

**RADIO SPECTRUM AND TECHNICAL STANDARDS  
ADVISORY COMMITTEE**

**World Radiocommunication Conference 2023 Decisions**

**Introduction**

This paper briefs Members on the decisions of the World Radiocommunication Conference 2023 (“WRC-23”) of the International Telecommunication Union (“ITU”).

**Background**

2. At the 27<sup>th</sup> meeting of the Radio Spectrum and Technical Standards Advisory Committee (“SSAC”) held in December 2022, Members were briefed on the scope of WRC-23. At the subsequent 28<sup>th</sup> SSAC meeting held in June 2023, Members were updated on the progress of studies conducted by the ITU Radiocommunication Sector (“ITU-R”) and Hong Kong’s positions on the relevant agenda items (“AIs”) of WRC-23.

3. WRC-23 was convened in Dubai, the United Arab Emirates, in the period from 20 November to 15 December 2023, focusing on ten main AIs. In summary, AI 1 which dealt with the review and revision of the Radio Regulations (“RR”) was split into 19 AIs (i.e. AI 1.1 to AI 1.19) covering frequency allocations to mobile, fixed, satellite, science, maritime, aeronautical and amateur services. AI 7 mainly covered coordination and use of satellite orbits. The remaining AIs (i.e. AIs 2, 3, 4, 5, 6, 8, 9 and 10) were largely related to administrative work of WRC-23 and general issues of the RR.

4. Officers of the Office of the Communications Authority (“OFCA”) joined the Chinese delegation in attending WRC-23.

**WRC-23 Decisions**

5. A summary of WRC-23 decisions on AI 1 (i.e. AI 1.1 to AI 1.19) and AI 7 (Topics A to K), as stipulated in the Provisional Final Acts of WRC-23, is

given at *Annex 1*. Those WRC-23 decisions that may involve new frequency allocations in Hong Kong are highlighted below –

- (a) *AI 1.7 – A possible new allocation to the aeronautical mobile-satellite (route) service (“AMS(R)S”) for aeronautical very high frequency communications (Earth-to-space and space-to-Earth directions) in all or part of the 117.975 – 137 MHz band*

WRC-23 decided to allocate the 117.975 – 137 MHz band to AMS(R)S on a co-primary basis with aeronautical mobile (route) service (“AM(R)S”) where the use by AM(R)S shall have priority over the use by AMS(R)S. The use of AMS(R)S is limited to non-geostationary satellite systems only.

In Hong Kong, the 117.975 – 137 MHz band is allocated to the aeronautical mobile service on a primary basis. To align with the relevant WRC-23 decision, OFCA would seek approval from the Communications Authority (“CA”) for allocation of the 117.975 – 137 MHz band to AMS(R)S on a co-primary basis accordingly subject to Members’ comment.

- (b) *AI 1.12 – A possible new secondary allocation to the Earth exploration-satellite service (“EESS”) (active) for spaceborne radar sounders within the range of frequencies around 45 MHz, taking into account the protection of incumbent services, including in adjacent bands*

WRC-23 approved a new secondary allocation of the 40 – 50 MHz band to EESS (active) globally, which is limited to the use by spaceborne radar sounders<sup>1</sup> as described in ITU-R Recommendation RS.2042.

In Hong Kong, different portions of the 40 – 50 MHz band are allocated to fixed service (“FS”), industrial, scientific and medical service (“ISMS”) and/or land mobile service. To align with the relevant WRC-23 decision, OFCA would seek the CA’s approval for allocation of the 40 – 50 MHz band to EESS (active) on a secondary basis accordingly subject to Members’ comment.

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<sup>1</sup> Spaceborne radar sounders are radar systems in space, which can locate water/ice deposits at subsurface scattering layers of the Earth using active spaceborne sensing.

- (c) *AI 1.13 – A possible upgrade of the allocation of the 14.8 – 15.35 GHz band to space research service (“SRS”)*

WRC-23 approved the upgrade of the allocation of the 14.8 – 15.35 GHz band to SRS on a primary basis globally except in some countries listed in a new RR footnote. The primary allocation of the 14.8 – 15.35 GHz band to SRS is limited to the use by satellite systems operating at a distance within  $2 \times 10^6$  km from the Earth while other use of SRS in this band would remain on a secondary basis.

