**Section 3D**

**India Footnotes to the column named “India” in the Table of Frequency Allocations**

**IND 1** The use of the frequency bands 190-405 kHz, 415-495 kHz and 505-526.5 kHz by the aeronautical radionavigation service for non-directional beacons (NDBs) shall take into account Annex 10 to the Convention on International Civil Aviation and the Standards and Recommended Practices of the International Civil Aviation Organisation (ICAO).

**IND 2** In using the frequency band 1606.5-1800 kHz for the NDBs in the aeronautical radionavigation service, Annex 10 to the Convention on International Civil Aviation and the Standards and Recommended Practices of the International Civil Aviation Organisation (ICAO) shall be taken into account.

**IND 3** In using the bands 526.5-535 kHz and 535-1606.5 kHz, the broadcasting service shall take into account the provisions of the Final Acts of the Regional Administrative LF/ MF Broadcasting Conference (Region 1 and 3), Geneva, 1975.

**IND 4** The provisions of Appendix 27 of the Radio Regulations shall apply to the use of the frequency bands 2 850–3 025 kHz, 3 400–3 500 kHz, 4 650–4 700 kHz, 5 480–5 680 kHz, 6 525–6 685 kHz, 8815–8 965 kHz, 10 005– 10 100 kHz, 11 275–11 400 kHz, 13 260–13 360 kHz, 17 900– 17 970 kHz and 21 924–22 000 kHz by the aeronautical mobile (R) service.

**IND 5** The use of the bands 3 025–3 155 kHz, 3 900–3 950 kHz (Region 1 only), 4 700–4 750 kHz, 5 680–5 730 kHz, 6 685–6 765 kHz, 8 965–9 040 kHz, 11 175–11 275 kHz, 13 200–13 260 kHz, 15 010– 15 100 kHz and 17 970–18 030 kHz by the aeronautical mobile (OR) service shall be subject to Chapter VIII and other provisions of the Radio Regulations.

**IND 6** The use of the bands 4 063–4 438 kHz, 6 200– 6 525 kHz, 8 195–8 815 kHz, 12 230–13 200 kHz, 16 360–17 410 kHz, 18 780–18 900 kHz, 19 680–19 800 kHz, 22 000–22 855 kHz and 25 070–25 210 kHz, 26100-26 175 kHz by the maritime mobile service shall be subject to the provisions of Appendix17, and Chapters VII and IX of the Radio Regulations.

**IND 7** The use of the bands 5 950–6 200 kHz,7 200–7 300 kHz, 9 500– 9 900 kHz, 11 650–12 050 kHz, 13 600–13 800 kHz, 15 100– 15 600 kHz, 17 550–17 900 kHz, 21 450–21 850 kHz and 25 670– 26 100 kHz by the broadcasting service shall be in accordance with the provisions of Articles 11 and 12 of the Radio Regulations.

**IND 8** The use of the band 8 100–8 195 kHz by the maritime mobile service shall be subject to the provisions of No. 52.220 and Appendix 17 of the Radio Regulations.

**IND 9** The use of the frequency band 54-68 MHz by the broadcasting service will continue until existing stations of that service are transferred to other broadcasting bands. New assignments to the broadcasting service will not be made in this band.

**IND 10** The use of the frequency band 47-68 MHz by wind profiler radars in the radiolocation service is permitted on case-to-case basis. The operation of wind profiler radars shall be in accordance with Resolution **217 (WRC-97).**

**IND 11** Between the band 100-103.8 MHz, the assignments shall exclusively be limited to the public broadcaster(s).

**IND 12** The use of the frequency bands 74.8-75.2 MHz, 108-117.975 MHz, 328.6-335.4 MHz, 960-1 215 MHz and 5 000-5 250 MHz by the aeronautical radio navigation service and of the bands 108-117.975 MHz and 117.975-137 MHz by the aeronautical mobile (R) service is subject to the provisions of Annex 10 to the Convention on International Civil Aviation and the Standards and Recommended Practices of the International Civil Aviation Organisation (ICAO).

**IND 13** The radio astronomy facility centred at Latitude N 19⁰ 05’ 26.31”. Longitude N 74⁰ 02’ 59.65” spread out over a region of 30 km, near village Khoda in Pune district needs to be protected from any radio emissions which may fall within the frequency bands allocated to radio astronomy service. In addition to bands listed in No. 5.149, the facility may also be protected to the extent feasible in the frequency bands between 50 - 1500 MHz. Keeping in view the facility being receive only, and quite radio sensitive in nature, therefore before setting of new terrestrial radio station, proposed to be operating within 50-1500 MHz band, in the area around the radios of 30 Km from the centre of location needs to be co-ordinated on case to case basis. *[Need to mention IND 13 in FAT from 50-1500 MHz Band]*

**IND 14** The use of sub bands 448–450 MHz and 1 270–1 295 MHz by wind profiler radars is subject to Resolution **217 (WRC-97)**.

**IND 15** While considering assignments in 2200 - 2300 MHz band, protection of earth stations (a) at a few locations operating in the frequency band 2200-2290 MHz for Space operations, Earth Exploration Satellite Service, Space Research services and (b) at Bylalu in Bangalore operating in the frequency band 2290-2300 MHz band for Space Research (Deep Space), shall be taken into account.

