

REPORT OF TOPIC CHAIRMAN SPECTRUM TOPIC AREA

Chairperson: Dr. Li Leilei (NRTA)
Period of Report: Nov. 2023 to Sept.2024
Date of Report : Sept.2024

Introduction about scope of the work:

This report is on the Topic Area Spectrum Issues which including the related WRC-27 Agenda items concerning broadcasting service and ABU spectrum issues.

Project Topic 1: 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 to consider equivalent power flux-density limits to be applied in Regions 1 and 3 to nongeostationary-satellite systems in the fixed-satellite service (space-to-Earth) in the frequency band 17.3-17.7 GHz, in accordance with Resolution 726 (WRC-23); (WRC-27 AI 1.4)

Project Manager:
Co- Project Manager: Mr. Rajeev Kumar
Time Period: Nov. 2023 to Sept.2024

The following tasks were considered for this project:

1. Follow developments of studies in WP 4A to identify and possible impact on Broadcasting Services.
2. Possible impact on broadcasting service in Asia-Pacific Area.

This report was provided by Dr. Li Leilei

1 Background

Working Party 4A has been identified as a "Responsible group" for WRC-27 agenda item 1.4. The first meeting has already been held. The meeting drafted the working plan, the main elements of the agenda item working document, the main elements of the agenda item CPM draft working document and the liaison statement. The tasks of Working Party 4A are shown as follows:

1. studies on sharing and compatibility between the FSS (space-to-Earth), the BSS (space-to-Earth) and the FSS (Earth-to-space) designated by 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 to the 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 No. 5.516, including assignments to the BSS feeder links contained in Appendix 30A.

2. consideration of the applicability of Region 2 non-GSO FSS epfd limits (see noting e)) pertaining to the frequency band 17.3-17.7 GHz to Regions 1 and 3, so as to ensure the protection of GSO networks.

2 Preliminary views

If this agenda item can promote the new satellite broadcasting service in the 17.3-17.8 GHz band, it will greatly benefit the live satellite service in the Asia-Pacific region. The new spectrum will lay the foundation for business development and also facilitate more flexible transponders for subsequent live satellite systems. Therefore, it is necessary to pay attention to the positions and viewpoints of relevant countries in the world, carry out relevant compatibility analysis in a timely manner, and study the strategies and positions of participating in corresponding international conferences.

Project Topic 2: to consider technical and regulatory measures for fixed-satellite service satellite networks/systems in the frequency bands 37.5-42.5 GHz (space-to-Earth), 42.5-43.5 GHz (Earth-to-space), 47.2-50.2 GHz (Earth-to-space) and 50.4-51.4 GHz (Earth-to-space) for equitable access to these frequency bands, in accordance with Resolution 131 (WRC-23) (WRC-27 AI 1.6)

Project Manager:

Co- Project Manager: Mr. Rajeev Kumar

Time Period: Nov. 2023 to Sept.2024

The following tasks were considered for this project:

1. Follow developments of studies in WP 4A to identify and possible impact on Broadcasting Services.
2. Possible impact on broadcasting service in Asia-Pacific Area.

This report was provided by Dr. Li Leilei

1 Background

Working Party 4A has been identified as a "Responsible group" for WRC-27 agenda item 1.6. The first meeting has already been held. No technical study is planned under this agenda item, as no output document has been produced. The task of Working Party 4A is to study the technical and regulatory measures for FSS satellite networks/systems in the frequency bands 37.5-42.5 GHz (space-to-Earth), 42.5-43.5 GHz (Earth-to-space), 47.2-50.2 GHz (Earth-to-space) and 50.4-51.4 GHz (Earth-to-space), or portions thereof, for equitable access, while ensuring the protection of existing primary services to which the band is allocated in the same and adjacent bands, taking into account the specific needs of developing countries:

- without adversely affecting those services, specifically the operation of the satellite networks and systems in the bands.
- without changing measures to protect terrestrial services from unacceptable interference.

2 Preliminary views

This agenda item involves the allocations of satellite broadcasting service and terrestrial broadcasting service in the 40.5-42.5GHz band, so it is necessary to pay attention to the positions and views of relevant countries in the international community.

Project Topic 3: to consider appropriate regulatory actions to update Appendix 26 to the Radio Regulations in support of aeronautical mobile (OR) high frequency modernization, in accordance with Resolution 411 (WRC-23)(WRC-27 AI 1.9)

Project Manager:

Co- Project Manager: Mr. Rajeev Kumar

Time Period: Nov. 2023 to Sept.2024

The following tasks were considered for this project:

1. Follow developments of studies in WP 5B to identify and possible impact on Broadcasting Services.
2. Possible impact on broadcasting service in Asia-Pacific Area.

This report was provided by Dr. Li Leilei

1 Background

Working Party 5B has been identified as a "Responsible group" for WRC-27 agenda item 1.9. The first meeting has already been held. The meeting drafted the working plan and liaison statement. The tasks of Working Party 5B are shown as follows:

1. studies on the introduction of new technologies that enhance performance, including, but not limited to, new classes of emission, wideband systems (see recognizing c), d) and e)), etc., to the aeronautical mobile (OR) service systems in the frequency ranges considered in Appendix 26.

2. in order to undertake resolves to invite ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference 1, the definition of the relevant technical and operational characteristics and conduct sharing and compatibility studies with existing aeronautical mobile (OR) service systems and with other incumbent services that are allocated on a primary basis in the same or adjacent frequency bands.

