Telecommunications Standards Advisory Committee (TSAC)

Technical Specification

Short Range Devices

IDA TS SRD
Issue 1 Rev 7, April 2013

Infocomm Development Authority of Singapore
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Telecommunications Standards Advisory Committee (TSAC)

The TSAC advises IDA on the setting of ICT standards as well as on the development and recommendation of specifications, standards, information notes, guidelines and other forms of documentation for adoption and advancement of the standardisation effort of the Singapore ICT industry (hereafter termed “IDA Standards”).

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1. General Requirements

1.1 Scope of Specification

1.1.1 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 1 and 2. Short range devices are intended for communications in confined areas of buildings as well as for localised on-site operations.

1.1.2 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.

1.2 Design of Short Range Device

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. 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 1 and 2, 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.

Table 1: Technical Requirements for Short Range Devices (SRD)

Authorised Frequency Bands / Frequencies		Maximum Field Strength / RF Output power	Transmitter Spurious Emissions	Applicable Radio Standards	Typical Application Types	Remarks
1	16 – 150 kHz	≤ 66 dBµA/m @ 10m	≥ 32 dB below carrier at 3 m or EN 300 224-1 EN 300 330-1	EN 300 224-1 EN 300 330-1	Induction loop system / RFID	
	150 – 5000 kHz	≤ 13.5 dBµA/m @ 10m				
	6765 – 6795 kHz	≤ 42 dBµA/m @ 10m				
	7400 – 8800 kHz	≤ 9 dBµA/m @ 10m				
2	0.016 – 0.150 MHz	≤ 100 dBµV/m @ 3m	≥ 32 dB below carrier at 3 m or EN 300 330-1 EN 302 291-1	FCC Part 15 EN 300 330-1 EN 302 291-1	Radio detection, alarm system	
3	13.553 – 13.567 MHz	≤ 94 dBµV/m @ 10m				
4	146.35 – 146.50 MHz 240.15 – 240.30 MHz 300.00 – 300.30 MHz 312.00 – 316.00 MHz 444.40 – 444.80 MHz	≤ 100 mW (e.r.p.)	≥ 32 dB below carrier at 3 m or EN 300 220-1	FCC Part 15 EN 300 220-1		
5	0.51 – 1.60 MHz	≤ 57 dBµV/m @ 3m			Wireless microphone	
6	40.66 – 40.70 MHz	≤ 65 dBµV/m @ 10m				
7	88.00 – 108.00 MHz	≤ 60 dBµV/m @ 10m				
8	470.00 – 806.00 MHz	≤ 10 mW (e.r.p.)				
9	169.40 – 175.00 MHz	≤ 500 mW (e.r.p.)	≥ 32 dB below carrier at 3 m or EN 300 220-1 EN 300 422-1	FCC Part 15 EN 300 220-1 EN 300 422-1	Wireless microphone, Hearing/Audio assistance aids	
	180.00 – 200.00 MHz 487.00 – 507.00 MHz	≤ 112 dBµV/m @ 10m				

Table 1: Technical Requirements for Short Range Devices (SRD)

Authorised Frequency Bands / Frequencies		Maximum Field Strength / RF Output power	Transmitter Spurious Emissions	Applicable Radio Standards	Typical Application Types	Remarks
10	26.96 – 27.28 MHz	≤ 100 mW (e.r.p.) Note 1	≥ 32 dB below carrier at 3 m or EN 300 220-1	FCC Part 15 EN 300 220-1	Remote controls of garage door, cameras, toys and miscellaneous devices	
	34.995 – 35.225 MHz	≤ 100 mW (e.r.p.)				
	40.665 – 40.695 MHz	≤ 500 mW (e.r.p.)				
	40.77 – 40.83 MHz					
	72.13 – 72.21 MHz					
11	26.96 – 27.28 MHz 29.70 – 30.00 MHz	≤ 500 mW (e.r.p.)			Remote controls of aircraft and glider models, telemetry, detection and alarm systems	
12	26.96 – 27.28 MHz 40.66 – 40.70 MHz	≤ 500 mW (e.r.p.)	≥ 32 dB below carrier at 3 m; or EN 300 135-1 EN 300 433-1 EN 300 224-1	FCC Part 15 EN 300 135-1 EN 300 433-1 EN 300 224-1	On-site radio paging system	
13	151.125 MHz 151.150 MHz	≤ 1000 mW (e.r.p.)	≥ 60 dB below carrier over 100 kHz to 2000 MHz or EN 300 224-1	FCC Part 15 EN 300 224-1		

Note 1 Effective Radiated Power (e.r.p.) refers to radiation of a half wave tuned dipole, which is used for frequencies below 1 GHz.