**IND 16** The following frequency bands, or parts thereof, have been identified for implementation of International Mobile Telecommunications **(IMT)**:

|  |  |  |
| --- | --- | --- |
| **Sl. No.** | **Bands as mentioned in RR** | **Relevant RR Footnotes** |
| 1 | 450-470 MHz | 5.286AA |
|  |  |
|  |  |
|  |  |
|  |  |
| 2 | 470-585 MHz | 5.296A, |
| 3 | 585-610 MHz |
| 4 | 610-890 MHz | 5.296A, 5.307, 5.313A, 5.314A, 5.317A, Notes below |
| 5 | 890-942 MHz |
| 6 | 942-960 MHz |
| 11 | 1427-1429 MHz | 5.341C, 5.346A |
| 12 | 1429-1452 MHz |
| 13 | 1452-1492 MHz |
| 14 | 1492-1518 MHz |
| 15 | 1710-1930 MHz | 5.384A, 5.388 |
| 16 | 1930-1970 MHz |
| 17 | 1970-1980 MHz |
| 18 | 1980-2010 MHz |
| 19 | 2010-2025 MHz |
| 20 | 2025-2110 MHz | 5.388 |
| 21 | 2110-2120 MHz |
| 22 | 2120-2160 MHz |
| 23 | 2160-2170 MHz |
| 24 | 2170-2200 MHz |
| 25 | 2300-2450 MHz | 5.384A |
| 26 | 2500-2520 MHz | 5.384A |
| 27 | 2520-2535 MHz |
| 28 | 2535-2655 MHz |
| 29 | 2655-2670 MHz |
| 30 | 2670-2690 MHz |
| 31 | 3300-3400 MHz | 5.429F, Notes below |
| 32 | 3400-3500 MHz | 5.432A, 5.432B, 5.433A |
| 33 | 3500-3600 MHz |
| 34 | 3600-3670 MHz | Notes below |
| 35 | 24.25-27.5 GHz | 5.338A 5.532AB, Notes below |
| 36 | 27.5-28.5 GHz | Notes below |
| 37 | 37-43.5 GHz | 5.550B, Notes below |
| 38 | 47.2-48.2 GHz | 5.553B, Notes below |
| 39 | 66-71 GHz | 5.559AA, Notes below |

**[Note 1**: New assignments to the broadcasting service may not be made in 470-582 MHz range. The frequency range 526-582 MHz may be used for mobile service/IMT in coordination with the broadcasting service. ] [proposal to Delete this Note by Doordarshan / I&B; IAFI]

**[Note 2:** Thefrequency range 582-617 MHz may be used primarily by mobile service/IMT and rural point to point links.] [proposal to Delete this Note by IAFI]

The matter of frequency bands in Note 1 and Note 2 dealt at Higher Level in the Government

Note 2 (Bis): In India, the band 608-614 MHz is also allocated to the radio astronomy service on a primary basis; the radio astronomy facility mentioned in IND 13, needs to be protected from emissions in this band.

Note 2bis. While implementation of IMT in this band, the operation of Radio astronomy facility mentioned in IND 13 need to be protected.

**Note 3**: The frequency range 617-698 MHz may be used for IMT except that certain point to point links, subject to population being less, may be protected initially at few locations. Such sporadic non-IMT users shall vacate the band in near future.

**Note 4:** The frequency band 3300-3400 MHz may be used for implementation of IMT except that initially some usages towards high seas-beyond 50 kms from the coast- and some links in very less populated areas may be permitted for non-IMT usages. Such non-IMT usages shall be shifted to other bands in near future.

**Note 5:** The frequency range 3400-3425 MHz may be used for implementation of IMT except that in six DoS (Department of Space) locations at Thiruvanthapuram, Hassan, Bhopal, Jodhpur, Shillong and A&N Islands, a suitable keep-off distance shall be maintained by the IMT stations.

**Note 6:** The frequency range 3600-3670 MHz may be used for implementation of IMT. The Satellite services may use the C band frequencies beyond 3670 MHz after leaving a guard band of 10 MHz.

**Note 7 (i):** The frequency range 24.25-27.5 GHz may be used for implementation of IMT except that in 25.5-27 GHz frequency range the IMT stations will be required to maintain a keep-off distance of 2.7 kms around five DoS locations at Delhi, Shadnagar, Khambaliya, Hut Bay and Tirunelveli.

**Note 7 (ii):** The frequency range 27.5-28.5 GHz may be allowed for shared use by IMT and Satellite services subject to feasibility.

**Note 8:** While considering the bands 37-43.5 GHz, 47.2-48.2 GHz and 66-71 GHz for the implementation of International Mobile Telecommunications (IMT), the requirements of Satellite based and other services to which these bands might have been allocated in the RR*,* may be taken due care of.

**IND 17** The bands 14-14.5 GHz (Earth to space), 28.5-30 GHz (Earth to space), 10.7-11.7 GHz (space-to-Earth), 12.5-12.75 GHz (space-to-Earth) and 18.7-20.2 GHz (space-to-Earth) may be used for earth-stations on land transportations, ships and aircrafts, as per the applicable provisions of the Radio Regulations and or its Resolutions. The use of these bands or part thereof and the associated satellite-orbit shall be taken together as a resource and the number of such resources shall be limited to the minimum essential to satisfy the needs of earth-stations on land transportations, ships and aircrafts. The use of these bands shall be limited to satellites coordinated with India.

**IND 18** In Region 3, the frequency ranges 406.1-430 MHz, 440-470 MHz, and 4 940-4 990 MHz are harmonized for Public Protection and Disaster Relief (PPDR) applications. In Region 1, the frequency range 380-470 MHz is harmonized for PPDR applications. Additionally, parts of the frequency range 806-894 MHz may also be considered for PPDR applications. See **Resolution 646 (Rev. WRC-19).**

The band 450-470 MHz is identified for use by administrations wishing to implement International Mobile Telecommunications (IMT) (see No. 5.286AA). The band 406.1-410 MHz is also allocated to radio astronomy service.