In Hong Kong, the 14.8 – 15.35 GHz band is allocated to FS and mobile service (“MS”) on a primary basis. To align with the relevant WRC-23 decision, OFCA would seek the CA’s approval for allocation of the 14.8 – 15.35 GHz band to SRS on a co-primary basis accordingly subject to Members’ comment.

- (d) *AI 1.14 – Possible adjustments of the existing or new primary frequency allocations to the EESS (passive) in the 231.5 – 252 GHz band to ensure alignment with the more up-to-date requirements for remote-sensing<sup>2</sup> observation*

WRC-23 decided to allocate the 239.2 - 242.2 GHz and 244.2 – 247.2 GHz bands to EESS (passive) on a primary basis globally. In exchange for the removal of the primary allocation to FS and MS in the 239.2 - 241 GHz band, WRC-23 decided to allocate the 235 – 238 GHz band to FS and MS on a primary basis, and the operation of EESS (passive) in the 235 – 238 GHz band shall not claim protection from stations of FS and MS.

In Hong Kong, the 235 – 238 GHz, 239.2 – 242.2 GHz and 246 – 247.2 GHz are unplanned, i.e. not yet allocated to any service (“Unplanned Bands”) while the 244.2 – 246 GHz band is allocated to ISMS. To align with the relevant WRC-23 decision, OFCA would seek the CA’s approval for allocation of the 239.2 - 242.2 GHz and 244.2 – 247.2 GHz bands to EESS (passive) on a primary basis and allocation of the 235 – 238 GHz band to FS and MS on a primary basis accordingly subject to Members’ comment.

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<sup>2</sup> Remote sensing is the collection of information on an object or phenomenon from a distance without any physical contact. In the context of Earth science, space or airborne sensors are used for data acquisition and the subject of these observations are the atmosphere or the surface of land and the ocean.

- (e) *AI 1.17 – Appropriate regulatory actions for the provision of inter-satellite links in specific bands, or parts thereof, by adding an inter-satellite service (“ISS”) allocation where appropriate*

WRC-23 approved the allocation of the 18.1 – 18.6 GHz, 18.8 – 20.2 GHz and 27.5 – 30 GHz bands to ISS on a primary basis globally and limited the use of ISS in these bands to space research, space operation and/or Earth exploration-satellite applications, as well as transmission of data originating from industrial and medical activities in space.

In Hong Kong, the 18.1 – 18.6 GHz and 18.8 – 20.2 GHz bands are allocated to FS and fixed-satellite service (“FSS”) (space-to-Earth) on a primary basis while parts thereof, i.e. the 18.1 – 18.4 GHz and the 19.3 – 19.7 GHz bands are also allocated to FSS (Earth-to-space) on a co-primary basis. The 27.5 – 30 GHz band is allocated to FSS (Earth-to-space) on a primary basis while parts thereof, i.e. the 27.5 – 28.35 GHz and 29.1 – 29.25 GHz bands are also allocated to FS/MS and FS on a co-primary basis respectively. To align with the relevant WRC-23 decision, OFCA would seek the CA’s approval for allocation of the 18.1 – 18.6 GHz, 18.8 – 20.2 GHz and 27.5 – 30 GHz bands to ISS on a co-primary basis accordingly subject to Members’ comment.

## Way Forward

6. The new frequency allocations decided in WRC-23 shall enter into force on 1 January 2025. OFCA would update the “Region 3<sup>3</sup> Allocation” column in the Hong Kong Table of Frequency Allocations<sup>4</sup> in due course accordingly. *Annex 2* gives a summary of the revision to the frequency allocations in Region 3 by WRC-23.

7. OFCA would take into consideration views of Members and the concerned stakeholders and make recommendations to the CA on the allocation of the concerned bands in Hong Kong to align with the relevant WRC-23 decisions as described in paragraph 5 above.

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<sup>3</sup> The RR divides the world into three regions for the purposes of managing the global radio spectrum. Each region has its own set of frequency allocations. Region 3 comprises those Asian countries, east of and including Iran, as well as the majority of those in Oceania.

<sup>4</sup> OFCA publishes the Hong Kong Table of Frequency Allocations which provides information on frequency allocations in Region 3 and Hong Kong, as well as the existing utilisation in Hong Kong.

## **Advice Sought**

8. Members are invited to offer comments on the relevant matters of this paper.

**Office of the Communications Authority  
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