

Electromagnetic compatibility and Radio spectrum Matters (ERM); Aspects and implications of the inclusion of receiver parameters within ETSI standards

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650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 - Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
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Foreword

This Technical Report (TR) has been produced by ETSI Technical Committee Electromagnetic compatibility and Radio spectrum Matters (ERM).

Introduction

During the drafting of ETSI harmonized standards the inclusion or not of parameters, in particular of those relating to receiver performance, has triggered very intense debates in the various ETSI Technical Bodies. So far it has been agreed that such an inclusion would be discussed on a case by case basis.

In January 2007 the OCG-R&TTE-D initiated action point 35/5 in order to address improving receiver specifications in Harmonized Standards and repeated during its meeting 36:

"After discussion it was clarified that receiver parameters may be specified in relation to the essential requirements of the R&TTE Directive [i.1] to use the spectrum effectively so as to avoid harmful interference. For example, poor receiver immunity (e.g. inadequate and/or absence of specification of selectivity or blocking) can make it impossible for other users to operate in adjacent spectrum without causing harmful interference. This is to be assessed on a case-by-case basis by the responsible TB following the guidance in EG 201 399 [i.2], which implements the decision of TCAM#7. ERM TG Rx should discuss economic issues in refining the guidelines for the specification of technical parameters and if necessary, essential test suites for receivers. It was stressed that the fact that there are receiver specifications in a standard does not necessarily imply that the corresponding test suites are considered as essential radio test suites."

In the RSPG document 07-191 [i.4] (Draft Request by the European Commission to the Radio Spectrum Policy Group for an Opinion on Streamlining the regulatory environment for the use of spectrum) it is stated:

"Another debate relates to the importance of receiver parameters in ensuring an efficient spectrum management. Some of these receiver parameters determine the immunity of equipment against interference from other sources. These parameters are regulated under the R&TTE Directive [i.1], either as EMC immunity requirements or requirements to avoid harmful interference. Harmonized standards however do not always detail these into technical requirements, thereby leaving some ambiguities whether in case of harmful interference this is due to insufficient immunity or to emissions. ETSI is currently considering the issue. Therefore, adequate receiver immunity may become increasingly necessary to facilitate the introduction of new systems, to extend sharing opportunities and, eventually, to ensure efficient spectrum management."

The present document addresses these issues.

In view of the diversity of views across the ETSI Membership, this report includes, when a consensus has not been reached, enough views to provide a representative "picture" of the situation.

1 Scope

The present document provides the more recent views of ETSI in relation to the inclusion of receiver requirements in harmonized standards.

Apart from a survey of all existing harmonized standards, it also contains the opinion of a number of Technical Bodies and of Task Groups. The impact on EG 201 399 [i.2] as well as interpretation difficulties of article 3.2 of the R&TTE Directive [i.1] are discussed.

On these bases, some recommendations are made.

2 References

References are either specific (identified by date of publication and/or edition number or version number) or non-specific.

- For a specific reference, subsequent revisions do not apply.
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2.1 Normative references

The following referenced documents are indispensable for the application of the present document. For dated references, only the edition cited applies. For non-specific references, the latest edition of the referenced document (including any amendments) applies.

Not applicable.

2.2 Informative references

The following referenced documents are not essential to the use of the present document but they assist the user with regard to a particular subject area. For non-specific references, the latest version of the referenced document (including any amendments) applies.

- [i.1] Directive 1999/5/EC of the European Parliament and of the council of 9 March 1999 on Radio Equipment and Telecommunications Terminal Equipment and the Mutual Recognition of their Conformity. (R&TTE Directive).
- [i.2] ETSI EG 201 399 (V2.1.1): "Electromagnetic compatibility and Radio spectrum Matters (ERM); A guide to the production of candidate Harmonized Standards for application under the R&TTE Directive".
- [i.3] ETSI EN 301 908-1 (V3.2.1): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 1: Harmonized EN for IMT-2000, introduction and common requirements, covering essential requirements of article 3.2 of the R&TTE Directive".

