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RESOLUTION 254 (WRC-23)

Studies on possible new frequency allocations to the mobile-satellite service in the frequency bands 2 010-2 025 MHz (Earth-to-space) and 2 160-2 170 MHz (space-to-Earth) in Regions 1 and 3 and 2 120-2 160 MHz (space-to-Earth) in all Regions

The World Radiocommunication Conference (Dubai, 2023),

considering

- a)* that demand for mobility communications has driven an increasing demand for mobile-satellite service and connectivity anywhere;
- b)* that the range of mobile-satellite service applications has expanded manifold since the last mobile-satellite service (MSS) allocations were made, and the number of MSS systems is growing and the spectrum demand for suitable MSS allocations is increasing;
- c)* that MSS systems implementing various applications, including data applications, are a proven, practical and cost-effective method of providing telecommunication service that contributes to global economic and social development especially in remote and underserved areas;
- d)* that recent advances in technology and the development of external standards are facilitating the integration of mobile-satellite solutions to address connectivity, which increases the range of potential users of the MSS;
- e)* that MSS systems play a part in reducing the digital divide;
- f)* that MSS systems have the capability of overcoming practical and logistical difficulties associated with terrestrial infrastructure;
- g)* that contiguous spectrum for the MSS would enable efficiencies in spectrum management;
- h)* the need for regulatory certainty regarding the available spectrum for both satellite and earth station design and planning purposes;
- i)* that new MSS allocations in the frequency bands 2 010-2 025 MHz (Earth-to-space) and 2 160-2 170 MHz (space-to-Earth) in Regions 1 and 3 and 2 120-2 160 MHz (Earth-to-space) in all Regions may help to address MSS spectrum demands;
- j)* that it may be possible to provide additional MSS capacity by amending some existing secondary MSS allocations to primary,

noting

- a) that MSS characteristics can be found in ITU-R Recommendations and Reports, such as Recommendation ITU-R M.1184;
- b) that Report ITU-R M.2514, “Vision, requirements and evaluation guidelines for satellite radio interface(s) of IMT-2020”, has been approved;
- c) that the frequency band 2 010-2 025 MHz is allocated to the MSS on a primary basis for Earth-to-space operations in Region 2;
- d) that the frequency bands 2 025-2 110 MHz and 2 200-2 290 MHz are allocated to the fixed and mobile services on a primary basis;
- e) that the frequency band 2 120-2 160 MHz is allocated to the MSS on a secondary basis for space-to-Earth operations in Region 2;
- f) that the frequency band 2 160-2 170 MHz is allocated to the MSS on a primary basis for space-to-Earth operations in Region 2;
- g) that the frequency bands 2 010-2 025 MHz, 2 160-2 170 MHz and 2 200-2 215 MHz are adjacent to bands that are allocated to the MSS on a primary basis and identified for the satellite component of IMT-2020;
- h) that the frequency bands 2 010-2 025 MHz, 2 120-2 160 MHz and 2 160-2 170 MHz are adjacent to bands allocated to the MSS on a primary basis globally or in Region 2;
- i) that, under Recommendation ITU-R M.1036, the frequency bands 1 920-1 980 MHz, 2 010-2 025 MHz and 2 110-2 170 MHz are included as arrangements B1, B4, B5 and B7 for the implementation of IMT; some administrations have used these bands in Regions 1, 2 and 3, and terrestrial mobile operators have deployed IMT systems, and also in some countries portions of these bands have been implemented for railway control and dispatching systems, which are critical for the safety of railway operations; the frequency band 2 110-2 170 MHz is used for downlink transmission from terrestrial IMT base stations; and IMT systems in the frequency range 2 010-2 025 MHz are operated in time-division duplex (TDD) mode;
- j) that, in accordance with No. **5.388**, the frequency bands 1 885-2 025 MHz and 2 110-2 200 MHz are intended for use, on a worldwide basis, by administrations wishing to implement IMT; such use does not preclude the use of these frequency bands by other services to which they are allocated; these frequency bands should be made available for IMT in accordance with Resolution **212 (Rev.WRC-23)**;
- k) that, in accordance with Resolution **212 (Rev.WRC-23)**, both the terrestrial and the satellite components of IMT have already been deployed or are being planned for deployment within the frequency bands 1 885-2 025 MHz and 2 110-2 200 MHz, and that the availability of the satellite component of IMT in the frequency bands 1 980-2 010 MHz and 2 170-2 200 MHz simultaneously with the terrestrial component of IMT in the frequency bands identified in No. **5.388** could improve the overall use of IMT;

l) that the frequency bands 2 025-2 110 MHz and 2 200-2 290 MHz are allocated to the space operation, Earth-exploration satellite and space research services on a primary basis in the Earth-to-space, space-to-Earth and space-to-space directions and are currently heavily used by most satellite systems for telecommand, telemetry and precision tracking, as well as by launchers and manned or unmanned space research missions,

recognizing

a) that some existing satellite allocations may be adapted to provide further MSS capacity;

b) that the introduction of applications of the possible new allocation to the MSS should not adversely affect existing primary services allocated in the frequency bands being considered and adjacent frequency bands that operate in accordance with the Radio Regulations,

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

1 studies on relevant spectrum requirements and technical, operational and regulatory matters for the MSS in connection with possible new allocations to the MSS in the frequency bands 2 010-2 025 MHz (Earth-to-space) and 2 160-2 170 MHz (space-to-Earth) in Regions 1 and 3 and 2 120-2 160 MHz (space-to-Earth) in all Regions;

2 studies on sharing and compatibility of possible new allocations to the MSS in the frequency bands being studied to ensure the protection of existing services allocated on a primary basis, and also in adjacent frequency bands, without adversely affecting those services;

3 studies on possible technical, operational and regulatory measures that ensure the protection of existing services and their continued operation and future development without imposing additional regulatory or technical constraints on those services, while ensuring their protection from harmful interference, when considering possible additional allocations to the MSS,

invites administrations

to participate actively in the studies and provide the information required for the studies referred to in *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 results of studies conducted under *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference*, possible new allocations and associated regulatory conditions for the MSS, while ensuring the protection of existing primary services.