Table 1: Technical Requirements for Short Range Devices (SRD)

Authorised Frequency Bands / Frequencies		Maximum Field Strength / RF Output power	Transmitter Spurious Emissions	Applicable Radio Standards	Typical Application Types	Remarks
14	9 – 315 kHz	≤ 30 dBμA/m @10m	EN 302 195-1	EN 302 195-1	Medical and Biological telemetry	
	40.50 – 41.00 MHz	≤ 0.01 mW (e.r.p.) Note 1	≥ 32 dB below carrier at 3 m or EN 300 220-1	FCC Part 15 EN 300 220-1		
	216.00 – 217.00 MHz	> 25 μW to ≤ 100 mW (e.r.p.)				
	454.00 – 454.50 MHz	≤ 2 mW (e.r.p.)				
15	1427.00 – 1432.00 MHz	> 25 μW to ≤ 100 mW (e.r.p.)	FCC Part 15 EN 300 440-1	FCC Part 15 EN 300 440-1		
16	All frequencies	≤ 25 μW (e.r.p.)	FCC Part 15 EN 300 220-1 EN 300 330-1 EN 300 440-1 EN 301 839-1 EN 302 537-1	FCC Part 15 EN 300 220-1 EN 300 330-1 EN 300 440-1 EN 301 839-1 EN 302 537-1		
17	72.080 MHz 72.200 MHz 72.400 MHz 72.600 MHz 158.275/162.875 MHz 158.325/162.925 MHz 453.7250/458.7250 MHz 453.7375/458.7375 MHz 453.7500/458.7500 MHz 453.7625/458.7625 MHz	≤ 1000 mW (e.r.p.)	≥ 43 dB below carrier over 100 kHz to 2000 MHz or EN 300 390-1 EN 300 113-1	EN 300 390-1 EN 300 113-1	Wireless modem, data communication system	

Note 1 Effective Radiated Power (e.r.p.) refers to radiation of a half wave tuned dipole, which is used for frequencies below 1 GHz.

Table 1: Technical Requirements for Short Range Devices (SRD)

Authorised Frequency Bands / Frequencies		Maximum Field Strength / RF Output power	Transmitter Spurious Emissions	Applicable Radio Standards	Typical Application Types	Remarks
18	76 – 77 GHz	≤ 37 dBm (e.i.r.p.) Note 2 when vehicle is in motion ≤ 23.5 dBm (e.i.r.p.) when vehicle is stationary	FCC Part 15 § 15.253 (c) or EN 301 091	FCC Part 15 EN 301 091	Short range radar systems such as automatic cruise control and collision warning systems for vehicle	
19	433.05 – 434.79 MHz	≤ 10 mW (e.r.p.) Note 1	≥ 32 dB below carrier at 3 m or EN 300 220-1	FCC Part 15 EN 300 220-1	Radio telemetry, telecommand system	
20	866 – 869 MHz 920 – 925 MHz	≤ 500 mW (e.r.p.)	≥ 32 dB below carrier at 3 m or EN 300 220-1 EN 302 208	FCC Part 15 EN 300 220-1 EN 302 208	Radio Telemetry, Telecommand, RFID system	
21	2.4000 – 2.4835 GHz	≤ 100 mW (e.i.r.p.)	FCC Part 15 § 15.209; § 15.249 (d) or EN 300 440-1 EN 302 288-1	FCC Part 15 EN 300 440-1 EN 302 288-1	Wireless video transmitter and other SRD applications	
22	10.50 – 10.55 GHz	≤ 117 dBµV/m @ 10m				
23	24.00 – 24.25 GHz	≤ 100 mW (e.i.r.p.)				Radar gun devices are not allowed to operate under this provision.

