

29. चयनशीलता :
30. कोई अन्य विशिष्टियां :

आवेदक के हस्ताक्षर

स्थान :

तारीख :

(नोट: उपकरण के प्रत्येक प्रकार के लिए अलग आवेदन प्रस्तुत किया जाना चाहिए।)

**MINISTRY OF COMMUNICATIONS**  
(Wireless Planning and Coordination Wing)

**NOTIFICATION**

New Delhi, the 10th December 2021

**G.S.R. 853(E).**—In exercise of the powers conferred by sections 4 and 7 of the Indian Telegraph Act, 1885 (13 of 1885) and sections 4 and 10 of the Indian Wireless Telegraphy Act, 1933 (17 of 1933), and in supersession of the Use of low power equipment in the frequency band 865-867 MHz for (RFID) Radio Frequency Identification Devices (Exemption from Licensing Requirement) Rules, 2005, the Central Government hereby makes the following rules, namely: —

**1. Short title, commencement and application.** — (1) These rules may be called the Use of Low Power Equipment in the Frequency Band 865-868 MHz for **Short Range Devices** (Exemption from Licence) Rules, 2021.

(2) They shall come into force on the date of their publication in the Official Gazette.

(3) These rules shall not be applicable to the wireless equipment which has been type approved under the Use of low power equipment in the frequency band 865-867 MHz for (RFID) Radio Frequency Identification Devices (Exemption from Licensing Requirement) Rules, 2005, and shall be effective till the end of its life.

**2. Definitions.** — (1) In these rules, unless the context otherwise requires, -

(a) “Act” means the Indian Telegraph Act, 1885 (13 of 1885);

(b) “Authority” means the authority notified by the Central Government under sub-section (2) of section 4 of the Indian Telegraph Act, 1885 (13 of 1885);

(c) “effective radiated power” or e.r.p. means the product of the power supplied to an antenna and its gain in a given direction relative to a half-wave dipole.

(d) “duty cycle” means ratio expressed as a percentage of the cumulative duration of transmission  $T_{on\_cum}$  within an observation interval  $T_{obs}$ ;

$$\text{duty cycle } DC = \left( \frac{T_{on\_cum}}{T_{obs}} \right)_{F_{obs}} \text{ on an observation bandwidth } F_{obs};$$

(2) The words and expressions used in these rules and not defined herein but defined in the Act and the Indian Wireless Telegraphy Act, 1933 (17 of 1933), shall have the same meanings respectively as assigned to them in those Acts.

**3. Exemption.** — No licence shall be required by any person to establish, maintain, work, possess or deal in any wireless telegraphy apparatus for the purpose of usage of low power short range radio frequency devices or wireless equipment, on non-interference, non-protection and shared and nonexclusive basis, complying with the technical specifications and working in the frequency band contained in the Tables-I to IV below, namely: —

**Table-I**  
**Non-Specific Short Range Devices**

S.No.	Frequency range in MHz	Transmit/ Radiated power limit	Additional parameters (channeling and/ or channel access and occupation rules)	Other usage restrictions	*EN No.
(1)	(2)	(3)	(4)	(5)	(6)
1	865-868	25 mW e.r.p.	Duty cycle limit <sup>#</sup> : 1%	FHSS; Maximum occupied bandwidth $\leq$ 50 kHz for 58 or more hop channels	EN 300 220

# The duty cycle applies to the entire transmission (not to each hop channel)

\*EN: is a number and acronym used for Harmonized European Standard as produced by European Telecommunications Standards Institute (ETSI).

**Note:** For the purpose of this Table, Non-Specific Short Range Devices primarily include devices for Telemetry, Telecommand, Alarms and Data in general and other similar applications.

**Table-II**  
**Tracking, Tracing and Data Acquisition Devices**

S.No.	Frequency range in MHz	Transmit/ Radiated power limit	Additional parameters (channeling and/ or channel access and occupation rules)	Other usage restrictions	*EN No.
(1)	(2)	(3)	(4)	(5)	(6)
1	865-868	500 mW e.r.p.	Adaptive Power Control (APC) required and the following Duty Cycle restrictions:  Duty cycle $\leq$ 10% for network access points; $\leq$ 2.5% otherwise	$\leq$ 200 kHz	EN 300 220

\*EN: is a number and acronym used for Harmonized European Standard as produced by European Telecommunications Standards Institute (ETSI).

**Note:** For the purpose of this Table, Tracking, Tracing and Data Acquisition Devices also include devices for Emergency detection of buried victims and valuable items such as detecting avalanche victims; Person detection and collision avoidance; Meter reading; Sensors (water, gas, electricity, meteorology, pollution, etc.) and actuators (controlling devices such as street or traffic lights, etc.); Data acquisition; Wireless Industrial Applications (WIA) to be used in industrial environments including monitoring and worker communications, wireless sensors and actuators.

