

ITUWORKSHOPS

1st ITU Inter-regional Workshop on WRC-19 Preparation

21 - 22 November 2017

Geneva, Switzerland

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1st ITU INTER-REGIONAL WORKSHOP ON WRC-19 PREPARATION (Geneva, 21-22 November 2017)

WRC-19 agenda item 1.13

IMT-2020 between 24.25 and 86 GHz

Cindy Cook
Chairman, TG 5/1



90th Anniversary
CCIR - ITU-R Study Groups
(1927-2017)

Organized by:





WRC-19 agenda item 1.13

to consider identification of frequency bands for the future development of International Mobile Telecommunications (IMT), including possible additional allocations to the mobile service on a primary basis, in accordance with Resolution **238 (WRC-15)**

- Resolution **238 (WRC-15)**: Studies on frequency-related matters for International Mobile Telecommunications identification including possible additional allocations to the mobile services on a primary basis in portion(s) of the frequency range between 24.25 and 86 GHz for the future development of International Mobile Telecommunications for 2020 and beyond

Responsible Group: **TG 5/1**

Involved/Contributing Groups: **WP 3J, WP3K, WP 3M, WP 4A, WP 4B, WP 4C, WP 5A, WP 5B, WP 5C, WP 5D, WP 6A, WP 7B, WP 7C, WP 7D**



Resolution 238 (WRC-15)

1 of 2

resolves to invite ITU-R

1 to conduct and complete in time for WRC-19 the appropriate studies to determine the spectrum needs for the terrestrial component of IMT in the frequency range between 24.25 GHz and 86 GHz, taking into account:

- technical and operational characteristics of terrestrial IMT systems that would operate in this frequency range, including the evolution of IMT through advances in technology and spectrally efficient techniques;
- the deployment scenarios envisaged for IMT-2020 systems and the related requirements of high data traffic such as in dense urban areas and/or in peak times;
- the needs of developing countries;
- the time-frame in which spectrum would be needed;

2 to conduct and complete in time for WRC-19 the appropriate sharing and compatibility studies 1, taking into account the protection of services to which the band is allocated on a primary basis, for the frequency bands:

- 24.25-27.5 GHz², 37-40.5 GHz, 42.5-43.5 GHz, 45.5-47 GHz, 47.2-50.2 GHz, 50.4-52.6 GHz, 66-76 GHz and 81-86 GHz, which have allocations to the mobile service on a primary basis; and
- 31.8-33.4 GHz, 40.5-42.5 GHz and 47-47.2 GHz, which may require additional allocations to the mobile service on a primary basis,



Resolution 238 (WRC-15)

2 of 2

further resolves

1 to invite CPM19-1 to define the date by which technical and operational characteristics needed for sharing and compatibility studies are to be available, to ensure that studies referred to in *resolves to invite ITU-R* can be completed in time for consideration at WRC-19;

2 to invite WRC-19 to consider, based on the results of the above studies, additional spectrum allocations to the mobile service on a primary basis and to consider identification of frequency bands for the terrestrial component of IMT; the bands to be considered being limited to part or all of the bands listed in *resolves to invite ITU-R 2*,

1 Including studies with respect to services in adjacent bands, as appropriate.

2 When conducting studies in the band 24.5-27.5 GHz, to take into account the need to ensure the protection of existing earth stations and the deployment of future receiving earth stations under the EESS (space-to-Earth) and SRS (space-to-Earth) allocation in the frequency band 25.5-27 GHz.



TG 5/1 Terms of Reference

decides

6 that **TG 5/1** is **responsible for conducting the sharing and compatibility studies**, in accordance with Resolution **238 (WRC-15)**, **based on *decides 2, 3 and 4*** above, and the **development of draft CPM text** under WRC-19 agenda item 1.13 and that it will submit such text directly to the CPM-19 process in accordance with § A1.3.1.5 of Resolution ITU-R 1-7 and Resolution ITU-R 2-7.

2 that **Working Party 5D** is to conduct and complete the studies as indicated in *resolves to invite ITU-R 1* of Resolution **238 (WRC-15)**, with regards to **spectrum needs, technical and operational characteristics including protection criteria, and deployment scenarios for the terrestrial component of IMT** by **31 March 2017** and report the results of these studies to TG 5/1;

3 that the **technical characteristics including protection criteria for existing services** allocated in, or adjacent to, the bands identified in *resolves to invite ITU-R 2* of Resolution **238 (WRC-15)** are to be provided by the **involved Working Parties** to TG 5/1 **by 31 March 2017, at the latest**;

4 that the **Working Parties of Study Group 3** are to provide the **relevant propagation models** for sharing studies for the frequency bands listed in *resolves to invite ITU-R 2* of Resolution **238 (WRC-15)** to TG 5/1 by **31 March 2017, at the latest**;



Organization of Work in TG 5/1

Sharing and compatibility studies are organized by frequency range and under the following working group structure in TG 5/1

Group	Chairman	Sub-working groups
WG 1 - CPM	Michael KRAEMER (D)	
WG 2 – 30 GHz	Geraldo NETO (B)	SWG 26 GHz – Jayne STANCAVAGE (USA) SWG 32 GHz – Hiroyuki ATARASHI (J)
WG 3 – 40/50 GHz	Yutao ZHU (CHN) Vice-Chairmen: Jennifer MANNER (USA) Steven DOIRON (UAE)	SWG 40 GHz - Steven DOIRON (UAE) SWG 50 GHz - Jennifer MANNER (USA)
WG 4 – 70/80 GHz	Rauno RUISMÄKI (FIN)	



Status of Studies

1 of 2

- Three meetings of TG 5/1 held so far where the TG:
 - Agreed on the TG 5/1 Terms of Reference, structure and work plan;
 - Reviewed technical and operational characteristics provided by expert involved working parties in accordance with the TG 5/1 Terms of Reference;
 - Reviewed sharing & compatibility studies submitted by the membership;
 - Began work on draft CPM text.
- To respond to questions regarding the received technical parameters from the contributing groups, clarifying technical information was developed and is contained in Annex 01 *“System parameters and propagation models to be used in sharing and compatibility studies”* of the TG 5/1 Chairman’s Report.



Status of Studies

2 of 2

- Sharing and compatibility studies between IMT and other services in the frequency bands under study in agenda item 1.13 have been initiated and working documents developed for each frequency range.
 - Each document contains a separate attachment with the received studies for a particular service, e.g. IMT & FSS, IMT & adjacent band passive services, etc.
 - Each attachment begins with an overview table that captures the parameters used in, and the results of, each study. These tables are to be completed at the next meeting for existing studies and be filled in going forward for each new study received.
 - The working documents reflect the Task Group's review and consideration of the input studies and thus include editor's notes for issues that require further clarification or studies.



TG 5/1 Forward Workplan

4th Meeting 17-26 January 2018	<ul style="list-style-type: none">• Drafting of CPM Text• Attempt to finalize the sharing and compatibility studies
5th Meeting 2-11 May 2018	<ul style="list-style-type: none">• Drafting of CPM Text• Finalize the sharing and compatibility studies
6th Meeting [20-29 August] 2018	<ul style="list-style-type: none">• Completion of draft CPM Text

- Every effort will need to be made to conduct and complete the technical studies, in line with the TG 5/1 Terms of Reference, over the next two meetings;
- It is expected that there will be convergence of these studies and their conclusions so that, once these are stable, overarching conclusions can be drawn;
- the Task Group can then focus on summarizing these results in the draft CPM text at its last meeting.