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|  | ASIA-PACIFIC TELECOMMUNITY | Document No: |
| **The 2nd Meeting of the APT Conference Preparatory Group for WRC-23 (APG23-2)** | **APG23-2/INF-03** |
| 19 – 23 April 2021, Virtual/Online Meeting | 14 March 2021 |

Chairman, DG on AI 1.14

**brief on wrc-23 agenda item 1.14**

(Note: *This brief was developed for information purpose only. It does not necessarily express the view of APG-23*)

**Agenda Item 1.14:**

*to review and consider possible adjustments of the existing or possible new primary frequency allocations to EESS (passive) in the frequency range 231.5-252 GHz, to ensure alignment with more up-to-date remote-sensing observation requirements, in accordance with Resolution* ***662 (WRC-19)****;*

**Relevant Resolutions and Responsible/Contributing ITU-R Groups**

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| RESOLUTION 662 (WRC‑19)  Review of frequency allocations for the Earth exploration-satellite service (passive) in the frequency range 231.5-252 GHz and consideration of possible adjustment according to observation requirements of passive microwave sensors | *resolves to invite the ITU-R*  1 to review the existing primary allocations to the EESS (passive) in the frequency range 231.5-252 GHz in order to analyse if these allocations are aligned with the observation requirements of passive microwave sensors;  2 to study the impact that any change to the EESS (passive) allocations in the frequency range 231.5-252 GHz might have on the other primary services in these frequency bands;  3 to study, as appropriate, possible adjustments to the EESS (passive) allocations in the frequency range 231.5-252 GHz, taking into account the results under *resolves to invite the ITU Radiocommunication Sector* 1 above,  *invites the 2023 World Radiocommunication Conference*  to review the results of these studies with a view to adjusting existing allocations or adding possible new allocations, as appropriate, to the EESS (passive) in the frequency range 231.5-252 GHz without unduly constraining the other primary services currently allocated in this frequency range,  *invites administrations*  to participate actively in the studies by submitting contributions to the ITU Radiocommunication Sector,  *instructs the Secretary-General*  to bring this Resolution to the attention of the international and regional organizations concerned. |

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| **Responsible group** | **Contributing group** |
| **WP 7C** | **WP 3J, WP 3M, WP 4A, WP 4C, WP 5A, WP 5B, WP 5C, WP 7D** |

1. **Background Information**

The scientific and technology developments for passive microwave sensor measurements have evolved over the last 20 years. WRC-2000 were agreed under the AI 1.16 to assign the frequency bands of 235-238 GHz and 250-252 GHz within the frequency range of 231.5-252 GHz for the earth exploration satellite service (EESS) (passive) for the use of passive microwave remote sensing systems. It is appropriate to ensure that the frequency allocations to the EESS (passive) agreed in 2000 correspond to up-to-date observation requirements for passive microwave sensing. Some passive sensor systems under development plan to operate on some channels in the frequency range 239-248 GHz, given the specific characteristics of this frequency band for ice‑cloud analysis. As a result, it may be necessary to consider some adjustment/extension of the EESS (passive) allocations within the frequency range 231.5-252 GHz and the effect on the other primary services in the frequency range 231.5-252 GHz would have to be studied and the EESS (passive) allocations possibly adjusted.

**Relevant ITU-R documents:**

Recommendation ITU-R RS.1861 (Typical technical and operational characteristics of Earth exploration-satellite service (passive) systems using allocations between 1.4 and 275 GHz) .

1. **Information on on-going ITU-R Study**

ITU-R Working Party (WP) 7C is responsible to study this issue under agenda item 1.14 WP 7C received several reply liaisons statements from contributing groups containing relevant technical and operating characteristics and protection criteria for other services. Contribution was received from the United States which will contribute to review the existing primary allocations to the EESS(passive) in the frequency range 231.5-252 GHz to show the allocations relative to observation requirements of passive microwave sensors. This document could lead to a future ITU-R report. Another contribution received from European Space Agency, European Organisation for the Exploitation of Meteorological Satellites (Document [7C/59](https://www.itu.int/md/meetingdoc.asp?lang=en&parent=R19-WP7C-C-0059)). This contribution provides information on the Ice Cloud Imager (ICI) instrument of the second generation of the EUMETSAT Polar System (EPS-SG)) and its relevance under WRC-23 Agenda Item 1.14 considerations.

1. **Position of the Regional Group**

* CEPT: CEPT supports in principle to cover relevant requirements of passive microwave sensor measurements within the frequency range 231.5‐252 GHz with frequency allocations to EESS (passive) without unduly constraining the other primary services currently allocated in this frequency range.
* RCC: The RCC Administrations support the development of sharing conditions for EESS (passive) systems with existing as well as future systems of active services in the frequency band 231.5-252 GHz and in the adjacent frequency bands on the basis of compatibility studies.