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| **World Radiocommunication Conference (WRC-23) Dubai, 20 November - 15 December 2023** | A close up of a sign  Description automatically generated |
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|  | **19 August 2023** |
|  | **Original: English** |
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| Asia-Pacific Telecommunity Common Proposals | |
| Proposals for the work of the conference | |
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| Agenda item 10 | |

**Agenda Item 10:**

to 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)**

Resolution **804 (Rev.WRC-19)** - Principles for establishing agendas for world radiocommunication conferences

**Issue: Possible new primary allocation to the fixed-satellite service (space-to-Earth) in the frequency band 17.3-17.7 GHz and possible new primary allocation to the broadcasting-satellite service (space-to-Earth) in the frequency band 17.3-17.8 GHz in Region 3, studies on measures to protect the primary services from secondary allocation of Radiolocation in the band 17.3-17.7GHz in Region 3, and development of relevant provisions applying to non-geostationary fixed--satellite systems in the space-to-Earth direction in 17.3-17.8 GHz in all Regions**

**Proposals**

ADD ACP/xxA25A20/1

RESOLUTION [ACP/AI10\_WRC-27\_Agenda] (WRC‑23)

Agenda for the 2027 World Radiocommunication Conference

The World Radiocommunication Conference (Dubai, 2023),

…

resolves

to recommend to the Council that a WRC be held in 2027 for a maximum period of four weeks, with the following agenda:

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 the following items and take appropriate action:

….

1.x to consider possible new primary allocation to the fixed-satellite service (space-to-Earth) in the frequency band 17.3-17.7 GHz in Region 3, and possible new primary allocation to the broadcasting-satellite service (space-to-Earth) in the frequency band 17.3-17.8 GHz in Region 3, while ensuring the protection of existing primary services in the same and adjacent frequency bands; and studies on measures to protect the primary services from secondary allocation of Radiolocation in the band 17.3-17.7GHz in Region 3 with a view to develop relevant provisions applying to non-geostationary-satellite FSS systems (space-to-Earth) in 17.3-17.8 GHz in all Regions, in accordance with Resolution **[ASP/AI10\_FSS/BSS\_17 GHz] (WRC‑23)**;

ADD ACP/xxA25A20/2

RESOLUTION [ACP/AI10\_FSS/BSS\_17GHz] (WRC‑23)

**Possible new primary allocation to the fixed-satellite service (space-to-Earth) in the frequency band 17.3-17.7 GHz** **and possible new primary allocation to the broadcasting-satellite service (space-to-Earth) in the frequency band 17.3-17.8 GHz in Region 3, studies on measures to protect the primary services from secondary allocation of Radiolocation in the band 17.3-17.7GHz in Region 3, and development of relevant provisions applying to non-geostationary fixed--satellite systems in the space-to-Earth direction in 17.3-17.8 GHz in all Regions**

The World Radiocommunication Conference (Dubai, 2023),

*considering*

a) the need to encourage the development and implementation of new technologies in the fixed-satellite service (FSS) for broadband applications and the broadcasting-satellite service (BSS) for UHDTV applications;

*b)* that FSS systems based on the use of new technologies associated with geostationary and non-geostationary satellite systems are capable of providing high-capacity and low-cost means of broadband communication even to the most isolated regions of the world and BSS systems are capable of providing high-quality and low-cost means of wideband broadcasting;

*c)* that due to the orbital characteristics of non-geostationary satellite systems the constellations are capable of providing services globally, then need harmonized radio regulations;

*e)* that the Radio Regulations should enable the introduction of new applications of radiocommunication technology to ensure the operation of as many systems as possible in order to ensure efficient use of the spectrum;

*f)* that there is a mismatch of usable downlink bandwidth in FSS in Region 3 in the 17-20 GHz range associated to the uplink range of 27-30 GHz;

*g)* that in Region 3, the frequency band 17.3-18.1 GHz is allocated on a primary basis to the FSS (Earth-to-space) subject to the application of No. **5.516**,

*h)* that there is no relevant provisions applying to the non-GSO FSS in the band 17.7-17.8GHz.

