



**MINISTRY OF TRANSPORT AND COMMUNICATIONS
POSTS AND TELECOMMUNICATIONS DEPARTMENT
NAY PYI TAW**

TECHNICAL SPECIFICATIONS FOR SHORT RANGE DEVICES (SRD)

Posts and Telecommunications Department (PTD) issued “ Technical specification for Short Range Device (SRD) ” pursuant to Section 26 of Telecommunications Law:

Technical Specification for Short Range Device (SRD)

1. Scope of Specification

This Specification defines the minimum technical requirements for short range device transmitters and receivers to operate in one of the authorised frequency bands or frequencies, and transmit within the corresponding output power levels given in Table. Short range devices are intended for communications in confined areas of buildings as well as for localised on-site operations.

Short range devices may be fixed, mobile or portable stations that come with a radio frequency output connector and dedicated antenna or an integral antenna. Applications include alarms, identification systems, radio-detection, vehicle radar systems, wireless local area networks, remote controls, telecommand, telemetry and on-site paging systems. These devices may employ different types of modulation and may have speech application.

2. Requirements

2.1 General Requirements

Short range devices shall be designed to meet the following basic objectives:

(a)The device is intended for operating in unprotected and shared frequency bands. Its operation shall not cause interference with other authorised radio-communication services, and be able to tolerate any interference caused by other radio-communication services, electrical or electronic equipment.

(b)The device shall not be constructed with any external or readily accessible control which permits the adjustment of its operation in a manner that is inconsistent with this Specification.

(c)The device shall be marked with the supplier/manufacturer’s name or identification mark, and the supplier/manufacturer’s model or type reference. The markings shall be legible, indelible and readily visible.

2.2 **Technical Requirements**

The short range device shall comply with the maximum field strength or radio frequency (RF) output power and spurious emissions given in Table, operating in its intended frequency band or frequencies. It shall fulfil the relevant requirements of this Specification on all the permitted frequencies which it is intended to operate.

3 **Abbreviation**

For the purposes of this Technical Code, the following abbreviation applies.

SRD	Short Range Devices
SRC	Short Range Communication
RFID	Radio Frequency Identification Device
ISM	Industrial, Scientific and Medical
WLAN	Wireless Local Area Network
FCC	Federal Communications Commission

- 4 The PTD shall keep the use of the relevant bands under scrutiny and regularly and timely review this Order.

Table : Technical Requirement for Short Range Devices (SRD)

No	Authorised Frequency Bands/ Frequencies	Maximum Field Strength / RF Output power	Applicable Radio Standards	Typical Application Types	Remark
1	9 – 315 kHz	≤ 30 dBmA/m @ 10m	EN 302 195-1	Active medical implant devices	
2	16 – 150 kHz	≤ 66 dB μ A/m @ 10m	EN 300 224-1 EN 300 330-1	Induction loop system /RFID	
		≤ 100 dB μ V/m @ 3m	FCC Part 15 EN 300 330-1 EN 300 291-1	Radio detection , alarm system	
3	150 – 5000 kHz	≤ 13.5 dB μ A/m @ 10m	EN 300 224-1 EN 300 330-1	Induction loop system /RFID	
4	510 – 1600 kHz	≤ 57 dB μ V/m @ 3m	FCC Part 15 EN 300 220-1	Wireless microphone	
5	6765 – 6795 kHz	≤ 42 dB μ A/m @ 10m	FCC Part 15 EN 300 224-1 EN 300 330-1	Induction loop system /RFID	
6	7400 – 8800 kHz	≤ 9 dB μ A/m @ 10m	EN 300 224-1 EN 300 330-1	Induction loop system /RFID	
7	10200 – 11000 kHz	9 dB μ A/m @ 10m	FCC Part 15 §15.209 EN 300 330-1	Induction loop system /RFID	
8	13.553 – 13.567 MHz	≤ 94 dB μ V/m @ 10m	FCC Part 15 EN 300 330-1	SRC devices / RFID / Radio detection , alarm system	
		500 mW (EIRP)	EN 302 291-1	ISM devices	
9	26.957 – 27.283 MHz	≤ 100 mW (ERP)	FCC Part 15	SRC devices	
		500 mW (EIRP)	EN 300 220-1	ISM devices	
10	34.995 – 35.225 MHz	≤ 100 mW (ERP)	FCC Part 15 EN 300 220-1	SRC devices	
11	40.66 – 40.7 MHz	≤ 65 dB μ V/m @ 10m	FCC Part 15	Wireless microphone	
		500 mW (ERP)	EN 300 220-1	SRC/ISM devices	

