

**RADIO SPECTRUM AND TECHNICAL STANDARDS**  
**ADVISORY COMMITTEE**

**Minutes of the Twenty-first Meeting**  
**held at 2:30 p.m., Monday, 30 September 2019**  
**in Conference Room 2020, Wu Chung House, Wan Chai**

**Present**

Mr C K Cheng	Chairman (OFCA staff)
Mr Desmond Chan	Representative of Hong Kong Broadband Network Limited / HKBN Enterprise Solutions Limited
Ms Diana Chan	Representative of the Hong Kong Police Force
Mr Henry Chan	Representative of Hutchison Telephone Company Limited
Mr Alex Cheng	Representative of China Mobile Hong Kong Company Limited
Mr Sutton Cheung	Representative of the local industry associations as a group
Mr Carlson Chu	Representative of PCCW Media Limited / HK Television Entertainment Limited
Mr H M Ho	Ad Personam
Mr H C Hung	Representative of external fixed carrier / unified carrier (external fixed services) licensees as a group and carrier licensees not providing domestic retail fixed services as a group
Mr Dickson Ip	Representative of ComNet Telecom (HK) Limited
Mr Kan Kan	Representative of the Hong Kong Police Force
Mr S M Ko	Representative of Metro Broadcast Corporation Limited
Mr Garry Kum	Representative of Television Broadcasts Limited
Mr Allan Kwan	Representative of PCCW Media Limited / HK Television Entertainment Limited
Ir Wilson Kwok	Representative of the Hong Kong Institution of Engineers
Ir Ricky Kwong	Representative of the Hong Kong Institution of Engineers
Mr S H Lam	Representative of external fixed carrier / unified carrier (external fixed services) licensees as a group and carrier licensees not providing domestic retail fixed services as a group
Mr Dennis Lau	Representative of SmarTone Communications Limited / SmarTone Mobile Communications Limited
Mr Michael Lee	Representative of EU ICT Council in Hong Kong and Macau
Mr George Mak	Representative of Consumer Council
Mr S Y Ngan	Representative of Radio Television Hong Kong

Mr Jing Su	Representative of APT Satellite Company Limited
Dr K F Tsang	Representative of the Institution of Engineering and Technology Hong Kong
Ir Angel Wong	Representative of Hong Kong Productivity Council
Dr Simon Wong	Representative of Independent Commission Against Corruption
Mr Sheldon Yau	Representative of Hong Kong Telecommunications (HKT) Limited / PCCW-HKT Telephone Limited and Hong Kong Telecommunications (HKT) Limited / PCCW Global (HK) Limited / Genius Brand Limited
Mr Man Yuen	Representative of Television Broadcasts Limited
Dr Rui Zhang	Representative of Asia Satellite Telecommunications Company Limited
Mr Alex Tang	Secretary (OFCA staff)

### **Absent with Apologies**

Mr Vincent Chen	Representative of services-based operators (MVNO and ETS operators only) as a group
Mr Joseph Ho	Representative of Civil Aviation Department
Mr Paul Lam	Representative of Hong Kong Commercial Broadcasting Company Limited
Dr K C Lee	Representative of Local Certification Bodies as a group
Mr Ralph Riley	Representative of Public Radiocommunications Service (PRS) and Wireless Internet of Things (WIoT) licensees as a group
Mr Michael Shiu	Representative of HGC Global Communications Limited
Mr Johnny Siu	Representative of amateur radio societies as a group

### **In Attendance**

Mr L H Ting	OFCA staff
Mr P H Ma	OFCA staff
Mr Warren Kwok	OFCA staff
Mr C H Chan	OFCA staff
Mr Ivan Chan	OFCA staff
Mr Ken Sit	OFCA staff
Mr Gary Lam	OFCA staff
Mr Eric Wong	OFCA staff
Mr Charles Chow	OFCA staff

### **Observer**

Mr Y H Chan	Representative of Asia Satellite Telecommunications Company Limited
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Mr Eric Chau	Representative of Traxcomm Limited
Mr Ken Cheung	Representative of SmarTone Communications Limited / SmarTone Mobile Communications Limited
Mr Larry Lee	Representative of Hong Kong Cable Television Limited / Fantastic Television Limited
Mr W K Ng	Representative of Traxcomm Limited
Mr K H Yip	Representative of Airport Authority Hong Kong
Ms Jialin Zhao	Representative of APT Satellite Company Limited

### **Agenda Item 1: Matters Arising**

#### **Item 3 of the 20th SSAC Meeting (Proposed Revocation of HKCA 1063 Performance Specification for Digital Fixed Link Equipment Operating in the 26 GHz Frequency Band)**

1. The Secretary reported that, after the last SSAC meeting, OFCA had not received any comment from Members on the proposed revocation of the specification HKCA 1063 covering digital fixed link equipment operating in the 26 GHz band. Accordingly, HKCA 1063 was revoked and removed from OFCA's website.

