

## Electromagnetic compatibility and Radio spectrum Matters (ERM); Use of radio frequency spectrum by equipment meeting ETSI standards

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**Reference**

RTR/ERM-RM-032

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**Keywords**

Aeronautical, amateur, broadcasting, DECT, DRRS, DSB, DVB, EHF, emission, LF, maritime, MF, mobile, navigation, PMR, radio, satellite, SHF, terrestrial, transmission, UHF, VHF, VLF

**ETSI**

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  
Association à but non lucratif enregistrée à la  
Sous-Préfecture de Grasse (06) N° 7803/88

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# Contents

Intellectual Property Rights .....	4
Foreword.....	4
Introduction .....	5
1 Scope .....	6
2 References .....	6
2.1 Normative references .....	6
2.2 Informative references.....	6
3 Abbreviations .....	8
4 Table of ETSI deliverables with applications and frequency bands .....	8
4.1 Explanatory notes to the table .....	9
4.1.1 ETSI deliverable column .....	9
4.1.2 Application column.....	9
4.1.3 Frequency band of scope columns.....	9
4.1.4 Frequency band of ECA table columns .....	10
4.1.5 R&TTE column .....	10
4.1.6 Notes column .....	10
4.1.7 Group column .....	10
4.2 Search facilities .....	10
4.3 Synchronization procedure with the ECA table.....	11
4.4 Notes and possible items for revision in future versions.....	11
4.4.1 Maritime standards .....	11
4.4.2 Issues related to terminology of EFIS application layers.....	11
4.4.3 Issues related to frequencies .....	12
History .....	13

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## Foreword

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

This deliverable is related to CEPT/ERC Report 25 [i.1] and the ERO Frequency Information System [i.2].

The CEPT/ERC Report 25 [i.1] contains a European Table of frequency allocations and utilisations for the frequency band 9 kHz to 1000 GHz, which is commonly known as the European Common Allocation (ECA) table. It is reviewed periodically and revised as necessary by the ECC taking into account the results of World Radio Conferences and other relevant developments.

The ERO Frequency Information System (EFIS, see <http://www.efis.dk>) is a database whose purpose is:

- to give CEPT a tool to illustrate the extent of harmonisation within Europe;
- to allow administrations to make rapid searches and comparisons in spectrum utilisation information relating to other CEPT countries; and
- to meet the European Commission and industry requirements that have been made known to CEPT on many occasions.

The ECA table is also accessible via EFIS.

ETSI standards are listed in both EFIS and CEPT/ERC Report 25 [i.1]. The information provided in the present document is intended to be sent to the ERO and CEPT to help them in updating the ECA table.

The present document follows a different format than TR 102 137 (V1.1.1) [i.3]. The largest difference is that TR 102 137 (V1.1.1) [i.3] focused on the European commonly allocated frequencies and the standards matching those frequencies and applications, while the present document focuses on the ETSI deliverables and the applications and frequencies covered by them. Note that the information within the ETSI deliverables themselves remains leading over the information contained in the present document.

A summary of the significant differences between TR 102 137 (V1.1.1) [i.3] and the present document is given in table 1.

