

**Electromagnetic compatibility
and Radio spectrum Matters (ERM);
Publication of interface specifications
under Directive 1999/5/EC;
Guidelines for describing radio access interfaces**



Reference

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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.

Foreword

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

Introduction

The Radio Equipment and Telecommunications Terminal Equipment (R&TTE) Directive 1999/5/EC [1] introduces a fundamental change in the area of terminal equipment interworking with public telecommunications networks. Formerly there were specifications that applied to terminal equipment ensuring, to varying degrees of confidence, interworking with and via different networks.

As a consequence of the R&TTE Directive an obligation is placed on Public Network Operators (PNO) to publish specifications of network interfaces they provide to the end user, whatever is the connection of the end user with the PNO, direct or indirect. Consequently Public Service Providers (PSPs) such as Internet Service Providers (ISPs) should also publish their interface specifications.

The R&TTE Directive [1], Article 4.2 states:

"...Member States shall ensure that such operators publish accurate and adequate technical specifications of such interfaces before services provided through those interfaces are made publicly available, and regularly publish any updated specifications. The specifications shall be in sufficient detail to permit the design of telecommunications terminal equipment capable of utilizing all services provided through the corresponding interface. The specifications shall include, *inter alia*, all the information necessary to allow manufacturers to carry out, at their choice, the relevant tests for the essential requirements applicable to the telecommunications terminal equipment. Member States shall ensure that those specifications are made readily available by the operators."

However, it recognized that PNOs can only publish information under their direct control or which has been disclosed to them.

The present document describes the obligation on PNOs as determined by the Directive 1999/5/EC [1] for the publication of radio access interfaces. Documents for a similar purpose have been produced by ETSI EP-ATA and ETSI EP-DTA covering the publication of fixed analogue and digital interfaces.

There has been an extensive discussion on the content of the present document, using documents provided from the TCAM and ADHoc groups of the European Commission. However, as no agreement has been reached within TG14 regarding the procedures for the publication of interfaces from proprietary networks (i.e. non-standardized systems) which are not in the public domain, the present document does not provide any guidance on the issues. When the situation has been determined and agreed the present document will be updated to include such systems.

1 Scope

The present document gives guidance on the procedures that Public Network Operators (PNOs) should follow when publishing technical information about their offered radio access interfaces as a result of a decision by an NRA under the application of the Radio Equipment and Telecommunications Terminal Equipment (R&TTE) Directive 1999/5/EC [1].

The present document is applicable to the obligations placed upon fixed and mobile PNOs in publishing radio access interfaces, what the publication should contain, and any legal issues that have to be resolved in publication. The present document also takes account of existing essential requirements under Article 3 of the R&TTE Directive 1999/5/EC [1], and provides guidelines for a single publication to fulfil all of these requirements.

The annexes to the present document provides example proforma that may be used for radio access interface publication.

The present document does not specify which interfaces should be published, neither does it address the timing of publication, as these functions are clearly the responsibility of the National Regulatory Authorities.

The present document does not specify how proprietary interfaces which are not in the public domain are published.

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, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.
- A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

- [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.
- [2] ETSI EG 201 450: "Guidance on the identification of Harmonized Standards and/or other technical specifications for Radio equipment and Telecommunications Terminal Equipment (R&TTE) covering requirements under Article 3.1 of Directive 1999/5/EC".
- [3] ETSI SR 001 262: "ETSI drafting rules".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the following terms and definitions apply:

Public Network Operator (PNO): anyone providing publicly available telecommunications services over a network to which terminal equipment can be connected, either via a fixed network terminating point or an air interface for radio terminals

Public Service Provider (PSP): provider of publicly available telecommunications service(s) who provides service from one or more sets of apparatus connected to a Public Network, but does not itself operate a network

3.2 Abbreviations

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

IPR	Intellectual Property Rights
ISP	Internet Service Provider
NRA	National Regulatory Authority
PICS	Protocol Implementation Conformance Statements
PNO	Public Network Operator
PSP	Public Service Provider
PTO	Public Telecommunications Operator
SS	Supplementary Services

4 Guidance for publication

The following subclauses gives guidance to the PNOs and NRAs on the content and the format of the publication of radio access interfaces with public telecommunication networks, including Supplementary Services (SS).

4.1 Intellectual Property Rights (IPR) and Copyright

As part of the radio access interface publication, the PNO publishing the interface should make aware of the potential for IPR rights in the implementation of the interface. However, it is the sole responsibility of the individual manufacturer to ensure that IPR issues are cleared. In so far as the publisher is aware of the same, the publisher should ensure that the publication itself contains a clear indication of:

- 1) any IPR and/or copyright asserted over the contents of the publication (including any specifications referred out to);
- 2) the rights granted and restrictions made to users of the specification; and
- 3) how details of any licensing requirements associated with such IPR may be obtained.