Trunked radio systems are operational in the frequency ranges 336-340 MHz paired with 346-350 MHz, 351-358 MHz paired with 361-368 MHz, 380-389.9 MHz paired with 390-399.9 MHz, 410-420 MHz paired with 420-430 MHz, and 806-819 MHz paired with 851-864 MHz. The preferred use of these frequency ranges is as under.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sl. No. | Frequency (MHz) | Paired Frequency (MHz) | Proposed Applications/ paired frequency (MHz) | |
| 1 | 336-338 | 346-348 | PMRT | |
| 2 | 338-340 | 348-350 | PMRT | |
| 3 | 351-356 | 361-366 | CMRT | |
| 4 | 356-358 | 366-368 | CMRT | |
| 5 | 380-389.9 | 390-399.9 | 380-387.5 (PPDR) | 390- 397.5 (PPDR) |
| 387.5-389.9 (CMRT) | 397.5- 399.9 (CMRT) |
| 6 | 410-420 | 420-430 | 410-417.5 (PPDR) | 420- 427.5 (PPDR) |
| 417.5-420 (CMRT) | 427.5- 430 (CMRT) |
| 7 | 440-470 | - | Part of 440-470 MHz may be considered for PPDR. | |
| 8 | 806-811 | 851-856 | PPDR | |
| 9 | 811-814 | 856-859 | PMRT | |
| 10 | 814-819 | 859-864 | PMRT | |
| 11 | 819-824 | 864-869 | PMRT/CMRT | |
| 12 | 4940-4990 | - | PPDR | |

*Abbreviations: PMRT*: Public Mobile Radio Trunking, *CMRT*: Captive Mobile Radio Trunking

*PPDR*: Public Protection and Disaster Relief

Existing radio trunking systems, not in conformity with the above table, will continue to operate until the end of their lifetime. New systems or expansion of existing systems are encouraged to conform to the above table.

Wideband and broadband PPDR applications shall be in accordance with the channel arrangements that promote harmonization to the greatest extent possible. The harmonization shall also be encouraged for the radio trunking systems in general and, in particular, those operating in conformity with the table above. Broadband PPDR application will be encouraged in the Frequency Band 410-420 MHz paired with 420-430 MHz

**IND 19** To satisfy the requirements of localized communications at sites of incidents or in areas not covered by trunked radio systems, the frequency ranges 380.0 - 380.15 MHz and 390.0 - 390.15 MHz may be used for direct mode operation (DMO), independently of and in addition to their use in trunked mode operation (TMO).

The centre frequencies of channels in the frequency ranges 380.0 - 380.15 MHz and 390.0 - 390.15 MHz are as follows:

1. Frequency range 380.0 - 380.15 MHz; channel spacing: 12.5 kHz

Centre frequencies (MHz): 380.00625, 380.01875, 380.03125, 380.04375, 380.05625, 380.06875, 380.08125, 380.09375, 380.10625, 380.11875, 380.13125, 380.14375

1. Frequency range 380.0 - 380.15 MHz; channel spacing: 25 kHz

Centre frequencies (MHz): 380.0125, 380.0375, 380.0625, 380.0875, 380.1125, 380.1375

1. Frequency range 390.0 - 390.15 MHz; channel spacing: 12.5 kHz

Centre frequencies (MHz): 390.00625, 390.01875, 390.03125, 390.04375, 390.05625, 390.06875, 390.08125, 390.09375, 390.10625, 390.11875, 390.13125, 390.14375

1. Frequency range 390.0 - 390.15 MHz; channel spacing: 25 kHz

Centre frequencies (MHz): 390.0125, 390.0375, 390.0625, 390.0875, 390.1125, 390.1375

**IND 20** Subject to not constraining the deployment of the services to which the band 174-230 MHz has been allocated, requirement of fixed and mobile services including those of wireless telemetry seismic systems may also be considered in the band.

**IND 21** Subject to coordination, the requirements of wind profiler radars may be considered in 200-220 MHz coordination.

**IND 22** Subject to coordination, the requirements of rural communications may be considered in 368-380 MHz band.

**IND 23** Subject to not constraining the deployment of the services to which the band 406.1- 450 MHz has been allocated, requirements of digital seismic telemetry up to 1.5 MHz bandwidth may also be considered in the band.

IND 23 (*BIS*): Subject to not constraining the deployment of the services to which the bands **174-230 MHz and 470-612 MHz** have been allocated, the use of very low power ***audio Programme Making and Special Events (PMSE) radio equipment and system (e.g., wireless microphones, in-ear monitoring,…etc) may also be permitted on case to case basis.***

**IND 24** As perRR 5.340any emissions in the frequency bands mentioned therein is prohibited.

**IND 25** In addition to the services by which the bands 902.5-915 MHz and 947.5-960 may primarily be used, certain frequency spots may also be considered for train control & mobile train radio systems at specified locations.

**IND 26** INSAT system uses the frequency band 2535-2655 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.

**IND 27** Subject to ensuring protection to Aeronautical radionavigation service and Radio location service, the band 2700-2900 MHz may also be used for Microwave Multipoint Distribution System (MMDS), including broadband applications. International recognition for such purpose is not affordable.

**IND 28** Use of frequency bands 5150-5250 MHz, 5250-5350 MHz, 5470-5725 MHz and 5725-5875 MHz for Wireless access services (WAS) and Radio Local Area networks (RLANs) have been exempted from licensing requirement as per conditions notified vide GSR No. G.S.R. 1048(E) dated 18.10.2018.

In the frequency band 5150 to 5875 MHz, satellite operations shall be restricted within 5350-5470 MHz.

**IND 29** Subject to not constraining the use of the frequency band 5 875 to 5 925 MHz by the services to which it has been allocated in the RR, the band may also be considered for V2X technologies/Intelligent Transport Systems.

**IND 30** Frequency bands 10.95-11.2 GHz, 11.45-11.7 GHz and 12.2-12.75 GHz may predominantly be used for fixed satellite service (down links).

**IND 31** It may be borne in mind that the frequency band 18.6-18.8 GHz is exclusively earmarked for Earth Exploration Satellite Service (EESS-passive) in IRS Satellite system.

