Wong	Representative of services-based operators (MVNO and ETS operators only) as a group

In Attendance

Mr L H Ting	OFCA staff
Mr Warren Kwok	OFCA staff
Mr C H Chan	OFCA staff
Mr Allen Cheong	OFCA staff
Mr Ken Sit	OFCA staff
Mr S Y Yung	OFCA staff

Observer

Ms Caitlyn Chong	Representative of licensees not providing domestic retail fixed services as a group
Ms Christine Iu	Representative of licensees not providing domestic retail fixed services as a group
Mr Patrick Lam	Representative of Hong Kong Cable Television Limited / Fantastic Television Limited

Mr K H Yip	Representative of licensees not providing domestic retail fixed services as a group
Mrs Jialin Zhao	Representative of APT Satellite Company Limited

Agenda Item 1: Matters Arising from the Previous Meeting

Item 3 of the 15th SSAC Meeting (Proposed Performance Specification, HKCA 1079, for Radio Transmitting Equipment Operating in the Frequency Band 678 – 686 MHz for the Provision of Broadcast-type Mobile Television Services Employing DVB-T2 Standard (SSAC Paper 3/2017)

1. The Secretary reported that as Hong Kong Mobile Television Network Limited had already surrendered its unified carrier licence and ceased the provision of broadcast-type mobile TV services, the HKCA 1079 specification no longer needed to be issued.

Item 3 of the 16th SSAC Meeting (Proposed Spectrum Release Plan for 2018-2020)

2. The Secretary reported that after the last SSAC meeting, OFCA had not received any comment from Members on the proposed Spectrum Release Plan ("SRP") for 2018-2020. Accordingly, the SRP for 2018-2020 was approved by the CA and posted on websites of CA and OFCA in February 2018.

Item 5 of the 16th SSAC Meeting (Proposed Allocation of the 401 – 402 MHz and 405 – 406 MHz Bands to Mobile Service on a Secondary Basis)

3. The Secretary reported that after the last SSAC meeting, OFCA had not received any comment from Members on the proposed frequency allocation. OFCA would monitor the market development and determine the way forward in due course.

Agenda Item 2: World Radiocommunication Conference 2019 (SSAC Paper 1/2018)

4. Mr Ken Sit introduced SSAC Paper 1/2018 and gave a brief account on the World Radiocommunication Conference 2019 ("WRC-19") to be held in Sharm El-Sheikh, Egypt from 28 October to 22 November 2019 and the respective agenda items ("AIs") of WRC-19.

5. The Chairman said that this was the first paper on WRC-19 tabled for SSAC. Among those WRC-19 AIs, the Chairman highlighted that the identification of frequency bands for International Mobile Telecommunications for 2020 and beyond would be highly relevant to Hong Kong. OFCA would join the Chinese delegation to attend WRC-19. OFCA would also attend WRC-19 preparatory meetings organised by the International Telecommunication Union ("ITU") and Asia-Pacific Telecommunity with a view to making better preparation in this regard. He welcomed Members to contribute inputs on the relevant WRC-19 AIs so as to facilitate OFCA's formulation of the preliminary Hong Kong positions on the respective WRC-19 AIs for further discussion in SSAC and coordination with the Mainland counterpart for attending WRC-19.

Agenda Item 3: Proposed Allocation of the 5850 – 5925 MHz Band to the Mobile Service on a Secondary Basis (SSAC Paper 2/2018)

6. Mr C H Chan introduced SSAC Paper 2/2018 that proposed the allocation of the 5850 – 5925 MHz band ("the 5.9 GHz band") to the mobile service on a secondary basis to facilitate the introduction of innovative services, such as Intelligent Transport Systems ("ITS"), in Hong Kong.

7. The Chairman said that, as discussed in the previous SSAC meetings, the 5.9 GHz band might be used for various mobile applications such as ITS and extended Wi-Fi which would be deliberated in WRC-19 and that they would likely be deployed on an uncoordinated and unprotected basis. Nonetheless, the proposed frequency allocation to mobile service would give some certainty to the industry and facilitate their planning of innovative services to be operating within this band.

8. Mr S M Shuen did not agree that, as mentioned in the captioned SSAC paper, ITS was generally not for safety applications and pointed out that ITS could be used for safety related applications. Mr Shuen added that, as the 5.9 GHz band was allocated to mobile service on a primary basis in other economies, he had reservations on the proposed allocation of the 5.9 GHz band to mobile service on a secondary basis in Hong Kong.

9. Mr L H Ting said that, as per ITU terminology, a safety service was for safeguarding human life and property, which had a narrower scope than that generally referred to by the industry. Although ITS might help enhance road safety, in any event, the authority to approve any implementation of ITS application on-board vehicles and road safety matters rested with the Transport Department. Mr Ting said that in some economies, ITS and other mobile applications were deployed in the 5.9 GHz band on an uncoordinated and

unprotected basis and they had to accept interference from fixed-satellite service ("FSS"), despite the co-primary allocation status of mobile service. This practically made no difference to the proposed secondary allocation of mobile service in Hong Kong. The proposed frequency allocation was required to clear the hurdle for introduction of innovative services so that the industry might focus on service deployment.

10 Mr Carlson Chu asked whether the 5.9 GHz band was allocated to the mobile service on a primary basis or a secondary basis in Mainland China. Mr L H Ting replied that the 5.9 GHz band was allocated to the mobile service on a co-primary basis with FSS in Mainland China. Drawing reference to the overseas practices, Mr S M Shuen counter-proposed that the 5.9 GHz band be allocated to the mobile service on a primary basis with conditions that ITS should not claim protection from FSS. The Chairman commented that this would effectively have the same effect as the proposed secondary allocation in Hong Kong.

