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| U.S. Radiocommunications SectorFact Sheet |
| **Working Party:** ITU-R WP 4C | **Document No:** USWP4C-xx |
| **Ref:** N/A | **Date:** 23 Feb 2024 |
| Document Title: Working Document [AI 1.13 sharing and compatibility studies] |
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| **Purpose/Objective:** Initiate the work under WRC-27 Agenda Item 1.13 |
| **Abstract:** The proposed U.S. contribution aims at getting the work started under WRC-27 Agenda Item 1.13. An overview of all incumbent services, including adjacent services as appropriate, is provided for the Mobile Service bands between 694-2700 MHz. The document also includes orbital and emission characteristics of a NGSO system for direct communications between space stations and IMT user equipment.  |

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| **Radiocommunication Study Groups** |  |
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| Source: -Subject: WRC-27 agenda item 1.13 | **Document 4A/TBD** |
| **TBD May 2024** |
| **English only** |
| United States of America |
| WORKING DOCUMENT [AI 1.13 SHARING AND COMPATIBILITY STUDIES] |
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Introduction

The proposed U.S. contribution aims at getting the work started under WRC-27 Agenda Item 1.13.

An overview of all incumbent services, including adjacent services as appropriate, is provided for the Mobile Service bands between 694-2700 MHz. The document also includes orbital and emission characteristics of an operational NGSO system for direct communications between space stations and IMT user equipment to be used in sharing studies.

**Attachment:** 1

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| Attachment 1 |
| WORKING DOCUMENT [AI 1.13 SHARING AND COMPATIBILITY STUDIES] |

**1 Introduction**

Resolution 253 (WRC-23) calls for 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.

Studies on sharing and compatibility between incumbent services, including in adjacent frequency bands are essential to ensure the protection of incumbent services in accordance with the Radio Regulations.

**2 Information on the services allocated in and adjacent to the frequency bands studied and list of sharing studies to be conducted:**

As a minimum, this list of frequency bands should be considered for studies:

|  |  |  |  |
| --- | --- | --- | --- |
| **Fmin** **(MHz)** | **Fmax (MHz)** | **Incumbent** **Services** | **Adjacent Band Services** |
| 698 | 763 | Fixed, Mobile, Broadcasting, HIBS, IMT |   |
| 776 | 821 | Fixed, Mobile, Broadcasting, HIBS, IMT |   |
| 824 | 862 | Fixed, Mobile, Broadcasting, HIBS, IMT |   |
| 869 | 915 | Fixed, Mobile, Broadcasting, HIBS, IMT |   |
| 925 | 960 | Fixed, Mobile, Broadcasting, HIBS, IMT | Aeronautical Mobile (R), Aeronautical Radionavigation |
| 1435 | 1518 | Fixed, Mobile, IMT, Broadcasting, Broadcasting Satellite, Space Operation (Earth-to-space) | Earth Exploration Satellite (Passive), Radio Astronomy, Space Research (Passive) |
| 1710 | 1785 | Fixed, Mobile, IMT, HIBS |   |
| 1805 | 2025 | Fixed, Mobile, IMT, HIBS | Space Operations (Earth-to-space) (space-to-space), EESS (Earth-to-space) (space-to-space), Space Research |
| 2110 | 2200 | Fixed, Mobile, IMT, HIBS | Space Research (Deep Space) |
| 2300 | 2400 | Fixed, Mobile, IMT | Radiolocation, Space Research |

**3 Orbit and RF emission characteristics of systems intended to provide direct connectivity between space stations and IMT user equipment**

To be added for the second draft: Table with orbit and RF emissions up/down

**3.1 Modelling of operations and the concept of topology**

Tracking strategy: random satellite selection

Minimum elevation:

When implementing direct-to-device communications in real-world, operators make use of the “topology” function as a way of managing interference at borders.

Topology definition: TBD.

Modelling topology is fundamental in order to ensure realistic and solid results of studies.

**4 Results of sharing studies**

TBD