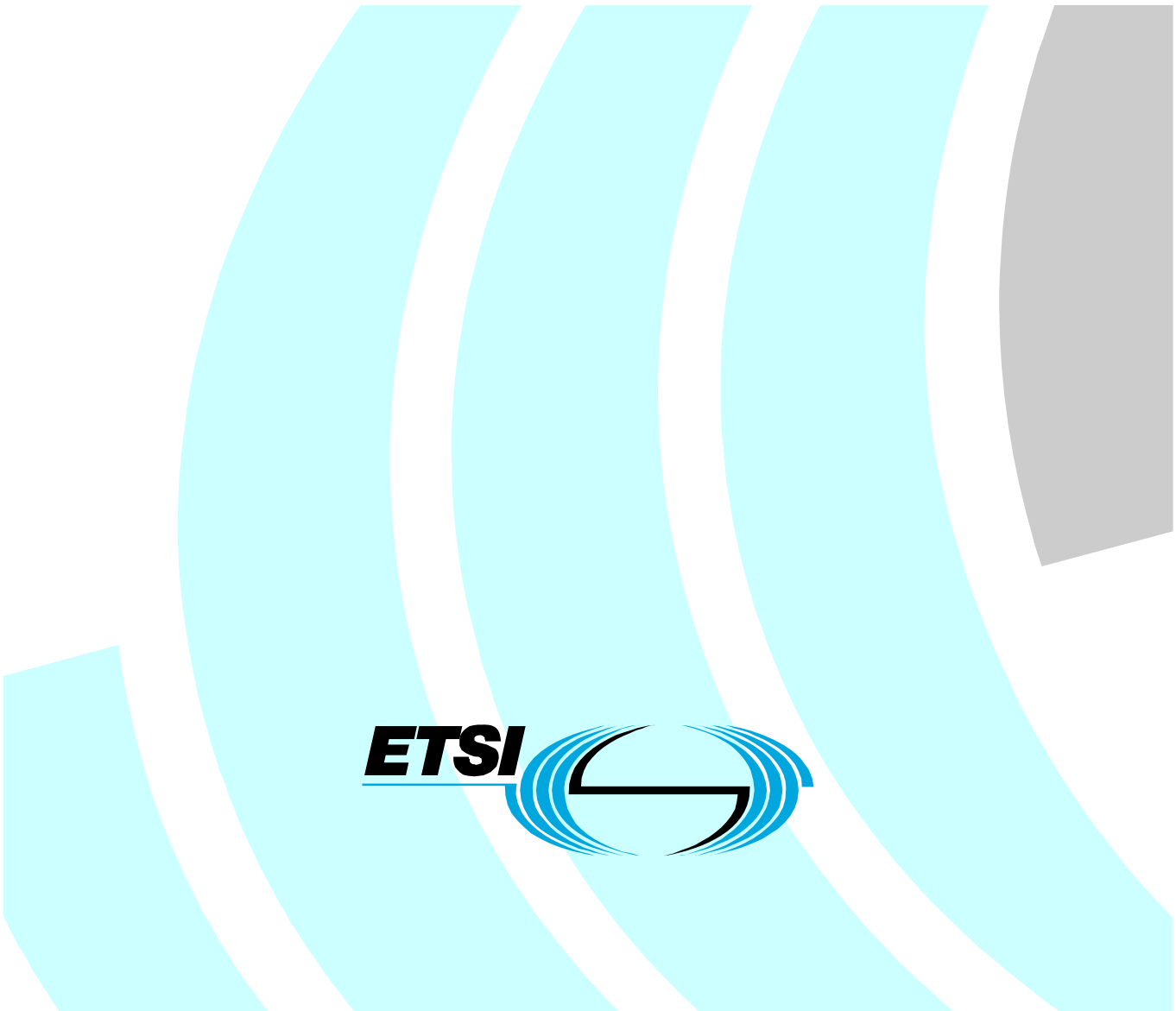
# ETSI TS 102 587-1 V1.2.1 (2008-07)

*Technical Specification*

**Electromagnetic compatibility and Radio spectrum Matters (ERM); Conformance testing for the Peer-to-Peer Digital Private Mobile Radio; Part 1: Protocol Implementation Conformance Statement (PICS) proforma**