Note 2 Equivalent Isotropic Radiated Power (e.i.r.p.) is a product of the power supplied to the antenna and the maximum antenna gain, relative to an isotropic antenna, and is used for frequencies above 1 GHz. There is a constant difference of 2.15 dB between e.i.r.p. and e.r.p. [e.i.r.p. (dBm) = e.r.p. (dBm) + 2.15]

Note 1 Effective Radiated Power (e.r.p.) refers to radiation of a half wave tuned dipole, which is used for frequencies below 1 GHz.

Table 1: Technical Requirements for Short Range Devices (SRD)						
Authorised Frequency Bands / Frequencies		**Maximum Field Strength / RF Output power**	**Transmitter Spurious Emissions**	**Applicable Radio Standards**	**Typical Application Types**	**Remarks**
24	2.4000 – 2.4835 GHz	≤ 100 mW (e.i.r.p.) Note 2	FCC Part 15 § 15.209 EN 300 328	FCC Part 15 § 15.247 EN 300 328	Bluetooth	
25	2.4000 – 2.4835 GHz	≤ 200 mW (e.i.r.p)			Wireless LAN only	WLAN for non-localised operations shall be approved on an exceptional basis.
26	5.725 – 5.850 GHz	≤ 100 mW (e.i.r.p.)	FCC Part 15 § 15.209	FCC Part 15 § 15.247 or 15.407	SRD application	
27	5.725 – 5.850 GHz	≤ 1000 mW (e.i.r.p.)			Wireless LAN and broadband access only	Non-localised operations shall be approved on an exceptional basis.

Note 2 Equivalent Isotropic Radiated Power (e.i.r.p.) is a product of the power supplied to the antenna and the maximum antenna gain, relative to an isotropic antenna, and is used for frequencies above 1 GHz. There is a constant difference of 2.15 dB between e.i.r.p. and e.r.p. [e.i.r.p. (dBm) = e.r.p. (dBm) + 2.15]

Table 1: Technical Requirements for Short Range Devices (SRD)						
Authorised Frequency Bands / Frequencies		**Maximum Field Strength / RF Output power**	**Transmitter Spurious Emissions**	**Applicable Radio Standards**	**Typical Application Types**	**Remarks**
28	5.150 – 5.350 GHz	> 100 mW (e.i.r.p.) Note 2 ≤ 200 mW (e.i.r.p.)	FCC Part 15 § 15.407 (b) EN 301 893	FCC Part15 § 15.407 EN 301 893	Wireless LAN	WLAN operating in 5.250 – 5.350 GHz under this provision shall employ Dynamic Frequency Selection (DFS) mechanism and implement Transmit Power Control (TPC). Non-localised operations shall be approved on an exceptional basis.
29	5.150 – 5.350 GHz	≤ 100 mW (e.i.r.p.)	FCC Part 15 § 15.407 (b) EN 301 893	FCC Part 15 § 15.407 EN 301 893	Wireless LAN	WLAN operating under this provision shall implement DFS function in the frequency range 5.250 – 5.350 GHz. Non-localised operations shall be approved on an exceptional basis.

Note 2 Equivalent Isotropic Radiated Power (e.i.r.p.) is a product of the power supplied to the antenna and the maximum antenna gain, relative to an isotropic antenna, and is used for frequencies above 1 GHz. There is a constant difference of 2.15 dB between e.i.r.p. and e.r.p. [e.i.r.p. (dBm) = e.r.p. (dBm) + 2.15]