- [i.4] RSPG document 07-191: "Draft Request by the European Commission to the Radio Spectrum Policy Group for an Opinion on Streamlining the regulatory environment for the use of spectrum)".
- [i.5] ETSI TR 102 137: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Use of radio frequency spectrum by equipment meeting ETSI standards".
- [i.6] ITU Radio Regulations.
- [i.7] ETSI EN 301 893: "Broadband Radio Access Networks (BRAN); 5 GHz high performance RLAN; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive".
- [i.8] ETSI EN 302 502: "Broadband Radio Access Networks (BRAN); 5,8 GHz fixed broadband data transmitting systems; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive".
- [i.9] ETSI EN 302 544: "Broadband Data Transmission Systems operating in the 2 500 MHz to 2 690 MHz frequency band; Part 1: TDD Base Stations; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive".
- [i.10] 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".
- [i.11] ETSI EN 302 623: "Broadband Wireless Access Systems (BWA) in the 3 400 MHz to 3 800 MHz frequency band; Mobile Terminal Stations; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive".
- [i.12] ETSI EN 301 406: "Digital Enhanced Cordless Telecommunications (DECT); Harmonized EN for Digital Enhanced Cordless Telecommunications (DECT) covering essential requirements under article 3.2 of the R&TTE Directive; Generic radio".
- [i.13] ETSI 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".
- [i.14] 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 1 000 MHz frequency range with power levels ranging up to 500 mW; Part 2: Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive".
- [i.15] ETSI TR 101 506: "Fixed Radio Systems; Generic definitions, terminology and applicability of essential requirements under the article 3.2 of 1999/05/EC Directive to Fixed Radio Systems".
- [i.16] ETSI EN 301 751: "Fixed Radio Systems; Point-to-Point equipments and antennas; Generic harmonized standard for Point-to-Point digital fixed radio systems and antennas covering the essential requirements under article 3.2 of the 1999/5/EC Directive".
- [i.17] ETSI EN 302 217 (all parts): "Fixed Radio Systems; Characteristics and requirements for point-to-point equipment and antennas".
- [i.18] ETSI EN 301 908-11: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 11: Harmonized EN for IMT-2000, CDMA Direct Spread (UTRA FDD) (Repeaters) covering essential requirements of article 3.2 of the R&TTE Directive".
- [i.19] ETSI EN 302 426: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Harmonized EN for CDMA spread spectrum Repeaters operating in the 450 MHz cellular band (CDMA450) and the 410 MHz, 450 MHz and 870 MHz PAMR bands (CDMA-PAMR) covering essential requirements of article 3.2 of the R&TTE Directive".
- [i.20] ETSI EN 300 607-1: "Digital cellular telecommunications system (Phase 2+) (GSM); Mobile Station (MS) conformance specification; Part 1: Conformance specification (GSM 11.10-1 version 8.1.1 Release 1999)".

