

Users Guidelines

Ultra-Wide Band and Short-Range Devices (SRD)

1.0 Definitions

- 1.1 Short-Range Device (SRD)**
fixed, mobile or portable devices for various radio applications operating with technical condition.
- 1.2 APC**
Automatic / Adaptive Power Control.
- 1.3 Broadband Radio Access Networks (BRAN)**
networks using equipment complying with technical specifications as set out in ETIS EN 301 893 and ETSI EN302 567. This includes equipment based on IEEE 802.11 family of standards.
- 1.4 DFS**
Dynamic Frequency Selection.
- 1.5 DECT**
Digital Enhanced Cordless Telecommunications in accordance with applicable European Telecommunications Standards Institute (ETSI) standards.
- 1.6 ETSI**
European Telecommunications Standards Institute that produces globally-applicable standards for Information and Communications Technologies (ICT), including fixed, mobile, radio, converged, broadcast and Internet technologies.
- 1.7 Frequency Hopping Spread Spectrum(FHSS)**
a spread spectrum technique in which the transmitter signal occupies several frequencies in time, each for some period.
- 1.8 IEEE**
means the Institute of Electrical and Electronics Engineers.
- 1.9 PMSE**
Programme Making and Special Events, i.e. those uses of the radio spectrum which support the production of content and for certain special events.

1.10 Radio Frequency Identification (RFID)

system that enable data to be transmitted by a transponder (tag) via radio signals which are received by an RFID interrogator and processed according to the needs of a particular application. UAE means the United Arab Emirates including its territorial waters and the airspace above.

1.11 Radio Local Area Network (RLAN)

equipment means equipment complying with technical specifications as set out in ETIS EN 301 893 and ETSI EN302 567. This includes equipment based on IEEE 802.11 family of standards.

1.12 AFA

Adaptive Frequency Agility.

1.13 Transmit Power Control (TPC)

a technique in which the transmitter output power is controlled resulting in reduced interference to other systems.

1.14 Ultra-Wide Band (UWB)

Devices that employ spreading of the radio energy over a very wide frequency band, with a very low power spectral density operating with technical conditions as defined in Article 4.

1.15 Wireless Local Area Networks (WLAN)

network of connected equipment connected without the use of wires using IEEE 802.11 family of standards.

2.0 Uses related to Ultra-Wide Band and Short-Range Devices

2.1 The following Wireless Equipment are covered by this regulation.

2.1.1 Ultra-Wide Band (UWB).

2.1.2 Short-Range Devices (SRD).

2.2 The usage is allowed on a non-interference and non-protection basis.

3.0 Technical Conditions

3.1 The technical conditions as given in these regulations shall apply on the use of Short-Range Devices.

3.2 The following table gives guidance on available frequency ranges and major usage conditions:

Frequency range	Usage	Transmit power / Magnetic field	Duty cycle	Channel Spacing	Reference
9 kHz – 59.75 kHz	Inductive applications	72 dB μ A/m at 10m			EN 300 330
59.75 kHz –60.25 kHz	Inductive applications	42 dB μ A/m at 10m			EN 300 330
60.25 kHz - 90kHz	Inductive applications	72 dB μ A/m at 10m			EN 300 330
9 kHz - 315 kHz	Active Medical Implants and their associated peripherals	30 dB μ A/m at 10m	$\leq 10 \%$		EN 302 195
90 kHz - 140 kHz	Inductive applications	42 dB μ A/m at 10m			EN 300 330
140 kHz - 148.5 kHz	Inductive applications	37.7 dB μ A/m at 10m			EN 300 330
148.5 kHz - 5000 kHz	Inductive applications	-15 dB μ A/m at 10 m			EN 300 330
315 kHz- 600 kHz	Active Medical Implants and their associated peripherals	-5 dB μ A/m at 10m	$\leq 10 \%$		EN 302 536
400 kHz - 600 kHz	Inductive applications	-8 dB μ A/m at 10 m			EN 300 330
456.9 kHz - 457.1 kHz	Tracking, tracing and data acquisition	7 dB μ A/m at 10 m		No modulation allowed	EN 300 718