3. based on ITU Radiocommunication Sector (ITU-R) studies, the identification of any potential modifications to Appendix 26, without modifying the existing area allotments in recognizing f), and while taking into account that the current use of the narrowband systems shall remain unchanged and shall not be impacted nor precluded by the revision of Appendix 26.

2 Preliminary views

This agenda item does not involve broadcasting service for the time being.

Project Topic 4: to consider developing power flux-density and equivalent isotropically radiated power limits for inclusion in Article 21 of the Radio Regulations for the fixed-satellite, mobile-satellite and broadcasting-satellite services to protect the fixed and mobile services in the frequency bands 71-76 GHz and 81-86 GHz, in accordance with Resolution 775 (Rev.WRC-23)(WRC-27 AI 1.10).

Project Manager: Dr. Li Leilei

Co- Project Manager:

Time Period: Nov. 2023 to Sept.2024

The following tasks were considered for this project:

1. Follow developments of studies in WP 5C to identify and possible impact on Broadcasting Services.
2. Possible impact on broadcasting services.

This report was provided by Dr. Li Leilei

1 Background

Working Party 5C has been identified as a "Responsible group" for WRC-27 agenda item 1.10. The first meeting has already been held. The meeting drafted the working plan and liaison statement. The task of Working Party 5C is to complete the appropriate studies to determine power flux-density (pfd) and equivalent isotropically radiated power (e.i.r.p.) limits to be included in Article 21 for satellite services (fixed-satellite service (FSS), mobile-satellite service (MSS) and broadcasting-satellite service (BSS)) to protect the current and planned fixed and mobile services in the frequency bands 71-76 GHz and 81-86 GHz.

2 Preliminary views

On the one hand, this agenda item will directly study and determine the power flux density and equivalent omnidirectional radiated power of satellite broadcasting services, and at the same time consider the protection of terrestrial broadcasting services. Therefore, it is necessary to pay attention to the positions and viewpoints of relevant countries in the world.

Project Topic 5: to consider studies on possible new allocations to the mobile-satellite service for direct connectivity between space stations and International Mobile Telecommunications (IMT) user equipment to complement terrestrial IMT network coverage, in accordance with Resolution 253 (WRC-23)(WRC-27 AI 1.13).

Project Manager: Dr. Li Leilei

Co- Project Manager:

Time Period: Nov. 2023 to Sept.2024

The following tasks were considered for this project:

1. Follow developments of studies in WP 4C to identify and possible impact on Broadcasting Services.
2. Possible impact on broadcasting services.

This report was provided by Dr. Li Leilei

1 Background

Working Party 4C has been identified as a "Responsible group" for WRC-27 agenda item 1.13. The first meeting has already been held. The meeting drafted the working plan and liaison statement. But it was decided to discuss the compiled sharing & compatibility study and MSS parameter document in the next meeting. The tasks of Working Party 4C are shown as follows:

1.studies on possible allocations to the MSS in the frequency range between 694/698 MHz and 2.7 GHz, taking into account the IMT frequency arrangements addressed in the most recent version of Recommendation ITU-R M.1036.

2.studies on spectrum requirements and on technical, operational and regulatory matters related to the implementation of the mobile-satellite service for direct connectivity to the IMT user equipment to complement the terrestrial IMT network coverage.

2 Preliminary views

This agenda item will study the new possible allocation of satellite mobile services in the 694/698 MHz-2.7GHz band to achieve direct connection between space radio and IMT user equipment to supplement IMT terrestrial network coverage, involving the allocation of terrestrial broadcasting services in the 694-702MHz band. If approved, the issue will affect several services used by Asia-Pacific countries in this frequency band. Therefore, it is necessary to pay attention to the positions and viewpoints of relevant countries in the world, study the strategies and positions of participating in corresponding international conferences, and prevent the formation of adverse international restrictions on the

development of terrestrial television services in the Asia-Pacific region.

Project Topic 6: to consider regulatory provisions for receive-only space weather sensors and their protection in the Radio Regulations, taking into account the results of ITU Radiocommunication Sector studies, in accordance with Resolution 682 (WRC-23)(WRC-27 AI 1.17).

Project Manager: Dr. Li Leilei

Co- Project Manager:

Time Period: Nov. 2023 to Sept.2024

The following tasks were considered for this project:

1. Follow developments of studies in WP 7C to identify and possible impact on Broadcasting Services.
2. Possible impact on broadcasting services.

This report was provided by Dr. Li Leilei

1 Background

Working Party 7C has been identified as a "Responsible group" for WRC-27 agenda item 1.17. The first meeting has already been held. The meeting drafted the working plan and liaison statement. But it was decided to discuss the compiled sharing & compatibility study and MSS parameter document in the next meeting. The tasks of Working Party 7C are shown as follows:

1.studies on spectrum needs and appropriate protection criteria for receive-only space weather sensors, as well as system characteristics, as appropriate, taking into account noting a).

2.sharing and compatibility studies pertaining to potential new primary allocations to MetAids (space weather) in the following frequency bands for receive-only sensors, taking into account resolves 2:

- 27.5-28.0 MHz;
- 29.7-30.2 MHz;
- 32.2-32.6 MHz;
- 37.5-38.325 MHz;
- 73.0-74.6 MHz;
- 608-614 MHz.

3.studies on possible regulatory provisions of the Radio Regulations to accommodate the possibility for an administration that desires to notify a receive-only space weather sensor station to be included in the Master International Frequency Register.

2 Preliminary views

This agenda item relates to the allocation of terrestrial broadcasting services in the 608-614 MHz band, so it is necessary to pay attention to the positions and views of relevant countries in the international community.