Table 1: Technical Requirements for Short Range Devices (SRD)						
Authorised Frequency Bands / Frequencies		**Maximum Field Strength / RF Output power**	**Transmitter Spurious Emissions**	**Applicable Radio Standards**	**Typical Application Types**	**Remarks**
30	5.470 – 5.725 GHz	≤ 1000 mW (e.i.r.p.) Note 2	FCC Part 15 § 15.407 (b) EN 301 893	FCC Part 15 § 15.407 EN 301 893	Wireless LAN and broadband access	WLAN operating under this provision shall employ Dynamic Frequency Selection (DFS) mechanism and implement Transmit Power Control (TPC). Non-localised operations shall be approved on an exceptional basis.
31	57 – 66 GHz	≤10W (e.i.r.p)	EN 302 567 EN 305 550-1	EN 302 567 EN 305 550-1	Wireless LAN and broadband access	Indoor use is restricted to maximum mean EIRP density of 13 dBm/MHz Outdoor use is restricted to maximum EIRP of 25 dBm and maximum EIRP power spectral density of -2 dBm/MHz

Note 2 Equivalent Isotropic Radiated Power (e.i.r.p.) is a product of the power supplied to the antenna and the maximum antenna gain, relative to an isotropic antenna, and is used for frequencies above 1 GHz. There is a constant difference of 2.15 dB between e.i.r.p. and e.r.p. [e.i.r.p. (dBm) = e.r.p. (dBm) + 2.15]

Table 2: Technical Requirements for Short Range Devices (SRD) – Operation Requires Approval

	Authorised Frequency Bands / Frequencies	Maximum Field Strength / RF Output power	Transmitter Spurious Emissions	Applicable Radio Standards	Typical Application Types	Remarks
1	170.275 MHz 170.375 MHz 173.575 MHz 173.675 MHz 451.750 MHz 452.000 MHz 452.050 MHz 452.325 MHz	≤ 1000 mW (e.r.p.) Note 1			Remote control of cranes and loading arms	Operating under these provisions shall be approved on an exceptional basis.
2	26.96 – 27.28 MHz 40.66 – 40.70 MHz	> 500 mW (e.r.p.) ≤ 3000 mW (e.r.p.)	≥ 32 dB below carrier at 3 m or EN 300 135-1 EN 300 433-1 EN 300 224-1	FCC Part 15 EN 300 135-1 EN 300 433-1 EN 300 224-1	On-site radio paging system	Operating under these provisions shall be approved on an exceptional basis.
3	151.125 MHz 151.150 MHz	>1000 mW (e.r.p.) ≤ 3000 mW (e.r.p.)	≥ 60 dB below carrier over 100 kHz to 2000 MHz or EN 300 224-1	FCC Part 15 EN 300 224-1		
4	920 – 925 MHz	> 500 mW (e.r.p.) ≤ 2000 mW (e.r.p.)	≥ 32 dB below carrier at 3 m or EN 300 220-1 EN 302 208	FCC Part 15 EN 300 220-1 EN 302 208	Radio Frequency Identification (RFID) systems	Only RFID systems operating in the 920 -925 MHz frequency band shall be allowed to transmit between 500 mW and 2000 mW (e.r.p.), and approved on an exceptional basis.
5	5.725 – 5.850 GHz	> 1000 mW (e.i.r.p.) Note 2 ≤ 4000 mW (e.i.r.p.)	FCC Part 15 § 15.209	FCC Part 15 § 15.247 or 15.407	Wireless LAN and broadband access only	Operating under this provision shall be approved on an exceptional basis.

Note 1 Effective Radiated Power (e.r.p.) refers to radiation of a half wave tuned dipole, which is used for frequencies below 1 GHz.

Note 2 Equivalent Isotropic Radiated Power (e.i.r.p.) is a product of the power supplied to the antenna and the maximum antenna gain, relative to an isotropic antenna, and is used for frequencies above 1 GHz. There is a constant difference of 2.15 dB between e.i.r.p. and e.r.p. [e.i.r.p. (dBm) = e.r.p. (dBm) + 2.15]

3. Testing for Compliance with Technical Requirements

The short range device shall be tested for compliance with the applicable technical requirements stipulated in §2 and Table 1 and 2 of this Specification, following test methods and conditions given in one or more of the following references which may be applicable to the device under test (refer to Table 1 and 2 for guidance):

