

**Electromagnetic compatibility  
and Radio spectrum Matters (ERM);  
Guidance for drafting an ETSI System Reference Document**

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Reference

REG/ERM-RM-054

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Keywords

radio, system, SRDoc

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## Intellectual Property Rights

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Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

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## Foreword

This ETSI Guide (EG) has been produced by ETSI Technical Committee Electromagnetic compatibility and Radio spectrum Matters (ERM), and is now submitted for the ETSI standards Membership Approval Procedure.

An "empty SRDoc" (ERM\_30\_55r3 empty Draft ETSI TR 100XYZ Vm.t.e.doc) is contained in eg\_201788v010201m0.zip which accompanies the present document.

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## Introduction

As shown in the history box, the present document has been initially published as a TR.

The present version of this guide is expected to be used together with the "empty SRDoc".

The empty SRDoc is attached to the present document in order to help potential users.

The present document has been produced in cooperation with CEPT/ECC and its subordinate bodies.

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## 1 Scope

The present document contains guidance for drafting a system reference document which is intended to be used initially for internal coordination within ETSI and subsequently, in particular, for co-operation with the Electronic Communications Committee (ECC) of the European Conference of Post and Telecommunications Administrations (CEPT), under the Memorandum of Understanding between ECC and ETSI.

The present document is applicable to all ETSI Technical Bodies producing deliverables affecting radio frequencies.

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## 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- 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.
- For a non-specific reference, the latest version applies.

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

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

- [1] CEPT/ERC Recommendation 74-01E: "Unwanted Emissions in the Spurious Domain".
- [2] ETSI SR 001 262: "ETSI drafting rules".
- [3] ITU Radio Regulations.

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## 3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

CEPT	European Conference of Post and Telecommunications Administrations
EC	European Commission
ECC	Electronic Communications Committee
TC-ERM	Electromagnetic compatibility and Radio spectrum Matters Technical Committee
WG ERM-RM	ERM Working Group Radio Matters
ITU	International Telecommunications Union
WG FM	Working Group Frequency Management
SRDoc	System Reference Document

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## 4 Purpose of System Reference Documents

A "System Reference Document" (SRDoc) is to be produced in support of any new system, service or application requiring a change of the present frequency designation / utilisation within the EU or the CEPT or a change in the present regulatory framework for the proposed band(s) regarding either wanted or unwanted emissions.

SRDocs can also be prepared in order to help users understanding the concepts relating to a particular standard, even in cases where a SRDoc would not be required for frequency coordination purposes.

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## 5 Phases of System Reference Documents

ETSI has been using a phased release approach for the drafts of SRDocs, in order to provide ECC with early information. This implies a very clear understanding of the status of the versions released during each phase by all parties involved.

Initially three stages had been proposed:

- Stage 1: a statement is sent to CEPT indicating that a proposal had been received (and that ETSI will perform an internal co-ordination procedure).
- Stage 2: the original proposal together with an assembled set of comments from individual ETSI members following the internal consultation round is available (noting that ETSI intends to discuss these comments with a view to providing consolidated text).
- Stage 3: a stable document indicating the (possibly modified) spectrum proposal and a statement of additional views put forward by different ETSI members is available.

However, it has been shown that it is more practical to adapt the various phases of a particular SRDoc to the situations on an ad-hoc basis. Several versions of a SRDoc may also be made available within a particular stage, as a result of the completion of different steps during one particular stage. Hence the importance of the status and of the version number of each document.

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## 6 Deliverable type

A System Reference Document shall be produced as an ETSI Technical Report (TR). The ETSI Drafting Rules (SR 001 262 [2]) apply. Guidance on the formatting of a TR can be obtained from the ETSI Secretariat (<http://portal.etsi.org/edithelp>).

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## 7 Contents of the System Reference Document

The following clauses refer, when possible to the appropriate clauses of the [draft] SRDoc itself.

### 7.1 Title Page

The title should be:

*"Electromagnetic compatibility and Radio spectrum Matters (ERM); System reference document;*

*<Name of radio system>; [Part <n>: Part element of title]"*.

### 7.2 Foreword

This clause should include the following text:

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

### 7.3 Introduction

This clause should include the following text:

*"The present document has been developed to support the co-operation between ETSI and the Electronic Communications Committee (ECC) of the European Conference of Post and Telecommunications Administrations (CEPT)".*

## 7.4 Status of pre-approval draft

Since System Reference Documents are frequently circulated before their final approval by ETSI, each System Reference Document shall contain a statement of its approval status in the Introduction. The following text is recommended:

*"The present document was developed by <proponents / name of Technical Body or Task Group of ERM>  
[and approved by ERM RM at its <number> meeting, <date>] |  
[ . The information in it has not yet undergone coordination by ERM RM ] |  
[ . It contains <preliminary/final> information.>] ."*

According to the previous format, such information used to be located in clause 4.1 of SRDocs.