**IND 32** The frequency bands 19.7-21.2 GHz and 29.5-31.0 GHz may be considered predominantly for the use of FSS.

**IND 33** Subject to not constraining the deployment of the services to which the band 24.0 – 24.25 GHz has been allocated, the low power telecom systems and devices including Radio Local Area Networks (RLAN) and traffic safety applications in the frequency band 24.0 –24.25 GHz using a maximum Effective Isotropic Radiated Power of 2 Watts with spectrum spread of 50 MHz or higher may also be permitted on non-interference, non-protection and non- exclusive basis.

**IND 34** The band 71-76 GHz and 81-86 GHz may be used for high-density point to point / multipoint links in Fixed Service (FS) also taking care of FSS service.

**IND 35** The band 57-64 GHz may be used for high-density point to point / multipoint links and other access applications also taking care of other services identified as Primary in band. While considering usage of 57-66 GHz frequency band, usage by Earth Exploration Satellite will be limited up to 57 GHz.

**Annexure 1**

**Wireless Equipments exempted from licensing**

|  |  |  |  |
| --- | --- | --- | --- |
| **S. No.** | **Frequency Range (MHz)** | **Title of the Rule** | **Gazette Notification** |
| **1** | **2** | **3** | **4** |
| 1 | 0.009 - 0.05 MHz | Use of very low power Radio Frequency devices or equipments including the Radio Frequency Identification Devices, (Exemption from Licensing Requirement) Rules, 2014 | [GSR No. 83(E)](https://dot.gov.in/sites/default/files/Delicensing%20in%209-50%20KHz%20band%20%5BGSR%2083%20%28E%29%5D_0.pdf)  [dated 11-Feb-2014](https://dot.gov.in/sites/default/files/Delicensing%20in%209-50%20KHz%20band%20%5BGSR%2083%20%28E%29%5D_0.pdf)  [and subsequent amendments, if any](https://dot.gov.in/sites/default/files/Delicensing%20in%209-50%20KHz%20band%20%5BGSR%2083%20%28E%29%5D_0.pdf). |
| 2 | 0.05 - 0.2 MHz | Use of very low power Radio Frequency devices or equipments including the Radio Frequency Identification Devices, (Exemption from Licensing Requirement) Rules, 2009 | [GSR No. 90(E)](https://dot.gov.in/sites/default/files/Delicensing%20in%2050-200%20KHz%20band%20%5BGSR%2090%20%28E%29%5D_0.pdf)  [dated 10-Feb-2009](https://dot.gov.in/sites/default/files/Delicensing%20in%2050-200%20KHz%20band%20%5BGSR%2090%20%28E%29%5D_0.pdf)  [and subsequent amendments, if any.](https://dot.gov.in/sites/default/files/Delicensing%20in%2050-200%20KHz%20band%20%5BGSR%2090%20%28E%29%5D_0.pdf) |
| 3 | 0.302 - 0.351 MHz | Use of very low power radio frequency devices or equipments for Inductive Applications (Exemption from Licensing Requirement) Rules, 2015 | [GSR No. 697(E)](https://dot.gov.in/sites/default/files/Delicensing%20in%2036-38%20MHz%20band%20%5BGSR%20696%20%28E%29%5D%2C%20302-351%20KHz%20band%20%5BGSR%20697%20%28E%29%5D%2C%20433-434_79%20MHz%20band%20%5BGSR%20698%20%28E%29%5D%2C%2076-77%20GHz%20band%20%5BGSR%20699%20%28E%29%5D_0.pdf)  [dated 16-Sep-2015](https://dot.gov.in/sites/default/files/Delicensing%20in%2036-38%20MHz%20band%20%5BGSR%20696%20%28E%29%5D%2C%20302-351%20KHz%20band%20%5BGSR%20697%20%28E%29%5D%2C%20433-434_79%20MHz%20band%20%5BGSR%20698%20%28E%29%5D%2C%2076-77%20GHz%20band%20%5BGSR%20699%20%28E%29%5D_0.pdf)  [and subsequent amendments, if any.](https://dot.gov.in/sites/default/files/Delicensing%20in%2036-38%20MHz%20band%20%5BGSR%20696%20%28E%29%5D%2C%20302-351%20KHz%20band%20%5BGSR%20697%20%28E%29%5D%2C%20433-434_79%20MHz%20band%20%5BGSR%20698%20%28E%29%5D%2C%2076-77%20GHz%20band%20%5BGSR%20699%20%28E%29%5D_0.pdf) |
| 4 | 302-435kHz  855-1050kHz  1.89-2.31MHz | Use of Very Low Power Radio Frequency Devices or Equipments for Inductive Applications (Exemption from Licensing Requirements )Amendment Rules, 2018 | [GSR No.996(E)](https://dot.gov.in/sites/default/files/GSR%20996%20dt%205th%20October%2C%202018_4.pdf)  [dated 05-Aug-2018](https://dot.gov.in/sites/default/files/GSR%20996%20dt%205th%20October%2C%202018_4.pdf)  [and subsequent amendments, if any.](https://dot.gov.in/sites/default/files/GSR%20996%20dt%205th%20October%2C%202018_4.pdf) |
| 5 | 13.553 - 13.567 MHz | Use of very low power radio frequency devices for indoor applications (Exemption from Licensing Requirement) Rules, 2010 | [GSR No. 884(E)](https://dot.gov.in/sites/default/files/Delicensing%20in%2013_553-13_567%20MHz%20band%20%5BGSR%20884%20%28E%29%5D_0.pdf)  [dated 04-Nov-2010](https://dot.gov.in/sites/default/files/Delicensing%20in%2013_553-13_567%20MHz%20band%20%5BGSR%20884%20%28E%29%5D_0.pdf)  [and subsequent amendments, if any](https://dot.gov.in/sites/default/files/Delicensing%20in%2013_553-13_567%20MHz%20band%20%5BGSR%20884%20%28E%29%5D_0.pdf). |