- ETSI EN 300 113-1 Electromagnetic compatibility and Radio spectrum Matters (ERM); Land mobile service; Radio equipment intended for the transmission of data (and speech) using constant or non-constant envelope modulation and having an antenna connector; Part 1: Technical characteristics and methods of measurement

- ETSI EN 300 135-1 Electromagnetic compatibility and Radio spectrum Matters (ERM); Angle-modulated Citizens Band radio equipment (CEPT PR 27 Radio Equipment); Part 1: Technical characteristics and methods of measurement

- 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 300 328 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 300 330-1 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 300 390-1 Electromagnetic compatibility and Radio spectrum Matters (ERM); Land mobile service; Radio equipment intended for the transmission of data (and speech) and using an integral antenna; Part 1: Technical characteristics and methods of measurement

- 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 300 422-1 Electromagnetic compatibility and Radio spectrum Matters (ERM); Wireless microphones in the 25 MHz to 3 GHz frequency range;

- ETSI EN 300 433-1 Electromagnetic compatibility and Radio spectrum Matters (ERM); Citizens' Band (CB) radio equipment; Part 1: Technical characteristics and methods of measurement

- 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 301 893 Broadband Radio Access Network (BRAN); 5 GHz high performance RLAN; Harmonised EN covering essential requirements of article 3.2 of the R&TTE Directive

- 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

- 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 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 302 537 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;

- 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

- ETSI EN 305 550 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

- 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 – Unlicenced National Information Infrastructure Devices
    - § 15.407 General technical requirements

Annex A

Addendum/Corrigendum

Page	TS Ref.	Items Changed	Effective Date
Changes to IDA TS SRD, Issue 1 Rev 6, May 11			
3	Table 1 (1)	The max field strength for 16 – 150 kHz has been revised from 66 dBµA/m @ 3m to 66 dBµA/m @ 10m	25 Apr 13
3	Table 1 (3)	Listing of additional ETSI standard - EN 302 291-1	25 Apr 13
3	Table 1 (9)	Listing of additional ETSI standard - EN 300 422-1	25 Apr 13
5	Table 1 (14)	Allow max field strength of Medical Telemetry applications operating in the range 9 – 315 kHz up to 30 dBµA/m @10m.	25 Apr 13
5	Table 1 (16)	Listing of additional ETSI standard - EN 301 839-1 and EN 302 537-1	25 Apr 13
6	Table 1 (23)	Listing of additional ETSI standard - EN 302 288-1	25 Apr 13
9	Table 1 (31)	Listing of additional ETSI standard - EN 305 550-1	25 Apr 13
Changes to IDA TS SRD, Issue 1 Rev 5, Apr 11			
		Change of IDA's address at cover page to Mapletree Business City.	1 May 11
Changes to IDA TS SRD, Issue 1 Rev 4, Jul 09			
4	Table 1 (1)	Inclusion of reference to EN 300 330-1 – Technical Characteristics and Test Methods for Radio equipment in the frequency range 9 kHz to 25 MHz and inductive loop systems in the frequency range 9 kHz to 30 MHz	1 Apr 11
10	Table 1 (30)	The band 5.470 – 5.725 GHz at ≤ 1000 mW (e.i.r.p.) is an additional frequency allocation for Wireless LAN / broadband access applications.	1 Apr 11
10	Table 1 (31)	The band 57 – 66 GHz at ≤ 10W (e.i.r.p) is an additional frequency allocation for Wireless LAN / broadband access applications.	1 Apr 11

