ETSI TS 102 871-1 V1.2.1 (2014-04)

Technical Specification

**Intelligent Transport Systems (ITS);
Testing;
Conformance test specifications for GeoNetworking ITS-G5;
Part 1: Test requirements and Protocol Implementation
Conformance Statement (PICS) proforma**

ETSI

650 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

The present document can be downloaded from:
http://www.etsi.org

The present document may be made available in electronic versions and/or in print. The content of any electronic and/or
print versions of the present document shall not be modified without the prior written authorization of ETSI. In case of any
existing or perceived difference in contents between such versions and/or in print, the only prevailing document is the
print of the Portable Document Format (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/chaircor/ETSI_support.asp

Copyright Notification

ETSI

Contents

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://ipr.etsi.org).

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 Intelligent Transport Systems (ITS).

The present document is part 1 of a multi-part deliverable covering Conformance test specifications for Geonetworking ITS-G5 as identified below:

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

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

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

1 Scope

The present document provides the Protocol Implementation Conformance Statement (PICS) proforma for Conformance test specifications for Geonetworking ITS-G5 as defined in EN 302 636-4-1 [1] in compliance with the relevant requirements and in accordance with the relevant guidance given in ISO/IEC 9646-7 [3].

2 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 at http://docbox.etsi.org/Reference.

2.1 Normative references

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

[1] ETSI EN 302 636-4-1(V1.2.0): "Intelligent Transport System (ITS); Vehicular communications; GeoNetworking; Part 4: Geographical addressing and forwarding for point-to-point and point-to-multipoint communications; Sub-part 1: Media independent functionalities".

[2] ISO/IEC 9646-1 (1995): "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts".

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

2.2 Informative references

Not applicable.

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in EN 302 636-4-1 [1], ISO/IEC 9646-1 [2] and in ISO/IEC 9646-7 [3] apply.

3.2 Abbreviations

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

CBF	Contention-Based Forwarding
GAC	Geographically-Scoped Anycast
GBC	Geographically-Scoped Broadcast
HL	Hop Limit
HST	Header Subtype
HT	Header Type
ICS	Implementation Conformance Statement
ITS	Intelligent Transportation Systems
ITS-G5	5 GHz wireless communication

IUT   Implementation Under Test
LT   LifeTime
MHL   Maximum Hop Limit
MID   MAC ID
NH   Next Header
PAI   Position Accuracy Indicator
PICS   Protocol Implementation Conformance Statement
PL   Payload Length
RHL   Remaining Hop Limit
SCC   Station Country Code
SHB   Single Hop Broadcast
SN   Sequence Number
ST   Station Type
SUT   System Under Test
TST   Timestamp

4   Conformance requirement concerning PICS

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.

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

Annex A (normative):
GEONETW PICS Proforma (Media independent)

A.1   Guidance for completing the ICS 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 EN 302 636-4-1 [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 ICS proforma;

-       identification of the implementation;

-       identification of the EN 302 636-4-1 [1];

-       global statement of conformance;

-       PICS proforma tables.

A.1.2   Abbreviations and conventions

The ICS 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 EN 302 636-4-1 [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).

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 ICS 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 1:   A.5/4 is the reference to the answer of item 4 in table 5 of annex A.

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

The supplier of the implementation shall complete the ICS 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.

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 ICS 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 ICS should be named as the contact person.

A.2.1   Date of the statement

....

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 number:

....

Facsimile number:

....

E-mail address:

....

Additional information:

....

....

....

A.2.5   Client (if different from product supplier)

Name:

....

Address:

....

....

....

Telephone number:

....

Facsimile number:

....

E-mail address:

....

Additional information:

....

....

A.2.6   ICS contact person

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

Name:

....

Telephone number:

....

Facsimile number:

....

E-mail address:

....

Additional information:

....

....

....

