Document WRC-23-IRW-21/10-E
6 December 2021
English only

ITUEvents

1st ITU Inter-regional Workshop on WRC-23 preparation

13 - 15 December 2021

www.itu.int/go/ITU-R/wrc-23-irwsp-21
#ITUWRC

Session 1 - Terrestrial issues
WRC-23 agenda items 1.2 and 1.4

Mr. Stephen M. BLUST
(Chairman, WP 5D)

With acknowledgement of Mr. Michael Kraemer's assistance in preparation of this material.

WRC-23 agenda item 1.2 scope

Consider identification of the frequency bands … *{see Res. 245(WRC-19) resolves 2 below}* … for International Mobile Telecommunications (IMT), including possible additional allocations to the mobile service on a primary basis, in accordance with Resolution **245 (WRC-19)**

resolves 1

Conduct and complete in time for WRC-23 the appropriate studies of technical, operational and regulatory issues pertaining to the possible use of the terrestrial component of IMT in the frequency bands listed in resolves 2, taking into account:

- evolving needs to meet emerging demand for IMT
- technical and operational characteristics of terrestrial IMT systems that would operate in these specific frequency bands, including the evolution of IMT through advances in technology and spectrally efficient techniques
- the deployment scenarios envisaged for IMT systems and the related requirements of balanced coverage and capacity
- the needs of developing countries
- the time-frame in which spectrum would be needed

resolves 2

Conduct and complete in time for WRC-23 the sharing and compatibility studies, with a view to ensuring the protection of services to which the frequency band is allocated on a primary basis, without imposing additional regulatory or technical constraints on those services, and also, as appropriate, on services in adjacent bands, for the frequency bands:

- 3 600-3 800 MHz and 3 300-3 400 MHz (Region 2)
- 3 300-3 400 MHz (amend footnote in Region 1)
- 7 025-7 125 MHz (globally)
- 6 425-7 025 MHz (Region 1)
- 10.0-10.5 GHz (Region 2)

WRC-23 agenda item 1.2 current work status

Overall work in WP5D led by Ms Luciana CAMARGOS (lcamargos@gsma.com)

- DG 6 GHz Sharing led by Mr El Hadjar ABDOURAMANE (choco0742@live.ca)
- DG 10 GHz Sharing led by Dr Golnar KHOMAMI (golnar.khomami@team.telstra.com)
- DG 3 GHz Sharing still to be established

After finalization of the IMT deployment parameters in WP5D, as well as submission of the parameters of the other services and propagation guidance by the contributing Working Parties **by 23 July 2021**, WP5D has progressed the detailed work on sharing and compatibility studies and development of draft CPM text **at its Oct. 2021 meeting**:

- Working document on sharing and compatibility studies in the frequency band 3 300-3 800 MHz (see 5D/886 Annex 4.14)
- Working document on sharing and compatibility studies in the frequency band 6 425-7 125 MHz (see 5D/886 Annex 4.15)
- Working document for sharing and compatibility studies in the frequency band 10-10.5 GHz (see 5D/886 Annex 4.16)
- Working document towards draft CPM Text on WRC-23 agenda item 1.2 (see 5D/886 Annex 4.13)

Some key topics of ongoing work **towards the February 2022 meeting of WP5D**:

- Clarification on some of the modelling assumptions for the various studies recevied so far
- Revised and additional studies to cover further aspects of the work scope in Resolution 245
- Further consolidation of the study summaries in section 3 of the draft CPM text
- Development of the Methods and Regulatory Considerations in sections 4 and 5 of the draft CPM text

Views of the Regional Groups & Stakeholders on WRC-23 agenda item 1.2

- APT
- ASMG
- ATU
- CEPT
- CITEL
- RCC

- GSMA
- ESOA

- Other views and additional comments

WRC-23 agenda item 1.4 scope

Consider, in accordance with Resolution **247 (WRC-19)**, the use of high-altitude platform stations as IMT base stations (HIBS) in the mobile service in certain frequency bands below 2.7 GHz already identified for IMT, on a global or regional level

resolves 1

Study spectrum needs for HIBS to provide mobile connectivity in the mobile service, taking into account:

