ERC Recommendation 70-03

Relating to the use of Short Range Devices (SRD)

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Please Note

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ANNEX 3: WIDEBAND DATA TRANSMISSION SYSTEMS

Scope of Annex

This annex covers frequency bands and regulatory as well as informative parameters recommended for Wideband Data Transmission Systems.

Table 3: Regulatory parameters

Frequency Band		Power / Magnetic Field	Spectrum access and mitigation requirements	Modulation / occupied bandwidth	ECC/ERC Deliverable	ETSI ENs	Notes
a1	863-868 MHz	25 mW e.r.p.	Polite spectrum access is required for all devices. ≤ 10% duty cycle for network access points; ≤ 2.8% duty cycle otherwise.	> 600 kHz ≤ 1 MHz		EN 304 220	Wideband data transmission in data networks (note 1). The frequency band is also identified in Annexes 1, 2, 10 and 11
a2	915.8-919.4 MHz	25 mW e.r.p.	Polite spectrum access is required for all devices. ≤ 10% duty cycle for network access points; ≤ 2.8% duty cycle otherwise.	> 600 kHz ≤ 1 MHz		EN 304 220	Wideband data transmission in data networks (notes 1 and 2). All nomadic and mobile devices within the data network shall be controlled by a master network access point (NAP). The frequency band is also identified in Annexes 1, 2 and 11
b	2400-2483.5 MHz	100 mW e.i.r.p.	Adequate spectrum sharing mechanism (e.g. LBT and DAA) shall be implemented	Not specified		EN 300 328	For wideband modulations other than Frequency Hopping Spread Spectrum (FHSS), the maximum e.i.r.p. density is limited to 10 mW/MHz
c1	57-71 GHz	40 dBm e.i.r.p., 23 dBm/MHz e.i.r.p. density	Adequate spectrum sharing mechanism shall be implemented	Not specified		EN 302 567, EN 303 722, EN 303 753	Fixed outdoor installations are not allowed.
c2	57-71 GHz	40 dBm e.i.r.p., 23 dBm/MHz e.i.r.p. density and maximum transmit power of 27 dBm at the antenna port or ports	Adequate spectrum sharing mechanism shall be implemented	Not specified	ECC Report 288	EN 302 567, EN 303 722, EN 303 753	

Frequency Band		Power / Magnetic Field	Spectrum access and mitigation requirements	Modulation / occupied bandwidth	ECC/ERC Deliverable	ETSI ENs	Notes
c3	57-71 GHz	55 dBm e.i.r.p., 38 dBm/MHz e.i.r.p. density and transmit antenna gain ≥ 30 dBi	Adequate spectrum sharing mechanism shall be implemented	Not specified	ECC Report 288	EN 302 567, EN 303 722, EN 303 753	Applies only to fixed outdoor installations (note 3)
d	1910-1920 MHz	20 dBm e.i.r.p.	Transmit Power Control (TPC) and pre-transmit scanning (note 4) required	≤ 3.5 MHz		EN 301 406	UAS are not allowed under this entry.

Note 1: A network access point in a data network is a fixed terrestrial short range device that acts as a connection point for the other short range devices in the data network to service platforms located outside of that data network. The term data network refers to several short range devices, including the network access point, as network components and to the wireless connections between them.
Note 2: Usage may be limited such that installation and operation are performed only by professional users and individual authorisation may be required, e.g. to administer geographical sharing and/or the application of mitigation techniques to ensure protection of radio services.
Note 3: Some CEPT administrations have an existing regulatory framework for the Fixed Service in 57-66 GHz and may implement a self-coordination mechanism similar to “light licensing” described in ECC Report 80.
Note 4: Operating channel and subslot selection as set out in ETSI TS 103 636-4, or an equivalent method

Additional Information

Technical parameters also referred to in the harmonised standard
No information

Frequency issues
Sub-band a1):
The harmonised standard needs to define minimum requirements for the spectrum access protocol to lower the interference probability towards audio applications including Assistive Listening Devices (ALD) in 863-865 MHz, with a detection threshold requirement in line with ECC Report 261.

Sub-band a2):
Use of all or part of the sub-band a2) may be limited or not authorised for wideband data transmission systems in data networks in some countries where all or part of this sub-band is used for defence / governmental systems. Further, some countries use the sub-band 918-921 MHz as extended Global System for Mobile Communications on Railways (GSM-R) frequency band; therefore geographical restrictions may apply. See Appendices 1 and 2 for national implementation concerning GSM-R and defence/governmental services.

Sub-band d):
ECC/REC/(24)02 provides guidance on the use of governmental UAS in 1910-1920 MHz.