A.3   Identification of the protocol

This ICS proforma applies to the following standard:

ETSI EN 302 636-4-1 [1]: "Intelligent Transport Systems (ITS); Vehicular Communications; GeoNetworking; Part 4: Geographical addressing and forwarding for point-to-point and point-to-multipoint communications; Sub-part 1: Media independent functionalities".

A.4   Global statement of conformance

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

NOTE: Answering "No" to this question indicates non-conformance to the GEONET standard specification. Non-supported mandatory capabilities are to be identified in the ICS, with an explanation of why the implementation is non-conforming, on pages attached to the ICS proforma.

A.5   Tables

A.5.1   Media independent

This clause of the ICS proforma applies to the following standard:

ETSI EN 302 636-4-1 [1]: "Intelligent Transport Systems (ITS); Vehicular Communications; GeoNetworking; Part 4: Geographical addressing and forwarding for point-to-point and point-to-multipoint communications; Sub-part 1: Media independent functionalities".

A.5.1.1   GeoNetworking packet structure

Table A.1: GeoNetworking packet structure

Item	Name of field	Reference	Status	Support
1	Basic Header	8.3 [1]	m	
2	Common Header	8.3 [1]	m	
3	Extended Header	8.3,[1]	m	
4	Payload	8.2.2 [1]	o	

Table A.2: GeoNetworking secured packet structure

Item	Name of field	Reference	Status	Support
1	Basic Header	8.4 [1]	m	
2	Secured packet	8.4 [1]	m	

A.5.1.2   Basic Header

Table A.3: Basic Header

It.	Name of field	Ref.	Status	Support	Value allowed
Prerequisite: A.1/1 or A.2/1					
1	version	8.6 [1]	m		0..255
2	next Header (NH)	8.6 [1]	m		0..255, Any unspecified (0), Unsecured packet (1), Secured packet (2)
3	reserved	8.6 [1]	m		8-bit unsigned integer (0)
4	Lifetime (LT)	8.6 [1]	m		Lifetime (Table A.14)
5	hop Limit (RHL)	8.6 [1]	m		8-bit unsigned integer

A.5.1.3   Common Header

Table A.4: Common Header

It.	Name of field	Ref.	Status	Support.	Value allowed
Prerequisite: A.1/2					
1	next Header (NH)	8.7 [1]	m		0..255, Any unspecified (0), BTP-A (1), BTP-B (2), IPV6 (3)
2	reserved	8.7 [1]	m		4 bit unsigned integer
3	header Type (HT)	8.7 [1]	m		HeaderType (Table A.5)
4	header Subtype (HST)	8.7 [1]	m		HeaderSubtype (Table A.6)
5	traffic Class (TC)	8.7 [1]	m		0..255,
6	flags	8.7 [1]	m		Bitstring size (8) Bit 0 to 5: Reserved (0) Bit 6: Type of ITS station Bit 7: Reserved (0)
7	payload Length (PL)	8.7 [1]	m		16-bit unsigned integer
8	Maximun hop Limit (MHL)	8.7 [1]	m		8-bit unsigned integer
9	reserved	8.7 [1]	m		8-bit unsigned integer (0)

A.5.1.3.1   HeaderType

Table A.5: HeaderType

It.	Name of field	Ref.	Status	Support	Value allowed
Prerequisite: A.4/3					
1	type	8.7.4 [1]	m		4 bit unsigned integer: ANY (0), BEACON (1), GEOUNICAST (2), GEOANYCAST (3), GEOBROADCAST (4), TSB (5), LS (6)

A.5.1.3.2   HeaderSubtype

Table A.6: HeaderSubtype

It.	Name of field	Ref.	Status	Support	Value allowed
Prerequisite: A.4/4					
1	type	8.7.4 [1]	m		Bitstring size (4) values: c.601
c.601: IF A.4/3 == GEOANYCAST (3) THEN value == CIRCLE (0), RECT (1), ELIP (2) ELSE IF A.4/3 == GEOBROADCAST (4) THEN value == CIRCLE (0), RECT (1), ELIP (2) ELSE IF A.4/3 == TSB (5) THEN value == SINGLE_HOP (0), MULTI_HOP (1) ELSE IF A.4/3 == LS (6) THEN value == REQUEST (0), REPLY (1) ELSE value == Unspecified (0)					