Annex A

Addendum/Corrigendum

Page	TS Ref.	Items Changed	Effective Date
Changes to IDA TS SRD, Issue 1 Rev 3, Jan 08			
-	-	Changes are purely editorial in nature. The Short Range Devices (SRD) requiring IDA's approval for operation are listed separately in Table 2 for better clarity.	July 09
4	Table 1	Short Range Devices (SRD) which does not require IDA's approval for operation remain in Table 1. Those that require IDA's approval are extracted and listed in Table 2.	July 09
10	Table 2	The following are Short Range Devices (SRD) which require IDA's approval for operation: 170.275 MHz 170.375 MHz 173.575 MHz 173.675 MHz ≤ 1000 mW (e.r.p.) 451.750 MHz 452.000 MHz 452.050 MHz 452.325 MHz	July 09
		26.96 – 27.28 MHz > 500 mW (e.r.p.) 40.66 – 40.70 MHz ≤ 3000 mW (e.r.p.)	
		151.125 MHz >1000 mW (e.r.p.) 151.150 MHz ≤ 3000 mW (e.r.p.)	
		920 – 925 MHz > 500 mW (e.r.p.) ≤ 2000 mW (e.r.p.)	
		5.725 – 5.850 GHz > 1000 mW (e.i.r.p.) ≤ 4000 mW (e.i.r.p.)	
Changes to IDA TS SRD, Issue 1 Rev 2, Aug 06			
4	Table 1	Provisions have been revised in line with the Schedule to the Telecommunications (Exemption from sections 33, 34(1)(b) and 35) (Amendment) Notification 2008.	2 Jan 08
4	Table 1 (1)	The following are additional frequency allocations that may be used for induction loop and RFID systems: (a) 0.150 – 5.00 MHz, ≤ 13.5 dBμA/m @ 10m (b) 6.765 – 6.795 MHz, ≤ 42 dBμA/m @ 10m (c) 7.400 – 8.800 MHz, ≤ 9 dBμA/m @ 10m Please note that the unit for field strength has been standardised to magnetic field strength: the former 0.016 – 0.15 MHz, ≤ 100 dBμV/m @ 3m has been replaced by 0.016 – 0.15 MHz, ≤ 66 dBμA/m @ 3m.	
4	Table 1 (4)	Frequency band 312.00 - 315.00 MHz has been changed to 312.00 - 316.00 MHz.	
4	Table 1 (8)	The band 470.00 – 806.00 MHz at ≤ 10 mW (e.r.p.) is an additional frequency allocation for wireless microphones applications.	
4	Table 1 (9)	The band 169.40 – 175.00 MHz at ≤ 500 mW (e.r.p.) is an additional frequency allocation for hearing/audio assistance aids applications.	

Annex A

Addendum/Corrigendum

Page	TS Ref.	Items Changed	Effective Date
5	Table 1 (10)	RF output power for the 26.96 – 27.28 MHz band for remote control devices applications has been increased to ≤ 100 mW (e.r.p.). The following are additional frequency allocations that may be used for remote control devices applications: (a) 34.995 – 35.225 MHz, ≤ 100 mW (e.r.p.) (b) 40.665 – 40.695 MHz, ≤ 500 mW (e.r.p.) (c) 40.770 – 40.830 MHz, ≤ 500 mW (e.r.p.) (d) 72.130 – 72.210 MHz, ≤ 500 mW (e.r.p.)	
6	Table 1 (15)	The following are additional frequency allocations that may be used for medical telemetry applications: (a) 216.00 – 217.00 MHz, ≤ 100 mW (e.r.p.) (b) 1427.00 – 1432.00 MHz, ≤ 100 mW (e.r.p.) (c) All frequencies at ≤ 25 µW	
7	Table 1 (20)	Frequency band 433.79 - 434.79 MHz has been changed to 433.05 – 434.79 MHz	
Changes to IDA TS SRD, Issue 1 Rev 1, Jul 05			
4 and 7	Table 1 (4), 1(20) And 1(21)	Provisions have been revised in line with the Schedule to the Telecommunications (Exemption from sections 33, 34(1)(b) and 35) (Amendment) Notification 2006: a. 314.7 – 315 MHz frequency band revised to 312 – 315 MHz b. 923 – 925 MHz frequency band revised to 920 – 925 MHz	Jun 06
5	Table 1 (10)	Amended remark: "Use of remote controls of aircraft and glider models is subject to IDA's licensing."	Jun 06
7	Table 1 (25)	Provision to operate in the 630 – 710 MHz band is deleted from the Specification.	Jun 06
Changes to IDA TS SRD, Issue 1, Dec 04			
—	—	Specification has been reissued as IDA TS SRD Issue 1 Rev 1.	21 Jul 05
8	Table 1(30), And 1(31)	Changes are mainly editorial in nature. The essential technical requirements for conformity assessment remain unchanged.	21 Jul 05

