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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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|  | | **Doc. CPG(23)060 ANNEX V-13** | |
| PLENARY MEETING | | **Addendum 13 to Document XXXX-E** | |
|  | | **4 May 2023** | |
|  | | **Original: English** | |
|  | | | |
| European Common Proposals | | | |
| Proposals for the work of the conference | | | |
|  | | | |
| Agenda item 1.13 | | | |

1.13 to consider a possible upgrade of the allocation of the frequency band 14.8-15.35 GHz to the space research service, in accordance with Resolution **661 (WRC‑19)**;

Introduction

Resolution **661 (WRC-19)** *resolves to invite the ITU Radiocommunication Sector*:

1 to investigate and identify all relevant scenarios mentioned in *recognizing* *a)* to *c)* that need to be considered in compatibility and sharing studies, taking into account the latest relevant ITU Radiocommunication Sector (ITU‑R) Recommendations;

2 to conduct and complete in time for WRC‑23 sharing and compatibility studies in order to determine the feasibility of upgrading the SRS allocation to primary status in the frequency band 14.8-15.35 GHz, with a view to ensuring protection of the primary services referred to in *considering a)* and*d)* and taking into account *recognizing* *e)*;

3 to determine the technical and regulatory conditions according to the results of the studies mentioned in *resolves to invite the ITU Radiocommunication Sector*2,

During this study period, ITU-R has developed the preliminary draft new Report ITU-R SA.[15 GHZ SRS SHARING] that contains sharing and compatibility studies in order to determine the feasibility of upgrading the space research service (SRS) allocation to primary status in the frequency band 14.8-15.35 GHz, with a view of ensuring protection of the primary services.

CEPT supports modifications to the Radio Regulations towards facilitating a new upgrade of the allocation to primary status of the frequency band 14.8-15.35 GHz to SRS, while protecting the services allocated in the frequency band and in the adjacent frequency bands.

CEPT supports quoting the epfd figure, in the footnote proposed, for the protection of the radio astronomy service (RAS), taken from the reply liaison to ITU-R Working Party 7B, from ITU-R Working Party 7D, in document WP7B/062.

This European Common Proposal is derived from Method D of the CPM Report and proposes the following Regulatory measures:

* To upgrade to primary status the allocation of the frequency band 14.8-15.35 GHz for the SRS with provisions to avoid imposing constraints on existing primary services in the frequency band 14.8 15.35 GHz.
* To address the sharing and compatibility between SRS and the aeronautical mobile service (AMS). Although the upgrading of SRS allocation to primary status is proposed, the current studies of the impact of AMS on SRS earth stations lead to a large horizontal separation distance to avoid exceeding the SRS threshold which would impose constraints on the AMS systems. Therefore, modifications to the Radio Regulations (RR) are proposed with the condition that SRS shall not claim protection from AMS.
* To provide further protection to RAS.
* To avoid the usage of deep space missions in that frequency band because the impact of those missions was not studied.
* To address the possibility that SRS receivers could be impacted by fixed service (FS) transmissions, modifications to the RR are proposed with the condition that SRS shall not claim protection from FS.
* To suppress Resolution **661 (WRC-19)** because it is no longer necessary.

Proposals

ARTICLE 5

Frequency allocations

Section IV – Table of Frequency Allocations  
(See No. 2.1)

MOD EUR/XXXXA13/1

14.5-15.4 GHz

|  |  |  |
| --- | --- | --- |
| Allocation to services | | |
| Region 1 | Region 2 | Region 3 |
| 14.8-15.35 FIXED  MOBILE  SPACE RESEARCH ADD 5.A113 ADD 5.B113 ADD 5.C113   ADD 5.D113 ADD 5.E113 ADD 5.F113  5.339 | | |

ADD EUR/XXXXA13/2

5.A113 In the frequency band 14.8-15.35 GHz, the stations operated in the space research service shall not claim protection from aircraft stations in the mobile service. Nos. **5.43A** and **9.18** do not apply.     (WRC‑23)

ADD EUR/XXXXA13/3

5.B113 The power flux-density (pfd) produced by an earth station in the space research service shall not exceed −145.6 dB(W/(m2 · 1 MHz)) at the border of the territory of a neighbouring administration to protect stations operating in the aeronautical mobile service in the frequency band 14.8-15.35 GHz. No. **9.17** does not apply.     (WRC‑23)