A.5.1.4 Extended Header

A.5.1.4.1   GUC packet

Table A.7: GUC Header

It.	Name of field	Ref.	Status	Support	Value allowed
Prerequisite: A.1/3					
1	Sequence Number (SN)	8.8.2 [1]	m		16-bit unsigned integer.
2	Reserved	8.8.2 [1]	m		16-bit unsigned integer (0)
3	Source Position Vector (SO_PV)	8.8.2 [1]	m		LongPositionVector (Table A.16)
4	Destination Position Vector (DE_PV)	8.8.2 [1]	m		ShortPositionVector (Table A.17)

A.5.1.4.2   TSB packet

Table A.8: TSB Header

It.	Name of field	Ref.	Status	Support	Value allowed
Prerequisite: A.1/3					
1	Sequence Number (SN)	8.8.3 [1]	m		16-bit unsigned integer.
2	Reserved	8.8.3 [1]	m		16-bit unsigned integer (0)
3	Source Position Vector (SO_PV)	8.8.3 [1]	m		LongPositionVector (Table A.16)

A.5.1.4.3   SHB packet

Table A.9: SHB Header

It.	Name of field	Ref.	Status	Support	Value allowed
Prerequisite: A.1/3					
1	Source Position Vector (SO_PV)	8.8.4 [1]	m		LongPositionVector (Table A.16)
2	Reserved	8.8.4 [1]	m		32-bit unsigned integer (0)

A.5.1.4.4   GBC/GAC packet

Table A.10: GBC/GAC Header

It.	Name of field	Ref.	Status	Support	Value allowed
Prerequisite: A.1/3					
1	Sequence Number (SN)	8.8.5 [1]	m		16-bit unsigned integer.
2	Reserved	8.8.5 [1]	m		16-bit unsigned integer (0)
3	Source Position Vector (SO_PV)	8.8.5 [1]	m		LongPositionVector (Table A.16)
4	GeoAreaPos	8.8.5 [1]	m		Position (Table A.15)
5	Distance a	8.8.5 [1]	m		16-bit unsigned integer
6	Distance b	8.8.5 [1]	m		16-bit unsigned integer
7	Angle	8.8.5 [1]	m		16-bit unsigned integer
8	Reserved	8.8.5 [1]	m		16-bit unsigned integer

A.5.1.4.5   BEACON packet

Table A.11: BEACON Header

It.	Name of field	Ref.	Status	Support.	Value allowed
Prerequisite: A.1/3					
1	Source Position Vector (SO_PV)	8.8.6 [1]	m		LongPositionVector (Table A.16)

A.5.1.4.6   LS Request header

Table A.12: LS Request header

It.	Name of field	Ref.	Status	Support	Value allowed
Prerequisite: A.1/3					
1	Sequence Number (SN)	8.8.7 [1]	m		16-bit unsigned integer.
2	Reserved	8.8.7 [1]	m		16-bit unsigned integer (0)
3	Source Position Vector (SO_PV)	8.8.7 [1]	m		LongPositionVector (Table A.16)
4	Request	8.8.7 [1]	m		GN_Addr (Table A.18)

A.5.1.4.7   LS Reply header

Table A.13: LS Reply header

It.	Name of field	Ref.	Status	Support	Value allowed
Prerequisite: A.1/3					
1	Sequence Number (SN)	8.8.8 [1]	m		16-bit unsigned integer.
2	Reserved	8.8.8 [1]	m		16-bit unsigned integer (0)
3	Source Position Vector (SO_PV)	8.8.8 [1]	m		LongPositionVector (Table A.16)
4	Destination Position Vector (DE_PV)	8.8.8 [1]	m		ShortPositionVector (Table A.17)