## 7.5 "1" Scope

This clause should include the following text:

*"The present document describes <name of radio system>  
{<which may require a change of the present frequency designation / utilisation within the EU or CEPT>  
| <which may require a change in the present regulatory framework for the proposed band(s) regarding either wanted or unwanted emissions>}*.

*It includes:*

- *Market information;*
- *Technical information;*
- *Expected sharing and compatibility issues".*

## 7.6 "3" Definitions, symbols and abbreviations

First use existing definitions of the ITU Radio Regulations [3]. If there is not a definition in the ITU Radio Regulations [3], wherever possible, use existing definitions in the ETSI TEDDI rather than create new ones (see ETSI/OCG21(03)13).

## 7.7 "4" [Comments on the System Reference Document]

Add here possible difficulties encountered (e.g. reservations on this SRDoc and corresponding reasons). This clause does not need to be filled systematically; the aim is to provide to CEPT-ECC (and/or the EC), as far as possible, a consolidated document, achieved as the result of a consensus between all ETSI members.

Please, note that in accordance with previous formats, clause 4.1 used to contain the Status of the document. This information shall be found, in accordance with the present format, in a particular clause, in the Introduction.

### 7.7.1 "4.1" [Statements by ETSI Members]

ETSI members shall be entitled to include a statement at this point in the document, if their concerns cannot be included elsewhere. However, members are encouraged to try to reflect alternative viewpoints within the body of the document.

## 7.8 "<n>" Executive summary

This clause should be a 1-2 page **executive summary** of the more detailed information in the annexes. If these annexes contain alternative viewpoints, this can be reflected using the following form of words: "The proponents believe...". "Other members of ETSI believe...".



This clause should include information to justify the requested ECC actions.

### 7.8.1 "<n>.1" Background information

This clause may include short background information such as system description, applications, new technology (if any).

### 7.8.2 "<n>.2" Market information

This clause should include the market size, forecasts and timing. The more detailed information should be put in the annex. This information should be accurate enough for possible compatibility studies to provide meaningful results.

### 7.8.3 "<n>.3" Radio spectrum requirement and justification

This clause should include information on how much radio spectrum, which frequencies are preferred and the justification for these preferences. It should also indicate the rationale for a need for dedicated harmonised spectrum or if a tuning range approach would also be acceptable. The more detailed information should be put in the annex.

### 7.8.4 "<n>.4" Regulations

#### 7.8.4.1 "<n>.4.1" Current regulations

Include, in particular, ITU and ECC applicable regulations.

#### 7.8.4.2 "<n>.4.2" Proposed regulation and justification

Consider whether to use a tuning range approach with the preferred candidate bands indicated within the tuning range. A tuning range approach may provide flexibility to administrations when the frequency designation for new systems and applications is being considered on a national level.

## 7.9 "<n+1>" Expected ETSI actions

Include time scales.

This clause should also identify existing and expected ETSI work items which are relevant to the SRDoc.

## 7.10 "<n+2>" Requested ECC actions

Include time scales.

## 7.11 "Annex A" Detailed market information

If consensus cannot be reached on a clause, then it shall be divided into two sections: one for the proponents and one for comments on the text of the proponents. ETSI members making comments should endeavour to reach consensus amongst themselves, to minimise the number of comments.

### 7.11.1 "Clause A.1" Range of applications

### 7.11.2 "Clause A.2" Expected market size and value

To be completed by the proponents of the system. The market size information is intended for sharing and compatibility studies. This information may also play a role in the more general discussions.

### 7.11.3 "Clause A.3" Traffic and equipment density forecast

This information is intended for sharing and compatibility studies.

## 7.12 "Annex B" Detailed technical information

If consensus cannot be reached on a clause, then it shall be divided into two sections: one for the proponents and one for comments on the text of the proponents. ETSI members making comments should endeavour to reach consensus amongst themselves, to minimise the number of comments.

### 7.12.1 "Clause B.1" Detailed technical description

Include references if appropriate.

### 7.12.2 "Clause B.2" Technical parameters and justifications for spectrum

The list of technical parameters should be sufficiently complete to enable sharing and compatibility studies, if required, to be carried out by CEPT.

#### 7.12.2.1 "Clause B.2.1" Transmitter parameters

##### 7.12.2.1.1 "Clause B.2.1.1" Radiated Power

Include the transmission mask, the adjacent channel power, power control, the spectral power density, and any restrictions imposed by regulations (ITU-R or CEPT).

##### 7.12.2.1.2 "Clause B.2.1.2" Operating Frequency

It may be advisable to give several options of frequencies, so that CEPT/ECC-WG FM can choose the most suitable ones. Include frequency accuracy and stability and the tuning range of the equipment.

##### 7.12.2.1.3 "Clause B.2.1.3" Bandwidth

Include the necessary bandwidth and occupied bandwidth (as defined by Articles 1.152 and 1.153 of the ITU Radio Regulations [3] and using the limits defined in CEPT/ERC Recommendation 74-01E [1]).

