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TECHNICAL SPECIFICATION

Intelligent Transport Systems (ITS); Testing; Conformance test specifications for Vulnerable Road Users (VRU) awareness service; Part 1: Test requirements and Protocol Implementation Conformance Statement (PICS) pro forma; Release 2

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Contents

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Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Intelligent Transport Systems (ITS).

The present document is part 1 of a multi-part deliverable covering Conformance test specifications for Decentralized Environmental Notification Basic Service (DEN) as identified below:

Part 1: "Test requirements and Protocol Implementation Conformance Statement (PICS) pro forma";

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

Part 3: "Abstract Test Suite (ATS) and Protocol Implementation eXtra Information for Testing (PIXIT)".

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the ETSI Drafting Rules (Verbal forms for the expression of provisions).

"**must**" and "**must not**" are **NOT** allowed in ETSI deliverables except when used in direct citation.

1 Scope

The present document provides the Protocol Implementation Conformance Statement (PICS) pro forma for the conformance test specifications for Vulnerable Road Users (VRU) Awareness Basic Service as defined in ETSI TS 103 300-3 [1] in compliance with the relevant requirements and in accordance with the relevant guidance given in ISO/IEC 9646-7 [i.2].

2 References

2.1 Normative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found in the ETSI docbox.

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

The following referenced documents are necessary for the application of the present document.

[1] ETSI TS 103 300-3 (V2.2.1): "Intelligent Transport Systems (ITS); Vulnerable Road Users (VRU) awareness; Part 3: Specification of VRU awareness basic service; Release 2 ".

2.2 Informative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

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

The following referenced documents may be useful in implementing an ETSI deliverable or add to the reader's understanding, but are not required for conformance to the present document.

[i.1] ISO/IEC 9646-1 (1994): "Information technology — Open Systems Interconnection — Conformance testing methodology and framework — Part 1: General concepts".

[i.2] ISO/IEC 9646-7 (1995): "Information technology — Open Systems Interconnection — Conformance testing methodology and framework — Part 7: Implementation Conformance Statements".

[i.3] ETSI TS 103 097: "Intelligent Transport Systems (ITS); Security; Security header and certificate formats; Release 2".

[i.4] IEEE 1609.2™: "IEEE Standard for Wireless Access in Vehicular Environments--Security Services for Application and Management Messages".

3 Definition of terms, symbols and abbreviations

3.1 Terms

For the purposes of the present document, the terms given in ETSI TS 103 300-3 [1], ISO/IEC 9646-1 [i.1] and ISO/IEC 9646-7 [i.2] apply.

3.2 Symbols

Void.

3.3 Abbreviations

For the purposes of the present document, the abbreviations given in ETSI TS 103 300-3 [1] and the following apply:

CAN	Controller Area Network
DE	Data Element
ITS	Intelligent Transportation Systems
IUT	Implementation Under Test
PICS	Protocol Implementation Conformance Statement
SUT	System Under Test
VAM	VRU Awareness Message
VBS	VRU Basic Service
VRU	Vulnerable Road User

4 Conformance requirement concerning PICS

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

A PICS which conforms to the present document shall be a conforming PICS pro forma completed in accordance with the instructions for completion given in clause A.2.

Annex A (normative): VBS PICS pro forma

A.1 The right to copy

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 Security PICS pro forma in this annex so that it can be used for its intended purposes and may further publish the completed PICS pro forma.

A.2 Guidance for completing the PICS pro forma

A.2.1 Purposes and structure

The purpose of the present document is to provide a mechanism whereby a supplier of an implementation of the requirements defined in relevant specifications may provide information about the implementation in a standardized manner.

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

- instructions for completing the PICS pro forma;
- identification of the implementation;
- identification of the protocol;
- PICS pro forma tables (for example: major capabilities, etc.).

A.2.2 Abbreviations and conventions

This annex does not reflect dynamic conformance requirements but static ones. In particular, a condition for support of a PDU parameter does not reflect requirements about the syntax of the PDU (i.e. the presence of a parameter) but the capability of the implementation to support the parameter.

In the sending direction, the support of a parameter means that the implementation is able to send this parameter (but it does not mean that the implementation always sends it).