A.5.1.5   Common elements

A.5.1.5.1   Lifetime

Table A.14: Lifetime

It.	Name of field	Ref.	Status	Support.	Value allowed
Prerequisite: A.3/2					
1	multiplier	8.6.4 [1]	m		Bitstring size (6) == (0..63)
2	base	8.6.4 [1]	m		Bitstring size (2) value 50 ms (0), 1 s (1), 10 s (2), 100 s (3)

A.5.1.5.2   Position

Table A.15: Position

It.	Name of field	Ref.	Status	Support.	Value allowed
Prerequisite: A.10/4 or A.16/3 or A.17/3					
1	Latitude (Lat)	8.5.2.2 8.8.5.2	m		32-bit signed integer
2	Longitude (Long)	8.5.2.2 8.8.5.2	m		32-bit signed integer.

A.5.1.5.3   LongPositionVector

Table A.16: LongPositionVector

It.	Name of field	Ref.	Status	Support	Value allowed
Prerequisite: A.7/3 or A.8/3 or A.9/1 or A.10/3 or A.11/1 or A.12/3 or A.13/3					
1	GeoNetworking address (GN_Addr)	8.5.2 [1]	m		GN_Addr (Table A.18)
2	Time Stamp (TST)	8.5.2 [1]	m		32-bit unsigned integer
3	Latitude/Longitude	8.5.2 [1]	m		Position (Table A.15)
4	Position accuraty (PAI)	8.5.2 [1]	m		1-bit unsigned integer
5	Speed (S)	8.5.2 [1]	m		15-bit signed integer
6	Heading (H)	8.5.2 [1]	m		16-bit unsigned integer

A.5.1.5.4   ShortPositionVector

Table A.17: ShortPositionVector

It.	Name of field	Ref.	Status	Support	Value allowed
Prerequisite: A.7/4 or A.13/4					
1	GeoNetworking address (GN_Addr)	8.5.3 [1]	m		GN_Addr (Table A.18)
2	Time Stamp (TST)	8.5.3 [1]	m		32-bit unsigned integer
3	Latitude/Longitude	8.5.3 [1]	m		Position (Table A.15)

A.5.1.5.5   GN_Addr

Table A.18: GN_Addr

It.	Name of field	Ref.	Status	Support	Value allowed
Prerequisite: A.12/4 or A.16/1 or A.17/1					
1	Configuration (M)	6.3 [1]	m		1 bit unsigned integer 1= the address is manually configured 0 = otherwise

2	ITS Station Type (ST)	6.3 [1]	m		4 bits unsigned integer
					   0 Unknown
					   1 Pedestrian
					   2 Cyclist
					   3 Moped
					   4 Motorcycle
					   5 Passenger Car
					   6 Bus
					   7 Light Truck
					   8 Heavy Truck
					   9 Trailer
					 10 Special Vehicle
					 11 Tram
					 15 Road Side Unit

3	ITS Station Country Code (SCC)	6.3 [1]	m		10 bits unsigned integer
4	LL_ADDR (MID)	6.3 [1]	m		48 bits unsigned integer

A.5.1.6   Protocol operation

Table A.19: Protocol operation

Item	Name of field	Reference	Status	Support
1	Network management	9.2 [1]	m	
2	Packet handling	9.3 [1]	m	

A.5.1.6.1   Network management

Table A.20: Network management

Item	Name of field	Reference	Status	Support
Prerequisite: A.19/1				
1	Address configuration	9.2.1 [1]	m	
2	Local position vector and time update	9.2.2 [1]	m	
3	Beaconing	9.2.3 [1]	m	
4	Location service	9.2.4 [1]	m	

A.5.1.6.1.1   Address configuration

Table A.21: Address configuration

Item	Name of field	Reference	Status	Support
Prerequisite: A.201				
1	Auto-address configuration	9.2.1.2 [1]	m	
2	Managed address configuration	9.2.1.3 [1]	m	
3	Anonymous address configuration	9.2.1.4 [1]	m	
4	Duplicate address detection	9.2.1.5 [1]	m	