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12	87.5 – 108 MHz	50 nW (ERP)	EN 300 220-1	SRC devices	
		50 mW (EIRP)	EN 301 357	Wireless microphone	
13	169.4 – 175.00 MHz	≤ 500 mW (ERP)	FCC Part 15 EN 300 220-1 EN 300 422-1	SRC devices / Wireless microphone, Hearing / Audio assistance aids	
14	180 – 200 MHz	50 mW (EIRP)	FCC Part 15 EN 300 220-1	Wireless microphone, Hearing / Audio assistance aids	
15	216 – 218.475 MHz	≤ 100 mW (ERP)	FCC Part 15 EN 300 220-1	Medical and Biological telemetry	
		50 mW (EIRP)		Wireless microphone	
16	228.0063 – 228.9937 MHz	50 mW (EIRP)	EN 300 220-1	Remote Controlled, Security devices	
17	240.15 – 240.30 MHz	≤ 100 mW (ERP)	FCC Part 15 EN 300 220-1	Radio detection, alarm system	
18	300 – 320 MHz	≤ 100 mW (ERP)	FCC Part 15 EN 300 220-1	Radio detection, alarm system	
		50 mW (EIRP)	EN 300 220-1	Remote Controlled, Security devices	
19	402 – 405 MHz	25 μW (EIRP)	EN 301 839-1	Active medical implant device	
20	433 – 435 MHz	≤ 10 mW (ERP)	FCC Part 15 EN 300 220-1	Radio telemetry , telecommand system	
		100 mW (EIRP)	EN 300 220-1	RFID	
21	470 – 806.00 MHz	≤ 10 mW (ERP)	FCC Part 15 EN 300 220-1	Wireless microphone	
22	866 – 869 MHz	≤ 500 mW (ERP)	FCC Part 15 EN 300 220-1 EN 302 208	RFID, SRC devices	

Table : Technical Requirement for Short Range Devices (SRD)

No	Authorised Frequency Bands/ Frequencies	Maximum Field Strength / RF Output power	Applicable Radio Standards	Typical Application Types	Remark
23	919 – 923 MHz	≤ 500 mW (ERP)	FCC Part 15 EN 300 220-1 EN 302 208	Radio telemetry, telecommand, RFID System	
24	1880 – 1900 MHz	250 mW (EIRP)	EN 300 176	SRC device	
25	2400 – 2500 MHz	≤ 100 mW (EIRP)	FCC Part 15 EN 300 440-1 EN 302 288-1	Bluetooth, SRD device	
		≤ 200 mW (EIRP)	FCC Part 15 §15.247 EN 300 328	Wireless LAN only	
		500 mW (EIRP)	FCC Part 15 EN 300 440-1	RFID	
26	5725 – 5875 MHz Note 1	≤ 100 mW (EIRP)	FCC Part 15	SRD	
		≤ 1000 mW (EIRP)	§15.247 or §15.407	Wireless LAN/ Broadband access	
27	10.5 – 10.55 GHz	≤ 117 dB μ V/m @ 10m	FCC Part 15 EN 300 440-1 EN 302 288-1	Wireless video transmitter and other SRD application	
28	24 – 24.25 GHz	500 mW (EIRP)	FCC Part 15	ISM device	
		1W (EIRP)	EN 300 440-1	SRC device	
29	57 – 66 GHz	≤ 10 W (EIRP)	EN 302 567 EN 305 550-1	Wireless LAN and Broadband Access	
30	61 – 61.5 GHz	500 mW (EIRP)	FCC Part 15 EN 305 550-1	ISM device	
31	76 – 77 GHz	50 mW (ERP)	EN 305 550-1	Security device	
		5 W (EIRP)	FCC Part 15 EN 301 091-1	Short range radio determination	

Note 1 For 5725 – 5875 MHz , (1W (EIRP) < RF Output power ≤ 4W (EIRP)) need to get the approval from Posts and Telecommunications Department.

