

ETSI TS 102 624-1 V1.1.1 (2008-10)

Technical Specification

Broadband Radio Access Networks (BRAN); HiperMAN; Conformance Testing for the Network layer of the HiperMAN/WiMAX terminal devices; Part 1: Protocol Implementation Conformance Statement (PICS) proforma



iTeh STANDARD PREVIEW
(standards.iteh.ai)

Full standard:
<https://standards.iteh.ai/catalog/standards/sist/d639a320-604a-4b23-b551-eda04f5c5cf5/etsi-ts-102-624-1-v1.1.1-2008-10>



ReferenceDTS/BRAN-004T009-1

KeywordsHiperMAN, layer 3, PICS, terminal, testing

ETSI650 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

Important notice

Individual copies of the present document can be downloaded from:

<http://www.etsi.org>

The present document may be made available in more than one electronic version or in print. In any case of existing or perceived difference in contents between such versions, the reference version is the Portable Document Format (PDF). In case of dispute, the reference shall be the printing on ETSI printers of the PDF version kept on a specific network drive within ETSI Secretariat.

Users of the present document should be aware that the document may be subject to revision or change of status. Information on the current status of this and other ETSI documents is available at

<http://portal.etsi.org/tb/status/status.asp>

If you find errors in the present document, please send your comment to one of the following services:

http://portal.etsi.org/chaicor/ETSI_support.asp

Copyright Notification

No part may be reproduced except as authorized by written permission.
The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 2008.

© WIMAX Forum 2008.

All rights reserved.

DECT[™], **PLUGTESTS**[™], **UMTS**[™], **TIPHON**[™], the TIPHON logo and the ETSI logo are Trade Marks of ETSI registered for the benefit of its Members.

3GPP[™] is a Trade Mark of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.

Contents

Intellectual Property Rights	4
Foreword.....	4
1 Scope	5
2 References	5
2.1 Normative references	5
2.2 Informative references.....	6
3 Definitions and abbreviations.....	7
3.1 Definitions.....	7
3.2 Abbreviations	7
4 Conformance to this PICS Proforma Specification.....	7
Annex A (normative): Protocol ICS (PICS) for HiperMAN/WiMAX terminal devices	
Network layer.....	8
A.1 Guidance for completing PICS Proforma.....	8
A.1.1 Purposes and structure.....	8
A.1.2 Abbreviations and conventions	8
A.1.3 Instructions for completing the PICS Proforma	10
A.2 Identification of the implementation	10
A.2.1 Date of statement.....	10
A.2.2 Implementation Under Test (IUT) identification	10
A.2.3 System Under Test (SUT) identification	10
A.2.4 Product supplier.....	10
A.2.5 Client (if different from product supplier).....	11
A.2.6 PICS contact person	11
A.3 Identification of the standard.....	11
A.4 Global statement of conformance.....	11
A.5 Mobile Station in WiMAX Network Architecture.....	12
A.5.1 MS capabilities	12
A.5.2 MS Network Discovery and Selection	12
A.5.3 MS CSN anchored Mobility Management	12
A.5.4 Authentication	14
A.5.5 IPv6 over CS	15
A.5.6 Messages	15
Annex B (informative): Bibliography.....	19
History	20

Intellectual Property Rights

IPRs essential or potentially essential to the present document may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: "*Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards*", which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (<http://webapp.etsi.org/IPR/home.asp>).

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 Technical Specification (TS) has been produced by ETSI Technical Committee Broadband Radio Access Networks (BRAN).

The present document specifies the Protocol Implementation Conformance Statement (PICS) of the Network layer Release 1 for High Performance radio Metropolitan Area Network (HiperMAN) and WiMAX terminal devices.

The present document is part 1 of a multi-part deliverable covering Broadband Radio Access Networks (BRAN); HiperMAN; Conformance Testing for the Network Layer of HiperMAN/WiMAX terminal devices, as identified below:

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

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

Part 3: "Abstract Test Suite (ATS)";

1 Scope

The present document specifies the Protocol Implementation Conformance Statement (PICS) proforma for WiMAX Network Layer Release 1 per ISO/IEC 9646-7 [24], ITU-T Recommendation X.296 [25] and EG 201 058 [26] for conformance of HiperMAN1.3.1/WiMAX compliant terminals.