- the existing identification
- the usage and deployment scenario envisioned for HIBS as complementary for terrestrial IMT networks
- the technical and operational characteristics and requirements of HIBS

resolves 2

Conduct and complete in time for WRC-23, … , sharing and compatibility studies to ensure the protection of services, without imposing any additional constraints in their deployment, to which the frequency band is allocated on a primary basis, including other IMT uses, … , and adjacent services, as appropriate, … for:

- 694-960 MHz
- 1 710-1 885 MHz (1 710-1 815 MHz uplink only in R3)
- 2 500-2 690 MHz (2 500-2 535 MHz uplink only in R3, except 2 655-2 690 MHz in R3)

resolves 3

to study appropriate modifications to the existing footnote and associated resolution in the identification in order to facilitate the use of HIBS with the latest radio interface technologies of IMT

resolves 5

Develop ITU-R Recommendations and Reports, as appropriate

resolves 4

study the definition of HIBS, including possible modifications to the provisions of the Radio Regulations, as appropriate

WRC-23 agenda item 1.4 current work status

Overall work in WP5D led by Mr Geraldo NETO (geraldo@tmgtelecom.com)

- DG AI 1.4 Sharing led by Dr Azar ZARREBINI (azar.zarrebini@accesspartnership.com)

After finalization of the IMT deployment parameters in WP5D, as well as submission of the parameters of the other services and propagation guidance by the contributing Working Parties **by 23 July 2021**, WP5D has progressed the detailed work on sharing and compatibility studies and development of draft CPM text **at its Oct. 2021 meeting**:

- Working document on HIBS characteristics, spectrum needs and deployment scenarios (see 5D/886 Annex 4.20)
- Working document on sharing and compatibility studies on HIBS as IMT base stations (see 5D/886 Annex 4.21)
- Working document towards draft CPM Text on WRC-23 agenda item 1.4 (see 5D/886 Annex 4.19)

Some key topics of ongoing work **towards the February 2022 meeting of WP5D**:

- Clarification on some of the modelling assumptions for the various studies recevied so far
- HIBS at altitudes lower than 20 km and their possible regulatory consequences (invites 4 of Res. 247)
- Whether and how to address HIBS terminals on the ground and 2nd harmonics studies
- Development of text for sections 3, 4 and 5 of the draft CPM text

Views of the Regional Groups & Stakeholders on WRC-23 agenda item 1.4

- APT
- ASMG
- ATU
- CEPT
- CITEL
- RCC

- HAPS Alliance
- IUCAF

- Other views and additional comments

Next steps …

4-15 October 2021	**WP5D #39 meeting started substantial work on technical and regulatory studies and draft CPM text**
7-23 February 2022	WP5D #40 meeting to continue work on technical and regulatory studies and draft CPM text
19-22 April 2022	Interim meeting of WG Spectrum Aspects & WRC-23 Preparations to progress complex and urgent work on the following topics: **WRC-23 agenda items 1.1 and 1.2, and RR No. 21.5** Terms of Reference, agenda and meeting format of physical/virtual to be determined with further assessment of the global situation and practicality as more time passes – a conclusion be taken at WP5D #40 meeting.
13-24 June 2022	WP5D #41 meeting to continue work on technical and regulatory studies and draft CPM text
10-21 October 2022	WP5D #42 meeting to finalize work on technical and regulatory studies and draft CPM text
21 October 2022	CPM text deadline
27 March – 6 April 2023	CPM23-2 meeting (currently planned dates)
20 Nov. – 15. Dec. 2023	WRC-23

Depending on progress of work at WP 5D meetings #40 and #41, the possibility of correspondence group work between WP5D meetings #40, #41 and #42 needs to be considered