Table 1: Differences between versions 1.1.1 and 1.2.1 of TR 102 137

aspect	TR 102 137 V1.1.1 [i.3]	Present document
<b>ETSI deliverable</b>	Primarily Harmonized Standards are included.	The Harmonized Standards are included as well as other documents, such as System Reference documents.
<b>Frequency bands</b>	The presentation of the frequency bands is the same as in an earlier version of CEPT/ERC Report 25 [i.1].	The frequency bands are given as in the scope of the ETSI deliverable or tables there within. For ETSI deliverables with broad frequency ranges (i.e. the so-called "generic standards"), the specific frequency ranges given in the ECA table are also indicated.
<b>European Common Allocation</b>	The European Common Allocation is presented as in an earlier version of CEPT/ERC Report 25 [i.1].	Some of the ECA information is included in the present document in cases where it facilitates the synchronization between TR 102 137 and the ECA table.
<b>Application</b>	The application column is named "Use (in ETSI)" and does not necessarily use the same terminology as EFIS.	The terminology from EFIS is used as far as possible. This helps to facilitate the synchronization of the information between ETSI and CEPT.
<b>ETSI deliverable</b>	The different parts of a multipart deliverable are not shown.	The different parts of a multipart deliverable are shown to help distinguish between those parts of the multipart which are a Harmonized Standard. Additionally the parts of a multipart standard may address different frequency bands (e.g. EN 301 908 [i.6]).
<b>R&amp;TTE</b>	The entries for the "Harmonised Standard (RTTE)" column are "OJEC", "DRAFT", or "NO".	The entries for the R&TTE column are "article 3.2", "article 3.3", or "no". A draft is indicated in the ETSI deliverable name by either "pr" (preliminary) or with the work item number.
<b>Contact</b>	The name of the Rapporteur is given in the "Contact" column.	This information is not included since it may change often and is also included in the ETSI Work Programme.
<b>Notes</b>	The CEPT deliverables were often indicated in the "Notes" column.	Information on the CEPT deliverables is not included. It is available in the ECA table.
<b>Order of the columns</b>	The order of the columns is very similar to that in CEPT/ERC Report 25 [i.1]. The focus is on the frequency and the European Common Allocation.	The columns are arranged so as to focus on the standard.
<b>Entries in a cell</b>	A cell may contain multiple entries (e.g. different standards).	Each cell only contains one entry. This facilitates searching in the table.

## Introduction

The number of ETSI deliverables related to radio frequencies is very large. The present document has been developed to provide an overview of ETSI deliverables with applications and frequency bands. It may help:

- guide manufacturers to the appropriate Harmonized Standard under the R&TTE Directive
- provide parameters for compatibility/sharing studies
- increase understanding and awareness of the ETSI deliverables
- in the update of standards in CEPT/ERC Report 25 [i.1].

It should be noted that the radio frequency spectrum is managed on a national basis, and the national Administration concerned should be approached for the regulations in force in a particular territory.

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# 1 Scope

The present document lists per ETSI deliverable the application, frequency bands, and article of Directive 1999/5/EC [i.9] covered.

All of the ETSI non-EMC standards from the Official Journal of the European Union 3 June 2008 publication of titles and references of Harmonized Standards under the Directive 1999/5/EC [i.4] (except EN 301 796 [i.5] on CT1 and CT1+ equipment) as well as some other ETSI deliverables are included.

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# 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.
- Non-specific reference may be made only to a complete document or a part thereof and only in the following cases:
  - if it is accepted that it will be possible to use all future changes of the referenced document for the purposes of the referring document;
  - for informative references.

Referenced documents which are not found to be publicly available in the expected location might be found at <http://docbox.etsi.org/Reference>.

For online referenced documents, information sufficient to identify and locate the source shall be provided. Preferably, the primary source of the referenced document should be cited, in order to ensure traceability. Furthermore, the reference should, as far as possible, remain valid for the expected life of the document. The reference shall include the method of access to the referenced document and the full network address, with the same punctuation and use of upper case and lower case letters.

NOTE: While any hyperlinks included in this clause were valid at the time of publication ETSI cannot guarantee their long term validity.

## 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] draft CEPT/ERC Report 25 (Lisboa 02 - Dublin 03 - Kusadasi 04 - Copenhagen 04 - Nice 07, [Baku 08]): "The European table of frequency allocations and utilisations in the frequency range 9 kHz to 1000 GHz".
- [i.2] ERO Frequency Information System, <http://www.efis.dk/search/general>.
- [i.3] ETSI TR 102 137 (V1.1.1): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Use of Radio Frequency Spectrum by Equipment meeting ETSI Standards".

