هيئة الاتصالات وتقنية المعلومات
Communications & Information Technology Commission

CITC Technical Specification

Specification for Short Range Devices (SRD)

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Contents

Scope

This specification applies to short range devices and ancillary equipment.

Short Range Devices or SRD are devices operating at low power and offering a communication technology for short distances. SRD applications covered in this technical specification include but not limited to Medical devices, Inductive, RFID, Animal tracking, and Tank Level Probing Radars (TLPR).

Enforcement

This specification shall enter into force on 01/06/2021.

Any previous version of this technical specification is withdrawn.

General Requirements

All equipment must comply with the requirement of CITC specification GEN001, be safe and must not adversely affect other electrical equipment.

All telecommunications and radio terminal equipment must comply with the relevant technical specifications established by CITC. In addition, such equipment may be subject to regulations for Declaration of Conformity or registration. See www.citc.gov.sa for details.

If more than one interface type is offered by a piece of equipment, each interface must meet the applicable technical specifications.

Further information on the characteristics and presentation of network interfaces can be found by visiting operator's website.

It is mandatory that test reports are obtained from a laboratory that has been accredited by a body that is a member of the ILAC Mutual Recognition Arrangement.

Limits and conditions

Testing should be carried out to ensure compliance with the listed specifications.

Frequency band	Max Output Power or Magnetic Field	Usage	Standard	Comments
9 – 315 kHz	30 dBµA/m @10m	Medical devices	EN 302 195 EN 301 489-31	
9.0 – 59.75 kHz	72 dBµA/m @ 10m	Inductive	EN 300 330 EN 301 489-3	In case of external antennas only loop coil antennas

				may be employed.
59.75 – 60.25 kHz	42 dBµA/m @ 10m	Inductive	EN 300 330 EN 301 489-3	In case of external antennas only loop coil antennas may be employed.
60.25 – 70.0 kHz	69 dBµA/m @ 10m	Inductive	EN 300 330 EN 301 489-3	In case of external antennas only loop coil antennas may be employed.
70 – 119 kHz	42 dBµA/m @ 10m	Inductive	EN 300 330 EN 301 489-3	In case of external antennas only loop coil antennas may be employed.
199 – 135 kHz	66 dBµA/m @ 10m	Inductive	EN 300 330 EN 301 489-3	In case of external antennas only loop coil antennas may be employed.
135 – 140 kHz	42 dBµA/m @ 10m	Inductive	EN 300 330 EN 301 489-3	In case of external antennas only loop coil antennas may be employed.

140 – 148.5 kHz	37.7 dBµA/m @ 10m	Inductive	EN 300 330 EN 301 489-3	In case of external antennas only loop coil antennas may be employed.
148.5 – 5000 kHz	-15 dBµA/m @ 10m	Inductive	EN 302 536 EN 301 489-3	In case of external antennas only loop coil antennas may be employed. The maximum magnetic field strength is specified in a bandwidth of 10 kHz. The maximum allowed total magnetic field strength is -5 dBµA/m at 10 m for systems operating at bandwidths larger than 10 kHz whilst keeping the density limit (-15 dBµA/m in a

				bandwidth of 10 kHz).
6765 – 6795 kHz	42 dBµA/m @ 10m	Inductive	EN 300 330 EN 301 489-3	
7400 – 8800 kHz	9 dBµA/m @ 10m	Inductive	EN 300 330 EN 301 489-3	
10.2 – 11 MHz	9 dBµA/m @ 10m	Inductive	EN 300 330 EN 301 489-3	
13.553 – 13.567 MHz	42 dBµA/m @ 10m	Inductive	EN 300 330 EN 301 489-3	
13.553 – 13.567 MHz	60 dBµA/m @10m	RFID	EN 302 291 EN 301 489-3	Power levels above 500 mW are restricted to use inside the boundaries of a building. In this case the duty cycle of all transmissions shall be ≤15 % in any 200 ms period (30 ms on /170 ms off).
3155 – 3400 kHz	13.5 dBµA/m @ 10m	Inductive	EN 300 330 EN 301 489-3	In case of external antennas only loop coil antennas may be employed.
6765 - 6795 kHz	42 dBµA/m @10m	Non specific	EN 300 330	