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# Contents

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# Foreword

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

The present document is part 1 of a multi-part deliverable covering the Electromagnetic compatibility and Radio spectrum Matters (ERM); Conformance testing for the Peer-to-Peer Digital Private Mobile Radio, as identified below:

**Part 1: "Protocol Implementation Conformance Statement (PICS) proforma";**

Part 2: "Test Suite Structure and Test Purposes (TSS&TP) specification";

Part 3: "Requirements catalogue";

Part 4: "Abstract Test Suite (ATS)";

Part 5: "Interoperability Test Suite Structure and Test Purposes (TSS&TP) specification";

Part 6: "Test descriptions (TD)".

# Introduction

To evaluate conformance of a particular implementation, it is necessary to have a statement of which capabilities and options have been implemented for a telecommunication specification. Such a statement is called a Protocol Implementation Conformance Statement (PICS).

# 1 Scope

The present document provides the Protocol Implementation Conformance Statement (PICS) proforma for the ERM; Peer-to-Peer Digital Private Mobile Radio using FDMA with a channel spacing of 6,25 kHz with e.r.p. of up to 500 mW as defined in TS 102 490 [1] in compliance with the relevant requirements, and in accordance with the relevant guidance given in ISO/IEC 9646-7 [3] and ETS 300 406 [4].

The present document details in tabular form the implementation options, i.e. the optional functions additional to those which are mandatory to implement.

# 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.

[1] ETSI TS 102 490 (V1.3.1): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Peer-to-Peer Digital Private Mobile Radio using FDMA with a channel spacing of 6,25 kHz with e.r.p. of up to 500 mW".

[2] ISO/IEC 9646-1: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts".

[3] ISO/IEC 9646-7: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 7: Implementation Conformance Statements".

[4] ETSI ETS 300 406: "Methods for testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".

## 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.

Not applicable.

# 3 Definitions and abbreviations

## 3.1 Definitions

For the purposes of the present document, the terms and definitions given in TS 102 490 [1], ISO/IEC 9646-1 [2], ISO/IEC 9646-7 [3] and the following apply:

**Implementation Conformance Statement (ICS):** statement made by the supplier of an implementation or system claimed to conform to a given specification, stating which capabilities have been implemented

NOTE: The ICS can take several forms: protocol ICS, profile ICS, profile specific ICS, information object ICS, etc.

**ICS proforma:** document, in the form of a questionnaire, which when completed for an implementation or system becomes an ICS

**Protocol ICS (PICS):** ICS for an implementation or system claimed to conform to a given protocol specification

## 3.2 Abbreviations

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

| | |
|---|---|
| CSF | Configured Services and Facilities |
| dPMR | digital Private Mobile Radio |
| FDMA | Frequency Division Multiple Access |
| ICS | Implementation Conformance Statement |
| IP | Internet Protocol |
| ISF | Initial Services and Facilities |
| IUT | Implementation Under Test |
| MS | Mobile Station |
| OACSU | Off-Air Call Set-up |
| PICS | Protocol Implementation Conformance Statement |
| PTT | Push To Talk |
| SUT | System Under Test |

# 4 Conformance to this PICS proforma specification

If it claims to conform to the present document, the actual PICS proforma to be filled in by a supplier shall be technically equivalent to the text of the PICS proforma given in annex A, and shall preserve the numbering/naming and ordering of the proforma items.

A PICS, which conforms to the present document, shall be a conforming PICS proforma completed in accordance with the guidance for completion given in clause A.1.

# Annex A (normative): Protocol ICS proforma for TS 102 490



## A.1 Guidance for completing the PICS proforma

### A.1.1 Purposes and structure

The purpose of this PICS proforma is to provide a mechanism whereby a supplier of an implementation of the requirements defined in TS 102 490 [1], may provide information about the implementation in a standardized manner.

The PICS proforma is subdivided into clauses for the following categories of information:

- guidance for completing the PICS proforma;
- identification of the implementation;
- identification of the TS 102 490 [1];
- global statement of conformance;
- entity;
- type ISF, CSF;
- MS features:
  - capabilities;
  - frames;
  - timers.

### A.1.2 Abbreviations and conventions

The PICS proforma contained in this annex is comprised of information in tabular form in accordance with the guidelines presented in ISO/IEC 9646-7 [3].