A.5.1.6.1.1.1   Managed address configuration

Table A.22: Managed address configuration

Prerequisite: A.21/2				
Item	**Name of field**	**Reference**	**Status**	**Support**
1	Initial address configuration	9.2.1.3.1 [1]	m	
2	Address update	9.2.1.3.2 [1]	m	

A.5.1.6.1.2   Local position vector and time update

Table A.23: Local position and time update

Prerequisite: A.202				
Item	**Name of field**	**Reference**	**Status**	**Support**
1	Local position vector update	9.2.2.2 [1]	m	
2	Time update	9.2.2.3 [1]	m	

A.5.1.6.2   Packet handling

Table A.24: Packet handling

Prerequisite: A.19/2				
Item	**Name of field**	**Reference**	**Status**	**Support**
1	Basic Header field settings	9.3.2 [1]	m	
2	Basic Header processing	9.3.3 [1]	m	
3	Common Header field settings	9.3.4 [1]	m	
4	Common Header processing	9.3.5 [1]	m	
5	Beacon packet handling	9.3.6 [1]	m	
6	Location service packet handling	9.3.7 [1]	m	
7	GUC packet handling	9.3.8 [1]	m	
8	TSB packet handling	9.3.9 [1]	m	
9	SHB packet handling	9.3.10 [1]	m	
10	GBC packet handling	9.3.11 [1]	m	
11	GAC packet handling	9.3.12 [1]	m	

A.5.1.6.2.1   Beacon packet handling

Table A.25: Beacon packet handling

Prerequisite: A.24/5				
Item	**Name of field**	**Reference**	**Status**	**Support**
1	Source operations	9.3.6.2 [1]	m	
2	Receiver operations	9.3.6.3 [1]	m	

A.5.1.6.2.2   Location service packet handling

Table A.26: Location service packet handling

Prerequisite: A.24/6				
Item	**Name of field**	**Reference**	**Status**	**Support**
1	Source operation for initial LS Request	9.3.7.1.2 [1]	m	
2	Source operation for LS Request re-transmission	9.3.7.1.3 [1]	m	
3	Source operation for LS Reply	9.3.7.1.4 [1]	m	
4	Forwarder operations	9.3.7.2 [1]	m	
5	Destination operations	9.3.7.3 [1]	m	

A.5.1.6.2.3   GUC Packet handling

Table A.27: GUC Packet handling

Prerequisite: A.24/7				
Item	**Name of field**	**Reference**	**Status**	**Support**
1	Source operations	9.3.8.2 [1]	m	
2	Forwarder operations	9.3.8.3 [1]	m	
3	Destination operations	9.3.8.4 [1]	m	

A.5.1.6.2.4   TSB Packet handling

Table A.28: TSB Packet handling

Prerequisite: A.24/8				
Item	**Name of field**	**Reference**	**Status**	**Support**
1	Source operations	9.3.9.2 [1]	m	
2	Forwarder and receiver operations	9.3.9.3 [1]	m	

A.5.1.6.2.5   SHB Packet handling

Table A.29: SHB Packet handling

Prerequisite: A.24/9				
Item	**Name of field**	**Reference**	**Status**	**Support**
1	Source operations	9.3.10.2 [1]	m	
2	Receiver operations	9.3.10.3 [1]	m	

A.5.1.6.2.6   GBC Packet handling

Table A.30: GBC Packet handling

Prerequisite: A.24/10				
Item	**Name of field**	**Reference**	**Status**	**Support**
1	Source operations	9.3.11.2 [1]	m	
2	Forwarder and receiver operations	9.3.11.3 [1]	m	

A.5.1.6.2.7   GAC Packet handling

Table A.31: GAC Packet handling

Prerequisite: A.24/11				
Item	**Name of field**	**Reference**	**Status**	**Support**
1	Source operations	9.3.12.2 [1]	m	
2	Forwarder and receiver operations	9.3.12.3 [1]	m	