- [i.4] Official Journal of the European Union, C 136/1, 3 June 2008: "Commission communication in the framework of the implementation of the 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; Publication of titles and references of Harmonized Standards under the directive".
- [i.5] ETSI EN 301 796: "Electromagnetic compatibility and Radio spectrum Matters (ERM); harmonized EN for CT1 and CT1+ cordless telephone equipment covering essential requirements under Article 3.2 of the R&TTE Directive".
- [i.6] ETSI EN 301 908 (all parts): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks".
- [i.7] CEPT/ECC Decision (01)03 with Annex 1 revised Oct. 2003 and Annex 2 revised June 2005, June 2007 and Annex 3 revised Sept. 2004, June 2007; ECC Decision of 15 November 2001 on ERO Frequency Information System (EFIS).
- [i.8] ETSI EN 301 502: "Harmonized EN for Global System for Mobile communications (GSM); Base Station and Repeater equipment covering essential requirements under article 3.2 of the R&TTE directive (GSM 13.21 version 8.1.2 Release 1999)".
- [i.9] 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.10] ETSI EN 300 086: "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.11] ETSI draft ETSI EN 302 567: "Broadband Radio Access Networks (BRAN); 60 GHz Multiple-Gigabit WSA/RLAN Systems; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive".
- [i.12] 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.13] 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.14] ETSI draft ETSI EN 302 625: "Electromagnetic compatibility and Radio spectrum Matters (ERM); 5 GHz Broadband Disaster Relief applications (BBDR); Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive".
- [i.15] ETSI TR 102 485: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Technical characteristics for Broadband Disaster Relief applications (BB-DR) for emergency services in disaster situations; System Reference Document".
- [i.16] 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".
- [i.17] ETSI draft ETSI EN 302 264 (both parts): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices; Road Transport and Traffic Telematics (RTTT); Short Range Radar equipment operating in the 77 to 81 GHz band".
- [i.18] ETSI TR 101 983: "ElectroMagnetic Compatibility and Radio Spectrum Matters (ERM); Radio equipment to be used in the 76 GHz to 77 GHz band; System Reference Document for Short-Range Radar to be fitted on road infrastructure".



- [i.19] ETSI TR 102 263: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Road Transport and Traffic Telematics (RTTT); Radio equipment to be used in the 77 GHz to 81 GHz band; System Reference Document for automotive collision warning Short Range Radar".
- [i.20] ETSI EN 302 536 (both parts): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment in the frequency range 315 kHz to 600 kHz".
- [i.21] ETSI EN 302 537 (both parts): "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".
- [i.22] ETSI TR 102 315: "Electromagnetic compatibility and Radio spectrum Matters (ERM); Ultra Low Power Animal Implant Devices (ULP-AID) operating in the frequency bands: 1 MHz to 3 MHz, 11,5 MHz to 12,5 MHz, 13,5 MHz to 14,5 MHz, 15,5 MHz to 16,5 MHz; System reference document".
- [i.23] ETSI TR 102 316: "Electromagnetic Compatibility and Radio Spectrum Matters (ERM); Ultra Low Power Animal Implantable Devices (ULP-AID) operating in the frequency band 315 kHz to 600 kHz; System Reference Document".
- [i.24] ETSI draft ETSI EN 302 977: "Satellite Earth Stations and Systems (SES); Harmonised EN for Vehicle-Mounted Earth Stations (VMES) operating in the 12/14 GHz frequency bands covering essential requirements under article 3.2 of the R&TTE Directive".
- [i.25] 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.26] ETSI ES 202 239 : "Electromagnetic compatibility and Radio spectrum Matters (ERM); Wireless digital video links operating above 1.3 GHz; Specification of typical receiver performance parameters for spectrum planning".

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### 3 Abbreviations

For the purposes of the present document, the abbreviations given in reference [i.1] and the following apply:

BBDR	Broad Band Disaster Relief
DECT	Digital Enhanced Cordless Telecommunication
ECA	European Common Allocation
EFIS	ERO Frequency Information System
EMC	ElectroMagnetic Compatibility
GSM	Global System for Mobile
IMT	International Mobile Telecommunications
MCA	Mobile Communication service on Aircraft
PMR	Professional Mobile Radio, Private Mobile Radio
SRR	Short Range Radar

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### 4 Table of ETSI deliverables with applications and frequency bands

The Excel file (tr\_102137v010201p0.xls contained in archive tr\_102137v010201p0.zip), which accompanies the present document, contains two worksheets:

- a table of ETSI deliverables with applications and frequency bands. This is further described in clause 4.1.
- in the worksheet "Search", a search facility for finding standards overlapping an input frequency range. See the further description under clause 4.2.