| 6 | 26.957 - 27.283 MHz | Use of Low Power Equipment in the Citizen band 26.957 - 27.283 MHz (Exemption from Licensing Requirement) Rules, 2005 | [GSR No. 533(E)](https://dot.gov.in/sites/default/files/Delicesing%20in%20335%20MHz%20band%20%5BGSR%20532%20%28E%29%5D%20and%2026_957-27_283%20MHz%20band%20%5BGSR%20533%20%28E%29%5D_0.pdf)  [dated 12-Aug-2005](https://dot.gov.in/sites/default/files/Delicesing%20in%20335%20MHz%20band%20%5BGSR%20532%20%28E%29%5D%20and%2026_957-27_283%20MHz%20band%20%5BGSR%20533%20%28E%29%5D_0.pdf)  [and subsequent amendments, if any.](https://dot.gov.in/sites/default/files/Delicesing%20in%20335%20MHz%20band%20%5BGSR%20532%20%28E%29%5D%20and%2026_957-27_283%20MHz%20band%20%5BGSR%20533%20%28E%29%5D_0.pdf) |
| 7 | 26.957 - 27.283 MHz | Use of Low Power Equipment in the Citizen band 26.957 - 27.283 MHz (Exemption from Licensing Requirement) **Amendment** Rules, 2006 | [GSR No. 35(E)](https://dot.gov.in/sites/default/files/Delicensing%20in%20335%20MHz%20band%20%5BGSR%2034%20%28E%29%5D%2C%2026_957-27_283%20MHz%20band%20%5BGSR%2035%20%28E%29%5D%2C%205%20GHz%20band%20%5BGSR%2036%20%28E%29%5D%20and%20865-867%20MHz%20band%20%5BGSR%2037%20%28E%29%5D_0.pdf)  [dated 10-Jan-2007](https://dot.gov.in/sites/default/files/Delicensing%20in%20335%20MHz%20band%20%5BGSR%2034%20%28E%29%5D%2C%2026_957-27_283%20MHz%20band%20%5BGSR%2035%20%28E%29%5D%2C%205%20GHz%20band%20%5BGSR%2036%20%28E%29%5D%20and%20865-867%20MHz%20band%20%5BGSR%2037%20%28E%29%5D_0.pdf)  [and subsequent amendments, if any.](https://dot.gov.in/sites/default/files/Delicensing%20in%20335%20MHz%20band%20%5BGSR%2034%20%28E%29%5D%2C%2026_957-27_283%20MHz%20band%20%5BGSR%2035%20%28E%29%5D%2C%205%20GHz%20band%20%5BGSR%2036%20%28E%29%5D%20and%20865-867%20MHz%20band%20%5BGSR%2037%20%28E%29%5D_0.pdf) |
| **S. No.** | **Frequency Range (MHz)** | **Title of the Rule** | **Gazette Notification** |
| 8 | 36 - 38 MHz | Use of very low power radio frequency devices or equipments for Wireless Microphones (Exemption from Licensing Requirement) Rules, 2015 | [GSR No. 696 (E)](https://dot.gov.in/sites/default/files/Delicensing%20in%2036-38%20MHz%20band%20%5BGSR%20696%20%28E%29%5D%2C%20302-351%20KHz%20band%20%5BGSR%20697%20%28E%29%5D%2C%20433-434_79%20MHz%20band%20%5BGSR%20698%20%28E%29%5D%2C%2076-77%20GHz%20band%20%5BGSR%20699%20%28E%29%5D_0.pdf)  [dated 16-Sep-2015](https://dot.gov.in/sites/default/files/Delicensing%20in%2036-38%20MHz%20band%20%5BGSR%20696%20%28E%29%5D%2C%20302-351%20KHz%20band%20%5BGSR%20697%20%28E%29%5D%2C%20433-434_79%20MHz%20band%20%5BGSR%20698%20%28E%29%5D%2C%2076-77%20GHz%20band%20%5BGSR%20699%20%28E%29%5D_0.pdf)  [and subsequent amendments, if any.](https://dot.gov.in/sites/default/files/Delicensing%20in%2036-38%20MHz%20band%20%5BGSR%20696%20%28E%29%5D%2C%20302-351%20KHz%20band%20%5BGSR%20697%20%28E%29%5D%2C%20433-434_79%20MHz%20band%20%5BGSR%20698%20%28E%29%5D%2C%2076-77%20GHz%20band%20%5BGSR%20699%20%28E%29%5D_0.pdf) |
| 9 | 335.7125- 335.8375 MHz | Use of Low Power Equipment in the 335 MHz band for remote control of cranes (Exemption from Licensing Requirement) Rules, 2005 | [GSR No. 532(E)](https://dot.gov.in/sites/default/files/Delicesing%20in%20335%20MHz%20band%20%5BGSR%20532%20%28E%29%5D%20and%2026_957-27_283%20MHz%20band%20%5BGSR%20533%20%28E%29%5D_0.pdf)  [dated 12-Aug-2005](https://dot.gov.in/sites/default/files/Delicesing%20in%20335%20MHz%20band%20%5BGSR%20532%20%28E%29%5D%20and%2026_957-27_283%20MHz%20band%20%5BGSR%20533%20%28E%29%5D_0.pdf)  [and subsequent amendments, if any.](https://dot.gov.in/sites/default/files/Delicesing%20in%20335%20MHz%20band%20%5BGSR%20532%20%28E%29%5D%20and%2026_957-27_283%20MHz%20band%20%5BGSR%20533%20%28E%29%5D_0.pdf) |
| 10 | 335.7125 - 335.8375 MHz | Use of Low Power Equipment in the 335 MHz band for remote control of cranes (Exemption from Licensing Requirement) **Amendment** Rules, 2006 | [GSR No. 34(E)](https://dot.gov.in/sites/default/files/Delicensing%20in%20335%20MHz%20band%20%5BGSR%2034%20%28E%29%5D%2C%2026_957-27_283%20MHz%20band%20%5BGSR%2035%20%28E%29%5D%2C%205%20GHz%20band%20%5BGSR%2036%20%28E%29%5D%20and%20865-867%20MHz%20band%20%5BGSR%2037%20%28E%29%5D_0.pdf)  [dated 10-Jan-2007](https://dot.gov.in/sites/default/files/Delicensing%20in%20335%20MHz%20band%20%5BGSR%2034%20%28E%29%5D%2C%2026_957-27_283%20MHz%20band%20%5BGSR%2035%20%28E%29%5D%2C%205%20GHz%20band%20%5BGSR%2036%20%28E%29%5D%20and%20865-867%20MHz%20band%20%5BGSR%2037%20%28E%29%5D_0.pdf)  [and subsequent amendments, if any.](https://dot.gov.in/sites/default/files/Delicensing%20in%20335%20MHz%20band%20%5BGSR%2034%20%28E%29%5D%2C%2026_957-27_283%20MHz%20band%20%5BGSR%2035%20%28E%29%5D%2C%205%20GHz%20band%20%5BGSR%2036%20%28E%29%5D%20and%20865-867%20MHz%20band%20%5BGSR%2037%20%28E%29%5D_0.pdf) |
