

ITUEvents

3rd ITU Inter-regional Workshop on WRC-19 Preparation

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**3rd ITU INTER-REGIONAL WORKSHOP
ON WRC-19 PREPARATION
(Geneva, 4-6 September 2019)**

**Science related issues
/
WRC-19 agenda items
1.2, 1.3 and 1.7**

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Organized by:





WRC-19 agenda item 1.2

to consider in-band power limits for earth stations operating in the mobile-satellite service, meteorological-satellite service and Earth exploration-satellite service in the frequency bands 401-403 MHz and 399.9-400.05 MHz, in accordance with Resolution 765 (WRC-15)

- Resolution 765 (WRC-15) – Establishment of in-band power limits for earth stations operating in mobile-satellite service, the meteorological-satellite service and the Earth exploration-satellite service in the frequency bands 401-403 MHz and 399.9-400.05 MHz.



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Methods proposed in CPM Report

399.9-400.05 MHz frequency band

Method A No change

Method B To include in RR the relevant e.i.r.p. limits provided in the CPM Report by adding a new footnote in the bands 399.9-400.03 MHz in the Table of Frequency Allocations in RR Article 5, leaving the band 400.03-400.05 MHz without e.i.r.p. limits. This method proposes a transition period up to 22 November 2024 for some systems operating in the MSS.

Method C To include in RR the relevant e.i.r.p. limits within reference bandwidth of 4 kHz and within 399.9-400.05 MHz, based on figures provided in the CPM Report by adding a new footnote in the band 399.9-400.05 MHz in the Table of Frequency Allocations in RR Article 5. This method introduces limits for the whole 399.9-400.05 MHz band without breaking it into sub-bands and also proposes a transition period until 22 November 2024 for some systems operating in the MSS.

Method D To include in RR the relevant e.i.r.p. limits provided in the CPM Report by adding a new footnote in the bands 399.9-400.02 MHz in the Table of Frequency Allocations in RR Article 5, leaving the band 400.02-400.05 MHz without e.i.r.p. limits. This method proposes a transition period up to 22 November 2029 for some systems operating in the MSS.

Some administrations are of the view that a frequency range of 30 kHz without e.i.r.p. limits would accommodate a larger telecommand bandwidth taking account of Doppler shift effects (e.g. typical link bandwidth of 9.6 kHz + Doppler shift of ± 8 kHz).



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Methods proposed in CPM Report

401-403 MHz frequency band

- Method E** To include in RR the relevant e.i.r.p. limits within reference bandwidth of 4 kHz and within 401-403 MHz, based on figures provided in the CPM Report by adding a new footnote in the band 401-403 MHz in the Table of Frequency Allocations in RR Article 5. This method introduces e.i.r.p. limits for the whole frequency band and the end of transition period, after which new regulations would apply is proposed to be set on 22 November 2024 or 2029 (date to be decided by WRC-19), depending on WRC-19 decision.
- Method F** To include in RR the relevant e.i.r.p. limits and e.i.r.p. densities provided in the CPM Report in different bands by adding a new footnote in the bands 401-403 MHz in the Table of Frequency Allocations in RR Article 5. This method proposes specific measures for Telecommand to ensure protection of EESS and MetSat.
- Method G** The proposed method is to include in the RR the relevant e.i.r.p. limits provided in the CPM Report by adding a new footnote in the band 401-403 MHz in the Table of Frequency Allocations in RR Article 5. This method contains WRC-19 Resolution (still to be developed) which provides provisions for continuation of some telecommand operations while ensuring the protection of the EESS and MetSat in these frequency bands after 1 January 2029.







WRC-19 AI 1.2 - Regional Positons

399.9-400.05 MHz frequency band

Method	 APT	 ASMG	 ATU	 CEPT	 CITEL	 RCC
A – No change			Supports			
B – e.i.r.p. limits in the bands 399.9-400.03 MHz, no limit in the band 400.03-400.05 MHz						
C – e.i.r.p. limits within reference bandwidth of 4 kHz and within the whole 399.9-400.05 MHz frequency band	Supports	Supports		Supports		Supports
D – e.i.r.p. limits in the bands 399.9-400.02 MHz, no limit in the band 400.02-400.05 MHz					In-band e.i.r.p limit in 399.9-399.99 MHz	