Annex A

Normative references

- ETSI EN 300 176 Digital Enhanced Cordless Telecommunications (DECT); Approval test specification;
- ETSI EN 300 220-1 Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio Equipment to be used in the 25 MHz to 1000 MHz frequency range with power levels ranging up to 500 mW; Part 1: Technical characteristics and test methods
- ETSI EN 300 224-1 Electromagnetic compatibility and Radio spectrum Matters (ERM); On-site paging service; Part 1: Technical and functional characteristics, including test methods
- ETSI EN 300 330-1 Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment in the frequency range 9 kHz to 25 MHz and inductive loop systems in the frequency range 9 kHz to 30 MHz; Part 1: Technical characteristics and test methods
- ETSI EN 300 328 Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband transmission systems; Data transmission equipment operating in the 2.4 GHz ISM band and using spread spectrum modulation techniques; Harmonised EN covering essential requirements under article 3.2 of the R&TTE Directives
- ETSI EN 300 422-1 Electromagnetic compatibility and Radio spectrum Matters (ERM); Wireless microphones in the 25 MHz to 3 GHz frequency range;
- ETSI EN 300 440-1 Electromagnetic compatibility and Radio spectrum Matters (ERM); Short range devices; Radio equipment to be used in the 1 GHz to 40 GHz frequency range; Part 1: Technical characteristics and test methods
- ETSI EN 301 091 Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices; Road Transport and Traffic Telematics (RTTT); Radar equipment operating in the 76 GHz to 77 GHz range;

- ETSI EN 301 357 Electromagnetic compatibility and Radio spectrum Matters (ERM); Technical characteristics and test methods for analogue cordless wideband audio devices using integral antennas operating in the CEPT recommended 863 MHz to 865 MHz frequency range
- ETSI EN 301 839 Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Ultra Low Power Active Medical Implants (ULP-AMI) and Peripherals (ULP-AMI-P) operating in the frequency range 402 MHz to 405 MHz;
- ETSI EN 302 195 Electromagnetic compatibility and Radio spectrum Matters (ERM); Radio equipment in the frequency range 9 kHz to 315 kHz for Ultra Low Power Active Medical Implants (ULP-AMI) and accessories; Part 1: Technical characteristics and test methods
- ETSI EN 302 208 Electromagnetic compatibility and Radio spectrum Matters (ERM); Radio Frequency Identification equipment operating in the band 865 MHz to 868 MHz with power levels up to 2 W
- ETSI EN 302 288 Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices; Road Transport and Traffic Telematics (RTTT); Short range radar equipment operating in the 24 GHz range;
- ETSI EN 302 291 Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Close Range Inductive Data Communication equipment operating at 13,56 MHz;
- ETSI EN 305 550-1 Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment to be used in the 40 GHz to 246 GHz frequency range; Part 1 : Technical characteristics and test methods
- ETSI EN 302 567 Broadband Radio Access Networks (BRAN); 60 GHz Multiple-Gigabit WAS/RLAN Systems; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive

- FCC Part 15 Radio Frequency Devices
 - Subpart A – General
 - § 15.31 Measurement Standards
 - § 15.33 Frequency Range of Radiated Measurements
 - § 15.35 Measurement Detector Functions and Bandwidths

- FCC Part 15 Radio Frequency Devices
 - Subpart C – Intentional Radiators
 - § 15.209 Radiated emission limits, general requirements
 - § 15.219 Operation in the band 510 – 1705 kHz
 - § 15.225 Operation in the band 13.553 – 13.567 MHz
 - § 15.227 Operation in the band 26.96 – 27.28 MHz
 - § 15.231 Periodic operation in the band 40.66 – 40.70 MHz and above 70 MHz

 - § 15.239 Operation in the band 88 – 108 MHz
 - § 15.242 Operation in the bands 174 –216 MHz and 470 – 668 MHz
 - § 15.245 Operation in the bands 902 – 928 MHz, 2435 – 2465 MHz, 5785 – 5815 MHz, 10500 – 10550 MHz and 24075 – 24175 MHz
 - § 15.247 Operation within the bands 902 – 928 MHz, 2400 –2483.5 MHz, and 5725 – 5850 MHz
 - § 15.249 Operation within the bands 902 – 928 MHz, 2400 –2483.5 MHz, 5725 – 5875 MHz and 24.0 – 24.25 GHz
 - § 15.253 Operation within the bands 46.7 – 46.9 GHz and 76.0 –77.0 GHz

- FCC Part 15 Radio Frequency Devices
 - Subpart E – Unlicensed National Information Infrastructure Devices
 - § 15.407 General technical requirements