| 11 | 402 - 405 MHz | Use of very low power cardiac monitoring radio frequency wireless medical devices, medical implant communication systems (MICS) .... (405 - 405 MHz) (Exemption from Licensing Requirement) Rules, 2008 | [GSR No. 673(E)](https://dot.gov.in/sites/default/files/Delicensing%20in%20402-405%20MHz%20band%20%5BGSR%20673%20%28E%29%5D_0.pdf)  [dated 23-Sep-2008](https://dot.gov.in/sites/default/files/Delicensing%20in%20402-405%20MHz%20band%20%5BGSR%20673%20%28E%29%5D_0.pdf)  [and subsequent amendments, if any.](https://dot.gov.in/sites/default/files/Delicensing%20in%20402-405%20MHz%20band%20%5BGSR%20673%20%28E%29%5D_0.pdf) |
| 12 | 433 - 434 MHz | Use of low power devices or equipments for indoor applications in the 433 to 434 MHz frequency range (Exemption from Licensing Requirement) Rules, 2012 | [GSR No. 680(E)](https://dot.gov.in/sites/default/files/Delicensing%20in%20433-434%20MHz%20band%20%5BGSR%20680%20%28E%29%5D_0.pdf)  [dated 12-Sep-2012](https://dot.gov.in/sites/default/files/Delicensing%20in%20433-434%20MHz%20band%20%5BGSR%20680%20%28E%29%5D_0.pdf)  [and subsequent amendments, if any.](https://dot.gov.in/sites/default/files/Delicensing%20in%20433-434%20MHz%20band%20%5BGSR%20680%20%28E%29%5D_0.pdf) |
| 13 | 433 - 434.79 MHz | Use of very low power radio frequency devices or equipments including the RFID (Exemption from Licensing Requirement) Rules, 2015 | [GSR No. 698(E)](https://dot.gov.in/sites/default/files/Delicensing%20in%2036-38%20MHz%20band%20%5BGSR%20696%20%28E%29%5D%2C%20302-351%20KHz%20band%20%5BGSR%20697%20%28E%29%5D%2C%20433-434_79%20MHz%20band%20%5BGSR%20698%20%28E%29%5D%2C%2076-77%20GHz%20band%20%5BGSR%20699%20%28E%29%5D_0.pdf)  [dated 16-Sep-2015](https://dot.gov.in/sites/default/files/Delicensing%20in%2036-38%20MHz%20band%20%5BGSR%20696%20%28E%29%5D%2C%20302-351%20KHz%20band%20%5BGSR%20697%20%28E%29%5D%2C%20433-434_79%20MHz%20band%20%5BGSR%20698%20%28E%29%5D%2C%2076-77%20GHz%20band%20%5BGSR%20699%20%28E%29%5D_0.pdf)  [and subsequent amendments, if any.](https://dot.gov.in/sites/default/files/Delicensing%20in%2036-38%20MHz%20band%20%5BGSR%20696%20%28E%29%5D%2C%20302-351%20KHz%20band%20%5BGSR%20697%20%28E%29%5D%2C%20433-434_79%20MHz%20band%20%5BGSR%20698%20%28E%29%5D%2C%2076-77%20GHz%20band%20%5BGSR%20699%20%28E%29%5D_0.pdf) |
| 14 | 865 - 867 MHz | Use of low power Equipment in the frequency band 865 – 867 MHz for (RFID) Radio Frequency Identification Devices (Exemption from Licensing Requirement) Rules, 2005 | GSR No. 168(E)  dated 11-Mar-2005  and subsequent amendments, if any. |
| 15 | 865 - 867 MHz | The use of low power Equipment in the frequency band 865 – 867 MHz for (RFID) Radio Frequency Identification Devices (Exemption from Licensing Requirement) **Amendment** Rules, 2006 | [GSR No. 37(E)](https://dot.gov.in/sites/default/files/Delicensing%20in%20335%20MHz%20band%20%5BGSR%2034%20%28E%29%5D%2C%2026_957-27_283%20MHz%20band%20%5BGSR%2035%20%28E%29%5D%2C%205%20GHz%20band%20%5BGSR%2036%20%28E%29%5D%20and%20865-867%20MHz%20band%20%5BGSR%2037%20%28E%29%5D_0.pdf)  [dated 10-Jan-2007](https://dot.gov.in/sites/default/files/Delicensing%20in%20335%20MHz%20band%20%5BGSR%2034%20%28E%29%5D%2C%2026_957-27_283%20MHz%20band%20%5BGSR%2035%20%28E%29%5D%2C%205%20GHz%20band%20%5BGSR%2036%20%28E%29%5D%20and%20865-867%20MHz%20band%20%5BGSR%2037%20%28E%29%5D_0.pdf)  [and subsequent amendments, if any](https://dot.gov.in/sites/default/files/Delicensing%20in%20335%20MHz%20band%20%5BGSR%2034%20%28E%29%5D%2C%2026_957-27_283%20MHz%20band%20%5BGSR%2035%20%28E%29%5D%2C%205%20GHz%20band%20%5BGSR%2036%20%28E%29%5D%20and%20865-867%20MHz%20band%20%5BGSR%2037%20%28E%29%5D_0.pdf) |
| **S. No.** | **Frequency Range (MHz)** | **Title of the Rule** | **Gazette Notification** |
| 16 | 865 - 867 MHz | The use of low power Equipment in the frequency band 865 – 867 MHz for (RFID) Radio Frequency Identification Devices (Exemption from Licensing Requirement) **Amendment** Rules, 2008 | [GSR No. 564(E)](https://dot.gov.in/sites/default/files/Delicensing%20in%20865-867%20MHz%20band%20%5BGSR%20564%20%28E%29%5D_0.pdf)  [dated 30-July-2008](https://dot.gov.in/sites/default/files/Delicensing%20in%20865-867%20MHz%20band%20%5BGSR%20564%20%28E%29%5D_0.pdf)  [and subsequent amendments, if any](https://dot.gov.in/sites/default/files/Delicensing%20in%20865-867%20MHz%20band%20%5BGSR%20564%20%28E%29%5D_0.pdf) |
| 17 | 2400 - 2483.5 MHz | Use of Low Power Equipment in the frequency band 2.4 GHz to 2.4835 GHz (Exemption from Licensing Requirement) Rules, 2005 | [GSR No. 45 (E)](https://dot.gov.in/sites/default/files/Delicensing%20in%202_4%20to%202_4835%20GHz%20band%20%5BGSR%2045%20%28E%29%5D_0.pdf)  [dated 28-Jan-2005](https://dot.gov.in/sites/default/files/Delicensing%20in%202_4%20to%202_4835%20GHz%20band%20%5BGSR%2045%20%28E%29%5D_0.pdf)  [and subsequent amendments, if any.](https://dot.gov.in/sites/default/files/Delicensing%20in%202_4%20to%202_4835%20GHz%20band%20%5BGSR%2045%20%28E%29%5D_0.pdf) |