NOTE: These IPR/copyrights however does not limit the operators obligation of publishing his public interface. There is no requirement for the contents of an existing specification to be reproduced in the interface publication. In line with subclause 4.2 on reference to standards, it is recommended that the interface refers out to the published specification and/or provides details of where the specification may be obtained.

If the interface publication published by the PNO contains any sort of IPR or copyright, the PNO is recommended to give appropriate information of existing IPRs in the publication.

There is no obligation for PNOs to publish the IPRs which are needed or may be needed for the design of an equipment compliant with the specified interface. There is also no obligation for PNOs to make IPRs owned by others available to terminal manufacturers.

4.2 Content of radio access interface publications

Annex A contains an example that may be used in the declaration of radio access interface specifications. The presentation style of annex A is provided for illustrative purposes only.

The publication should contain information to enable terminal manufacturers to design radio terminal equipment to interwork and for use of all services offered by the PNO. with the public telecommunications network for the purpose of establishing, modifying, charging for, holding and clearing real or virtual connections and to prevent the misuse of network resources.

In addition to basic conveyance services, it is felt important that supplementary services or tele-services that are directly controlled by the Public Network Operators should be published.

Details of value added services (services provided over network connections) are not required to be published under the present regulations.

The radio access interface publication should contain at least the information described under the headings given in the annex A proforma where relevant to that interface.

Guidance notes are contained in the proforma to explain the nature and level of detail of the information required. PNOs may, if they choose, provide additional information e.g. relating to the interface definition, the services provided over that interface, facilities provided to terminal designers/users for interoperability testing.

In producing the radio access interface publication, the following points should be considered:

- 1) Wherever possible, the interface specification should refer out to published standards. The following list gives an indication of standards and specifications that may be referenced for the purposes of the publication:
 - a) standards whose reference is published in the Official Journal of the European Communities;
 - b) European standards or specifications adopted by ETSI;
 - c) international standards or recommendations adopted by the International Telecommunications Union (ITU), the International Standards Organization (ISO) or the International Electrotechnical Commission (IEC);
 - d) national standards or specifications; and
 - e) proprietary specifications in the public domain.

NOTE: This list does not preclude reference to accepted industry standards in the absence of a standard that is in any one of the categories above (e.g. IEEE, Wireless ATM Forum, and Bluetooth).

- 2) When a standard referred to contain options, the radio access interface specification should indicate which option(s) have been implemented. For some protocols there may be standards or specifications defining the associated Protocol Implementation Conformance Statements (PICS) which may be used for this purpose.
- 3) All supplementary services provided have to be published, along with the service codes used for their actuation.

4.3 Tests for "essential requirements" under the R&TTE Directive

The PNO, when publishing the radio access interface, should indicate the tests under his responsibility required to comply with the sub items of Article 3 of the R&TTE Directive [1], relating to the description of the radio access interface the PNO has provided (e.g. relating to invoked requirements by the EC under R&TTE Directive Article 3.3).

Furthermore guidance on other requirements can be found as follows:

- Article 3.1a (Safety) refer to guidance on this issue which may be found in EG 201 450 [2] (or any other ETSI Guidance document on the subject);
- Article 3.1b (EMC): refer to guidance on this issue which may be found in EG 201 450 [2] (or any other ETSI Guidance document on the subject);
- Article 3.2 (Spectrum): refer to Harmonized Standards for the radio products. If no Harmonized Standard exists the PNO should advise the manufacturer to refer to a Notified Body under the R&TTE Directive to determine the essential requirements.

4.4 Publication

4.4.1 Format

Where reference is made to existing standards the style of the Standards Body is accepted. However in the absence of a standard it is recognized that different manufacturing companies have a "house style" for all of their documentation. Radio access interface publications may be made using the company "house style" but the PNO should ensure that the contents of the publication provides the same information as indicated in the proforma given in annex A, and that all technical requirements for the interface are clearly identified. Guidance on specific verbal requirements statements may be found in the ETSI Drafting rules, SR 001 262 [3], subclause 6.6.1.

There is no requirement to have a separate publication for each radio access interface; it is recognized that where interfaces are very similar, it may be beneficial to have all of those interfaces in a single document. Similarly, it may be desirable to specify some characteristics that are common to a number of interfaces in a separate publication. The criteria for deciding how to document the technical characteristics of the radio access interfaces should be based on clarity, removal of ambiguity, maintainability and ease of use for the users of these publications.

