Communications
Regulatory Authority
State of Qatar

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Annex II Technical Requirements for Wireless Home Area Networks (WHANs)

The use of Wireless Home Area Networks (WHANs) is intended for Smart Home services to enable energy management, home automation systems (remote controller for home electrical appliances), lighting automation, wireless sensor systems, heating systems and alert systems.

Application Type	IEEE Standard	ETSI EN/ CENELEC Standard	Frequency Range	RF Output Power (e.r.p / e.i.r.p)	Spreading	Technology
Non-Specific Short Range Devices Applications	802.15.4	ETSI EN 300 440	2.4 - 2.4835 GHz	10 mW (e.r.p)	DSSS	Zigbee
	802.15.4	EN 300 220	868.3 MHz (1 CH)	25 mW (e.r.p)	DSSS	Zigbee
	-	CENELEC EN 50090 & CEN EN 13321-1	868.3 MHz (1 CH)	25 mW (e.r.p)	No spreading technique (FSK modulation)	KNX
	-	EN 300 220	868.4 MHz & 869.85 MHz	25 mW (e.r.p)	No spreading technique (FSK & GFSK modulation)	Z-wave (Zensys Corp.)
ISM	802.15.1	ETSI EN 300 440	2.4 - 2.4835 GHz	10 mW (e.r.p)	FHSS	Bluetooth

Applications						
Non-Specific Short Range Devices Applications	-	ETSI TS 102 939-1 & ETSI TS 102 939-2	1880 - 1900 MHz	Maximum Transmit Power 10mW	GFSK modulation	ULE
WAS/RLAN Applications	802.11a/b/g/n/ac	EN 300 328	2.4 - 2.4835 GHz	100mW (e.i.r.p)	DSSS & OFDM	Wi-Fi
	802.11a/b/g/n/ac	EN 301 893	5.150 - 5.250 GHz	200mW (e.i.r.p)	DSSS & OFDM	Wi-Fi
	802.11a/b/g/n/ac	EN 301 893	5.250 - 5.350 GHz	200mW (e.i.r.p)	DSSS & OFDM	Wi-Fi
	802.11a/b/g/n/ac	EN 301 893	5.470 - 5.725 GHz	100mW (e.i.r.p)	DSSS & OFDM	Wi-Fi
Ultra-Wide Band Systems Applications	802.15.3a	EN 302 500	3.1 - 4.8 GHz	maximum mean e.i.r.p. spectral density of -41.3 dBm/MHz	DS-UWB & MB-OFDM	Ultra-Wideband
	802.15.3a	EN 302 500	4.8 - 6 GHz	maximum mean e.i.r.p. spectral density of -70 dBm/MHz	DS-UWB & MB-OFDM	Ultra-Wideband
	802.15.3a	EN 302 500	6 - 8.5 GHz	maximum mean e.i.r.p. spectral	DS-UWB & MB-OFDM	Ultra-Wideband

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			density of -41.3 dBm/MHz		
	802.15.3a	EN 302 500	8.5 - 10.6 GHz	maximum mean e.i.r.p. spectral density of -65 dBm/MHz	DS-UWB & MB-OFDM	Ultra-Wideband