
EACO 4th WRC-23 Online Preparatory Meeting

28th February 2022

Chapter 4A - South Sudan

Agenda Item 1.18 (New Primary Allocation to FSS in Region 2)
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Part A: Description

<i>to consider a new primary allocation to the fixed-satellite service in the space-to-Earth direction in the frequency band 17.3-17.7 GHz in Region 2, while protecting existing primary services in the band, in accordance with Resolution 174 (WRC-19);</i>

Part B: Key Elements - the notables
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| <ol style="list-style-type: none">1. Resolution 174 (WRC-19): Primary allocation to the fixed-satellite service in the space-to-Earth direction in the frequency band 17.3-17.7 GHz in Region 2.2. Resolution 174 (WRC-19) resolves to invite ITU-R: to conduct, and complete in time for WRC-23, sharing and compatibility studies between the FSS (space-to-Earth) and the BSS (space-to-Earth) and between the FSS (space-to-Earth) and the FSS (Earth-to-space), 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 2, while ensuring the protection of existing primary allocations in the same and adjacent frequency bands, as appropriate, and without imposing any additional constraints on existing allocations to the BSS (space-to-Earth) and the FSS (Earth-to space),3. FSS systems based on the use of new technologies associated with 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;4. The frequency band 17.3-17.7 GHz is allocated in Region 2 on a primary basis to the broadcasting-satellite service (BSS) (space-to-Earth) and to the FSS (Earth-to-space), subject to the application of No. 5.516,5. The possibility of an FSS (space-to-Earth) allocation in Region 2 is intended to provide satellite operators, the flexibility to satisfy BSS or FSS service demand in the same frequency band indistinctly and in many cases without the necessity to use exclusive payloads depending on the service. It is important to note that nowadays, many satellite operators already provide both kinds of services as satellite manufacturers are developing many flexible payload designs which allows for operators to target markets in this very dynamic spectrum environment. |
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6. In Region 1 where the band is already allocated to the FSS in both directions, a new similar allocation in Region 2 may progress the principle of regional harmonization between R1 and R2, which allows for synchronization of frequency bands across both Regions. The consideration of Recommendation ITU-R BO.1834 and Recommendation ITU-R BO.1835, which addresses compatibility and sharing between the broadcasting-satellite service (BSS) networks using the Region 2 17.3-17.8 GHz BSS allocation and feeder links of BSS networks using the worldwide 17.3-17.8 GHz fixed-satellite service (FSS) (Earth-to-space) allocation, is well suited for addressing an approach to study the proposed FSS (space-to-Earth) allocation with existing feeder links of BSS networks using 17.3-17.8 GHz band.

Part C: Status of the Bands under consideration

PART A – Article 5 of the Radio Regulations

Allocation to services		
Region 1	Region 2	Region 3
17.2-17.3	EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.512 5.513 5.513A	
17.3-17.7 FIXED-SATELLITE (Earth-to-space) 5.516 (space-to-Earth) 5.516A 5.516B Radiolocation 5.514	17.3-17.7 FIXED-SATELLITE (Earth-to-space) 5.516 BROADCASTING-SATELLITE Radiolocation 5.514 5.515	17.3-17.7 FIXED-SATELLITE (Earth-to-space) 5.516 Radiolocation 5.514
17.7-18.1 FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.517A (Earth-to-space) 5.516 MOBILE	17.7-17.8 FIXED FIXED-SATELLITE (space-to-Earth) 5.517 5.517A (Earth-to-space) 5.516 BROADCASTING-SATELLITE Mobile 5.515	17.7-18.1 FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.517A (Earth-to-space) 5.516 MOBILE
	17.8-18.1 FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.517A (Earth-to-space) 5.516 MOBILE 5.519	

PART B – Draft AfriSAP

ITU Region 1 allocations and footnotes	Africa Common Allocation(s) and footnotes	Typical Applications	Additional information
17.2-17.3 GHz EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.512 5.513 5.513A	17.2-17.3 GHz EARTH EXPLORATION-SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) <u>5.512[AddA17] 5.513A</u>	WAS/RLAN (17.1-17.3 GHz)	
17.3-17.7 GHz FIXED-SATELLITE (Earth-to-space) 5.516 (space-to-Earth) 5.516A 5.516B Radiolocation 5.514	17.3-17.7 GHz FIXED-SATELLITE (Earth-to-space) 5.516 (space-to-Earth) 5.516A 5.516B Radiolocation <u>5.514[AddA6]</u>	Broadcasting satellite systems feeder links	The band 17.3-17.7 GHz is part of the APP30A Plan (Feeder Links for BSS) for many countries; refer to Annex C. Res.143 applies for HDFS.
17.7-18.1 GHz FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.517A (Earth-to-space) 5.516 MOBILE	17.7-18.1 GHz FIXED FIXED-SATELLITE (space-to-Earth) 5.484A 5.517A (Earth-to-space) 5.516	Fixed links - 18 GHz (17.7-19.7 GHz) ESIM (under the FSS) Broadcasting satellite systems feeder links	Channelling plan for 18 GHz band in accordance with ITU-R Rec. F.595 Annex 1 Res 169 (WRC-19) applies for ESIM.

