

## RESOLUTION 252 (WRC-23)

**Studies on potential new allocations to, and regulatory actions for, the mobile-satellite service in the frequency bands 1 427-1 432 MHz (space-to-Earth), 1 645.5-1 646.5 MHz (space-to-Earth) (Earth-to-space), 1 880-1 920 MHz (space-to-Earth) (Earth-to-space) and 2 010-2 025 MHz (space-to-Earth) (Earth-to-space) required for the future development of low-data-rate non-geostationary mobile-satellite systems**

The World Radiocommunication Conference (Dubai, 2023),

*considering*

- a)* that low-data-rate mobile-satellite service (MSS) systems, in the context of this Resolution, refer to non-geostationary (non-GSO) systems not delivering telephony that transmit data in bursts and can therefore operate with periodic or intermittent data transmission and maintain a service while experiencing packet loss;
- b)* that there is a need for low-data-rate MSS systems for the purpose of developing the Internet of Things;
- c)* that there are insufficient spectrum opportunities for new non-voice low-data-rate non-GSO MSS systems to operate in existing MSS frequency bands below 5 000 MHz;
- d)* that the number of mobile-satellite systems using small satellites is growing and the spectrum demand for suitable MSS allocations is increasing,

*noting*

- a)* that the frequency band 1 427-1 429 MHz is currently allocated to the space operations (Earth-to-space), fixed, and mobile, except aeronautical mobile, services on a primary basis;
- b)* that the frequency band 1 429-1 452 MHz is currently allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis in Region 1, and to the fixed and mobile services on a primary basis in Regions 2 and 3;
- c)* that the frequency band 1 400-1 427 MHz is currently allocated to the Earth exploration-satellite (passive), radio astronomy and space research (passive) services on a primary basis;
- d)* that the frequency band 1 645.5-1 646.5 MHz is currently allocated to the MSS (Earth-to-space) on a primary basis;
- e)* that the frequency band 1 880-1 920 MHz is currently allocated to the fixed and mobile services on a primary basis;

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- f)* that the frequency band 2 010-2 025 MHz is currently allocated to the fixed and mobile services on a primary basis;
- g)* that the frequency band 2 010-2 025 MHz is currently allocated to the MSS on a primary basis in Region 2 only;
- h)* that in Regions 1 and 3, the frequency band 2 010-2 025 MHz may be used by high-altitude platform stations as base stations to provide International Mobile Telecommunications (IMT), in accordance with No. **5.388A**;
- i)* that the frequency band 1 427-1 432 MHz is identified for IMT globally, in accordance with Resolution **223 (Rev.WRC-23)**;
- j)* that the frequency bands 1 880-1 920 MHz and 2 010-2 025 MHz are identified for IMT globally in accordance with Resolution **212 (Rev.WRC-23)** and are included in arrangement B1 for implementation of IMT in Recommendation ITU-R M.1036;
- k)* that Report ITU-R SA.2312 provides technical characteristics and benefits of some low-data-rate MSS satellites and suggests that MSS frequency bands already allocated above 5 000 MHz are not suited to the inherent size, weight and power restrictions of small satellites (usually having a mass of less than 100 kg);
- l)* the need for regulatory certainty regarding the available spectrum for both satellite and earth station design and planning purposes,

### *recognizing*

- a)* that the frequency bands 1 427-1 432 MHz, 1 645.5-1 646.5 MHz, 1 880-1 920 MHz and 2 010-2 025 MHz, and adjacent frequency bands, are also allocated to other radiocommunication services on a primary basis and that those allocations are used by a variety of incumbent systems in many administrations, and that the protection of these services should be studied;
- b)* that, for the determination of the incumbent services, the relevant provisions of the Radio Regulations in force apply;
- c)* that low-data-rate MSS systems in non-GSO orbits should, in the context of this Resolution have the following properties:
- not including telephony;
  - transmitting data in bursts;
  - capable of operating with periodic or intermittent data transmission;
  - capable of maintaining a service while experiencing packet loss;
- d)* that MSS systems use different modes of operation and employ interference-mitigating measures to facilitate spectrum sharing and compatibility between systems and other services;
- e)* that new allocations for MSS systems are needed,

*resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference*

1 studies on spectrum requirements, technical and operational characteristics and conditions for non-GSO low-data-rate MSS systems, including mitigation techniques, that allow coexistence of these systems in the same frequency bands;

2 studies on sharing and compatibility between the non-GSO low-data-rate MSS systems and the existing primary services operating in the frequency bands 1 427-1 432 MHz (space-to-Earth), 1 645.5-1 646.5 MHz (space-to-Earth) (Earth-to-space), 1 880-1 920 MHz (space-to-Earth) (Earth-to-space) and 2 010-2 025 MHz (space-to-Earth) (Earth-to-space) and in the relevant adjacent frequency bands, in order to ensure protection of existing services,

*invites administrations*

to participate actively in the studies and provide the information required for the studies listed under *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference* by submitting contributions to the ITU Radiocommunication Sector,

*invites the 2027 world radiocommunication conference*

to consider, based on the results of studies, possible allocations to the MSS and possible regulatory actions in the frequency bands referred to in *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference*.