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] WiMAX Forum (V1.2.2): "WiMAX Forum Network Architecture; Stage 2: Architecture Tenets, Reference Model and Reference Points, Part 1", Release 1.

NOTE: Available at http://www.wimaxforum.org/technology/documents/WiMAX_Forum_Network_Architecture_Stage_2-3_Rel_1v1.2.zip.

- [2] WiMAX Forum (V1.2.2): "WiMAX Forum Network Architecture, Stage 2: Architecture Tenets, Reference Model and Reference Points, Part 2", Release 1.

NOTE: Available at http://www.wimaxforum.org/technology/documents/WiMAX_Forum_Network_Architecture_Stage_2-3_Rel_1v1.2.zip.

- [3] WiMAX Forum (V1.2.2): "WiMAX Forum Network Architecture, Stage 3: Detailed Protocols and Procedures", Release 1.

NOTE: Available at http://www.wimaxforum.org/technology/documents/WiMAX_Forum_Network_Architecture_Stage_2-3_Rel_1v1.2.zip.

- [4] Void.
- [5] IETF RFC 5281: "Extensible Authentication Protocol Tunneled Transport Layer Security Authenticated Protocol Version 0 (EAP-TTLSv0)".
- [6] IETF RFC 2131 (March 1997): "Dynamic Host Configuration Protocol".
- [7] IETF RFC 3748: "Extensible Authentication Protocol (EAP)".
- [8] Void.
- [9] IETF RFC 2464 (December 1998): "Transmission of IPv6 Packets over Ethernet Networks".
- [10] IETF RFC 2759 (January 2000): "Microsoft PPP CHAP Extensions, Version 2".
- [11] IETF RFC 5216: "The EAP-TLS Authentication Protocol".
- [12] IETF RFC 3024 (January 2001): "Reverse Tunneling for Mobile IP, revised".
- [13] IETF RFC 3315 (July 2003): "Dynamic Host Configuration Protocol for IPv6 (DHCPv6)".
- [14] IETF RFC 3344 (August 2002): "IP Mobility Support for IPv4".
- [15] IETF RFC 3775 (June 2004): "Mobility Support in IPv6".
- [16] IETF RFC 3776 (June 2004): "Using IPsec to Protect Mobile IPv6 Signaling Between Mobile Nodes and Home Agents".
- [17] IETF RFC 4187 (January 2006): "Extensible Authentication Protocol Method for 3rd Generation Authentication and Key Agreement (EAP-AKA)".
- [18] IETF RFC 4282 (December 2005): "The Network Access Identifier".
- [19] Void.
- [20] IETF RFC 4285 (January 2006): "Authentication Protocol for Mobile IPv6".
- [21] IETF RFC 4294 (April 2006): "IPv6 Node Requirements".
- [22] Void
- [23] ISO/IEC 9646-1: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts".
- [24] ISO/IEC 9646-7: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 7: Implementation Conformance Statements".
- [25] ITU-T Recommendation X.296: "OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications - Implementation conformance statements".
- [26] ETSI EG 201 058: "Methods for Testing and Specification (MTS); Implementation Conformance Statement (ICS) proforma style guide".

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] IETF draft-ietf-mip6-hiopt-17 (May 2008): "DHCP Options for Home Information Discovery in MIPv6".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in ISO/IEC 9646-1 [23], WiMAX Forum Network Architecture Stage 2 [1] and [2], WiMAX Forum Network Architecture Stage 3 [3], and ISO/IEC 9646-7 [24] apply.