#### **Adoption of Revised Specification HKCA 1052 covering Medical Implant Communication System ("MICS")**

2. The Secretary reported that the Communications Authority ("CA") published a consultation paper on 5 July 2019 on the proposed variation of the Class Licence for MICS Device and revision of the relevant specification HKCA 1052. Having considered the comments received by the deadline of 2 August 2019, the CA approved the variation of the Class Licence and the revision of HKCA 1052. The varied Class Licence was published in the gazette on 27 September 2019. On the same date, the varied Class Licence and the revised HKCA 1052 were posted on websites of the CA and OFCA for public access.

### **Agenda Item 2: Update on the Use of Sub-6 GHz Spectrum for Public Mobile Services in Hong Kong (SSAC Paper 4/2019)**

3. Mr Ivan Chan introduced SSAC Paper 4/2019. He gave an overview of the use of spectrum, particularly the sub-6 GHz spectrum, for public mobile services in Hong Kong, as well as local and overseas developments in respect of spectrum supply for the fifth generation mobile ("5G") services.

4. The Chairman said that, in Hong Kong, the operation mode of the 2500 – 2690 MHz band (“the 2.6 GHz band”) was mainly Frequency Division Duplex (“FDD”) which was different to that of the Mainland adopting Time Division Duplex (“TDD”). In this regard, mutual interference in the overlapped spectrum between FDD systems of Hong Kong and TDD systems of the Mainland was inevitable, notwithstanding that both sides would control the respective overspill signals to the agreed level in the boundary areas. He added that the industry would in due course be consulted on the re-assignment arrangement for the 2.6 GHz band upon expiry of the current licence term, including but not necessarily limited to reviewing the existing band plan.

5. Mr Carlson Chu asked whether the review of the 2.6 GHz band would cover the existing use of spectrum by Government in the 2575 – 2615 MHz band. Mr Sheldon Yau asked whether the future 2.6 GHz band plan would be designed for TDD entirely. The Chairman replied that OFCA was currently open-minded. In order to gather more information for further discussion in SSAC, OFCA would separately meet with the incumbent mobile network operators (“MNOs”) to solicit their views on the matter.

### **Agenda Item 3: Hong Kong’s Positions on Agenda Items for World Radiocommunication Conference 2019 (SSAC Paper 5/2019)**

6. Mr Ken Sit and Mr Gary Lam introduced SSAC Paper 5/2019, concerning Hong Kong’s positions on the agenda items (“AIs”) of the World Radiocommunication Conference 2019 (“WRC-19”).

7. Dr K F Tsang asked whether there would be compatibility problems between the proposed identification of the 27.9 – 28.2 GHz band for high-altitude platform stations (“HAPS”) by WRC-19 and the 27.5 – 28.35 GHz band (“the 28 GHz band”) designated for the provision of 5G services in Hong Kong. Mr L H Ting opined that HAPS, designed mainly for wireless broadband coverage and disaster recovery communications in remote areas, were unlikely to be deployed in Hong Kong. The Chairman added that, if the Mainland would deploy HAPS in future, there was established frequency coordination mechanism between Hong Kong and the Mainland to resolve potential interference problems associated with such use of spectrum of the two sides.

8. Dr K F Tsang asked whether WRC-19 would consider the identification of frequency bands for high throughput satellite (“HTS”) applications. Mr L H Ting said that there was no WRC-19 AI on this issue, but satellite operators had already deployed HTS applications in the 28 GHz band. The Chairman added that sharing of the said band between HTS and 5G

systems in Hong Kong should follow the requirements specified in the joint statement of the CA and the Secretary for Commerce and Economic Development entitled “Allocation of the 26 GHz and 28 GHz Bands to Mobile Service and the Associated Arrangements for Spectrum Assignment and Spectrum Utilisation Fee” issued on 13 December 2018. Mr Y H Chan pointed out that HTS could actually be achieved through re-use of frequency bands already allocated for satellite services, rather than limited to any particular new frequency allocation.

