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| A close up of a sign  Description automatically generated | **World Radiocommunication Conference (WRC-23)Dubai, 20 November - 15 December 2023** |  |
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| PLENARY MEETING | **Document 166-E** |
|  | **30 October 2023** |
|  | **Original: English** |
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| Germany (Federal Republic of)/Austria/Belgium/Croatia (Republic of)/Spain/France/Hungary/Italy/Luxembourg/Malta/Montenegro/Norway/Netherlands (Kingdom of the)/Poland (Republic of)/Portugal/Romania/Switzerland (Confederation of) |
| PROPOSALS FOR THE WORK OF THE CONFERENCE |
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| Agenda item 10 |

10to recommend to the ITU Council items for inclusion in the agenda for the next world radiocommunication conference, and items for the preliminary agenda of future conferences, in accordance with Article 7 of the ITU Convention and Resolution **804 (Rev.WRC‑19)**,

Introduction

The following wording of the new agenda item is proposed for insertion in draft new Resolution **[MCP-A10**-**WRC-27] (WRC‑23)** on the agenda for the 2027 World Radiocommunication Conference:

1 on the basis of proposals from administrations, taking account of the results of WRC‑23 and the Report of the Conference Preparatory Meeting, and with due regard to the requirements of existing and future services in the frequency bands under consideration, to consider and take appropriate action in respect of the following items:

[…]

1.XX to consider regulatory actions to protect satellite reception from aggregate interference of fixed and mobile services in frequency bands above 30 GHz in accordance with Resolution **[MCP- A10-Table 21-2](WRC-23)**;

Note: Numbering to be corrected after finalizing the list of agenda items.

Proposals

ADD D/AUT/BEL/HRV/E/F/HNG/I/LUX/MLT/MNE/NOR/HOL/POL/POR/ROU/SUI/166/1

Draft New Resolution [MCP-A10-Table 21-2] (WRC‑23)

Protection of space stations sharing frequency in some frequency bands above 30 GHz from terrestrial stations in the fixed service or the mobile service, including IMT stations that use an array of active elements

Note: this proposal should be reviewed in relation with WRC‑23 decision in response to Document 550 (WRC‑19) including on possible follow-up actions towards WRC‑27

The World Radiocommunication Conference (Dubai, 2023),

considering

*a)* that Document 550 (WRC‑19) invited ITU‑R “*to study, as a matter of urgency, the applicability of the limit specified in No.****21.5*** *of the Radio Regulations to IMT stations that use an antenna that consists of an array of active elements, with a view to recommend ways for its possible replacement or revision for such stations, as well as any necessary updates to Table****21-2*** *related to terrestrial and space services sharing frequency bands*”;

*b)* that No. **21.5** is critical to protect satellites from aggregated interferences as explained in Recommendation ITU‑R SF.355 “*Outside its main beam the gain of a terrestrial-station antenna is largely independent of the in-beam gain. Consequently, when the satellite is not in the main beam the interference may be controlled by limiting the total power fed to the antenna rather than by limiting the e.i.r.p. The total interference entering the main beam of the satellite antenna therefore depends upon the number of terrestrial stations within the coverage area and the average of their antenna gains in the direction of the satellite*”;

*c)* that WRC‑19 identified several frequency bands above 24 GHz for International Mobile Telecommunications (IMT);

*d)* that there are deployments of fixed and mobile systems, including IMT, using an antenna that consists of an array of active elements, in bands not identified for IMT;

*e)* that the properties of higher frequency bands would better enable the use of advanced antenna systems, including multiple-input and multiple-output (MIMO) and beam-forming techniques;

*f)* the need to protect existing services and to allow for their continued development;

*g)* that, as decided by WRC‑23, No. **21.5B** applies to systems in the fixed and mobile services that use an antenna that consists of an array of active elements in the frequency band 24.45-29.5 GHz,

invites administrations

to participate actively in these ITU‑R studies and provide the technical and operational characteristics of the systems involved by submitting contributions to the ITU‑R Sector,

resolves to invite ITU‑R to conduct and complete in time for WRC‑27

appropriate technical, operational and regulatory studies in order to effectively protect space station receivers from aggregate interference of stations in the fixed and mobile services including those that use an antenna that consists of an array of active elements, in the following frequency bands:

– 40-40.5 GHz, 42.5-43.5 GHz and 43.5-47 GHz;

– 47.2-50.2 GHz;

– 50.4-52.4 GHz,

resolves to invite the 2027 World Radiocommunication Conference

to consider, based on the results of the above studies, regulatory actions, in particular update of Table **21‑2**, required for the protection of space stations above 30 GHz, in response to the studies listed in *resolves to invite ITU‑R*.

Proposals on a preliminary agenda item for WRC‑27

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| ***Subject:*** Protection of satellite reception from aggregate interference of fixed and mobile services in frequency bands above 30 GHz |
| ***Origin:*** Austria, Belgium, Croatia, France, Germany (Republic of), Hungary, Italy, Luxembourg, Malta, Montenegro, Netherlands, Norway, Poland, Portugal, Romania, Spain, Switzerland |
| ***Proposal:***to consider appropriate provisions to protect satellite reception from aggregate interference of fixed and mobile services including systems that use an antenna that consists of an array of active elements, in some frequency bands above 30 GHz in accordance with Resolution **[MCP- A10-Table 21-2](WRC-23)**. |
| ***Background/reason:***Document 550 (WRC‑19) invited ITU‑R “to study, as a matter of urgency, the applicability of the limit specified in No. **21.5** of the Radio Regulations to IMT stations that use an antenna that consists of an array of active elements, with a view to recommend ways for its possible replacement or revision for such stations, as well as any necessary updates to Table **21-2** related to terrestrial and space services sharing frequency bands.”In response to this document, CEPT proposed that WRC‑23 would insert a new provision No. **21.5B** to use TRP in the frequency band 24.45-29.5 GHz in the application of No. **21.5** to fixed and mobile service stations using AAS and to modify Table **21-2** accordingly. Due to the outstanding issues during that study cycle related to the applicable frequency bands and the inconsistency of the Table **21-2** which is limited to frequency band below 30 GHz (except 51.4-52.4 GHz, due to the new allocation decided by WRC‑19), it is necessary to consider an update of Table **21-2**. |
| ***Radiocommunication Services concerned:***Fixed-satellite, inter-satellite, mobile, mobile-satellite |
| ***Indication of possible difficulties:*** None currently identified |
| ***Previous/ongoing studies on the issue:***Studies related to Document 550 (WRC‑19) as well as studies in preparation of WRC‑19 agenda item 1.13 |
| ***Studies to be carried out by:***ITU‑R WP 4D with support of WP5D | ***with participation of:***Administrations and Sector members of ITU‑R |
| ***ITU-R Study Groups concerned:***SG 4, SG 5 |
| ***ITU resource implications, including financial implications (refer to CV 126):***This proposed agenda item will be studied within the normal ITU‑R procedures and planned budget. No extra cost is foreseen. |
| ***Common regional proposal:*** No | ***Multicountry Proposal:*** Yes***Number of countries:*** 17 |
| ***Remarks:*** None |

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