ADD EUR/XXXXA13/4

5.C113 Harmful interference shall not be caused to stations of the radio astronomy service using the frequency band 15.35-15.40 GHz by stations of the space research service (No. **29.13** applies). The equivalent power flux-density (epfd) produced in the frequency band 15.35-15.40 GHz by all space stations of a non-GSO satellite system in the space research service (space-to-Earth) (space-to-space) operating in the frequency band 14.8-15.35 GHz shall be in compliance with the protection criteria provided in Recommendations ITU-R RA.769-2 and ITU-R RA.1513-2, using the methodology given in Recommendation ITU-R M.1583-1, and the radio astronomy antenna pattern described in Recommendation ITU-R RA.1631-0.

The power flux-density (pfd) produced in the frequency band 15.35-15.40 GHz by a space station of a GSO satellite network in the space research service (space-to-Earth) (space-to-space) operating in the frequency band 14.8-15.35 GHz shall be in compliance with the protection criteria provided in Recommendation ITU-R RA.769-2.     (WRC‑23)

ADD EUR/XXXXA13/5

5.D113 In order to protect the radio astronomy service in the frequency band 15.35-15.4 GHz a space research station operating in the Earth-to-space direction in the frequency band 14.8-15.35 GHz shall not exceed the power flux density level of −156 dB(W/m2) in a 50 MHz bandwidth in the frequency band 15.35-15.4 GHz, at any radio astronomy station observing in the frequency band 15.35-15.4 GHz for more than 2 per cent of the time.     (WRC‑23)

ADD EUR/XXXXA13/6

5.E113 The allocation of the frequency band 14.8-15.35 GHz to the space research service on a primary basis is limited to satellite systems operating in the space-to-space, space-to-Earth and Earth-to-space directions at distances from the Earth less than 2 × 106 km. Other uses of the frequency band by the space research service are on a secondary basis.     (WRC‑23)

ADD EUR/XXXXA13/7

5.F113 In the frequency band 14.8-15.35 GHz, stations in the space research service shall not claim protection from stations in the fixed service. Nos. **5.43A** and **9.18** do not apply.     (WRC-23)

ARTICLE 21

Terrestrial and space services sharing frequency bands above 1 GHz

Section V − Limits of power flux-density from space stations

MOD EUR/XXXXA13/8

TABLE **21-4**     (Rev.WRC‑23)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Frequency band | Service\* | Limit in dB(W/m2) for angles of arrival (δ) above the horizontal plane | | | | Reference bandwidth |
| 0°-5° | | 5°-25° | 25°-90° |
| … | … | | … | … | … | … |

TABLE **21-4**  (*continued*)     (Rev.WRC‑23)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Frequency band | Service\* | Limit in dB(W/m2) for angles of arrival (δ) above the horizontal plane | | | | Reference bandwidth |
| 0°-5° | 5°-25° | | 25°-90° |
| … | … | … | … | | … | … |
| 13.4-13.65 GHz (Region 1) | Fixed-satellite (space-to-Earth) (geostationary-satellite orbit) | **0°-25°** | **25°-80°** | **80°-84°** | **84°-90°** | 4 kHz |
| −159 +  0.4δ 19 | −149 19 | −149 −  0.5(δ − 80)19 | −151 19 |
| 14.8-15.35 GHz | Space research (space-to-space)  (space-to-Earth) | −145.6 | | | | 1 MHz |
| 17.7-19.3 GHz 7, 8 | Fixed-satellite  (space-to-Earth)  Meteorological-satellite  (space-to-Earth) | **0°-5°** | **5°-25°** | | **25°-90°** | 1 MHz |
| −115 14, 15  or  −115 − *X* 13 | −115 + 0.5(δ − 5) 14, 15  or  −115 − *X* + ((10 + *X* )/20)  (δ − 5) 13 | | −105 14, 15  or  −105 13 |
| −120 16 | −120 +  (8/9) (δ − 3) 16 | −112 + (7/13) (δ − 12) 16 |  |
| … | … | … | … | | … | … |

SUP EUR/XXXXA13/9

RESOLUTION 661 **(**WRC‑19**)**

Examination of a possible upgrade to primary status of the secondary allocation to the space research service in the frequency band 14.8‑15.35 GHz

**Reasons:** On the basis of the proposed upgrade of the allocation to primary status of the frequency band 14.8-15.35, additional studies are not required and therefore this Resolution can be suppressed.