#### Item column

The item column contains a number which identifies the item in the table.

#### Item description column

The item description column describes in free text each respective item (e.g. parameters, timers, etc.). It implicitly means "is <item description> supported by the implementation?".

### Status column

The following notations, defined in ISO/IEC 9646-7 [3], are used for the status column:

| | |
|---|---|
| m | mandatory - the capability is required to be supported. |
| o | optional - the capability may be supported or not. |
| n/a | not applicable - in the given context, it is impossible to use the capability. |
| x | prohibited (excluded) - there is a requirement not to use this capability in the given context. |
| o.i | qualified optional - for mutually exclusive or selectable options from a set. "i" is an integer which identifies an unique group of related optional items and the logic of their selection which is defined immediately following the table. |
| ci | conditional - the requirement on the capability ("m", "o", "x" or "n/a") depends on the support of other optional or conditional items. "i" is an integer identifying an unique conditional status expression which is defined immediately following the table. |
| i | irrelevant (out-of-scope) - capability outside the scope of the reference specification. No answer is requested from the supplier. |

NOTE 1: This use of "i" status is not to be confused with the suffix "i" to the "o" and "c" statuses above.

### Reference column

The reference column makes reference to TS 102 490 [1], except where explicitly stated otherwise.

### Support column

The support column shall be filled in by the supplier of the implementation. The following common notations, defined in ISO/IEC 9646-7 [3], are used for the support column:

| | |
|---|---|
| Y or y | supported by the implementation. |
| N or n | not supported by the implementation. |
| N/A, n/a or - | no answer required (allowed only if the status is n/a, directly or after evaluation of a conditional status). |

If this PICS proforma is completed in order to describe a multiple-profile support in a system, it is necessary to be able to answer that a capability is supported for one profile and not supported for another. In that case, the supplier shall enter the unique reference to a conditional expression, preceded by "?" (e.g. ?3). This expression shall be given in the space for comments provided at the bottom of the table. It uses predicates defined in the SCS, each of which refers to a single profile and which takes the value TRUE if and only if that profile is to be used.

EXAMPLE 1: ?3: IF prof1 THEN Y ELSE N.

NOTE 2: As stated in ISO/IEC 9646-7 [3], support for a received PDU requires the ability to parse all valid parameters of that PDU. Supporting a PDU while having no ability to parse a valid parameter is non-conformant. Support for a parameter on a PDU means that the semantics of that parameter are supported.

#### Values allowed column

The values allowed column contains the type, the list, the range or the length of values allowed. The following notations are used:

- range of values: <min value> .. <max value>
  example: 5 .. 20
- list of values: <value1>, <value2>, ..., <valueN>
  example: 2, 4, 6, 8, 9
  example: '1101'B, '1011'B, '1111'B
  example: '0A'H, '34'H, '2F'H
- list of named values: <name1>(<val1>), <name2>(<val2>), ..., <nameN>(<valN>)
  example: reject(1), accept(2)
- length: size (<min size> .. <max size>)
  example: size (1 .. 8)

#### Values supported column

The values supported column shall be filled in by the supplier of the implementation. In this column, the values or the ranges of values supported by the implementation shall be indicated.

#### References to items

For each possible item answer (answer in the support column) within the PICS proforma a unique reference exists, used, for example, in the conditional expressions. It is defined as the table identifier, followed by a solidus character "/", followed by the item number in the table. If there is more than one support column in a table, the columns are discriminated by letters (a, b, etc.), respectively.

EXAMPLE 2: A.5/4 is the reference to the answer of item 4 in table A.5 of annex A.

EXAMPLE 3: A.6/3b is the reference to the second answer (i.e. in the second support column) of item 3 in table A.6 of annex A.

#### Prerequisite line

A prerequisite line takes the form: Prerequisite: <predicate>.

A prerequisite line after a clause or table title indicates that the whole clause or the whole table is not required to be completed if the predicate is FALSE.

### A.1.3 Instructions for completing the PICS proforma

The supplier of the implementation shall complete the PICS proforma in each of the spaces provided. In particular, an explicit answer shall be entered, in each of the support or supported column boxes provided, using the notation described in clause A.1.2.