- [i.21] ETSI EN 300 162-1: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Radiotelephone transmitters and receivers for the maritime mobile service operating in VHF bands; Part 1: Technical characteristics and methods of measurement".
- [i.22] ETSI EN 301 025-1: "Electromagnetic compatibility and Radio spectrum Matters (ERM); VHF radiotelephone equipment for general communications and associated equipment for Class "D" Digital Selective Calling (DSC); Part 1: Technical characteristics and methods of measurement".
- [i.23] ETSI EN 301 178-1: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Portable Very High Frequency (VHF) radiotelephone equipment for the maritime mobile service operating in the VHF bands (for non-GMDSS applications only); Part 1: Technical characteristics and methods of measurement".
- [i.24] ETSI EN 300 698-1: "ElectroMagnetic Compatibility and Radio Spectrum Matters (ERM); Radio telephone transmitters and receivers for the maritime mobile service operating in the VHF bands used on inland waterways; Part 1: Technical characteristics and methods of measurement".
- [i.25] ETSI EN 300 720-1: "ElectroMagnetic Compatibility and Radio Spectrum Matters (ERM); Ultra-High Frequency (UHF) on-board communications systems and equipment; Part 1: Technical characteristics and methods of measurement".
- [i.26] ETSI EN 301 929-1: "Electromagnetic compatibility and Radio spectrum Matters (ERM); VHF transmitters and receivers as Coast Stations for GMDSS and other applications in the maritime mobile service; Part 1: Technical characteristics and methods of measurement".
- [i.27] ETSI EN 300 086 (all parts): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Land Mobile Service; Radio equipment with an internal or external RF connector intended primarily for analogue speech".
- [i.28] ETSI EN 300 296 (all parts): "ElectroMagnetic Compatibility and Radio Spectrum Matters (ERM); Land Mobile Service; Radio equipment using integral antennas intended primarily for analogue speech".
- [i.29] ETSI EN 300 341-1: "ElectroMagnetic Compatibility and Radio Spectrum Matters (ERM); Land Mobile Service (RP 02); Radio equipment using an integral antenna transmitting signals to initiate a specific response in the receiver; Part 1: Technical characteristics and methods of measurement".
- [i.30] 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 test conditions".
- [i.31] ETSI EN 301 166 (all parts): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Land Mobile Service; Radio equipment for analogue and/or digital communication (speech and/or data) and operating on narrow band channels and having an antenna connector".
- [i.32] ETSI EN 302 561: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Land Mobile Service; Radio equipment using constant or non-constant envelope modulation operating in a channel bandwidth of 25 kHz, 50 kHz, 100 kHz or 150 kHz; Harmonized EN covering essential requirements of article 3.2 of the R&TTE Directive".
- [i.33] ETSI EN 300 113 (all parts): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Land mobile service; Radio equipment intended for the transmission of data (and/or speech) using constant or non-constant envelope modulation and having an antenna connector".
- [i.34] ETSI EN 300 761-1: "ElectroMagnetic Compatibility and Radio Spectrum Matters (ERM); Short Range Devices (SRD); Automatic Vehicle Identification (AVI) for railways operating in the 2,45 GHz frequency range; Part 1: Technical characteristics and methods of measurement".
- [i.35] 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 1 000 MHz frequency range with power levels ranging up to 500 mW; Part 1: Technical characteristics and test methods".

- [i.36] 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".
- [i.37] 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".
- [i.38] ETSI EN 301 908-2: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 2: Harmonized EN for IMT-2000, CDMA Direct Spread (UTRA FDD) (UE) covering essential requirements of article 3.2 of the R&TTE Directive".
- [i.39] ETSI TS 125 141: "Universal Mobile Telecommunications System (UMTS); Base Station (BS) conformance testing (FDD) (3GPP TS 25.141 version 8.4.0 Release 8)".
- [i.40] ETSI EN 301 908-3: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 3: Harmonized EN for IMT-2000, CDMA Direct Spread (UTRA FDD) (BS) covering essential requirements of article 3.2 of the R&TTE Directive".
- [i.41] ETSI EN 301 908-4: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 4: Harmonized EN for IMT-2000, CDMA Multi-Carrier (cdma2000) (UE) covering essential requirements of article 3.2 of the R&TTE Directive".
- [i.42] ETSI EN 301 908-5: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 5: Harmonized EN for IMT-2000, CDMA Multi-Carrier (cdma2000) (BS) covering essential requirements of article 3.2 of the R&TTE Directive".
- [i.43] ETSI EN 301 908-6: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 6: Harmonized EN for IMT-2000, CDMA TDD (UTRA TDD) (UE) covering essential requirements of article 3.2 of the R&TTE Directive".
- [i.44] ETSI EN 301 908-7: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 7: Harmonized EN for IMT-2000, CDMA TDD (UTRA TDD) (BS) covering essential requirements of article 3.2 of the R&TTE Directive".
- [i.45] ETSI EN 301 908-8: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS) and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 8: Harmonized EN for IMT-2000, TDMA Single-Carrier (UWC 136) (UE) covering essential requirements of article 3.2 of the R&TTE Directive".
- [i.46] ETSI EN 300 219-1: "ElectroMagnetic Compatibility and Radio Spectrum Matters (ERM); Land Mobile Service; Radio equipment transmitting signals to initiate a specific response in the receiver; Part 1: Technical characteristics and methods of measurement".
- [i.47] ETSI EN 300 433-1: "ElectroMagnetic Compatibility and Radio Spectrum Matters (ERM); Land Mobile Service; Double Side Band (DSB) and/or Single Side Band (SSB) amplitude modulated citizen's band radio equipment; Part 1: Technical characteristics and methods of measurement".
- [i.48] ETSI EN 301 908-9: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS) and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 9: Harmonized EN for IMT-2000, TDMA Single-Carrier (UWC 136) (BS) covering essential requirements of article 3.2 of the R&TTE Directive".
- [i.49] ETSI EN 300 373-2: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Maritime mobile transmitters and receivers for use in the MF and HF bands; Part 2: Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive".

