

India (Republic of)

PROPOSAL FOR PRELIMINARY VIEWS ON WRC-27 AGENDA ITEM 1.7

Agenda Item 1.7:

to consider studies on sharing and compatibility and develop technical conditions for the use of International Mobile Telecommunications (IMT) in the frequency bands 4 400-4 800 MHz, 7 125-8 400 MHz (or parts thereof), and 14.8-15.35 GHz taking into account existing primary services operating in these, and adjacent, frequency bands, in accordance with Resolution 256 (WRC-23);

1. Background

The increasing demand for high-capacity mobile broadband services necessitates the exploration of new frequency bands for International Mobile Telecommunications (IMT). World Radiocommunication Conference 2023 (WRC-23) adopted Resolution 256, which mandates studies on sharing and compatibility, and the development of technical conditions for potential IMT usage in the frequency bands 4 400-4 800 MHz, 7 125-8 400 MHz (or parts thereof), and 14.8-15.35 GHz. These studies are crucial to ensure the protection of existing primary services already operating in these bands, as well as in adjacent frequency bands, paving the way for a harmonized and efficient integration of IMT while safeguarding established spectrum users.

Resolution **256 (WRC-23)** *resolves* to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference

- i. the appropriate studies of technical, operational and regulatory issues pertaining to the possible use of the terrestrial component of IMT in the frequency bands listed in resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference 2, taking into account following -
 - evolving needs to meet emerging demand for IMT;
 - technical and operational characteristics of terrestrial IMT systems that would operate in these specific frequency bands, including the evolution of IMT through advances in technology and spectrally efficient techniques;
 - the deployment scenarios envisaged for IMT systems and the related requirements of balanced coverage and capacity;

- the needs of developing countries; and
- the time-frame in which spectrum would be needed;
- ii) sharing and compatibility studies, with a view to ensuring the protection of services to which the frequency band is allocated on a primary basis, including protection of stations operating in international waters or airspace which cannot be registered in the MIFR, without imposing additional regulatory or technical constraints on those services, and also on services in adjacent bands, for the frequency bands:
 - 4 400-4 800 MHz;
 - 7 125-8 400 MHz; and
 - 14.8-15.35 GHz,
- iii) the 2027 world radiocommunication conference to consider, based on results of studies, the identification of frequency band(s):
 - 4 400-4 800 MHz, or parts thereof, in Region 1 and Region 3;
 - 7 125-8 400 MHz, or parts thereof, in Region 2 and Region 3;
 - 7 125-7 250 MHz and 7 750-8 400 MHz, or parts thereof, in Region 1;
 - 14.8-15.35 GHz,

for the terrestrial component of IMT

WP5D is carrying out detailed sharing and compatibility studies in all these three frequency ranges

Frequency range 4 400-4 800 MHz: 4 400-4 500 MHz is allocated to Fixed and Mobile services globally as co-primary services. 4 500-4 800 MHz is also allocated to FSS (space-to Earth) along with Fixed and Mobile as co-primary service. The frequency range 4 500-4 800 MHz is subject to the regulatory framework of AP30B Plan.

Considering the less susceptibility to atmospheric attenuation and rain fade degradation, it is ideal band for providing reliable FSS services over the regions that are situated in the tropical regions prone to heavy rainfall. Due to its propagation characteristics, this band is also well suited for providing IMT applications under the mobile services covering wider geographical area.

Frequency range 7 125-8 400 MHz: This Frequency range is allocated to several Radio Communications Services as mentioned in the RR (including Footnotes), as summarized in the following table:

Service	Frequency Range (MHz)
FS*	7 125-8 400
SRS (deep space) (E-to-s)	7 145-[7 190 / 7 235]
SOS (E-to-s)	7 100-7 155 and 7 190-7 250
FSS (s-to-E)*	7 250-7 750

FSS (E-to-s)*	7 900-8 400
MSS (s-to-E)	7 250-7 375
MSS (E-to-s)	7 900-8 025
MetSat (s-to-E)	7 450-7 550 and 7 750-7 900
MetSat (E-to-s)	8 175-8 215
EESS (s-to-E)	8 025-8 400
SRS (s-to-E)	8 400-8 500

*Note: During the WRC-23 cycle, under agenda item 1.2 (WRC-23), the adjoining band 6425-7125 MHz was studied for coexistence between IMT and some of the services mentioned above and coexistence was found feasible.

Considering the enlargement of usage scenario of IMT, the development of technology which also enables the sharing of the frequency bands by IMT with other incumbent services, it is important to identify large contiguous spectrum blocks for IMT in order not only to keep providing a way of efficient use of spectrum but also to administrations with flexible options, to use/select those identified frequency bands for IMT according to their own national spectrum availability and plans.

Frequency range 14.8-15.35 GHz: This frequency range is allocated to Fixed and Mobile services as co-primary services and SRS as secondary service (RR No. **5.510A**).

2. Preliminary Views

India has the following preliminary views for these frequency bands:

2.1 India supports the band **4 400-4 800** MHz (or parts thereof), in Region 1 and Region 3 for IMT identification as it would lead towards regional harmonization of band, bringing in economies of scale, without imposing additional regulatory or technical constraints on existing incumbent services, and also on services in adjacent bands.

2.2 India supports the band **7 125-8 400 MHz** (or parts thereof), in Region 2 and Region 3 for IMT identification as it would lead towards regional harmonization of band, bringing in economies of scale and large contiguous spectrum range, without imposing additional regulatory or technical constraints on existing incumbent services, and also on services in adjacent bands.

2.3 India supports possible identification of the band **14.8-15.35 GHz** (globally) for IMT as it would lead towards global harmonization of band and bringing in economies of scale. India is of the view that any possible identification of the band for IMT shall not impose additional

regulatory or technical constraints on existing incumbent services, and also on services in adjacent bands.