## 4.1 Explanatory notes to the table

### 4.1.1 ETSI deliverable column

The ETSI deliverable column only includes deliverables with a relation to radio frequencies. All of the non-EMC standards from reference [i.4] (except EN 301 796 [i.5]) as well as some other ETSI deliverables are included.

Draft deliverables are indicated with "pr" (preliminary) before the number of the deliverable or with the ETSI work item number.

The different parts of a multipart deliverable are shown to help distinguish between those parts of the multipart which are or are not a Harmonized Standard. Additionally the parts of a multipart standard may address different frequency bands (e.g. EN 301 908 [i.6]).

### 4.1.2 Application column

The application covered by the ETSI deliverable is given in the column "Application".

The terminology from EFIS for applications given in reference [i.7] is used as far as possible. This facilitates the synchronization of the information between ETSI and CEPT.

There is currently a discrepancy between some of the "Major utilization" names in the CEPT/ERC Report 25 [i.1] and the "application" names in the EFIS database [i.2]. For example, CEPT/ERC Report 25 [i.1] uses "Wireless applications in Healthcare" for a frequency band whereas EFIS [i.2] uses "Medical implants". This difference in terminology is being discussed in the ERO and CEPT. Once the terminology is resolved, a fine tuning of the table in archive tr\_102137v010201p0.zip may be needed.

Additionally, some application names, such as "UWB", are neither used in the table in CEPT/ERC Report 25 [i.1] nor in EFIS [i.2], but have been used in the present document, since they were necessary.

The EFIS application names are divided into three layers of detail. Wherever possible, the highest detail possible (i.e. layer 3) has been used in the present document. Note that the layer 3 detail may still not be sufficient to precisely specify the content of the standard (e.g. the different parts of EN 301 908 [i.6] are given the application "IMT" but they are actually a subset of IMT).

Note that it may occur that for a particular frequency band, the application in EFIS is different from the application in the present document. For example, the frequency band is available for an application in layer 2 while the ETSI deliverable addresses an application in layer 3 (which is narrower than layer 2).

### 4.1.3 Frequency band of scope columns

The frequency bands given in the scope of the ETSI deliverable or tables there within are indicated in the columns "lower frequency given in scope" plus "units" and "higher frequency given in scope" plus "units". Every frequency range is in a separate row in the table. Additionally columns have been provided with the frequency given in Hertz to facilitate searching, but these columns are hidden and need to be made visible if the user wishes to use them.

The presentation of the frequency bands has been adopted from the tables in the scope or main body of the ETSI deliverable, unless the ETSI group producing the deliverable has indicated otherwise. This may lead to some duplication of the frequency bands presented. For example in EN 301 502 [i.8], table 2 is given:

**Table 2: Frequency bands for GSM Base Station System**

	<b>TX:</b>	<b>RX:</b>
<b>P-GSM900</b>	935 MHz to 960 MHz	890 MHz to 915 MHz
<b>E-GSM900</b>	925 MHz to 960 MHz	880 MHz to 915 MHz
<b>R-GSM900</b>	921 MHz to 960 MHz	876 MHz to 915 MHz
<b>DCS1800</b>	1 805 MHz to 1 880 MHz	1 710 MHz to 1 785 MHz
<b>GSM 450</b>	460,4 MHz to 467,6 MHz	450,4 MHz to 457,6 MHz
<b>GSM 480</b>	488,8 MHz to 496 MHz	478,8 MHz to 486 MHz

All of the frequency bands in table 2 are included in the table in archive tr\_102137v010201p0.zip.