

IAFI¹

PROPOSAL FOR FURTHER UPDATING WORKING DOCUMENT TOWARDS A PRELIMINARY DRAFT NEW REPORT ON SHARING AND COMPATIBILITY STUDIES IN RELATION TO WRC-27 AGENDA ITEM 1.7

1. Introduction

Working Party (WP) 5D is the responsible group for WRC-27, agenda item 1.7 in accordance with Resolution **256 (WRC-23)**, see the results of CPM27-1 in [CA/270](#). The 47th meeting of WP 5D developed the following documents in relation to sharing and compatibility studies for WRC-27, agenda item 1.7:

- **Main part** – Annex 4.9 to Document 5D/413-E
- **Annex 1 (4 400-4 800 MHz)** - Annex 4.10 to Document 5D/413-E
- **Annex 2: (7 125-8 400 MHz)** - Annex 4.11 to Document 5D/413-E
- **Annex 3 (14.8-15.35 GHz)** - Annex 4.12 to Document 5D/413-E

2 Discussion

This input contribution proposes edits to Annex 4.10 of Document 5D/413 in relation to Annex 1 (4 400-4 800 MHz) for the sharing and compatibility studies for WRC-27 agenda item 1.7 by the addition of a new study (Study 7) in this document.

Proposed edits are highlighted in [turquoise](#).

2 Proposal

Working Party 5D consider and discuss the proposed edits in the Attachment below.

¹ [ITU-APT Foundation of India](#) is a sector member of ITU-R, ITU-T and ITU-D

ATTACHMENT 1

Source: Annex 4.10
to Document 5D/413-E

Annex 4.10 to Working Party 5D Chair's Report

ANNEX 1 – SHARING AND COMPATIBILITY STUDIES BETWEEN SERVICES TO WHICH THE BAND IS CURRENTLY ALLOCATED AND IMT SYSTEMS IN THE FREQUENCY BAND 4 400-4 800 MHz UNDER WRC-27 AGENDA ITEM 1.7

1 Introduction

This document includes the sharing and compatibility studies between IMT systems in the frequency band 4 400-4 800 MHz with existing service/application(s) to which the frequency band is allocated on a primary basis, and also with primary services in adjacent bands.

2 Allocation information in the frequency band 4 400-4 800 MHz

For allocation details, please refer to the ITU Radio Regulations (RR) (Table of Frequency Allocations, and associated footnotes) and corresponding Rules of Procedure. The relevant services to which the frequency band is allocated on a primary basis within the frequency range 4 400-4 800 MHz, and also services allocated on a primary basis in adjacent bands, are:

TABLE 1
RR allocations in 4 400-4 800 MHz and adjacent bands

Allocation to services		
Region 1	Region 2	Region 3
4 200-4 400	AERONAUTICAL MOBILE (R) 5.436 AERONAUTICAL RADIONAVIGATION 5.438 5.437 5.439 5.440	
4 400-4 500	FIXED MOBILE 5.440A	
4 500-4 800	FIXED FIXED-SATELLITE (space-to-Earth) 5.441 MOBILE 5.440A	
4 800-4 990	FIXED MOBILE 5.440A 5.441A 5.441B 5.442 Radio astronomy 5.443 5.149 5.339	

3 Technical and operational characteristics of IMT systems operating in the frequency band 4 400-4 800 MHz

[Editor's note: This section provides the technical characteristics for sharing and compatibility studies from WP 5D SWG Characteristics.]

[Editor's note: Further discussion is needed at the next WP 5D meeting in February 2025 to finalize the treatment of reverse study analysis of existing services into IMT. Additional elements of this discussion are included in Annex 4 of the document on sharing and compatibility studies under WRC-27 agenda item 1.7.]

4 Propagation models for sharing and compatibility studies in the frequency band 4 400-4 800 MHz

[Editor's note: This section 4 is proposed to be kept at this position to ensure consistency of the different studies and may later be considered for deletion from this part, as the propagation models are included in the Attachment of the respective service listed in section 5.]

4.1 Recommendations applicable for all sharing geometries

- [ITU-R P.2108](#) – Prediction of clutter loss.
- [ITU-R P.2109](#) – Prediction of building entry loss.

4.2 Recommendations applicable for sharing between stations on the surface of the Earth

- [ITU-R P.452](#) – Prediction procedure for the evaluation of interference between stations on the surface of the Earth at frequencies above about 0.1 GHz.
- [ITU-R P.1812](#) – A path-specific propagation prediction method for point-to-area terrestrial services in the frequency range 30 MHz to about 6 GHz.
- [ITU-R P.2001](#) – A general purpose wide-range terrestrial propagation model in the frequency range 30 MHz to 50 GHz.
- [ITU-R P.1411](#) – Propagation data and prediction methods for the planning of short-range outdoor radiocommunication systems and radio local area networks in the frequency range 300 MHz to 100 GHz.
- [ITU-R P.1238](#) – Propagation data and prediction methods for the planning of indoor radiocommunication systems and radio local area networks in the frequency range 300 MHz to 450 GHz.

4.3 Recommendations applicable for sharing between airborne stations and stations on the Earth's surface

- [ITU-R P.528](#) – A propagation prediction method for aeronautical mobile and radionavigation services using the VHF, UHF and SHF bands.

5 Sharing and compatibility studies

[Editor's note: Additional discussions are required on whether studies with LMS are needed, depending on the information provided by the contributing groups.]

The sharing and compatibility studies are contained in the attachments to this document:

- Attachment 1:** Sharing between the fixed service and IMT operating in the frequency band 4 400-4 800 MHz.
- Attachment 2:** Sharing between the aeronautical mobile service and IMT operating in the frequency band 4 400-4 800 MHz.

- Attachment 3:** Sharing between the maritime mobile service and IMT operating in the frequency band 4 400-4 800 MHz.
- Attachment 4:** Sharing between the fixed satellite service (space-to-Earth) (RR No. **5.441**) in Allotments in the RR Appendix **30B** Plan, assignments in the RR Appendix **30B** List, conversions of an allotment into an assignment, Article 7 requests transferred to Article 6 of RR Appendix **30B**, submissions in accordance with Resolution **170 (Rev.WRC-23)** and submissions for additional system under Article 6 of RR Appendix **30B** operating in the frequency band 4 500-4 800 MHz and IMT operating in the frequency band 4 400-4 800 MHz.
- Attachment 5:** Compatibility of the aeronautical mobile (R) service (RR No. **5.436**) operating in the frequency band 4 200-4 400 MHz and IMT operating in the frequency band 4 400-4 800 MHz
- Attachment 6:** Compatibility of the aeronautical radionavigation service (RR No. **5.438**) operating in the frequency band 4 200-4 400 MHz and IMT operating in the frequency band 4 400-4 800 MHz **7**