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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 | | **Addendum 21 to Document 62(Add.27)-E** | |
|  | | **26 September 2023** | |
|  | | **Original: English** | |
|  | | | |
| Asia-Pacific Telecommunity Common Proposals | | | |
| PROPOSALS FOR THE WORK OF THE CONFERENCE | | | |
|  | | | |
| 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

APT Members support the inclusion of the following item in the preliminary agenda of WRC-31:

2.8 to study on possible revisions of sharing conditions in the frequency band 13.75-14 GHz to facilitate efficient use of the band by uplink FSS earth stations with smaller antenna sizes, in accordance with Resolution **[ACP-AI10-9] (WRC‑23)**;

Proposals

ADD ACP/62A27A21/1

Draft New Resolution [ACP-AI10-2] (WRC‑23)

Preliminary agenda for the 2031 World Radiocommunication Conference

The World Radiocommunication Conference (Dubai, 2023),

…

2 on the basis of proposals from administrations and the Report of the Conference Preparatory Meeting, and taking account of the results of WRC‑27, to consider the following items and take appropriate action:

…

2.8 to study on possible revisions of sharing conditions in the frequency band 13.75-14 GHz to facilitate efficient use of the band by uplink FSS earth stations with smaller antenna sizes, in accordance with Resolution **[ACP-AI10-9] (WRC‑23)**;

…

ADD ACP/62A27A21/2

Draft New Resolution [ACP-AI10-9] (WRC‑23)

Study on possible revisions of sharing conditions in the frequency band 13.75-14 GHz to facilitate efficient use of the band by uplink FSS earth stations with smaller antenna sizes

The World Radiocommunication Conference (Dubai, 2023),

considering

*a)* that WARC‑92 added an allocation to the fixed-satellite service (FSS) (Earth-to-space) in the frequency band 13.75-14 GHz;

*b)* that WRC‑03 modified Nos. **5.502** and **5.503** which, among other things, enabled the use of earth station antennas having a minimum diameter limitation of 1.2 m for geostationary (GSO) FSS networks while retaining a minimum antenna diameter of 4.5 m for non-geostationary (non-GSO) FSS systems;

*c)* that Nos. **5.502** and **5.503** contain power flux-density and e.i.r.p. and e.i.r.p. density limits to be observed by stations;

*d)* that there is great congestion in the GSO arc and there is a need to ensure that orbit and spectrum resources are used efficiently and rationally to facilitate introduction of new satellite networks, in particular those of new satellite operators;

*e)* that since WRC‑03, there has been a significant development of GSO FSS networks where smaller earth station antennas are seen increasingly used;

*f)* that there has been a significant increase of non-GSO systems operating in the frequency range 10-15 GHz for FSS with small diameter earth station antennas and the limitations imposed by Nos. **5.502** and **5.503** may not match with the characteristics of modern non-GSO FSS systems;

*g)* that the service objectives and protection requirements of the radiolocation service have not changed;

*h)* that there is a lack of uplink bandwidth in the frequency range 13-15 GHz that can be used efficiently, including by smaller earth station antennas, globally to feed the downlink capacity in the frequency range 10-13 GHz;

*i)* that this frequency band is shared with the radiolocation service under the conditions set out in No. **5.502**;

*j)* that the space research service has a secondary allocation in this band and the relevant sharing conditions are provided in No. **5.503**;

*k)* that for GSO space stations in the space research service for which information for advance publication has been received by the Bureau prior to 31 January 1992 shall operate on an equal basis with stations in the FSS; after that date, new GSO space stations in the space research service will operate on a secondary basis;

*l)* that until those GSO space stations in the space research service for which information for advance publication has been received by the Bureau prior to 31 January 1992 cease to operate in this frequency band, the frequency band 13.77-13.78 GHz is shared with the space research service under the conditions set out in No. **5.503**;

*m)* that, in some countries, the frequency band is also allocated to the fixed service and the mobile service (Nos. **5.499** and **5.500**) and to the radionavigation service (No. **5.501**);

*n)* that improving operating conditions for earth stations in the frequency band 13.75-14 GHz will help meet the evolving needs for satellite applications and enable efficient and rational use of the frequency bands in the frequency ranges 13-15 GHz (Earth-to-space) and 10-13 GHz (space-to-Earth),

recognizing

the need to afford the required protection of the radiolocation service such that the required service quality objectives are ensured,

resolves to invite ITU‑R

to conduct studies, in time for consideration by WRC‑31, without change to the level of protection afforded to the radiolocation service under the current Radio Regulations, on possible revisions to the sharing conditions in the frequency band 13.75-14 GHz to facilitate efficient use of the band by uplink GSO and non-GSO FSS earth stations with smaller antenna sizes,

invites the 2031 World Radiocommunication Conference

to consider the results of the above studies in *resolves to invite ITU‑R* and take necessary actions, as appropriate.

**Reasons:** See the following Table that has been prepared using the template given in Annex 2 to Resolution **804 (Rev.WRC-19)**.

|  |  |
| --- | --- |
| ***Subject:***Study on possible revisions of sharing conditions in the frequency band 13.75-14 GHz to facilitate efficient use of the band by uplink FSS earth stations with smaller antenna sizes. | |
| ***Origin:* APT** | |
| ***Proposal:***  To study possible revisions to the sharing conditions in the frequency band 13.75-14 GHz to facilitate efficient use of the band uplink FSS earth stations with smaller antenna sizes, in accordance with draft new Resolution **[ACP-AI10-9] (WRC‑23)** | |
| ***Background/reason:***  The fixed-satellite service (FSS) has seen a big increase in the number of geostationary (GSO) satellite networks and non-geostationary (non-GSO) satellite systems over the last decades. The use of smaller FSS earth stations at frequencies around 10-15 GHz has also been increasing with the deployment of satellites providing large throughput and broadband connections. For all three ITU‑R Regions, there is a significant mismatch between the uplink and downlink bandwidth in the frequency range 10-15 GHz, not subject to RR Appendices **30**, **30A** or **30B**, that can efficiently be used to provide services by smaller GSO and non-GSO FSS earth station antennas, e.g. HTS or broadband user terminals and news gathering etc. The frequency band 13.75-14 GHz was allocated globally by WARC‑92 for FSS, but limitations were introduced through RR Nos. **5.502** and **5.503** to enhance compatibilities with other services. WRC‑03 modified these footnotes 20 years ago, but the efficient use, including use of smaller GSO and non-GSO FSS uplink earth station antennas in this frequency band could be improved. The system characteristics and their associated usage and application requirements in this frequency band might have changed and developed over the last decades. Therefore, based on the evolving needs for the efficient use of the frequency band 13.75-14 GHz for uplink GSO and non-GSO FSS earth station antennas, identification of possible alternative sharing conditions for this band is required to meet the emerging demands for satellite applications in the FSS. | |
| ***Radiocommunication services concerned:***  The concerned radiocommunication services in the frequency band 13.75-14 GHz. | |
| ***Indication of possible difficulties:***  TBD | |
| ***Previous/ongoing studies on the issue:***  Studies during WRC‑03 study period | |
| ***Studies to be carried out by:***  ITU‑R WP 4A as responsible group | ***with the participation of:***  WP 5B, Other relevant WPs, Administrations, Sector Members |
| **ITU‑R study groups concerned:**  SG 4, SG 5, SG 7 | |
| **ITU resource implications, including financial implications (refer to CV126):**  No direct financial implications have been identified to date. | |
| **Common regional proposal:** TBD | **Multicounty proposal:** TBD  **Number of countries:** TBD |
| **Remarks** | |

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