However, the tables containing in "Mobile Station MS" clause shall only be completed for MS implementations, and the tables containing in "Base Station BS" clause shall only be completed for BS implementations.

If necessary, the supplier may provide additional comments in space at the bottom of the tables or separately.

More detailed instructions are given at the beginning of the different clauses of the PICS proforma.

## A.2 Identification of the implementation

Identification of the Implementation Under Test (IUT) and the system in which it resides (the System Under Test (SUT)) should be filled in so as to provide as much detail as possible regarding version numbers and configuration options.

The product supplier information and client information should both be filled in if they are different.

A person who can answer queries regarding information supplied in the PICS should be named as the contact person.

### A.2.1 Date of the statement

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### A.2.2 Implementation Under Test (IUT) identification

IUT name:

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IUT version:

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### A.2.3 System Under Test (SUT) identification

SUT name:

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Hardware configuration:

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Operating system:

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### A.2.4 Product supplier

Name:

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Address:

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Telephone number:

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Facsimile number:

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E-mail address:

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Additional information:

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### A.2.5 Client (if different from product supplier)

Name:

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Address:

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Telephone number:

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Facsimile number:

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E-mail address:

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Additional information:

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### A.2.6 ICS contact person

(A person to contact if there are any queries concerning the content of the ICS).

Name:

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Telephone number:

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Facsimile number:

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E-mail address:

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Additional information:

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## A.3 Identification of the protocol

This PICS proforma applies to the following standard:

TS 102 490 [1] (V1.3.1): "Electromagnetic compatibility and Radio spectrum Matters (ERM); Peer-to-Peer Digital Private Mobile Radio using FDMA with a channel spacing of 6,25 kHz with e.r.p. of up to 500 mW".

## A.4 Global statement of conformance

Are all mandatory capabilities implemented? (Yes/No) .....

NOTE: Answering "No" to this question indicates non-conformance to the TS 102 490 [1] specification. Non-supported mandatory capabilities are to be identified in the PICS, with an explanation of why the implementation is non-conforming, on pages attached to the PICS proforma.

## A.5 Entity

**Table A.1: Entity**

| Item | Entity type | Reference | Status | Support |
|---|---|---|---|---|
| 1 | ISF | [1] clause 8.1 | o.1 | |
| 2 | CSF | [1] clause 8.2 | o.1 | |

o.1: It is mandatory to support exactly one of these items.

Comments:

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# A.6 ISF

**Table A.2: ISF type**

| Prerequisite: A.1/1 -- ISF | | | | |
|---|---|---|---|---|
| **Item** | **ISF type** | **Reference** | **Status** | **Support** |
| **1** | Voice | [1] clause 8.1 | m | |
| **2** | Type 2 data | [1] clause 8.1 | o | |
| **3** | Type 1 data | [1] clause 8.1 | o | |

Comments:

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**Table A.3: ISF Voice supplementary services**

| Prerequisite: A.2/1 -- ISF Voice | | | | |
|---|---|---|---|---|
| **Item** | **Service** | **Reference** | **Status** | **Support** |
| **1** | Late entry | [1] clause 8.1 | m | |
| **2** | All call | [1] clause 8.1 | o | |
| **3** | PTT call | [1] clause 8.1 | m | |
| **4** | Slow user data | [1] clause 8.1 | o | |
| **5** | Talking Party Identification | [1] clause 8.1 | o | |

Comments:

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**Table A.4: Type 2 data Tele-services**

| Prerequisite: A.2/2 -- Type 2 data | | | | |
|---|---|---|---|---|
| **Item** | **Tele-service** | **Reference** | **Status** | **Support** |
| **1** | IP over dPMR | [1] clause 8.1 | o.a | |
| **2** | Group Short Data message | [1] clause 8.1 | o.a | |

o.a: It is mandatory to support at least one of these items.

Comments:

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**Table A.5: ISF Type 2 data Supplementary services**

| Prerequisite: A.4/2 -- Type 2 group short data message | | | | |
|---|---|---|---|---|
| **Item** | **Supplementary service** | **Reference** | **Status** | **Support** |
| **1** | Status message | [1] clause 8.1 | o.5 | |
| **2** | Precoded message | [1] clause 8.1 | o.5 | |
| **3** | Free text message | [1] clause 8.1 | o.5 | |
| **4** | Short file transfer | [1] clause 8.1 | o.5 | |

o.5: It is mandatory to support at least one of these items.