*i)* that the secondary allocation of Radiolocation in the band 17.3-17.7GHz may cause unacceptable interference to BSS feeder links and BSS downlinks.

*noting*

1. that technology has been developed to provide more efficient use of the spectrum and to enable bi-directional sharing and same-directional sharing as well;
2. that bi-directional sharing between FSS (Earth-to-space) and FSS (space-to-Earth) is already considered in Regions 1 [and 2] for the frequency band 17.3-17.7 GHz;
3. that extending the FSS (space-to-Earth) allocation in 17.3-17.7 GHz and broadcasting-satellite service (BSS) (space-to-Earth) allocation in 17.3-17.8 GHz to Region 3 will contribute to global harmonization;
4. that there is no other primary service in the frequency band 17.3-17.7 GHz apart from the FSS (Earth-to-space) in Region 3;
5. that the frequency band 17.3-17.7 GHz is allocated to Radiolocation as a secondary service in all Regions including Region 3.

*resolves*

that the studies referred in *resolves to invites the ITU-R* below shall protect radiocommunication services to which the frequency band is allocated on primary basis, in particular assignments to the BSS feeder links contained in Appendix **30A**,

*resolves to invites the ITU-R to conduct and complete in time for WRC-27*

1 studies on sharing and compatibility between the FSS (space-to-Earth), BSS (space-to-Earth) and the FSS (Earth-to-space) designated by RR No. **5.516**, in order to consider a possible new primary allocation to the FSS (space-to-Earth) in the frequency band 17.3-17.7 GHz for Region 3 and BSS (space-to-Earth) in the frequency band 17.3-17.8 GHz for Region 3, while ensuring the protection of existing primary allocations in the same and adjacent frequency bands, and without adversely affecting the existing allocations to the FSS (Earth-to-space) designated by RR No. **5.516**, including assignments to the BSS feeder links contained in Appendix **30A**;

2 studies on measure to protect the primary services from the secondary allocation of Radiolocation in the band 17.3-17.7GHz in Region 3 and develop relevant provisions applicable to non-geostationary FSS-satellite systems in the space-to-Earth direction in 17.3-17.8 GHz in all Regions;

*resolves to invites the WRC-27*

to consider the results of the above ITU-R studies and take necessary actions, as appropriate, with respect to the following issues:

1 a possible new primary allocation to the FSS (space-to-Earth) in the frequency band 17.3-17.7 GHz for Region 3;

2 a possible new primary allocation to the BSS (space-to-Earth) in the frequency band 17.3-17.8 GHz for Region 3;

3 ensuring the protection of existing primary allocations in the same and adjacent frequency bands, and without adversely affecting the existing allocations to the FSS (Earth-to-space) designated by RR No. **5.516**, including assignments to the BSS feeder links contained in Appendix **30A**;

4 possible measures to protect the primary services from the secondary allocation to the Radiolocation Service in the band 17.3-17.7GHz in Region 3;

5 possible establishment of relevant provisions for applying to non-geostationary FSS-satellite systems in the space-to-Earth direction in 17.3-17.8 GHz in all Regions;

*invites administrations*

to participate actively in the studies as described in *resolves to invites the ITU-R to conduct and complete in time for WRC-27* and provide the technical and operational characteristics of the systems involved by submitting contributions to the ITU-R.