WRC-19 AI 1.2 - Regional Positions

401-403 MHz frequency band

Method	 APT	 ASMG	 ATU	 CEPT	 CITEL	 RCC
E– e.i.r.p. limits within reference bandwidth of 4 kHz and within the whole 401-403 MHz frequency band	Supports	Supports		Supports		Supports
F – e.i.r.p. limits and e.i.r.p. densities and specific measures to ensure protection of EESS and MetSat					In band e.i.r.p. limit in 401-403 MHz band	
G – e.i.r.p. limits and continuation of some telecommand operations while ensuring the protection of the EESS and MetSat in these frequency bands after 1 January 2029			Supports			



WRC-19 agenda item 1.3

to consider possible upgrading of the secondary allocation to the meteorological satellite service (space-to-Earth) to primary status and a possible primary allocation to the Earth exploration-satellite service (space-to-Earth) in the frequency band 460 470 MHz, in accordance with Resolution 766 (WRC 15);

- Resolution 766 (WRC 15) – Consideration of possible upgrading of the secondary allocation to the meteorological-satellite service (space-to-Earth) to primary status and a primary allocation to the Earth exploration-satellite service (space-to-Earth) in the frequency band 460 470 MHz.



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Methods proposed in CPM Report

Method A No change

Method B An upgrade of the MetSat (space-to-Earth) allocation from secondary to primary status and a primary EESS (space-to-Earth) allocation could be added in the frequency band 460 470 MHz provided that the priority of MetSat over EESS, as currently contained in the Radio Regulations, is retained and that the protection of primary services in the frequency band and in adjacent frequency bands is ensured.

In order to protect terrestrial services, pfd limits are proposed for both non-GSO and GSO MetSat/EESS satellites.

In addition, RR No. 5.290 is proposed to be suppressed since MetSat and EESS are primary services in the frequency band.







Finally, a new Resolution is proposed to provide the transitional measures for the existing MetSat/EESS frequency assignments.

Method C An upgrade of the MetSat (space-to-Earth) allocation from secondary to primary status and a primary EESS (space-to-Earth) allocation could be added in the frequency band 460 470 MHz provided that the priority of MetSat over EESS, as currently contained in the Radio Regulations, is retained and that the protection of primary services in the frequency band and in adjacent frequency bands is ensured.

A new Resolution is proposed to protect existing terrestrial services in the band 460-470 MHz by introducing regulatory provisions, including pfd limits for both non GSO and GSO MetSat/EESS satellites and also grandfathering the existing MetSat/EESS frequency assignments.

In addition, RR No. 5.290 is proposed to be suppressed since MetSat and EESS are primary services in the frequency band.

WRC-19 AI 1.3 - Regional Positions

Method	 APT	 ASMG	 ATU	 CEPT	 CITEL	 RCC
A – No change		Supports				
B – upgrade of the MetSat (S->E) and EESS (S->E) allocations from secondary to primary status. pfd limits for both non-GSO and GSO MetSat/EESS satellites and transitional measures.	No consensus				Supports	
C – upgrade of the MetSat (S->E) and EESS (S->E) allocations from secondary to primary status. New Resolution to protect existing terrestrial services, pfd limits and transitional measures.				New method aligned to method C	Supports	



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to study the spectrum needs for telemetry, tracking and command in the space operation service for non-GSO satellites with short duration missions, to assess the suitability of existing allocations to the space operation service and, if necessary, to consider new allocations, in accordance with Resolution 659 (WRC 15);

- Resolution 659 (WRC 15) – Studies to accommodate requirements in the space operation service for non-geostationary satellites with short duration missions.



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Methods proposed in CPM Report

Method A No change

Method B An allocation of 1 MHz to the SOS in the Earth-space direction, limited to non-GSO SD satellite systems, in either 403-404 MHz or 404-405 MHz, which is not subject to coordination under Section II of Article 9 of the Radio Regulations.

Method C To use the existing SOS allocation in the frequency bands 137-138 MHz for downlink and 148-149.9 MHz for uplink and to provide appropriate associated regulatory provisions in the Radio Regulations for telecommand links of non-GSO SD satellites.

WRC-19 AI 1.7 - Regional Positions

	 APT	 ASMG	 ATU	 CEPT	 CITEL	 RCC	
A – No change	<p style="text-align: center;">No consensus</p> <p style="text-align: center;">Preference of APT members for Method C</p>	Supports			Supports		
B – allocation to the SOS in the Earth-to-space direction, limited to non-GSO SD satellite systems, in either 403-404 MHz or 404-405 MHz							
C – use of the existing SOS allocation in the 137-138 MHz for downlink and 148-149.9 MHz for uplink and associated regulatory provisions .				Supports Subject to further studies	Supports		Supports + keeping 9.21 in RR No. 5.218