- [i.50] ETSI TS 101 087: "Digital cellular telecommunications system (Phase 2 and Phase 2+); Base Station System (BSS) equipment specification; Radio aspects (3GPP TS 11.21 version 8.9.0 Release 1999)".
- [i.51] ETSI EN 300 392-2: "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 2: Air Interface (AI)".
- [i.52] ETSI EN 300 396-2: "Terrestrial Trunked Radio (TETRA); Technical requirements for Direct Mode Operation (DMO); Part 2: Radio aspects".
- [i.53] ETSI EN 300 396-4: "Terrestrial Trunked Radio (TETRA); Technical requirements for Direct Mode Operation (DMO); Part 4: Type 1 repeater air interface".
- [i.54] ETSI EN 300 396-7: "Terrestrial Trunked Radio (TETRA); Technical requirements for Direct Mode Operation (DMO); Part 7: Type 2 repeater air interface".
- [i.55] ETSI EN 300 396-5: "Terrestrial Trunked Radio (TETRA); Technical requirements for Direct Mode Operation (DMO); Part 5: Gateway air interface".
- [i.56] ETSI EN 301 908-10: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 10: Harmonized EN for IMT-2000, FDMA/TDMA (DECT) covering essential requirements of article 3.2 of the R&TTE Directive".
- [i.57] ETSI 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".
- [i.58] ETSI 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".
- [i.59] ETSI EN 302 571: "Intelligent Transport Systems (ITS); Radiocommunications equipment operating in the 5 855 MHz to 5 925 MHz frequency band; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive".
- [i.60] ETSI TS 151 010-1: "Digital cellular telecommunications system (Phase 2+); Mobile Station (MS) conformance specification; Part 1: Conformance specification (3GPP TS 51.010-1 version 4.9.0 Release 4)".
- [i.61] ETSI EN 300 065-1: "ElectroMagnetic Compatibility and Radio Spectrum Matters (ERM); Narrow-band direct-printing telegraph equipment for receiving meteorological or navigational information (NAVTEX); Part 1: Technical characteristics and methods of measurement".
- [i.62] ETSI EN 300 609-4: "Digital cellular telecommunications system (Phase 2 and Phase 2+) (GSM); Base Station System (BSS) equipment specification; Part 4: Repeaters (GSM 11.26 version 8.0.2 Release 1999)".
- [i.63] ETSI EN 301 908-12: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 12: Harmonized EN for IMT-2000, CDMA Multi-Carrier (cdma2000) (Repeaters) covering essential requirements of article 3.2 of the R&TTE Directive".
- [i.64] ETSI EN 301 783-1: "ElectroMagnetic Compatibility and Radio Spectrum Matters (ERM); Land Mobile Service; Commercially available amateur radio equipment; Part 1: Technical characteristics and methods of measurement".
- [i.65] ETSI EN 301 526: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Harmonized EN for CDMA spread spectrum mobile stations operating in the 450 MHz cellular band (CDMA 450) and 410, 450 and 870 MHz PAMR bands (CDMA-PAMR) covering essential requirements of article 3.2 of the R&TTE Directive".
- [i.66] ETSI EN 300 471-1: "ElectroMagnetic Compatibility and Radio Spectrum Matters (ERM); Land Mobile Service; Rules for Access and the Sharing of common used channels by equipment complying with EN 300 113; Part 1: Technical characteristics and methods of measurement".