984 kHz - 7484 kHz	Railway applications	9 dB μ A/m at 10m	$\leq 1.0 \%$		EN 302 608
3155 kHz - 3400 kHz	Inductive applications	13.5 dB μ A/m at 10m			EN 300 330
5000 kHz – 30 MHz	Inductive applications	-20 dB μ A/m at 10 m			EN 300 330
6765 kHz - 6795 kHz	Non-specific	42 dB μ A/m at 10m			EN 300 330
7300 kHz - 23000 kHz	Railway applications	-7 dB μ A/m at 10m			EN 302 609
7400 kHz - 8800 kHz	Inductive applications	9 dB μ A/m at 10m			EN 300 330
10200 kHz - 11000 kHz	Inductive applications	9 dB μ A/m at 10m			EN 300 330
11810 kHz - 12660 kHz	Inductive applications	-16 dB μ A/m at 10m			EN 300 330
12500 kHz - 20000 kHz	Active Medical Implants and their associated peripherals	-7 dB μ A/m at 10m	$\leq 10 \%$		EN 300 330
13553 kHz - 13567 kHz	Non-specific	42 dB μ A/m at 10m			EN 300 330
	RFID and EAS	60 dB μ A/m at 10m			EN 300 330
13567 kHz - 13660 kHz	Inductive applications	27 dB μ A/m at 10m			EN 300 330
13660 kHz - 13710 kHz	Inductive applications	9 dB μ A/m at 10m			EN 300 330
13710 kHz - 14010 kHz	Inductive applications	-3.5 dB μ A/m at 10m			EN 300 330
14010 kHz - 14460 kHz	Inductive applications	-10 dB μ A/m at 10m			EN 300 330
14460 kHz - 15310 kHz	Inductive applications	-16 dB μ A/m at 10m			EN 300 330
26957 kHz - 27283 kHz	Non-specific	42 dB μ A/m at 10m 10 mW e.r.p			EN 300 330
26995, 27045, 27095, 27145, 27195 kHz	Non-specific	100 mW e.r.p	$\leq 0.1 \%$	≤ 10 kHz	EN 300 220
29.7 MHz - 47.0 MHz	Radio microphone applications	10 mW e.r.p		≤ 50 kHz	EN 300 422
30 MHz - 37.5 MHz	Active Medical Implants and their associated peripherals	1 mW e.r.p	$\leq 10 \%$		EN 302 510
34.995 MHz - 35.225 MHz	Model control	100 mW e.r.p		10 kHz	EN 300 220
40.66 MHz - 40.7 MHz	Non-specific	10 mW e.r.p			EN 300 220

40.665, 40.675, 40.685, 40.695 MHz	Model control	100 mW e.r.p		≤10 kHz	EN 300 220
72 MHz - 72.25 MHz	Model control	10 mW e.r.p		≤ 10 kHz	EN 300 220
87.5 MHz – 108 MHz	Wireless audio applications	50 nW e.r.p		≤200 kHz	EN 301 357
138.2 MHz - 138.45 MHz	Non-specific	≤ 10 mW e.r.p			EN 300 220
169.4 MHz - 169.475 MHz	Non-specific	10 mW e.r.p	≤ 0.1 %		EN 300 220
169.475 MHz - 169.4875 MHz	Non-specific	10 mW e.r.p	≤ 0.1 %		EN 300 220
	Aids for the hearing impaired	10 mW e.r.p	≤ 50 kHz		EN 300 422
169.4875 MHz - 169.5875 MHz	Non specific	10 mW e.r.p	≤ 0.001% (06h00 - 24h00) ≤ 0.1% (00h00 - 06h00)	Non-specific	EN 300 220
169.5875 MHz - 169.8125 MHz	Non-specific	10 mW e.r.p	≤ 0.1 %		EN 300 220
	Aids for the hearing impaired	10 mW e.r.p		≤ 50 kHz	EN 300 422
169.4 MHz - 174 MHz	Aids for the hearing impaired	10 mW e.r.p		≤ 50 kHz	EN 300 422
312 MHz – 315 MHz	Keyless car entry	50 mW e.r.p			EN 300 220
401 MHz – 402 MHz	Active Medical Implants and their associated peripherals	25 uW e.r.p		≤ 100 kHz	EN 302 537
402 MHz – 405 MHz	Active Medical Implants and their associated peripherals	25 uW e.r.p		≤ 300 kHz	EN 301 839
405 MHz – 406 MHz	Active Medical Implants and their associated peripherals	25 uW e.r.p		≤ 100 kHz	EN 302 537
433.05 MHz - 434.79 MHz	Non-specific LPD 433	10 mW	10% (see note 2)	No requirement	EN 300 220
33.05 MHz - 434.79 MHz		1 mW For bandwidth greater than 250 kHz the power density is limited to -13 dBm/ 10 kHz	100%	No requirement	EN 300 220
434.04 MHz - 434.79 MHz		10 mW	100%	≤ 25 kHz	EN 300 220