Comments:

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**Table A.6: ISF Type 1 data Tele-services**

| Prerequisite: A.2/3 -- Type 1 data | | | | |
|---|---|---|---|---|
| **Item** | **Tele-service** | **Reference** | **Status** | **Support** |
| **1** | IP over dPMR | [1] clause 8.1 | o.6 | |
| **2** | Group Short Data message | [1] clause 8.1 | o.6 | |

o.6: It is mandatory to support at least one of these items.

Comments:

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**Table A.7: Type 1 data Supplementary services**

| Prerequisite: A.6/2 -- Type 1 group short data message | | | | |
|---|---|---|---|---|
| **Item** | **Tele-service** | **Reference** | **Status** | **Support** |
| **1** | Status message | [1] clause 8.1 | o.7 | |
| **2** | Precoded message | [1] clause 8.1 | o.7 | |
| **3** | Free text message | [1] clause 8.1 | o.7 | |
| **4** | Short file transfer | [1] clause 8.1 | o.7 | |

o.7: It is mandatory to support at least one of these items.

Comments:

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# A.7 CSF

**Table A.8: CSF type**

| Item | CSF type | Reference | Status | Support |
|---|---|---|---|---|
| **1** | Voice | [1] clause 8.2 | m | |
| **2** | Type 3 data | [1] clause 8.2 | o | |
| **3** | Type 2 data | [1] clause 8.2 | o | |
| **4** | Type 1 data | [1] clause 8.2 | o | |
| **5** | Numbering and dialling | [1] clauses A.2 and A.3 | o | |

Comments:

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**Table A.9: CSF Voice Tele-services**

| Prerequisite: A.8/1 -- CSF Voice | | | | |
|---|---|---|---|---|
| **Item** | **Tele-service** | **Reference** | **Status** | **Support** |
| **1** | Individual call | [1] clause 8.2 | o.9 | |
| **2** | Group call | [1] clause 8.2 | o.9 | |

o.9: It is mandatory to support at least one of these items.

Comments:

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**Table A.10: CSF Voice Individual call supplementary services**

| Prerequisite: A.9/1 -- CSF individual call | | | | |
|---|---|---|---|---|
| **Item** | **Supplementary service** | **Reference** | **Status** | **Support** |
| **1** | Late entry | [1] clause 8.2 | m | |
| **2** | OACSU | [1] clause 8.2 | o | |
| **3** | Cancel Call Setup | [1] clause 8.2 | o | |
| **4** | PTT Call | [1] clause 8.2 | o | |
| **5** | Slow user data | [1] clause 8.2 | o | |
| **6** | Short appended data | [1] clause 8.2 | o | |
| **7** | Talking party identification | [1] clause 8.2 | o | |

Comments:

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**Table A.11: CSF Voice group call supplementary services**

| Prerequisite: A.9/2 -- CSF group call | | | | |
|---|---|---|---|---|
| **Item** | **Supplementary service** | **Reference** | **Status** | **Support** |
| **1** | Late entry | [1] clause 8.2 | m | |
| **2** | Cancel Call Setup | [1] clause 8.2 | o | |
| **3** | PTT Call | [1] clause 8.2 | o | |
| **4** | Slow user data | [1] clause 8.2 | o | |
| **5** | Short appended data | [1] clause 8.2 | o | |
| **6** | Talking party identification | [1] clause 8.2 | o | |

Comments:

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**Table A.12: CSF Type 3 data Tele-services**

| Prerequisite: A8/2 -- CSF Type 3 data | | | | |
|---|---|---|---|---|
| **Item** | **Tele-service** | **Reference** | **Status** | **Support** |
| **1** | IP over dPMR | [1] clause 8.2 | o.12 | |
| **2** | Individual Short Data message | [1] clause 8.2 | o.12 | |

o.12: It is mandatory to support at least one of these items.