| 18 | 5150 - 5250 MHz 5250 - 5350 MHz  5470-5725 MHz 5725 - 5875 MHz | Use of Wireless Access Systems (WAS) including Radio Local Area Network (RLAN) in 5GHz (Exemption from Licensing Requirement) Rules, 2018 | [GSR No. 1048(E)](https://dot.gov.in/sites/default/files/License%20Exemption%20in%205%20GHz%20G_S_R_1048%28E%29%20dated%2022nd%20October%2C%202018_0.pdf)  [dated 18-Oct.2018](https://dot.gov.in/sites/default/files/License%20Exemption%20in%205%20GHz%20G_S_R_1048%28E%29%20dated%2022nd%20October%2C%202018_0.pdf)  [and subsequent amendments, if any.](https://dot.gov.in/sites/default/files/License%20Exemption%20in%205%20GHz%20G_S_R_1048%28E%29%20dated%2022nd%20October%2C%202018_0.pdf) |
| 19 | 76000 - 77000 MHz | Use of very low power radio frequency devices or equipments for Short-range Radar Systems (Exemption from Licensing Requirement) Rules, 2015 | [GSR No. 699(E)](https://dot.gov.in/sites/default/files/Delicensing%20in%2036-38%20MHz%20band%20%5BGSR%20696%20%28E%29%5D%2C%20302-351%20KHz%20band%20%5BGSR%20697%20%28E%29%5D%2C%20433-434_79%20MHz%20band%20%5BGSR%20698%20%28E%29%5D%2C%2076-77%20GHz%20band%20%5BGSR%20699%20%28E%29%5D_0.pdf)  [dated 16-Sep-2015](https://dot.gov.in/sites/default/files/Delicensing%20in%2036-38%20MHz%20band%20%5BGSR%20696%20%28E%29%5D%2C%20302-351%20KHz%20band%20%5BGSR%20697%20%28E%29%5D%2C%20433-434_79%20MHz%20band%20%5BGSR%20698%20%28E%29%5D%2C%2076-77%20GHz%20band%20%5BGSR%20699%20%28E%29%5D_0.pdf)  [and subsequent amendments, if any.](https://dot.gov.in/sites/default/files/Delicensing%20in%2036-38%20MHz%20band%20%5BGSR%20696%20%28E%29%5D%2C%20302-351%20KHz%20band%20%5BGSR%20697%20%28E%29%5D%2C%20433-434_79%20MHz%20band%20%5BGSR%20698%20%28E%29%5D%2C%2076-77%20GHz%20band%20%5BGSR%20699%20%28E%29%5D_0.pdf) |
| 20 | 6765-6795 kHz  30-37.5 MHz  401-402 MHz  405-406 MHz  2483.5-2500 MHz  87.5-108 MHz  169.4-169.475 MHz  169.4875-169.5875 MHz  446.0-446.2 MHz  2400-2483.5 MHz  2446-2454 MHz  24.0-24.5 GHz  456.9-457.1 kHz  26900-27000 kHz  27040-27050 kHz  27090-27100 kHz  27140-27150 kHz  27190-27200 kHz  169.8575-169.8125 MHz  61-61.5 GHz | Use of Low Power and Very Low Power Short Range Radio Frequency Devices (Exemption from Licensing Requirements) Amendment Rules, 2018 | [GSR No.1047(E)](https://dot.gov.in/sites/default/files/License%20Exemption%20for%20SRD%20Device%20GSR1047%28E%29%20dated%2018th%20October%2C%202018_0.pdf)  [dated 18-Oct.2018](https://dot.gov.in/sites/default/files/License%20Exemption%20for%20SRD%20Device%20GSR1047%28E%29%20dated%2018th%20October%2C%202018_0.pdf)  [and subsequent amendments, if any](https://dot.gov.in/sites/default/files/License%20Exemption%20for%20SRD%20Device%20GSR1047%28E%29%20dated%2018th%20October%2C%202018_0.pdf) |
| **S. No.** | **Frequency Range (MHz)** | **Title of the Rule** | **Gazette Notification** |
| 21 | Frequency details as per GSR 1046(E) dated 18.10.2018  (for UWB Devices) | Use of Very Low Power Ultra-Wide Band Devices (Exemption from Licensing Requirements) Rules, 2018 | [GSR No.1046(E)](https://dot.gov.in/sites/default/files/License%20Exemption%20for%20UWB%20Device%20GSR1046%28E%29%20dated%2018th%20October%2C%202018_0.pdf)  [dated 18-Oct.2018](https://dot.gov.in/sites/default/files/License%20Exemption%20for%20UWB%20Device%20GSR1046%28E%29%20dated%2018th%20October%2C%202018_0.pdf)  [and subsequent amendments, if any](https://dot.gov.in/sites/default/files/License%20Exemption%20for%20UWB%20Device%20GSR1046%28E%29%20dated%2018th%20October%2C%202018_0.pdf) |
| 22 | 865-868 MHz | Use of Low Power Equipment in the Frequency Band 865-868 MHz for Short Range Devices (Exemption from Licence) Rules, 2021. | [GSR No. 853(E) dated 10-Dec.2021](https://dot.gov.in/sites/default/files/The%20use%20of%20low%20power%20equipment%20in%20the%20frequency%20band%20865-867%20MHz%20for%20short%20range%20devices%20%28Exemption%20from%20License%29%20Rules%2C%202021.pdf) |
| 23 | Frequency details as per GSR 870(E) dated 21.12.2021 | Use of Very Low Power Radio Frequency Devices or Equipments for Inductive Applications (Exemption from License) Rules, 2021. | [GSR No. 870(E) dated 21-Dec.2021](https://dot.gov.in/sites/default/files/870%28E%29%20dated%2021122021%20inductive%20application%209%20kHz-30%20MHz.pdf) |
| 24 | 433-434 MHz | The Use of Low Power Radio Frequency Devices in the  frequency band 433.05 to 434.79 MHz (Exemption from License) Rules, 2022 | [GSR No. 347(E) dated 09-May 2022](https://dot.gov.in/sites/default/files/Rules%20for%20Use%20of%20Low%20Power%20Radio%20Frequency%20Devices%20in%20the%20frequency%20band%20433-434%20MHz%20%28Exemption%20from%20License%29%20Rules%2C%202022.pdf) |

