

**ISRO's Input Document to Working Group WG-2 of NFAP 2022 Review Committee**

<b>Contribution for updating National Frequency Allocation Table-2022</b>		
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5(a)*	Nature of business	-Indian Space Research Organisation (ISRO) is the space agency of India. ISRO is a major constituent of the Department of Space (DOS), Government of India.
5 (b)	Type of Organization (Pvt industry, Association, academia, PSU, government departments etc.)	Government Department

6	Frequency band (kHz/MHz)	(i)2025-2120 MHz, (ii)2500-2690 MHz
7*	Applications of service	Satellite services
8	Minimum & Maximum power with unit	As per ITU RR
9	Purpose	(i) Used for Telecommand for India's operational and planned Earth observation satellites, Lunar and MARS missions (ii) BSS & MSS
10 (a)	Countries in which similar applications are used along with web link (if known)	(i) Globally used by NASA, ESA, China etc (ii) Japan and Indonesia
10 (b)	Provisions in frequency allocation table along with footnote of the country along with web link (if known)	-
11	Radio Regulations provisions (if known)	ITU RR Article 5
12*	Type of Radiocommunication service	(i) EESS, SRS, Space Operation (ii) BSS and MSS
13	Compatible Wireless Standard for the device likely to work in the proposed band (ETSI, 3GPP, IEEE, EC, FCC, TEC etc. or any proprietary standard)	-

14	Benefit for public	Enhanced connectivity to strategic services and availability of more data regarding earth observation.																
15	If modification in NFAP-2022 footnote, then quote relevant footnote no. of NFAP-22	<p>IND 16 includes the following frequency bands:</p> <table border="1" data-bbox="683 360 1505 683"> <thead> <tr> <th>S.No</th> <th>Frequency band (MHz)</th> </tr> </thead> <tbody> <tr> <td>20</td> <td>2025-2110</td> </tr> <tr> <td>21</td> <td>2110-2120</td> </tr> <tr> <td>26</td> <td>2500-2520</td> </tr> <tr> <td>27</td> <td>2520-2535</td> </tr> <tr> <td>28</td> <td>2555-2635</td> </tr> <tr> <td>29</td> <td>2655-2670</td> </tr> <tr> <td>30</td> <td>2670-2690</td> </tr> </tbody> </table>	S.No	Frequency band (MHz)	20	2025-2110	21	2110-2120	26	2500-2520	27	2520-2535	28	2555-2635	29	2655-2670	30	2670-2690
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16	Remarks	<p><b>Proposal regarding IND 16 footnote:</b></p> <p>A. The frequency bands identified under S.No 20-21 is being used to control of almost 40 remote sensing/space science missions. NGEs have also started using this band for satellite services .</p> <p>Hence ISRO proposes to add the following note for protection of EESS, SRS and Space operation services in this band:</p> <p><i>Note [] : While considering assignments in 2025 - 2120 MHz band, operation of earth stations at a few locations operating in the frequency band 2025-2120 MHz for Space operations, Earth Exploration Satellite Service, Space Research services shall be taken into account.</i></p> <p>B. The frequency bands identified under S.No 26-30 are being used by GSAT-6, GSAT-7 &amp; GSAT-17 satellites to provide Mobile Satellite Services. GSAT-6 satellite use this band to provide Broadcasting Satellite Services. Replacement/augmentation satellites GSAT-N3, GSAT-N8 are under pipeline.</p> <p><i>Hence ISRO proposes to delete the frequency band identified under SI. No 26-30 with the revised frequency range in SI No. 28 as 2555-2635 MHz.</i></p> <p>C. To protect the satellite services from out of band emission the following text is proposed:</p> <p>The following Note can be added to the existing IND 16 footnote:</p> <p><i>Note []:</i></p>																

*“Satellite services in the frequency bands 2500-2535 MHz, 2555-2635 MHz, 2655-2690 MHz and 3680-4200 MHz shall be protected from out of band emissions from IMT systems”.*

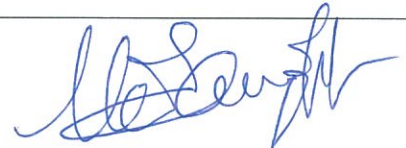
*“Satellite services in the frequency band 3400-3425 MHz shall be protected from both in band and out of band emissions from IMT systems”.*

**Proposal regarding IND 26 footnote:**

**The suggested revision is given below:**

IND 26: INSAT system uses the frequency band 2535-2635 MHz for Broadcasting Satellite Service (BSS) downlink providing applications like Radio Networking, Cyclone Warning Dissemination, Meteorological Data Dissemination, Satellite Time and Frequency Dissemination and is planned to provide advanced application like Digital Multimedia.

~~Requirements of IMT may also be considered in the band subject to coordination.~~



Date and Signature