Comments:

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**Table A.13: CSF Type 3 individual data Supplementary services**

| Prerequisite: A.12/2 -- type 1 individual short data message | | | | |
|---|---|---|---|---|
| **Item** | **Supplementary service** | **Reference** | **Status** | **Support** |
| **1** | Short file transfer | [1] clause 8.2 | m | |

Comments:

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**Table A.14: CSF Type 2 data Tele-services**

| Prerequisite: A8/3 -- CSF Type 2 data | | | | |
|---|---|---|---|---|
| **Item** | **Tele-service** | **Reference** | **Status** | **Support** |
| **1** | IP over dPMR | [1] clause 8.2 | o.14 | |
| **2** | Individual Short Data message | [1] clause 8.2 | o.14 | |
| **3** | Group Short Data message | [1] clause 8.2 | o.14 | |

o.14: It is mandatory to support at least one of these items.

Comments:

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**Table A.15: CSF Type 2 individual data Supplementary services**

| Prerequisite: A.14/2 -- type 2 individual short data message | | | | |
|---|---|---|---|---|
| **Item** | **Supplementary service** | **Reference** | **Status** | **Support** |
| **1** | Status message | [1] clause 8.2 | o.15 | |
| **2** | Precoded message | [1] clause 8.2 | o.15 | |
| **3** | Free text message | [1] clause 8.2 | o.15 | |
| **4** | Short file transfer | [1] clause 8.2 | o.15 | |

o.15: It is mandatory to support at least one of these items.

Comments:

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**Table A.16: CSF Type 2 group data Supplementary services**

| Prerequisite: A.14/3 -- type 2 group short data message | | | | |
|---|---|---|---|---|
| **Item** | **Supplementary service** | **Reference** | **Status** | **Support** |
| **1** | Status message | [1] clause 8.2 | o.16 | |
| **2** | Precoded message | [1] clause 8.2 | o.16 | |
| **3** | Free text message | [1] clause 8.2 | o.16 | |
| **4** | Short file transfer | [1] clause 8.2 | o.16 | |

o.16: It is mandatory to support at least one of these items.

Comments:

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**Table A.17: CSF Type 1 data Tele-services**

| Prerequisite: A8/4 -- CSF Type 1 data | | | | |
|---|---|---|---|---|
| **Item** | **Tele-service** | **Reference** | **Status** | **Support** |
| **1** | IP over dPMR | [1] clause 8.2 | o.17 | |
| **2** | Individual Short Data message | [1] clause 8.2 | o.17 | |
| **3** | Group Short Data message | [1] clause 8.2 | o.17 | |

o.17: It is mandatory to support at least one of these items.

Comments:

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**Table A.18: CSF Type 1 individual data Supplementary services**

| Prerequisite: A.17/2 -- type 1 individual short data message | | | | |
|---|---|---|---|---|
| **Item** | **Supplementary service** | **Reference** | **Status** | **Support** |
| **1** | Status message | [1] clause 8.2 | o.18 | |
| **2** | Precoded message | [1] clause 8.2 | o.18 | |
| **3** | Free text message | [1] clause 8.2 | o.18 | |
| **4** | Short file transfer | [1] clause 8.2 | o.18 | |

o.18: It is mandatory to support at least one of these items.

Comments:

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**Table A.19: CSF Type 1 group data Supplementary services**

| Prerequisite: A.17/3 -- type 1 group short data message | | | | |
|---|---|---|---|---|
| **Item** | **Supplementary service** | **Reference** | **Status** | **Support** |
| **1** | Status message | [1] clause 8.2 | o.19 | |
| **2** | Precoded message | [1] clause 8.2 | o.19 | |
| **3** | Free text message | [1] clause 8.2 | o.19 | |
| **4** | Short file transfer | [1] clause 8.2 | o.19 | |

o.19: It is mandatory to support at least one of these items.

Comments:

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**Table A.20: Numbering and dialling**

| Prerequisite: A.8/5 -- Numbering and Dialling | | | | |
|---|---|---|---|---|
| **Item** | **Procedure** | **Reference** | **Status** | **Support** |
| **1** | Address space mapping | [1] clause A.2 | m | |
| **2** | User dialling plan | [1] clause A.3 | m | |

Comments:

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**Table A.21: Standard User Interface derived functions**

| Prerequisite: A.20/2 -- User dialling plan | | | | |
|---|---|---|---|---|
| **Item** | **Function** | **Reference** | **Status** | **Support** |
| **1** | Dialling string convention | [1] clause A.3.1 | m | |
| **2** | Call initiation | [1] clause A.3.1.1 | m | |
| **3** | Call type determination | [1] clause A.3.1.2 | m | |
| **4** | Call modifier | [1] clause A.3.1.3 | o | |
| **5** | MS address | [1] clause A.3.3.1 | m | |
| **6** | Talkgroup identification | [1] clause A.3.3.2 | m | |
| **7** | All call addressing | [1] clause A.3.3.3 | m | |
| **8** | Invalid numbers | [1] clause A.3.3.4 | m | |
| **9** | Talkgroup addressing | [1] clause A.3.3.5 | m | |
| **10** | Caller dialling | [1] clause A.3.4.1 | m | |
| **11** | Call modifier function | [1] clause A.3.4.2 | o | |
| **12** | Call abandon | [1] clause A.3.4.3 | o | |

Comments:

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# A.8 MS features

## A.8.1 Features

**Table A.22: MS feature**

| **Item** | **Feature** | **Reference** | **Status** | **Support** |
|---|---|---|---|---|
| **1** | Channel access | [1] clause 10 | m | |
| **2** | Powersave | [1] clause 11 | o | |

Comments:

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**Table A.23: Channel Access features**

| Prerequisite: | | | | |
|---|---|---|---|---|
| **Item** | **Feature** | **Reference** | **Status** | **Support** |
| **1** | Listen before transmit | [1] clause 10.1 | m | |
| **2** | Transmitter hangtime procedure | [1] clause 10.2 | o | |
| **3** | Receiver hangtime procedure | [1] clause 10.2 | m | |
| **4** | Call duration timer | [1] clause 10.3 | m | |
| **5** | Channel access procedure | [1] clause 10.4 | m | |
| **6** | Transmit retry procedure | [1] clause 10.5 | m | |

Comments:

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**Table A.24: Channel Access procedure**

| Prerequisite: A.23/5 | | | | |
|---|---|---|---|---|
| **Item** | **Procedure** | **Reference** | **Status** | **Support** |
| **1** | Impolite channel access | [1] clause 10.4 | o.24 | |
| **2** | Polite to own group or talkgroup | [1] clause 10.4 | o.24 | |
| **3** | Polite to own CC | [1] clause 10.4 | o.24 | |

o.24: It is mandatory to support at least one of these items.

Comments:

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## A.8.2 Frames

**Table A.25: Frames**

| **Item** | **Frame** | **MS sending** | | | **MS receiving** | | |
|---|---|---|---|---|---|---|---|
| | | **Reference** | **Status** | **Support** | **Reference** | **Status** | **Support** |
| **1** | Frame 1, 2, 3, 4 of Superframe | [1] clause 5.1 | m | | [1] clause 5.1 | m | |
| **2** | Header frame | [1] clause 5.2 | m | | [1] clause 5.2 | m | |
| **3** | End frame | [1] clause 5.3 | m | | [1] clause 5.2 | m | |
| **4** | Packet Header frame | [1] clause 5.4 | c2501 | | [1] clause 5.4 | c2501 | |
| **5** | Packet Data frame | [1] clause 8.3 | c2501 | | [1] clause 8.3 | c2501 | |
| **6** | Acknowledgement | [1] clause 5.5 | c2502 | | [1] clause 5.5 | c2502 | |

c2501: IF A.8/2 THEN m ELSE n/a if Type 3 data then mandatory else not applicable.

c2502: IF A.1/2 THEN m ELSE n/a

Comments:

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## A.8.3 Timers

**Table A.26: MS CCL timers**

| **Item** | **CCL Timer** | **Reference** | **Status** | **Support** | **Values** | |
|---|---|---|---|---|---|---|
| | | | | | **Allowed** | **Supported** |
| **1** | T_ch_chk | [1] clause 10.6.1 | m | | min. 100 ms | |
| **2** | T_ch_free | [1] clause 10.6.1 | m | | min. 200 ms | |
| **3** | Call Duration | [1] clause 10.3 | m | | max. 180 s | |
| **4** | T_ack | [1] clause 10.4.1, clause 10.6.1 | m | | max 3 s | |

Comments:

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# History

| Document history | | |
|---|---|---|
| V1.1.1 | April 2007 | Publication |
| V1.2.1 | July 2008 | Publication |
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