**Table-III**  
**Wideband Data Transmission Systems**

S.No.	Frequency range in MHz	Transmit/ Radiated power limit	Additional parameters (channelling and/ or channel access and occupation rules)	Other usage restrictions	*EN No.
(1)	(2)	(3)	(4)	(5)	(6)
1	865-868	25 mW e.r.p.	Duty cycle $\leq$ 10% for network access points;	$>$ 600 kHz $\leq$ 1 MHz	EN 304 220

			≤ 2.8% otherwise		
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\*EN: is a number and acronym used for Harmonized European Standard as produced by European Telecommunications Standards Institute (ETSI).

**Table-IV**  
**Radio Frequency Identification Applications**

S.No.	Frequency range in MHz	Transmit/Radiated power limit	Additional parameters (channelling and/or channel access and occupation rules)	Other usage restrictions	*EN No.
(1)	(2)	(3)	(4)	(5)	(6)
1	865-868	2 W e.r.p. <sup>^</sup>	≤ 200 kHz	The maximum period of continuous interrogator transmission on a channel shall not exceed 4s and the period between consecutive transmissions of an interrogator on the same channel shall be at least 100ms in order to ensure most efficient use of available channels for the general benefit of all users	EN 302 208

<sup>^</sup> Interrogator transmissions at 2 W e.r.p. are only permitted within the four channels centred at 865.7 MHz, 866.3 MHz, 866.9 MHz and 867.5 MHz; each with a maximum bandwidth of 200 kHz. RFID tags respond at a very low power level (-20 dBm e.r.p.) in a frequency range around the RFID interrogator channels.

\*EN: is a number and acronym used for Harmonized European Standard as produced by European Telecommunications Standards Institute (ETSI).

**Note:** For the purpose of this Table, Radio Frequency Identification Applications also include automatic article identification, asset tracking, alarm systems, waste management, personal identification, access control, proximity sensors, anti-theft systems, location systems, data transfer to handheld devices and wireless control systems.

**4. Interference.** — (1) Radio interference is the effect of unwanted energy due to one or a combination of emissions, radiations or induction upon reception in a radio communication system, manifested by any performance degradation, misinterpretation, or loss of information which could be extracted in the absence of such unwanted energy. Where any person, whom a licence has been issued under the provisions of section 4 of the Act, informs the Authority that his licensed system is getting harmful interference from any other radio communication system exempted under these rules, then such authority shall call upon the user of such unlicensed wireless equipment to take necessary steps to avoid interference by relocating the equipment, reducing the power and using special type of antennae, failing which such Authority shall recommend discontinuation of such wireless use.

(2) The Authority shall give a reasonable opportunity to the user of wireless equipment before making recommendation of discontinuation of wireless use under sub-rule (1)

**5. Equipment type approval.** — (1) The wireless equipment shall be designed and constructed in such a manner that the bandwidth of emission and other parameters shall conform to the limits specified in rule 3 and such equipment shall be type approved. The application for obtaining equipment type approval shall be made to the Central Government in the format given in Annexure.

(2) The equipment shall comply with the respective EN number for effective use of spectrum and to avoid harmful interference.

(3) The safety related requirements shall be as per the International or National standards such as International Telecommunication Union (ITU)/ European Telecommunications Standards Institute (ETSI) / American National Standards Institute (ANSI) / Bureau of Indian Standards (BIS) / International Commission on Non-Ionizing Radiation Protection (ICNIRP) for the respective devices and frequency bands.

[F. No. R-11018/06/2020-PP]

ASHIM DUTTA, Dy. Wireless Adviser

### ANNEXURE

#### APPLICATION FOR EQUIPMENT TYPE APPROVAL

(Refer sub-rule (1) of rule 5)

#### Section-A- Applicant

1. Name of manufacturing agency applying :  
for equipment type approval
2. Postal Address of manufacturing Agency :
3. Name and address of Indian agency  
applying for the type approval.
4. Name of product and the product  
Identification (model number etc.) :
- Section- B- Details of Transmitter :
5. Frequency range :
6. No. of preset switchable channels :
7. No. of voice /Data/ TV Channels :  
(In case of multi- channel equipment)
8. Tx-Rx channel separation :  
(In case of Duplex/multi-channel equipment)
9. Adjacent channel separation :  
(In case of multi-channel equipment)
10. Frequency stability :
11. Spurious/ Harmonic radiations :
  - i. Carrier suppression :  
(In case of carrier suppressed systems)
  - ii. Unwanted side band suppression :  
(In case of SSB systems)
  - iii. 2<sup>nd</sup> Harmonic radiations :
  - iv. 3<sup>rd</sup> Harmonic radiations :
12. Max. Frequency Deviation :

13. Mode of emission :
14. Bandwidth of emission :
15. Test Tone deviation :
16. Base band frequency :  
(In case of multi-channel equipment)
17. Type of modulation to be required :
18. Pre-emphasis :
19. Power output :  
(At the input of antenna)
20. Any other information :  
Section-C- Details of Receivers :
21. Frequency range :
22. Mode of reception :
23. Spurious response of receiver :
24. Sensitivity :
25. Frequency stability :
26. (a) Effective noise temperature :  
(b) Threshold input level :
27. Intermediate frequency :
28. De-emphasis :
29. Selectivity :
30. Any other particulars :

**Signature of the applicant**

**Place :**

**Date :**

(Note : Separate application should be submitted for each type of equipment.)