##### 7.12.2.1.4 "Clause B.2.1.4" Unwanted emissions

Include the spurious emissions and the out-of-band emissions (as defined by the Article 1.146 of the ITU Radio Regulations [3] and using the limits defined in CEPT/ERC Recommendation 74-01E [1]).

##### 7.12.2.1.5 "Clause B.2.1<x>" <Parameter>

### 7.12.2.2 "Clause B.2.2" Receiver parameters

Include sensitivity, selectivity, intermodulation, co-channel rejection and blocking.

### 7.12.2.3 "Clause B.2.3" Channel access parameters

Include parameters such for duty cycle, Listen Before Talk, frequency agility.

### 7.12.3 "Clause B.3" Information on relevant standard(s)

Information can be given here over current or future standards, including the development of ETSI Harmonized Standards.

## 7.13 "Annex C" Expected sharing and compatibility issues

If consensus cannot be reached on a section, then it shall be divided into two sections: one for the proponents and one for comments on the text of the proponents. ETSI members making comments should endeavour to reach consensus amongst themselves, to minimise the number of comments.

### 7.13.1 "Clause C.1" Current ITU and European Common Allocations

To be completed by the ETSI ERM RM.

### 7.13.2 "Clause C.2" Sharing and compatibility studies (if any)

This clause should describe any sharing and compatibility studies that have been conducted on, or are relevant to, the system (and corresponding assumptions, if any). To be completed by ERM RM and the ETSI Technical Body.

CEPT ECC Policy Goal 10 states: "In order for the ECC to provide a rapid frequency designation process, and to give a higher degree of certainty for industry, encourage industry to provide initial spectrum studies to support its proposals".

### 7.13.3 "Clause C.3" Sharing and compatibility issues

Include here formation concerning foreseen sharing and compatibility issues (and corresponding assumptions, if any) together with Parameters concerning the Victims. Parameters of Victims could also be detailed in (a) separate clause(s).

## 7.14 "Annex <N>" Bibliography

As Technical Reports are by definition an informative deliverable, all the references are mentioned in clause 2 (see clause 12.1 of SR 001 262 [2]).

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## Annex A (normative): Survival guide for drafting/updating SRDocs

Internal consistency and accuracy of the various versions of the SRDocs is of prime importance, as SRDocs are expected to be used, in particular outside ETSI, even in early stages of their development (this is a consequence of the phased approach which is now currently used).

Experience shows that the "Status" of an SRDoc and its version number, are critical aspects.

Version numbers of SRDocs are composed of two parts, in order to make sure that version numbers are unique and that there are not two drafts having different contents and nevertheless exhibiting the same version number :

- the three leftmost numbers are the target version number of the document, as defined by ETSI, usually "1.1.1" the first time a particular document is published (it appears on the front page, and the font Arial 20 is used for the 3 corresponding digits);
- the three rightmost numbers (<a.s.m>, as defined below in clause A.2) identify a particular version of the draft of the SRDoc, and are managed by the ETSI TBs, and are usually "0.0.1" for the very first draft (it appears on the front page, using the font Arial 16);
- the 2 fields defined above are separated by an underscore ("\_").

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### A.1 Check list

Before sending out a new draft, editors are advised to check, in particular, the following points:

- Version number on the front page.
- History box (last page).
- Date of the document (on the front page).
- "Status" and "Comments" clauses (and, in particular, relations with dates and version numbers).
- Table of contents to be rebuilt (if necessary).
- When using WORD(tm) under "Files|Properties" there may also be fields to be checked for consistency with the items above.

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### A.2 Further details concerning the management of the <a.s.m> field

In order to make sure that version numbers are unique and that there are not two drafts having different contents and the same <a.s.m> field (i.e. the identification of each version of a draft) a, s and m are defined as follows:

- a identifies the approval stage of the draft
- (0 = no approval yet
  - 2 = document for TC approval
  - 3 = approved by the TC for publication)

s identifies changes in the structure of the document and other major changes

m is updated at each technical and/or editorial change.

It is incremented at each minor change.

Rule : an increment of s resets m.

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## Annex B (informative): Guidance concerning the choice of CEPT deliverables and actions

In order to offer further guidance to the "originating bodies", it can be noted that among the ECC deliverables are:

- recommendations; and
- ECC DECisions.

ECC DECisions are expected to be implemented before a particular date (stated explicitly in the DECision itself) by the Countries that have declared their commitment to implement them.

Recommendations are not supported by any commitment of the CEPT member Countries or by implementation dates.

The ERO has been trying to increase visibility concerning implementations by the various CEPT member countries.

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## History

<b>Document history</b>		
V1.1.1	March 2000	Publication as TR 101 788
V1.2.1	May 2001	Publication as TR 101 788 (Historical)
V1.1.1	September 2001	Publication
V1.2.1	December 2006	Membership Approval Procedure    MV 20070202: 2006-12-05 to 2007-02-02