

# ETSI TS 102 871-2 V2.1.1 (2026-01)



**Intelligent Transport Systems (ITS);  
Testing;  
Conformance test specifications for GeoNetworking;  
Part 2: Test Suite Structure and Test Purposes (TSS & TP);  
Release 2**

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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 2 of a multi-part deliverable covering Conformance test specifications for ITS GeoNetworking, 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)".

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# 1 Scope

The present document provides the Test Suite Structure and Test Purposes (TSS & TP) for ITS GeoNetworking as defined in ETSI EN 302 636-4-1 [1] and ETSI TS 103 836-4-1 [5] in compliance with the relevant requirements and in accordance with the relevant guidance given in ISO/IEC 9646-7 [i.4].

The ISO standard for the methodology of conformance testing (ISO/IEC 9646-1 [i.2] and ISO/IEC 9646-2 [i.3]) as well as the ETSI rules for conformance testing (ETSI ETS 300 406 [i.5]) are used as a basis for the test methodology.

# 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.

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- [1] [ETSI EN 302 636-4-1 \(V1.4.1\)](#): "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 Functionality".
- [2] [ETSI TS 102 636-4-2 \(V1.4.1\)](#): "Intelligent Transport Systems (ITS); Vehicular Communications; GeoNetworking; Part 4: Geographical addressing and forwarding for point-to-point and point-to-multipoint communications; Sub-part 2: Media-dependent functionalities for ITS-G5".
- [3] [ETSI TS 102 636-4-3 \(V1.1.1\)](#): "Intelligent Transport Systems (ITS); Vehicular Communications; GeoNetworking; Part 4: Geographical addressing and forwarding for point-to-point and point-to-multipoint communications; Sub-part 3: Media-dependent functionalities for LTE-V2X".
- [4] [ETSI TS 102 871-1 \(V2.1.1\)](#): "Intelligent Transport Systems (ITS); Testing; Conformance test specifications for GeoNetworking; Part 1: Test requirements and Protocol Implementation Conformance Statement (PICS) pro forma; Release 2".
- [5] [ETSI TS 103 836-4-1 \(V2.1.1\)](#): "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 Functionality; Release 2".
- [6] [ETSI TS 103 836-4-2 \(V2.1.1\)](#): "Intelligent Transport Systems (ITS); Vehicular Communications; GeoNetworking; Part 4: Geographical addressing and forwarding for point-to-point and point-to-multipoint communications; Sub-part 2: Media-dependent functionalities for ITS-G5; Release 2".
- [7] [ETSI TS 103 836-4-3 \(V2.1.1\)](#): "Intelligent Transport Systems (ITS); Vehicular Communications; GeoNetworking; Part 4: Geographical addressing and forwarding for point-to-point and point-to-multipoint communications; Sub-part 3: Media-dependent functionalities for NR-V2X PC5 and LTE-V2X PC5; Release 2".

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- [i.1] ETSI EG 202 798: "Intelligent Transport Systems (ITS); Testing; Framework for conformance and interoperability testing".
- [i.2] ISO/IEC 9646-1 (1994): "Information technology -- Open Systems Interconnection -- Conformance testing methodology and framework - Part 1: General concepts".
- [i.3] ISO/IEC 9646-2 (1994): "Information technology -- Open Systems Interconnection -- Conformance testing methodology and framework -- Part 2: Abstract Test Suite specification".
- [i.4] ISO/IEC 9646-7 (1995): "Information technology -- Open Systems Interconnection -- Conformance testing methodology and framework - Part 7: Implementation Conformance Statements".
- [i.5] ETSI ETS 300 406 (1995): "Methods for testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".

## 3 Definition of terms, symbols and abbreviations

### 3.1 Terms

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

**ItsNode:** node that implements GeoAdhoc router functionality by ETSI EN 302 636-4-1 [1]

**neighbour:** ItsNode is in direct (single-hop) communication range

**"to be in direction of X":** to be a valid candidate for a forwarding algorithm to forward the packet to the destination X

NOTE: This means that the candidate ItsNode is geographically closer to X than the IUT.

**to broadcast a packet:** to send a packet as a link-layer broadcast frame to all surrounding neighbours

**to forward a packet:** to send a packet as a link-layer unicast frame to the selected node

**to retransmit a packet:** to forward or broadcast a received packet

### 3.2 Symbols

Void.

### 3.3 Abbreviations

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

|     |                                             |
|-----|---------------------------------------------|
| ATS | Abstract Test Suite                         |
| BAA | GeoBroadcast Advanced Algorithm             |
| BAH | Basic Header                                |
| BC  | BroadCast                                   |
| BCA | GeoBroadcast CBF Algorithm                  |
| BEA | BEAcon                                      |
| BI  | Invalid test events for Behaviour tests     |
| BO  | Inopportune test events for Behaviour tests |
| BV  | Valid test events for Behaviour tests       |