



**Intelligent Transport Systems (ITS);
Test specifications for the channel congestion control
algorithms operating in the 5,9 GHz range;
Part 2: Test Suite Structure and Test Purposes (TSS & TP)**

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Foreword

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

The present document is part 2 of a multi-part deliverable covering the test specifications for the channel congestion control algorithms operating in the 5,9 GHz range as identified below:

- Part 1: "Protocol Implementation Conformance Statement (PICS)";
- Part 2: "Test Suite Structure and Test Purposes (TSS & TP)";**
- Part 3: "Abstract Test Suite (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification".

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1 Scope

The present document provides the Test Suite Structure and Test Purposes (TSS & TP) for the test specifications for the channel congestion control algorithms operating in the 5,9 GHz range as specified in TS 102 687 [1] in compliance with the relevant requirements and in accordance with the relevant guidance given in ISO/IEC 9646-7 [7] and ETS 300 406 [8].

In the present document only the ITS-G5A and ITS-G5B channels are covered.

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 reference document (including any amendments) applies.

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2.1 Normative references

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

- [1] ETSI TS 102 687: "Intelligent Transport Systems (ITS); Decentralized Congestion Control Mechanisms for Intelligent Transport Systems operating in the 5 GHz range; Access layer part".
- [2] ETSI TS 102 724: "Intelligent Transport Systems (ITS); Harmonized Channel Specifications for Intelligent Transport Systems operating in the 5 GHz frequency band".
- [3] ETSI TS 102 723-3: "Intelligent Transport Systems (ITS); OSI cross-layer topics; Part 3: Interface between management entity and access layer".
- [4] ETSI TS 102 723-10: "Intelligent Transport Systems (ITS); OSI cross-layer topics; Part 10: Interface between access layer and networking & transport layer".
- [5] ETSI TS 102 917-1: "Intelligent Transport Systems (ITS); Test specifications for the channel congestion control algorithms operating in the 5,9 GHz range; Part 1: Protocol Implementation Conformance Statement (PICS)".
- [6] ISO/IEC 9646-1: "Information technology -- Open Systems Interconnection -- Conformance testing methodology and framework -- Part 1: General concepts".
- [7] ISO/IEC 9646-7: "Information technology -- Open Systems Interconnection -- Conformance testing methodology and framework -- Part 7: Implementation Conformance Statements".
- [8] 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 necessary for the application of the present document but they assist the user with regard to a particular subject area.

Not applicable.

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in TS 102 687 [1] and the following apply:

Abstract Test Method (ATM): Refer to ISO/IEC 9646-1 [6].

Abstract Test Suite (ATS): Refer to ISO/IEC 9646-1 [6].

Implementation Under Test (IUT): Refer to ISO/IEC 9646-1 [6].

IN: name of the interface between access layer and networking & transport layer

Test Purpose (TP): Refer to ISO/IEC 9646-1 [6].

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in TS 102 687 [1], TS 102 724 [2] and the following apply:

ACT	ACTive state
ASP	Abstract Service Primitive
ATS	Abstract Test Suite
CCH	Control Channel
CH	CHannel
DCC	Decentralized Congestion Control
DP	DCC Profile
ITS	Intelligent Transport System
ITS-G5	Acronym for the 5,9 GHz vehicular adhoc network
IUT	Implementation Under Test
MI_SAP	Management Interface SAP
MTS	Multiple Transceiver Station
PC	Point of Control
PCO	Point of Control and Observation
PC_RTX	PC Radio Transmission
PIXIT	Protocol Implementation eXtra Information for Testing
PO	Point of Observation
PO_RRX	PO Radio Reception
REL	RELaxed state
RES	REStrictive state
SAP	Service Access Point
SCH	Service Channel
STS	Single Transceiver Station
SUT	System Under Test
TP	Test Purpose
TSS	Test Suite Structure
UT	Upper Tester

4 Test configurations

4.1 Test architecture

The test architecture depicted in figure 1 is proposed. The aim of this test architecture is the testing of the access layer which acts as the implementation under test (IUT). As the MI_SAP is considered a non-observable interface the management entity is included in the system under test (SUT).