- [i.67] ITU-T Recommendation O.41: "Psophometer for use on telephone-type circuits".
- [i.68] ITU-T Recommendation P.53: "Psophometer for use on telephone-type circuits".
- [i.69] ETSI EN 302 480: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Harmonized EN for the GSM onboard aircraft system covering the essential requirements of Article 3.2 of the R&TTE Directive".
- [i.70] ETSI EN 301 449: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Harmonized EN for CDMA spread spectrum base stations operating in the 450 MHz cellular band (CDMA 450) and 410, 450 and 870 MHz PAMR bands (CDMA-PAMR) covering essential requirements of article 3.2 of the R&TTE Directive".
- [i.71] 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 wide band modulation techniques; Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive".
- [i.72] ETSI EN 302 288-1: "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; Part 1: Technical requirements and methods of measurement".
- [i.73] ETSI EN 300 422-1: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Wireless microphones in the 25 MHz to 3 GHz frequency range; Part 1: Technical characteristics and methods of measurement".
- [i.74] ETSI EN 301 357-1: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Cordless audio devices in the range 25 MHz to 2 000 MHz; Part 1: Technical characteristics and test methods".
- [i.75] ETSI EN 301 797: "Electromagnetic compatibility and Radio Spectrum Matters (ERM); Harmonized EN for CT2 cordless telephone equipment covering essential requirements under article 3.2 of the R&TTE directive".
- [i.76] ETSI EN 302 064-1: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Wireless Video Links (WVL) operating in the 1,3 GHz to 50 GHz frequency band; Part 1: Technical characteristics and methods of measurement".
- [i.77] ETSI 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: Harmonized EN under article 3.2 of the R&TTE Directive".
- [i.78] ETSI EN 302 500-1: "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 1: Technical characteristics and test methods".
- [i.79] ETSI EN 302 208-1: "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; Part 1: Technical requirements and methods of measurement".
- [i.80] ETSI 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".
- [i.81] CEPT Recommendation 74-01: "Spurious Emissions".
- [i.82] ETSI EN 300 674-1: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Road Transport and Traffic Telematics (RTTT); Dedicated Short Range Communication (DSRC) transmission equipment (500 kbit/s / 250 kbit/s) operating in the 5,8 GHz Industrial, Scientific and Medical (ISM) band; Part 1: General characteristics and test methods for Road Side Units (RSU) and On-Board Units (OBU)".
- [i.83] 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".

- [i.84] ETSI EN 301 091-1: "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; Part 1: Technical characteristics and test methods for radar equipment operating in the 76 GHz to 77 GHz range".
- [i.85] ETSI 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".
- [i.86] ETSI 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".
- [i.87] ETSI EN 302 536-1: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment in the frequency range 315 kHz to 600 kHz; Part 1: Technical characteristics and test methods".
- [i.88] ETSI EN 300 135-1: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Land Mobile Service; Citizens' Band (CB) radio equipment; Angle-modulated Citizens' Band radio equipment (PR 27 Radio Equipment); Part 1: Technical characteristics and methods of measurement".
- [i.89] ECC Recommendation (02)01: "Specification of Reference Receiver Performance Parameters".
- [i.90] ETSI EN 302 774: "Broadband Wireless Access Systems (BWA) in the 3 400 MHz to 3 800 MHz frequency band; Base Stations; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive".
- [i.91] ETSI EN 300 330-2: "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 2: Harmonized EN under article 3.2 of the R&TTE Directive".
- [i.92] ETSI EN 300 440-2: "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 2: Harmonized EN covering essential requirements of article 3.2 of the R&TTE Directive".
- [i.93] ETSI EN 302 326: "Fixed Radio Systems; Multipoint Equipment and Antennas".
- [i.94] <http://www.ero.dk/RX>
- [i.95] ETSI EN 300 910: "Digital cellular telecommunications system (Phase 2+) (GSM); Radio transmission and reception (GSM 05.05)".

3 Definitions, and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in annex A of the present document apply.

3.2 Abbreviations

For the purposes of the present document the abbreviations given in the Liaison Statements in clause 4 of the present document and the following apply:

ACS	Adjacent Channel Selectivity
AM	Amplitude Modulation
BER	Bit Error Ratio