In the receiving direction, it means that the implementation supports the whole semantic of the parameter that is described in the main part of the present document.

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

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?".

Reference column

The reference column gives reference to ETSI TS 103 097 unless otherwise stated.

Status column

The status column describes the status of the item. The various status used in this annex are in accordance with the rules described in IEEE 1609.2, annex A. Predicate in conditional and optional items is of form of Reference to items, as described below.

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, 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)

References to items

For each possible item answer (answer in the support column) within the PICS pro forma there exists a unique reference, used, for example, in the conditional expressions. It is defined as the table identifier, followed by a dot character ".", followed by the item number in the table.

A.2.3 Instructions for completing the PICS pro forma

The supplier of the implementation may complete the PICS pro forma in each of the spaces provided. More detailed instructions are given at the beginning of the different clauses of the PICS pro forma.

A.3 Identification of the implementation

A.3.1 Introduction

Identification of the Equipment shall be filled in so as to provide as much details as possible regarding version numbers and configuration options.

Both the product supplier information and client information shall be filled in if they are different.

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

A.3.2 Date of the statement

.....

A.3.3 Implementation Under Test (IUT) identification

IUT name:

.....

.....

IUT version:

.....

A.3.4 System Under Test (SUT) identification

SUT name:

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.....

Hardware configuration:

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Operating system:

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A.3.5 Product supplier

Name:

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Address:

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.....

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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.3.6 Client (if different from product supplier)

Name:

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Address:

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.....

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Telephone number:

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Facsimile number:

.....

E-mail address:

.....

Additional information:

.....

.....

A.3.7 PICS contact person

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

Name:

.....

Telephone number:

.....

Facsimile number:

.....

E-mail address:

.....

Additional information:

.....

.....

.....

A.4 Identification of the protocol

This PICS pro forma applies to the following standard: ETSI TS 103 300-3 (V2.2.1): Intelligent Transport Systems (ITS); Vulnerable Road Users (VRU) awareness; Part 3: Specification of VRU awareness basic service; Release 2".

A.5 Global statement of conformance

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

NOTE: Answering "No" to this question indicates non-conformance to the VBS standard 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 pro forma.

A.6 Tables

Unless stated otherwise, the column references of all tables below indicates the clause numbers of ETSI TS 103 300-3.

Table A.1: VAM generation

Item	Type	Reference	Status	Support
1	IUT supports VAM generation	6.1	m	
2	IUT supports VAM transmission	6.1	m	

Table A.2: Communication type

Item	Type	Reference	Status	Support
1	G5 Radio communication	5.3.3.2	o.201	
2	CV2X radio communication	5.3.3.2	o.201	
o.201:	It is mandatory to support at least one of these types.			

Table A.3: ITS-S VRU profiles

Item	CA vehicle profile	Reference	Status	Support
1	Pedestrian (1)	7.3.4 (Table 10)	o.201	
2	Bicyclist or Light Vehicle (2)	7.3.4 (Table 10)	o.201	
3	Motorcyclist (3)	7.3.4 (Table 10)	o.201	
4	Animal (4)	7.3.4 (Table 10)	o.201	
o.301:	It is mandatory to support at least one VRU profile			

Table A.4: VBS basic functionality

Item	Vehicle Type	Reference	Status	Support
1	IUT supports cluster join	5.4.2	o	
2	IUT supports cluster leader role	5.4.2.1	o	

Table A.5: ITS Security mode

Item	Type	Reference	Status	Support
1	ITS-S security mode enabled	6.5	m	

Table A.6: Timing requirements

Item	Name of field	Reference	Default value	Status	Support
1	Maximum time interval between VAM generation (T_GenVamMax)	6.2	5 000 ms	m	
2	Minimum time interval between VAM generation (T_ GenVamMin)	6.2	100 ms	m	
3	T_ GenVam	6.2	T_ GenVamMin ≤ T_ GenVam ≤ T_ GenVamMax	c.601	
c.601:	This item is mandatory when the item A.2.2 is supported.				

Table A.7: Elevated hazard situation

Item	Type	Reference	Status	Support
1	Elevated hazard situation active	5.3.5	o	

History

Version	Date	Status
V2.1.1	July 2025	Publication