			EN 301 489-3	
26.957 - 27.283 MHz	42 dBµA/m @10m	Non specific	EN 300 330 EN 301 489-3	
26.957 - 27.283 MHz	10 mW ERP	Non specific	EN 300 220 EN 301 489-3	
30 – 37.5 MHz	1mW ERP	Medical devices	EN 302 510 EN 301 489-27	
40.660 - 40.700 MHz	10 mW ERP	Non specific	EN 300 220 EN 301 489-3	
401 – 402 MHz	25 µW ERP	Medical devices	EN 302 537 EN 301 489-27	
402 – 405 MHz	25 µW ERP	Medical devices	EN 302 839 EN 301 489-27	
405 – 406 MHz	25 µW ERP	Medical devices	EN 302 537 EN 301 489-27	
863.000 - 870.000 MHz	25 mW ERP	Non specific	EN 300 220 EN 301 489-3	
865 – 865.6 MHz	100mW ERP	RFID	EN 302 208 EN 301 489-3	
865.6 – 867.6 MHz	2W ERP	RFID	EN 302 208	

			EN 301 489-3	
867.6 – 868 MHz	500mW ERP	RFID	EN 302 208 EN 301 489-3	
868.000 - 868.600 MHz	25 mW ERP	Non specific	EN 300 220 EN 301 489-3	
868.700 - 869.200 MHz	25 mW ERP	Non specific	EN 300 220 EN 301 489-3	
865 – 868 MHz	100 mW	Animal tracking	EN 300 220 EN 301 489-3	
869.400 - 869.650 MHz	25 mW ERP	Non specific	EN 300 220 EN 301 489-3	
869.700 - 870.000 MHz	25 mW ERP	Non specific	EN 300 220 EN 301 489-3	
870-876 MHz	25 mW ERP	Non specific	EN 300 220 EN 301 489-3	
915-921 MHz	25 mW ERP	Non specific	EN 300 220 EN 301 489-3	
2400 - 2483.5 MHz	10 mW EIRP	Non specific	EN 300 440 EN 301 489-3	
2400 - 2483.5 MHz	25 mW EIRP	Movement detection	EN 300 440 EN 301 489-3	
2446 – 2454 MHz	500mW EIRP	RFID	EN 300 440	

			EN 301 489-3	
2446 – 2454 MHz	4W EIRP	RFID	EN 300 440 EN 301 489-3	Power levels above 500 mW are restricted to use inside the boundaries of a building. In this case the duty cycle of all transmissions shall be ≤15 % in any 200 ms period (30 ms on /170 ms off).
5725 - 5875 MHz	25 mW EIRP	Non specific	EN 300 440 EN 301 489-3	
8.5 – 10.6 GHz	-41.3 dBm/MHz	TLPR	EN 302 372 EN 301 489-3	
10.5 – 10.6 GHz	25 mW	Movement detection	EN 300 440 EN 301 489-3	
13.4 – 14.0 GHz	25 mW	Movement detection	EN 300 440 EN 301 489-3	
24.00 - 25 GHz	100 mW EIRP	Non specific	EN 300 440 EN 301 489-3	
24.05 – 27.0 GHz	-41.3 dBm/MHz	TLPR	EN 302 372 EN 301 489-3	The power limit is given as the radiated

				emission outside an enclosed tank structure.
57 – 64 GHz	-41.3 dBm/MHz	TLPR	EN 302 372 EN 301 489-3	The power limit is given as the radiated emission outside an enclosed tank structure.
75 – 85 GHz	-41.3 dBm/MHz	TLPR	EN 302 372 EN 301 489-3	The power limit is given as the radiated emission outside an enclosed tank structure.
122 - 123 GHz	100 mW EIRP	Non specific	EN 300 440 EN 301 489-3	

Licensing Requirements

No licensing requirements apply.

Additional Requirements

All equipment must comply with the Wireless Local Area Networks Regulation if applicable. See www.citc.gov.sa for details.

References

The following referenced documents are indispensable for the application of this document. If no issue or revision number is quoted along with the title of a technical specification or standard, the latest published version should be used.