9. Dr K F Tsang asked whether there were any land mobile and fixed services applications operating in the frequency range of 275 – 450 GHz. Mr Ken Sit replied that these bands were under study by the International Telecommunication Union for future deployments.

**Agenda Item 4: Working Group on Mitigation Measures relating to the Use of the 3.4 – 3.6 GHz Band by Public Mobile Services within the Restriction Zones (II) (SSAC Paper 6/2019)**

10. Mr Ken Sit introduced SSAC Paper 6/2019 and added that, following the discussion of the subject matter on 29 August 2018 via SSAC Paper No. 5/2018, it aimed to inform Members on the deliverables of the Working Group. Members noted.

11. Mr Sheldon Yau asked whether detailed locations of the individual antennae for telemetry, tracking and control (“TT&C”) of satellites could be made available to MNOs. The Chairman said that the grid coordinates of the TT&C stations at Tai Po and Stanley were published in the “Guidelines for Installation of Radio Base Stations Operating in the 3.4 – 3.6 GHz Band within the Restriction Zones Delineated by the Communications Authority for installation of Radio Base Stations within the restriction zones”. He said that such location information would be sufficient for theoretical analysis on potential interference of 5G radio base stations (“RBS”) to TT&C stations since joint on-site tests in collaboration with the concerned satellite operators might nevertheless be required to confirm the situation.

**Agenda Item 5: Brief on Local Standards for 5G Radio Equipment Certification (SSAC Paper 7/2019)**

12. Mr Charles Chow introduced SSAC Paper 7/2019 which gave a brief overview of international 5G standardisation work and OFCA’s certification requirements for 5G radio equipment.

13. Mr Carlson Chu questioned the need of imposing a stringent spurious emission limit to below -52 dBm/MHz for certification of 5G base stations. The Chairman said that the requirement aimed to protect satellite reception in the re-allocated C-band, i.e. the 3.7 – 4.2 GHz band. Mr Warren Kwok added that the aforesaid level was an across-the-board inter-band limit on spurious emissions as adopted in the Third Generation Partnership Project specifications for the re-allocated C-band. Mr Y H Chan pointed out that the C-band was a very important frequency band for satellite services and should be protected against potential interference by spurious emissions of 5G equipment, among others.

14. Mr Carlson Chu further asked whether the World Trade Organisation (“WTO”) would need to be notified of such certification requirement. Mr L H Ting replied that WTO should be notified if available international standards were not adopted. However, given the lack of 5G international standards at this stage, OFCA would issue type acceptance criteria to cover 5G radio equipment. Under this circumstance, notification to WTO was not required.

15. Mr Dennis Lau asked whether a piece of certified equipment would need to be re-certified for the 5G air interface and whether type acceptance criteria for 5G equipment could continue to be used after type approval standards, i.e. HKCA specifications, were available. Mr L H Ting clarified that relevant 5G equipment should be certified against applicable 5G standards at the material time. The Chairman added that HKCA specifications for 5G equipment and the related issues would be discussed at SSAC before these standards would be adopted.

16. Mr Ken Cheung asked whether there were any regulations controlling interference caused by non-radiocommunications equipment. Mr L H Ting replied that the Telecommunications (Control of Interference) Regulations (Cap. 106B) (“the Regulations”) was the regulatory vehicle to control such interference. The Chairman added that unwanted emissions from apparatus like LED panel were regulated under the Regulations by adopting the relevant international standards on electromagnetic compatibility (“EMC”).

17. Mr Ken Cheung asked whether a RBS operating at higher than 100 W effective radiated power (“ERP”) would be approved if it complied with the radiation safety requirement. Mr P H Ma replied that that in addition to radiation safety, OFCA would also consider EMC requirements when processing a RBS application. The Chairman said that OFCA would be prepared to discuss with the MNOs concerned on the use of transmitting power, not necessarily be limited to 100 W ERP, for 5G RBS if they could demonstrate compliance with the CA’s requirements.

**Agenda Item 6: Any Other Business**

18. There being no other business, the meeting was adjourned at 4:45 p.m.

**Office of the Communications Authority  
November 2019**