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Page	TS Ref.	Items Changed	Effective Date
Changes to IDA TS 5 to TS 14, TS SRRS and TS WLAN			
—	—	This Specification supersedes the following IDA Type Approval Specifications: a. IDA TS 5 Issue 1 Rev 5 b. IDA TS 6 Issue 1 Rev 3 c. IDA TS 7 Issue 1 Rev 3 d. IDA TS 8 Issue 1 Rev 3 e. IDA TS 9 Issue 1 Rev 3 f. IDA TS 10 Issue 1 Rev 8 g. IDA TS 11 Issue 1 Rev 4 h. IDA TS 12 Issue 1 Rev 3 i. IDA TS 13 Issue 1 Rev 6 j. IDA TS 14 Issue 1 Rev 5 k. IDA TS SRRS Issue 1 l. IDA TS WLAN Issue 1 Rev 11	1 Dec 04
—	—	Title of Specification has been renamed as “Technical Specification for Short Range Devices” (IDA TS SRD Issue 1). Changes are mainly editorial in nature and carried out to streamline the essential technical requirements for compliance. The few changes in technical requirements are summarised below.	1 Dec 04
6	TS SRD Table 1(1)	Maximum output power for induction loop systems has been revised from “100 dBμV/m at 30 m” to “100 dBμV/m at 3 m” in line with the Schedule to the Telecommunications (Exemption from sections 33, 34(1)(b) and 35) Notification.	1 Dec 04
6	TS SRD Table 1(6)	Maximum output power has been revised from “57 dBμV/m at 3 m” to “65 dBμV/m at 10 m” in line with the Schedule to the Telecommunications (Exemption from sections 33, 34(1)(b) and 35) Notification.	1 Dec 04
6	TS SRD Table 1(8)	Maximum output power has been revised from “60 dBμV/m at 10 m” to “112 dBμV/m at 10 m” in line with the Schedule to the Telecommunications (Exemption from sections 33, 34(1)(b) and 35) Notification.	1 Dec 04
8	TS SRD Table 1(14) And 1(15)	Maximum output power has been revised from “20 dBμV/m at 15 m” to “0.01 mW ERP” and from “54 dBμV/m at 30 m” to “2 mW ERP” in line with the Schedule to the Telecommunications (Exemption from sections 33, 34(1)(b) and 35) Notification.	1 Dec 04

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Page	TS Ref.	Items Changed	Effective Date
Changes to IDA TS 5 to TS 14, TS SRRS and TS WLAN			
9	TS SRD Table 1(19) 1(20) And 1(21)	Provisions have been revised for RFID applications as follows [The Schedule to the Telecommunications (Exemption from sections 33, 34(1)(b) and 35) (Amendment) Notification 2004]: a. 866.1 – 869 MHz frequency band revised to 866 – 869 MHz b. 924 – 925 MHz frequency band revised to 923 – 925 MHz c. Output power limit for both bands increased from 10 mW ERP to 500 mW ERP For RFID applications in the 923 – 925 MHz frequency band, output power up to 2 W ERP is allowed, subject to IDA's licensing.	2 Nov 04
10	TS SRD Table 1(27), 1(28) and 1(29)	Provisions for WLAN operating in 2.4 GHz and 5.8 GHz frequency bands have been revised as follows [The Schedule to the Telecommunications (Exemption from sections 33, 34(1)(b) and 35) (Amendment) Notification 2004]: a. Output power limit for 2.4000 – 2.4835 GHz band increased from 100 mW EIRP to 200 mW EIRP b. Output power limit for 5.725 – 5.850 GHz band increased from 100 mW EIRP to 1 W EIRP c. Output power limit of 4 W EIRP is allowed for operations in the 5.725 – 5.850 GHz band, subject to IDA's licensing.	1 Dec 04
–	–	Provisions given in IDA TS 10 for mobile phone sensors to operate in the 824 – 915 MHz and 1710 – 1910 MHz bands are deleted from this Specification.	1 Dec 04