11. Ms Rui Zhang said that the proposed secondary allocation to mobile service could alleviate the concern of satellite operators. Ms Vicky Wong added that ITU had well defined the restrictions to be imposed on a secondary service. If Mr Shuen's counter-proposal would be taken on board, the relevant conditions would need to be further studied. Ms Rui Zhang supplemented that potential interference to FSS receiving space stations from the aggregated effects of ITS transmissions in the region remained to be studied under WRC-19 AI 1.12.

12. Ms Rui Zhang said that satellite operators needed to pay spectrum utilisation fee ("SUF") for the use of the 5.9 GHz band for satellite uplinks and that the proposed use for mobile services would make this frequency band more congested. She asked how the proposed allocation would affect the need for satellite operators to pay SUF and whether ITS providers would pay SUF as well. Mr L H Ting replied that if a class licensing regime would be adopted for, among others, ITS, probably no SUF would be charged. Mr Ting said that the SUF charging scheme for administratively assigned spectrum, including the levels of SUF payable by the relevant operators, would be reviewed every five years. The Chairman added that a public consultation would likely be conducted in reviewing the SUF charging scheme.

13. Ms Rui Zhang said that flying drones might operate in the 5.9 GHz band and such drone operation might be more susceptible to interference from FSS uplinks than terrestrial mobile equipment. Ms Vicky Wong asked whether the proposed allocation to mobile service covered also aeronautical mobile. Mr L H Ting replied that the proposed allocation was intended to cover terrestrial

mobile only. Mr Jing Su said that, as there was no technical details on ITS for the time being, compatibility studies between ITS and FSS could not be done at this stage. Given that, he supported the proposed allocation to mobile service on a secondary basis.

14. The Chairman invited Members to provide comments on the proposed frequency allocation, if any, by 10 May 2018.

Agenda Item 4: Proposed Performance Specification for Short Range Devices Operating in the 4.2 – 4.8 GHz and/or 6 – 8.5 GHz Bands Employing Ultra-Wideband Technology (SSAC Paper 3/2018)

15. Mr S Y Yung introduced SSAC Paper 3/2018 concerning a new specification HKCA 1080 for short range devices ("SRDs") operating in the 4.2 – 4.8 GHz and/or 6 – 8.5 GHz bands employing ultra-wideband ("UWB") technology. In line with the arrangement for 433 MHz SRDs, it was proposed that UWB devices complying with the proposed HKCA 1080 specification would be classified under the Voluntary Certification Scheme.

16. The Chairman said that in March 2010, the former Telecommunications Authority ("former TA"), after public consultation, concluded that the use of UWB devices conforming to specified technical requirements should be allowed in Hong Kong under a class licensing regime. However, as there was no industry demand by that time, the prospective class licence was not created. In view of the recent industry request to launch UWB-enabled consumer products, on 6 April 2018, the CA issued a public consultation paper seeking comments on the proposed variation to the Class Licence for Short Range Device to cover UWB devices in addition to 433 MHz SRDs.

17. In response to Mr M K Li's question, Mr Warren Kwok said that as HKCA 1080 adopted 47 CFR Part 15, Subpart F in full, compliant UWB devices should meet all the technical requirements stipulated therein, including the applicable frequency bands for the particular types of application. Ms Rui Zhang said that UWB devices operating at -41.3 dBm/MHz level close to an earth station operating in the 3.4 – 4.2 GHz band ("C-Band") would increase the noise level of the earth station, based on the UWB trials conducted about 10 years ago. Dr Simon Wong said that he had joined the above-mentioned trials and recalled that a C-Band earth station would be affected by UWB devices only at a close proximity of some 10 meters. Ms Rui Zhang added that similar impact would be impinged on FSS downlink earth stations operating in the 4.5

– 4.8 GHz band in future. Mr Jing Su said that there was a need to protect C-band telemetry, tracking and control frequencies against out-of-band emissions from UWB devices.

18. Mr L H Ting said that the power limit of -41.3 dBm/MHz was applicable to UWB devices which employed mitigation techniques (such as detect and avoid, and low duty cycle) to minimise the risk of interference whereas UWB devices without employing mitigation techniques were required to operate at a much lower power limit of -70 dBm/MHz. Under the proposed varied class licence, UWB devices could neither cause interference to nor claim protection from other lawful telecommunications services. The proposed bands of 4.2 – 4.8 GHz and 6 – 8.5 GHz covered two mandatory channels, one in the low band and the other in the high band, as specified by the Institute of Electrical and Electronics Engineers, which should cover most UWB applications.

19. The Chairman reiterated that the former TA had already addressed the C-Band interference issues and concluded that UWB devices could be used in Hong Kong. UWB devices were currently allowed in many economies, including Europe and the United States. Ms Rui Zhang said that the 4.2 – 4.4 GHz band was being used for aeronautical radio altimeter to provide altitude estimation to assist in aircraft landing and that potential interference from UWB operations might pose a safety concern. The Chairman said that passengers should always follow flight crews' instruction on using electronic devices including radio transmitting equipment (such as UWB devices) on-board aeroplanes in order not to cause interference with the planes' electronic systems. Mr Warren Kwok added that the proposed HKCA 1080 specification made reference to a number of European harmonised standards covering UWB devices for different applications but the one covering UWB devices on board aircraft was excluded.

20. In reply to Mr Ken Cheung's question on coexistence of UWB devices and 5G systems, Mr L H Ting said that as UWB operation was deployed on a non-protected and non-interference basis, UWB devices had to accept interference from 5G services in the relevant assigned bands.

21. The Chairman welcomed Members to submit their views on the HKCA 1080 specification, if any, before the close of the public consultation, i.e. 4 May 2018.

Agenda Item 5: Any Other Business

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

Office of the Communications Authority
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