446 MHz - 446.2 MHz	PMR 446	500 mW			TS 102 490
863 MHz – 870 MHz	Non-specific	25 mW e.r.p	≤ 0.1 % or LBT		EN 300 220
	SRD860	10 mW e.r.p		25 kHz	
868.7 MHz – 869.2 MHz	Automatic Meter Reading	25 mW e.r.p			EN 300 220
869.4 MHz - 869.65 MHz	Non-specific	500 mW e.r.p	≤ 10% or LBT +AFA	≤ 25 kHz. ⁱ	EN 300 220
865 MHz - 865.6 MHz	RFID	100 mW e.r.p		≤ 200 kHz	EN 302 208
865.6 MHz - 867.6 MHz	RFID	2 W e.r.p		≤ 200 kHz	EN 302 208
867.6 MHz - 868 MHz	RFID	500 mW e.r.p		≤ 200 kHz	EN 302 208
870 MHz - 875.4 MHz	Non-specific	10 mW e.r.p			EN 300 220
870 MHz - 875.8 MHz	Non-specific	25 mW e.r.p	≤ 1 %	≤ 600 kHz	EN 300 220
870 MHz – 876 MHz	Non-specific	25 mW e.r.p	≤ 0.1 %	≤ 200 kHz	EN 300 220
870 MHz - 875.6 MHz	Tracking, tracing and data acquisition	500 mW e.r.p	≤ 2.5% and APC ¹	≤ 200 kHz	EN 303 204
870 MHz - 875.8 MHz	Transport and traffic telematics	500 mW e.r.p (vehicle to vehicle) 100 mW e.r.p. (in vehicle application)	≤ 0.1 % ³	≤ 500 kHz	EN 300 200
915 MHz – 918 MHz	Non-specific	25 mW e.r.p	≤ 0.1 %	≤ 200 kHz	EN 300 220
918 MHz – 921 MHz	Non-specific	25 mW e.r.p	≤ 0.01%	≤ 200 kHz	EN 300 220
916.1 - 920.1 MHz	Radio microphone applications including aids for the hearing impaired	10 mW e.r.p	≤ 25 %	≤ 400 kHz	EN 300 422
1785 - 1804.8 MHz	Radio microphone applications	50 mW e.i.r.p			EN 300 422
1880 MHz - 1900 MHz	DECT applications including Cordless Telephony	250 mW e.i.r.p			ITU-R M.1033-1 EN 300 175
2400 MHz – 2483.5 MHz	Wideband data transmission (e.g. WLAN, PMR over WLAN)	100 mW e.i.r.p			EN 300 328
	Non specific	10 mW e.i.r.p			EN 300 440
	Radiodetermination applications	25 mW e.i.r.p			EN 300 440

2446 MHz - 2454 MHz	RFID	500 mW			EN 300 761 EN 300 440
2483.5 MHz – 2500 MHz	Active Medical Implants	10 dBm e.i.r.p			EN 301 559
4500 MHz - 7000 MHz	Tank level probing radar	-41.3 dBm/MHz e.i.r.p. outside the enclosed test tank structure			EN 302 372
5150 MHz - 5875 MHz	Indoor conference systems. Indoor only	160 mW			
5150 MHz - 5250 MHz	Broadband Radio Access Networks (e.g. RLAN). Indoor only	200 mW e.i.r.p. (with and without) TPC			EN 301 893 TPC/DFS: EN 301 893
5250 MHz - 5350 MHz	Broadband Radio Access Networks (e.g. RLAN). Indoor only	100 mW e.i.r.p without TPC / 200 mW e.i.r.p with TPC			EN 301 893 TPC/DFS: EN 301 893
5470 MHz - 5725 MHz	Broadband Radio Access Networks (e.g. RLAN)	500 mW e.i.r.p with TPC/ and DFS			EN 301 893 TPC/DFS: EN 301 893
5725 MHz - 5875 MHz	Non-specific	50 mW e.i.r.p			EN 300 440
	Tracking, tracing and data acquisition	400 mW e.i.r.p		≥ 1 MHz and ≤ 20 MHz	EN 303 258
8500 MHz - 10.6 GHz	Tank level probing radar	-41.3 dBm/MHz e.i.r.p. outside the enclosed test tank structure			EN 302 372
9200 MHz - 9975 MHz	Radiodetermination applications	25 mW e.i.r.p			EN 300 440
10.5 GHz - 10.6 GHz	Radiodetermination applications	500 mW e.i.r.p			EN 300 440
13.4 GHz – 14 GHz	Non-specific	25 mW e.i.r.p			EN 300 440
17.1 GHz - 17.3 GHz	Non-specific	100 mW e.i.r.p.			EN 300 440
	Radiodetermination applications	400 mW (26 dBm) e.i.r.p			EN 300 440
24 GHz - 24.25 GHz	Non-specific	100 mW e.i.r.p			EN 300 440
24.05 GHz – 27 GHz	Tank level probing radar	20W (43 dBm) e.i.r.p.			EN 302 858
57 GHz – 64 GHz	Non-specific	100 mW e.i.r.p; 13 dBm/MHz e.i.r.p.			EN 305 550
	Tank level probing radar	400 mW (26 dBm) e.i.r.p			EN 302 372

57 GHz – 66 GHz	Broadband Radio Access Networks (e.g. RLAN)	10 W (40 dBm) e.i.r.p	Spectrum sharing mechanism (e.g. LBT, DAA)		EN 302 567
75 GHz – 85 GHz	Tank level probing radar	-41.3 dBm/MHz e.i.r.p.			EN 302 372
	Radiodetermination applications	400 mW (26 dBm) e.i.r.p			EN 302 729
76 GHz – 77 GHz	Railway applications and Transport and traffic telematics	55 dBm e.i.r.p peak			EN 301 091
77.5 – 78 GHz	Ground based short range radar including automotive radars	45 dBm e.i.r.p peak			ITU-R M.2057
122 GHz – 123 GHz	Non-specific	100 mW e.i.r.p			EN 305 550
244 GHz – 246 GHz	Non-specific	100 mW e.i.r.p			EN 305 550