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in WiMAX Forum Network Architecture Stage 2 [1] and [2], WiMAX Forum Network Architecture Stage 3 [3], ISO/IEC 9646-1 [23] and the following apply:

BS	Base Station
CS	Common Sublayer
DAD	Duplicate Address Detection
IUT	Implementation Under Test
MAC	Medium Access Control
MS	Mobile Station
PDU	Protocol Data Unit
PICS	Protocol Implementation Conformance Statement
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 (PICS) for HiperMAN/WiMAX terminal devices Network layer

Notwithstanding the provisions of the copyright clause related to the text of the present document, ETSI grants that users of the present document may freely reproduce the PICS proforma in this annex so that it can be used for its intended purposes and may further publish the completed PICS.

A.1 Guidance for completing 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 defined in references [1], [2] and [3] may provide information about the implementation in a standardized manner.

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

- guidance for completing the PICS proforma;
- identification and implementation;
- identification of the standard;
- global statement of conformance;
- Mobile Station (MS);
- List of messages;
- Message Fields.

A.1.2 Abbreviations and conventions

Item column

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

Capability column

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

Reference column

- The reference column indicates the section of [1], [2] and [3] from which the requirement for the capability is derived and in some cases also the referenced IETF RFCs referenced in the base standard.

Status column

- The following notations, defined in ISO/IEC 9646-1 [23], are used in the status column.

m	Explicitly shown as mandatory in the standard. It is required to implement.
o	Explicitly mentioned as optional in the standard or is not explicitly mentioned but has capability negotiations. It may or may not be implemented.
oi	Qualified option - for mutually exclusive or selectable options from a set. One or more of the options from the set shall be supported.
IO-NNNN	Inter-operable Options: Item belongs to NNNN group of features for which it is requested to provide testing procedure and distinct labelling of BS equipment. More specifically: <ul style="list-style-type: none"> - the item is not required to get general "WiMAX certified" label; and - is required to get distinct "WiMAX certified with NNNN capability" label.

Support column

- The support column shall be filled in by the supplier of the implementation. The following common notations, defined in ISO/IEC 9646-1 [23] are used for the support column.

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

Values allowed column

- The values allowed column is only used when necessary in a table. It contains the type, the list, the range, or the length of values allowed. The following notations are used.

Range of values: Example:	<min value>..<max value> 5..20
List of values: EXAMPLE 1: EXAMPLE 2: EXAMPLE 3:	<value1>, <value2>, ..., <valueN> 2, 4, 6, 8, 9 1101b, 1011b, 1111b 0x0A, 0x34, 0x2F
List of named values: Example:	<name1>(<val1>), <name2>(<val2>), ..., <nameN>(<valN>) reject(1), accept(2)
Length: EXAMPLE:	Size (<min-size>..<max-size>) Size (1..8)

Values supported column

- The values supported column is only present when the values allowed column is present. It shall be filled in by the supplier of the implementation. In this column, the value or the ranges of values supported by the implementation shall be indicated.

Reference to items

- For each possible item answer in the support column within the PICS proforma a unique reference exists which may be used, for example, in conditional expressions. It is defined as the table identifier, followed by the "/" 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.).

EXAMPLE 1:	Table A.5/4 is the reference to the answer of item 4 in table A.5.
EXAMPLE 2:	Table A.6/3b is the reference to the second answer (i.e. in the second support column) of item 3 in table A.6.

Prerequisite Line

- A prerequisite line takes the form: Prerequisite: <predicate>.
- A prerequisite line after a clause or table title indicates that the entire clause or the entire table is not required to be completed if the predicate is FALSE.

Support of specific MAC PDUs or fields does not automatically mean support of the corresponding functionality. It means only that BS(MS) is capable of transmitting or receiving / parsing the message of specific format.

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 the support or values supported column boxes provided, using the notation described in clause A.1.2.

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

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 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 statement

Date of statement (MM/DD/YYYY):	
--	--

A.2.2 Implementation Under Test (IUT) identification

IUT name:	
IUT version:	

A.2.3 System Under Test (SUT) identification

SUT name:	
Hardware configuration:	
Operating system:	

A.2.4 Product supplier

Name:	
Address:	
Telephone Nr.:	
Fax Nr:	
E-mail address:	
Additional information:	