**Annexure-2**

**List of Commonly Used Frequencies**

The following is the List of frequencies used for the purpose shown against them.

|  |  |  |  |
| --- | --- | --- | --- |
| **Sl. No.** | **Frequency** | **Purpose** | **Remarks** |
| 1 | 148.5, 148.575, 166.875, 167.725 MHz | Construction and allied industries, including remote control of EOT | Channel bandwidth of 10 KHz.  The maximum RF transmitter power for EOT cranes is 1 mW. |
| 2 | 150.3, 150.9 and 151.07 MHz | Onsite radio paging | In the frequency range 150.05-151.5 MHz |
| 151.15, 151.55 and 150.6 MHz | Talk back facility for on-site radio paging |
| 3 | 150.525, 151.250 and 166.950 MHz | O.B. Vans & film shooting |  |
| 4 | 350.1625, 350.1750, 350.1875, 350.2000, 350.2125, 350.2250, 350.2375, 350.2500, 350.2625, 350.2750, 350.2875, 350.3000, 350.3125, 350.3250, 350.3375, 350.3500, 350.3625, 350.3750, 350.3875, 350.4000, 350.4125, 350.4250, 350.4375, 350.45, 350.4625, 350.4750, 350.4875, 350.5000, 350.5125, 350.5250 and  350.5375 MHz | Short-range radios |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Sl. No.** | **Frequency** | **Purpose** | **Remarks** |
| 5 | **Base unit**: 1610, 1640, 1675, 1690 kHz,  43.720, 43.740, 43.820, 43.840, 43.920, 43.960, 44.120, 44.160, 44.180, 44.200, 44.320, 44.360, 44.400, 44.460, 44.480, 46.610, 46.630, 46.670, 46.675, 46.710, 46.725, 46.730, 46.770, 46.775, 46.825, 46.830, 46.870, 46.930 and 46.970 MHz  **Remote Unit**: 26.375, 26.475, 26.575, 26.625, 48.760, 48.840, 48.860, 48.920, 49.020, 49.080, 49.100, 49.160, 49.200, 49.240, 49.280, 49.360, 49.400, 49.460, 49.500, 49.670, 49.770, 49.830, 49.845, 49.850, 49.860, 49.875, 49.890, 49.930, 49.970, 49.90, 150.350, 150.750, 150.850 and 150.950 MHz | Cordless Telephones |  |
| 6 | 849.0125/933.0125, 849.0250/933.0250, 849.0375/933.0375, 849.0500/933.0500, 849.0625/933.0625, 849.0750/933.0750, 849.0875/933.0875, 849.1000/933.1000, 849.1125/933.1125, 849.1250/933.1250 MHz | Supervisory control and data acquisition system (SCADA) | Except in a few specific locations |