A.5.1.7   Protocol constants

Table A.32: Protocol constants

Item	Constants	Ref.	Status	Support	Value allowed
1	itsGnLocalGnAddr	Annex G [1]	m		1
2	itsGnLocalAddrConfMethod	Annex G [1]	m		Auto (0) Managed (1)
3	itsGnProtocolVersion	Annex G [1]	m		[1] V1.2.0 (0)
4	itsGnStationType	Annex G [1]	m		Unknown (0), Pedestrian (1) Cyclist (2), Moped (3) Motorcycle (4), PassengerCar (5) Bus (6), LightTruck (7) HeavyTruck (8), Trailer (9) SpecialVehicles (10),Tram (11) RoadSideUnit (15)
5	itsGnIsMobile	Annex G [1]	m		Stationary (0) Mobile (1)
6	itsGnIfType	Annex G [1]	m		Unspecified (0) ITS-G5 (1)
7	itsGnMinimumUpdateFrequencyLPV	Annex G [1]	m		Vehicle ITS Station (1 000) Roadside ITS Station (0)
8	itsGnMaxSduSize	Annex G [1]	m		1 398
9	itsGnMaxGeoNetworkingHeaderSize	Annex G [1]	m		88
10	itsGnLifetimeLocTE	Annex G [1]	m		20
11	itsGnSecurity	Annex G [1]	m		DISABLED (0) ENABLED (1)
12	itsGnSnDecapResultHandling	Annex G [1]	m		STRICT (0) NON-STRICT (1)
13	itsGnLocationServiceMaxRetrans	Annex G [1]	m		10
14	itsGnLocationServiceRetransmitTimer	Annex G [1]	m		1 000
15	itsGnLocationServicePacketBufferSize	Annex G [1]	m		1 024
16	itsGnBeaconServiceRetransmitTimer	Annex G [1]	m		3 000
17	itsGnBeaconServiceMaxJitter	Annex G [1]	m		itsGnMaxPacketLifetime / 4
18	itsGnDefaultHopLimit	Annex G [1]	m		10
19	itsGnMaxPacketLifetime	Annex G [1]	m		600
20	itsGnDefaultPacketLifetime	Annex G [1]	m		60
21	itsGnMaxPacketDataRate	Annex G [1]	m		100
22	itsGnMaxGeoAreaSize	Annex G [1]	m		10
23	itsGnMinPacketRepetitionInterval	Annex G [1]	m		100
24	itsGnGeoUnicastForwardingAlgorithm	Annex G [1]	m		UNSPECIFIED (0) GREEDY (1) CBF (2)
25	itsGnGeoBroadcastForwardingAlgorithm	Annex G [1]	m		UNSPECIFIED (0) SIMPLE (1) CBF(2) ADVANCED (3)
26	itsGnGeoUnicastCbfMinTime	Annex G [1]	m		1
27	itsGnGeoUnicastCbfMaxTime	Annex G [1]	m		100
28	itsGnGeoBroadcastCbfMinTime	Annex G [1]	m		1
29	itsGnGeoBroadcastCbfMaxTime	Annex G [1]	m		100
30	itsGnDefaultMaxCommunicationRange	Annex G [1]	m		1 000
31	itsGnBroadcastCBFDefSectorAngle	Annex G [1]	m		30
32	itsGnUnicastCBFDefSectorAngle	Annex G [1]	m		30
33	itsGnGeoAreaLineForwarding	Annex G [1]	m		DISABLED (0) ENABLED (1)
34	itsGnUcForwardingPacketBufferSize	Annex G [1]	m		256
35	itsGnBcForwardingPacketBufferSize	Annex G [1]	m		1 024
36	itsGnCbfPacketBufferSize	Annex G [1]	m		256
37	itsGnDefaultTrafficClass	Annex G [1]	m		0x00

History

Document history		
V1.1.1	June 2011	Publication
V1.2.1	April 2014	Publication