
TECHNICAL SPECIFICATION

Requirements for Ultra Wideband Equipment

TS RE 013, Version 1.0

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1 General requirements

Technical specification has been prepared and approved by the Telecommunications Regulatory Authority (TDRA) based on the Telecommunication apparatus Type Approval Regime.

Several technical specifications may apply to the equipment. If equipment within the scope of this technical specification also incorporates functions that are covered by another technical specification, the relevant technical specification is applied to each function separately. The influence of one function on the other is taken into account.

2 Scope

This technical specification applies to Ultra Wideband Application.

This technical specification defines minimum technical requirements for health and safety, electromagnetic compatibility, efficient use of radio spectrum and additional essential requirements based on the Telecommunication apparatus Type Approval Regime.

Unless the context requires otherwise, the expressions and wordings appearing in the Telecommunication apparatus Type Approval Regime shall have the same meaning described thereto.

3 Technical Requirements

3.1 Efficient use of radio spectrum

The equipment shall comply with prescribed frequency bands given in the National Frequency Allocation Table (NFAT):

	Frequency Band	Maximum Mean Spectral Density		Maximum Peak Power (measured in 50 MHz)*		ETSI Standard
a	0.03 - 1.6 GHz	1.0 pW/MHz e.i.r.p.	-90.0 dBm/MHz e.i.r.p.	10 nW/50 MHz e.i.r.p.	-50.0 dBm/50 MHz e.i.r.p.	EN 302 066
b	1.6 - 2.7 GHz	3.16 pW/MHz e.i.r.p.	-85.0 dBm/MHz e.i.r.p.	31.6 nW/50 MHz e.i.r.p.	-45.0 dBm/50 MHz e.i.r.p.	EN 302 066

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c	2.7 - 3.4 GHz	100 pW/MHz e.i.r.p.	-70.0 dBm/MHz e.i.r.p.	251 nW/50 MHz e.i.r.p.	-36.0 dBm/50 MHz e.i.r.p.	EN 302 066
d	3.4 - 3.8 GHz	10 pW/MHz e.i.r.p.	-80.0 dBm/MHz e.i.r.p.	100 nW/50 MHz e.i.r.p.	-40.0 dBm/50 MHz e.i.r.p.	EN 302 065 EN 302 066
e	3.8 - 4.2 GHz	100 pW/MHz e.i.r.p.	-70.0 dBm/MHz e.i.r.p.	1 μW/50 MHz e.i.r.p.	-30.0 dBm/50 MHz e.i.r.p.	EN 302 065 EN 302 066
f	4.2 - 4.8 GHz	100 pW/MHz e.i.r.p.	-70.0 dBm/MHz e.i.r.p.	1 μW/50 MHz e.i.r.p.	-30.0 dBm/50 MHz e.i.r.p.	EN 302 065 EN 302 066
g	4.8 - 6.0 GHz	100 pW/MHz e.i.r.p.	-70.0 dBm/MHz e.i.r.p.	1 μW/50 MHz e.i.r.p.	-30.0 dBm/50 MHz e.i.r.p.	EN 302 066
h	6.0 - 8.5 GHz	74.1 nW/MHz e.i.r.p.	-41.3 dBm/MHz e.i.r.p.	1 mW/50 MHz e.i.r.p.	0.0 dBm/50 MHz e.i.r.p.	EN 302 065 EN 302 066 EN 302 500
i	8.5 - 10.6 GHz	316 pW/MHz e.i.r.p.	-65.0 dBm/MHz e.i.r.p.	3.16 μW/50 MHz e.i.r.p.	-25.0 dBm/50 MHz e.i.r.p.	EN 302 066
j	>10.6 GHz	3.16 pW/MHz e.i.r.p.	-85.0 dBm/MHz e.i.r.p.	31.6 nW/50 MHz e.i.r.p.	-45.0 dBm/50 MHz e.i.r.p.	EN 302 066

The equipment shall meet the requirements of following standard(s):

- EN 302 065 Electromagnetic compatibility and Radio spectrum Matters (ERM); Ultra Wideband (UWB) technologies for communication purposes; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE directive.
- EN 302 066-2 Electromagnetic compatibility and Radio spectrum Matters (ERM); Ground- and Wall- Probing Radar applications (GPR/WPR) imaging systems; Part 2: Harmonized EN covering essential requirements of article 3.2 of the R&TTE directive.
- EN 302 500-2 Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD) using Ultra Wideband (UWB) technology; Location Tracking equipment operating in the frequency range from 6 GHz to 8,5 GHz; Part 2: Harmonized EN covering essential requirements of article 3.2 of the R&TTE directive.

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3.2 Electromagnetic compatibility

The equipment shall meet the requirements of following standard(s):

- 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 301 489-32 Electromagnetic compatibility and Radio spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 32: Specific conditions for Ground and Wall Probing Radar applications.
- EN 301 489-33 Electromagnetic compatibility and Radio spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 33: Specific conditions for Ultra Wide Band (UWB) communications devices.

3.3 Health and safety

The equipment shall meet the requirements of Technical specification TS HS 001.

3.4 Additional essential requirements

No additional requirements.

3.5 Validity of standards

If no issue or revision number is quoted along with the title of a standard, the valid edition should be used. The valid of the standard can be checked on:

- For EN standards:

http://ec.europa.eu/growth/single-market/european-standards/harmonised-standards/rte/index_en.htm;