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

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| --- | --- |
| **Subject:** Consideration of a possible new primary allocation to the fixed-satellite service (space-to-Earth) in the frequency band 17.3-17.7 GHz and a possible new primary allocation to the broadcasting-satellite service (space-to-Earth) in the frequency band 17.3-17.8 GHz in Region 3, while ensuring the protection of existing primary allocations in the same and adjacent frequency bands; and studies on the measures to protect the primary services from the secondary allocation of Radiolocation in the band 17.3-17.7GHz in Region 3, and developing relevant provisions applicable to non-geostationary-satellite FSS systems (space-to-Earth) in 17.3-17.8 GHz in all Regions | |
| **Origin: APT** | |
| ***Proposal:***  *To consider a possible new primary allocation to the fixed-satellite service (space-to-Earth) in the frequency band 17.3-17.7 GHz and a possible new primary allocation to the broadcasting-satellite service (space-to-Earth) in the frequency band 17.3-17.8 GHz in Region 3, while ensuring the protection of existing primary allocations in the same and adjacent frequency bands; and studies on the measures to protect the primary services from secondary allocation of Radiolocation in the band 17.3-17.7GHz in Region 3, and developing relevant provisions applying to non-geostationary-satellite FSS systems (space-to-Earth) in 17.3-17.8 GHz in all Regions;* | |
| **Background/reason:**  There has been an increasing need for broadband satellite communications in recent years to provide high speed and high capacity broadband services to homes, vehicles, airplanes and ships and the fixed-satellite service (FSS) allocations in Ka-band are widely used by both GSO and NGSO satellites to cater to customer requirements. As there is mismatch between frequencies allocated to the FSS in the Earth-to-space and space-to-Earth directions in Region 3, it is critical to identify more downlink capacity in the Ka-band. This will enable efficient use of orbit and spectrum resources to meet demands for current and emerging satellite applications.  In Region 3, the frequency band 17.3-17.8 GHz is used by geostationary-satellite systems in the FSS (Earth-to-space), limited to BSS feeder links, subject to the application of No. **5.516**. This frequency band is used in Region 2 by geostationary-satellite systems in the BSS (space-to-Earth), subject to the application of No. **5.515**.  Extending the FSS (space-to-Earth) allocation in 17.3-17.7 GHz to Region 3, which has been allocated to Region 1 and being studied under WRC-23 agenda item 1.19 for Region 2, will contribute to global harmonization. Similarly, allocating 17.3-17.8 GHz to BSS (space-to-Earth) in Region 3 will contribute to harmonization. In order to protect the feeder links for the broadcasting-satellite service (BSS), the studies on measures to protect primary services from the secondary allocation of Radiolocation in the band 17.3-17.7GHz in Region 3 is needed. There are no relevant provisions applying to the non-GSO FSS in the band 17.3-17.8GHz, then the development of such relevant provisions contributes to the frequency sharing globally in this band.  Similarly, there has been an increasing need for wideband satellite broadcastings in recent years to provide UHDTV (immersive videos, Rec. ITU-R BT.2020) and high quality sounds to homes Allocation of 17.3-17.8 GHz to BSS in Region 3 will fulfil this demand and contribute the harmonization since the band 17.3-17.7GHz has been allocated to BSS in Region 2.  In order to protect the feeder links for the broadcasting-satellite service (BSS), the measures to protect the primary services from the secondary allocation of Radiolocation in the band 17.3-17.7GHz in Region 3 are needed.  It should be pointed out that the 17.3-17.7GHz is allocated to FSS in Region 1, but there is no relevant provisions applying to the non-GSO FSS in Region 1. Also, there is no relevant provisions applying to the non-GSO FSS in the band 17.7-17.8GHz. Therefore, it is necessary to develop the regulatory provisions applicable to non-GSO FSS in the band 17.3-17.8GHz globally. | |
| ***Radiocommunication services concerned*:**  *The concerned radiocommunication services in the 17.3-17.8 GHz band.* | |
| ***Indication of possible difficulties*:**  *TBD* | |
| ***Previous/ongoing studies on the issue*:**  *WRC-23 agenda item 1.19* | |
| ***Studies to be carried out by*:**  *ITU-R WP 4A as responsible group* | ***with the participation of*:**  *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 | ***Multicountry proposal*:** TBD  ***Number of countries*:** TBD |
| ***Remarks*** | |