

RESOLUTION 255 (WRC-23)

Studies on frequency-related matters for International Mobile Telecommunications (IMT) identification in the frequency bands [102-109.5 GHz, 151.5-164 GHz, 167-174.8 GHz, 209-226 GHz and 252-275 GHz] for the future development of IMT*

The World Radiocommunication Conference (Dubai, 2023),

considering

- a)* that International Mobile Telecommunications (IMT) is intended to provide telecommunication services on a worldwide scale, regardless of location and type of network or terminal;
- b)* that IMT systems have contributed to global economic and social development;
- c)* that IMT systems are now evolving to provide diverse usage scenarios and applications, such as enhanced mobile broadband, massive machine-type communications and ultra-reliable and low-latency communications;
- d)* that ultra-low latency and very high bit-rate applications of IMT will require larger contiguous blocks of spectrum than those available in frequency bands that are currently identified for use by administrations wishing to implement IMT;
- e)* that it may be suitable to examine higher frequency bands for these larger blocks of spectrum;
- f)* that there is a need to continually take advantage of technological developments in order to increase the efficient use of spectrum and facilitate spectrum access;
- g)* that the properties of higher frequency bands, such as shorter wavelength, would better enable the use of advanced antenna systems, including multiple input, multiple output (MIMO) and beam-forming techniques in supporting enhanced broadband;
- h)* that harmonized worldwide bands and harmonized frequency arrangements for IMT are highly desirable in order to achieve global roaming and the benefits of economies of scale;
- i)* that identification of frequency bands allocated to the mobile service for IMT may change the sharing situation regarding applications of services to which the frequency band is already allocated and may require additional regulatory actions,

* The appearance of square brackets around certain frequency bands in this Resolution is understood to mean that WRC-27 will consider and review the inclusion of these frequency bands with square brackets and decide, as appropriate.

noting

- a) that IMT encompasses IMT-2000, IMT-Advanced, IMT-2020, IMT-2030 and future generations of IMT collectively;
- b) that Report ITU-R M.2516 addresses future technology trends of terrestrial systems for IMT for 2030 and beyond;
- c) that there are ongoing studies within the ITU Radiocommunication Sector (ITU-R) on propagation characteristics for mobile systems in higher frequency bands,

recognizing

- a) that there is a lead time between the allocation of frequency bands by world radiocommunication conferences and the deployment of systems in those bands, and that timely availability of wide and contiguous blocks of spectrum is therefore important to support the development of IMT;
- b) that any identification of frequency bands for IMT should take into account the use of the frequency bands by other services and the evolving needs of those services, including the space research service (passive) in frequency bands 105-109.5 GHz and 217-226 GHz;
- c) that there should be no additional regulatory or technical constraints imposed on services to which the frequency band is currently allocated on a primary basis;
- d) that frequency bands adjacent to those listed in *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2031 world radiocommunication conference 2* below are allocated to passive services and that No. **5.340** applies in many of those adjacent frequency bands,

resolves to invite the ITU Radiocommunication Sector to complete in time for the 2031 world radiocommunication conference

1 the appropriate studies to determine the spectrum needs for the terrestrial component of IMT in the frequency bands listed in *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2031 world radiocommunication conference 2*, taking into account:

- technical and operational characteristics of terrestrial IMT systems that would operate in those frequency bands, including the evolution of IMT through advances in technology and spectrally efficient techniques;
- the deployment scenarios envisaged for IMT-2030 systems and the related requirements of high data traffic, such as in dense urban areas and/or at peak times; and
- the needs of developing countries and the time-frame in which spectrum would be needed;

2 the appropriate sharing and compatibility¹ studies, taking into account the protection of services to which the frequency band is allocated on a primary basis for the following frequency bands:

– [102-109.5 GHz, 151.5-164 GHz, 167-174.8 GHz, 209-226 GHz and 252-275 GHz],

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 2031 world radiocommunication conference* by submitting contributions to ITU-R,

invites the 2031 world radiocommunication conference

to consider, based on the results of studies, the identification of frequency bands for the terrestrial component of IMT; the frequency bands to be considered being limited to part or all of the frequency bands listed in *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2031 world radiocommunication conference* 2.

¹ Including studies with respect to services in adjacent bands, as appropriate.