Part D: Conclusions of the Results of Studies if any

1. WRC-23 agenda item 1.19 proposes some possible modifications to the ITU Radio Regulations:
 - i. New primary FSS (space-to-Earth) allocation in Region 2 in the frequency allocation table in the 17.3-17.7 GHz band.
 - ii. Modification to RR footnote No. 5.515: Introduce the FSS (space-to-Earth) to

protect the existing FSS AP30A (Earth-to-space) in the same way that BSS protects FSS (Earth-to-space) today.

- iii. Extend the use of RR footnote No. 5.516A to Region 2 to not limit the deployment of FSS AP30A, earth stations in Region 2.
- iv. Extend the Article 22 framework to include Limits to the $epfd_{\downarrow}$ and $epfd$ is radiated by non-geostationary-satellite systems in the fixed-satellite service for the frequency range 17.3-17.8 GHz for protection of GSO FSS/BSS and FSS limited to BSS Feeder link satellite systems, respectively.

- 2. *The SWG on WRC-23 AI 1.19 met two times during the last meeting of WP 4A and considered two input contributions which were introduced and discussed.*
- 3. *One of the contributions proposed amendments to the working document on AI 1.19. Participants had offline discussions to achieve agreement on the revisions proposed by the document (see [Annex 21](#)).*
- 4. *The second document proposed amendments to the “Working document towards a Draft CPM text on WRC-23 AI 1.19.” The document added a Method B to the draft CPM text and the regulatory and procedural considerations for this Method. This version hasn’t any revision marks since all proposed changes were revised and accepted (see [Annex 28](#)).*
- 5. *However, both documents are compilation of input contributions received until this WP 4A meeting, they are still under consideration, and they will be carried forward to the next WP 4A meeting. The work plan for AI 1.19 was also revised.*

Part E: Options and Associated Implications

Method A: Under this method, no change is proposed to the RR

Method B: Allocation of the frequency band 17.3-17.7 GHz in Region 2 to the fixed-satellite service in the space-to-Earth direction.

Part F: Proposed EACO Preliminary View and or Position

EACO is invited to;

- 1. Support the development of the necessary regulatory procedures including the technical and operational procedures to ensure the protection for existing services in band and the adjacent band.
- 2. As a matter of principle, any new primary allocation to FSS in the frequency band 17.3-17.7 GHz in Region 2 shall ensure the protection of existing services in the frequency band and adjacent bands in Region 1 and not create undue constraints on future developments of

services in this band. In particular, any new allocation in R2 in the band 17.3-17.7 GHz, shall not claim protection from the broadcasting-satellite service feeder-link earth stations operating under Appendix 30A, nor put any limitations or restrictions on the locations of the broadcasting-satellite service feeder-link earth stations anywhere within the service area of the feeder link.

Part G: Recommendations and way forward

EACO member states should follow and actively participates in the discussions and ongoing studies at ITU-R to ensure the protection of existing services in the frequency band and adjacent bands in the ATU region.

Part G: Other Regional Groups and International Organisations Preliminary Views or Positions

APT:

- APT Members are of the view that any studies at ITU-R related to Agenda Item 1.19 needs to ensure protection of the services to which the bands are allocated in the same and adjacent bands.

ASMG:

- Follow up studies and make sure that any new allocation in Region 2 will ensure the protection of existing services in the frequency band and adjacent bands in Region 1.
- Provide the necessary regulatory procedures including the technical and operational procedures to ensure the protection for existing services in band and the adjacent band.

CEPT:

- Given that frequency band 17.3-17.7 GHz is allocated to FSS (space to Earth) in Region 1, CEPT would support a similar allocation in Region 2 which facilitates the use of spectrum available to networks and systems in the FSS in different Regions, if the studies show that the new allocation is feasible.

CITEL:

- Some administrations support the proposal to study a new FSS allocation in the space-to-Earth direction in the frequency band 17.3-17.7 GHz for Region 2 while ensuring the protection of existing primary services in this band and the adjacent bands.
- An administration supports studies, in accordance with Resolution 174 (WRC-19), to develop appropriate regulatory provisions and coordination mechanisms to protect Appendix 30A BSS feeder links, BSS downlinks while also ensuring the protection of existing primary services in this band and the adjacent bands, as appropriate, to facilitate a new FSS downlink allocation in the frequency range 17.3-17.7 GHz in Region 2.

RCC

- The RCC Administrations are of the view that when considering a new primary allocation to the fixed-satellite service in the space-to-Earth direction in the frequency band 17.3-17.7 GHz in Region 2 existing services in Region 1 in the main and adjacent bands shall be protected.