EN 300 220-2
Short Range Devices (SRD) operating in the frequency range 25 MHz to 1 000 MHz; Part 2: Harmonised Standard for access to radio spectrum for non specific radio equipment

EN 300 220-1
Short Range Devices (SRD) operating in the frequency range 25 MHz to 1 000 MHz; Part 1: Technical characteristics and methods of measurement

EN 300 330
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; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU

EN 300 440
Short Range Devices (SRD); Radio equipment to be used in the 1 GHz to 40 GHz frequency range; Harmonised Standard for access to radio spectrum

EN 301 839-2
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; Part 2: Harmonized EN covering essential requirements of article 3(2) of the R&TTE directive.

EN 301 839-1

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; Part 1: Technical characteristics and test methods

EN 302 195-2

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 2: Harmonize EN covering essential requirements of article 3(2) of the R&TTE directive.

EN 302 195-1

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

EN 302 208-2

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 and in the band 915 MHz to 921 MHz with power levels up to 4 W; Part 2: Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive

EN 302 308-1

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 and in the band 915 MHz to 921 MHz with power levels up to 4 W; Part 1: Technical requirements and methods of measurement

EN 302 291-1
Short Range Devices (SRD); Close Range Inductive Data Communication equipment operating at 13,56 MHz; Short Range Devices (SRD); Close Range Inductive Data Communication equipment operating at 13,56 MHz; Part 1: Technical characteristics and test methods.

EN 302 291-2
Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Close Range Inductive Data Communication equipment operating at 13.56 MHz; Part 2: Harmonised EN under article 3.2 of the R&TTE directive.

EN 302 536
Short Range Devices (SRD); Radio equipment operating in the frequency range 315 kHz to 600 kHz for Ultra Low Power Animal Implantable Devices (ULP-AID) and associated peripherals; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU

EN 302 372-2
Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Equipment for Detection and Movement; Tanks Level Probing Radar (TLPR) operating in the frequency bands 5.8, 10, 25, 61 and 77 GHz; Part 2: Harmonized EN under Article 3.2 of the R&TTE directive.

EN 302 510-2

Electromagnetic compatibility and Radio spectrum Matters (ERM); Radio equipment in the frequency range 30 MHz to 37,5 MHz for Ultra Low Power Active Medical Membrane Implants and Accessories; Part 2: Harmonized EN covering essential requirements of article 3(2) of the R&TTE directive.

EN 302 510-1

Electromagnetic compatibility and Radio spectrum Matters (ERM); Radio equipment in the frequency range 30 MHz to 37,5 MHz for Ultra Low Power Active Medical Membrane Implants and Accessories; Part 1: Technical characteristics and test methods

EN 302 537-2

Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD);Ultra Low Power Medical Data Service Systems operating in the frequency range 401 MHz to 402 MHz and 405 MHz to 406 MHz; Part 2: Harmonized EN covering essential requirements of article 3(2) of the R&TTE directive.

EN 302 537-1

Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Ultra Low Power Medical Data Service Systems operating in the frequency range 401 MHz to 402 MHz and 405 MHz to 406 MHz; Part 1: Technical characteristics and test methods

EN 301 489-1

Electromagnetic compatibility and Radio spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements.

EN 301 489-3

Electromagnetic compatibility and Radio spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 3: Specific conditions for Short Range Devices (SRD) operating on frequencies between 9 kHz and 40 GHz.

EN 301 489-27

Electromagnetic compatibility and Radio spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for radio equipment and services – Part 27: Specific conditions for Ultra Low Power Active Medical Implants (ULP-AMI) and related peripheral devices (ULP-AMI-P).

EN 301 489-31

Electromagnetic compatibility and Radio spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 31: EMC for radio equipment in the 9 to 315 kHz band for Ultra Low Power Active Medical Implants (ULP-AMI) and related peripheral devices (ULP-AMI-P).

History

For reference, the latest versions of the technical specifications are published on the CITC website www.citc.gov.sa.

Description	Status	Date
	Issue 1	11/03/2006
	Issue 2	10/01/2010
	Issue 3	15/12/2018
Merge of RI048, RI050, RI054, RI055, RI083, and RI084 technical specifications.	Issue 4	02/03/2021