4.4.2 Language and document issue control

When the radio access interface is published in one of the recognized European languages, it is suggested that an English version is available as a minimum additional language. Referenced international or regional standards will normally be in English and may be in the local language after transposition by the National Standards Organization (NSO).

All radio access interface publications should have strict issue controls to ensure that it is clear which document is currently in force.

4.4.3 Availability

As a minimum, the PNO should provide details for a single point of contact to the NRA that can provide access to all radio access interface publications provided by that PNO. The PNO shall inform the NRA immediately of any change to the given contact details to ensure that they remain current. Additionally, it is recommended that a PNO provide within the specific radio access interface publications, contact details to enable users of the publication to contact the PNO for the purposes of, e.g. clarification of the text or reporting errors in the publication.

In order to minimize cost and complexity associated with distribution of publications, it is recommended that, wherever possible, PNOs should make the radio access interface publications available by electronic means. Where this is not possible, the publisher may levy reasonable costs for reproduction and distribution on an organization or individuals requesting a copy of a particular radio access interface publication.

Annex A (informative): Guidance for the publication of a radio access interface

A.1 Introduction

This clause can be used by the PNO as required.

A.2 Table Of Contents

The contents list for the interface publication.

A.3 Scope

This clause should identify the applicability of the document to fulfil the requirements of Article 4.2 of the R&TTE directive 1999/5/EC.

It should contain the information covered by the document and the applicability, including text that defines the actual service offerings, to which the present document applies. Reference should be made to the applicable National Interface declaration to which the radio interface applies (if available).

A.4 References

This clause should contain a list of reference material that is required to implement a radio terminal. This may also be a reference to an on-line location to access the necessary references.

A.5 Definitions, symbols and abbreviations

This clause may be used, if required, to identify any specific definitions given in the publication. It should also contain a list of all abbreviations used in the document and their explanations.

A.6 Background information

This clause is available for the PNO to include any legal material or operational limitations etc. which gives additional information to the manufacturer. It may also be used to provide details of any IPR issues that may be relevant.

This clause should also include the address, telephone number, fax number, e-mail, etc. to which queries arising from the publication of the present document should be addressed.

This clause could also contain the procedures for the notification of changes to the network, and how they will be published, which may affect the correct working of the radio terminal equipment.

A.7 Description

A.7.1 General

This subclause should contain a brief description of the radio system and the clear identification of the interface or interfaces being published. This may include diagrams to give clearer description of the radio system and the interface.

A.7.2 The Network Termination Point (NTP)

This subclause should identify the radio access NTP covered by the present document.

A.7.3 Transmission layer characteristics

For systems that are standardized or where the proprietary specification is in the public domain refer to the appropriate standards or specifications.

A.7.4 Call Control/Mobility Management/Radio Resource Procedures

For systems that are standardized or where the proprietary specification is in the public domain refer to the appropriate standards or specifications.

If a layered structure is used then the following subclauses apply.

A.7.4.1 Layer 1 protocol

For systems that are standardized or where the proprietary specification is in the public domain refer to the appropriate standards or specifications.

A.7.4.2 Layer 2 protocol

For systems that are standardized or where the proprietary specification is in the public domain refer to the appropriate standards or specifications.

A.7.4.3 Layer 3 protocol

For systems that are standardized or where the proprietary specification is in the public domain refer to the appropriate standards or specifications.

A.7.5 Bearer Services

This subclause should contain a list of the bearer services supported by the network.

A.7.6 Supplementary services

This subclause should contain a list of supplementary services supported by the network and directly under the control of the PNO, with the codes used to invoke the service.

NOTE: For supplementary services supported by ETSI standardization the invocation codes are published in the ETSI Registry of Supplementary Codes.

A.7.7 Tele-Services

This subclause should contain a list of tele-services supported by the network.

A.7.8 Other Characteristics

This subclause should identify any other characteristics that the PNO is aware of to assist the manufacturer in his implementation of the radio terminal equipment. This could cover such issues under any other considerations e.g. the essential requirements of R&TTE Directive Article 3, applicable to the terminal.

Bibliography

The following material, though not specifically referenced in the body of the present document (or not publicly available), gives supporting information.

- Guidance on Interface Notification by Member States.
- Guidance on Interface Publication by Public Telecommunications Network Operators.
- Guidance for Public Network Operators when publishing interfaces, and NRAs/Member States when supervising such publication.
- Commission Guidance to terminal manufacturers and suppliers concerning interface publication.

History

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