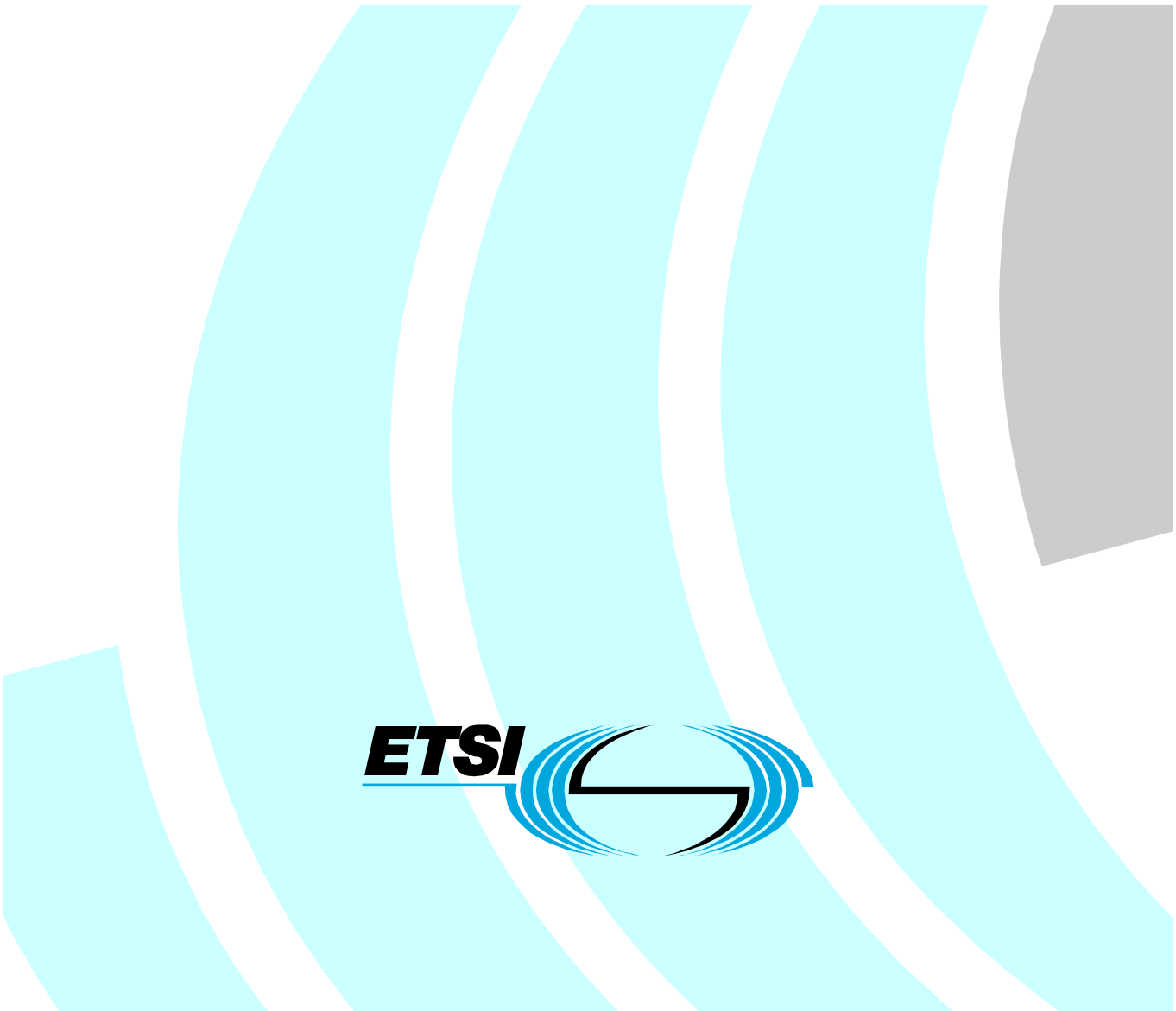
ETSI TS 102 147-2-3 V1.2.1 (2004-04)

Technical Specification

Broadband Radio Access Networks (BRAN);
HIPERACCESS;
Conformance testing for the Cell based Convergence Layer;
Part 2: UNI Service Specific Convergence Sublayer (SSCS);
Sub-part 3: Abstract Test Suite (ATS)



Reference
RTS/BRAN-0034T03-2-3R1

Keywords
access, ATM, ATS, broadband, hiperaccess,
radio, testing

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Contents

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Foreword

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

The present document is part 2, sub-part 3 of a multi-part covering Broadband Radio Access Networks (BRAN); HIPERACCESS; Cell based Convergence Layer, as identified below:

Part 1: "Common part";

Part 2: "**UNI Service Specific Convergence Sublayer (SSCS)**";

Sub-part 1: "Protocol Implementation Conformance Statement (PICS) proforma";

Sub-part 2: "Test Suite Structure and Test Purposes (TSS&TP) specification";

Sub-part 3: "Abstract Test Suite (ATS)".

1 Scope

The present document contains the Abstract Test Suite (ATS) to test the TS 102 115-2 [2].

The objective of this test specification is to provide a basis for conformance tests for BRAN HIPERACCESS equipment giving a high probability of air interface inter-operability between different manufacturer's BRAN HIPERACCESS equipment.

The ISO standard for the methodology of conformance testing (ISO/IEC 9646-1 [6] and ISO/IEC 9646-2 [7]) as well as the ETSI rules for conformance testing (ETS 300 406 [3]) are used as a basis for the test methodology.

- Annex A provides the Tree and Tabular Combined Notation (TTCN) part of the ATS.
- Annex B provides the Partial Protocol Implementation Extra Information for Testing (PIXIT) Proforma of the AT side ATS.
- Annex C provides the Partial Protocol Implementation Extra Information for Testing (PIXIT) Proforma of the AP side ATS.
- Annex D provides the Protocol Conformance Test Report (PCTR) Proforma of the AT side ATS.
- Annex E provides the Protocol Conformance Test Report (PCTR) Proforma of the AP side ATS.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- 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.
- For a non-specific reference, the latest version applies.

Referenced documents which are not found to be publicly available in the expected location might be found at http://docbox.etsi.org/Reference.

[1] ETSI TS 102 115-1: "Broadband Radio Access Networks (BRAN); HIPERACCESS; Cell based Convergence Layer; Part 1: Common Part".

[2] ETSI TS 102 115-2: "Broadband Radio Access Networks (BRAN); HIPERACCESS; Cell based Convergence Layer; Part 2: UNI Service Specific Convergence Sublayer (SSCS)".

[3] ETSI ETS 300 406: "Methods for Testing and Specification (MTS); Protocol and profile conformance testing specifications; Standardization methodology".

[4] ETSI TS 102 147-2-2: " Broadband Radio Access Networks (BRAN); HIPERACCESS; Conformance testing for the Cell based Convergence Layer; Part 2: UNI Service Specific Convergence Sublayer (SSCS); Sub-part 2: Test Suite Structure and Test Purposes (TSS&TP) specification".

[5] ETSI TS 102 149-3: "Broadband Radio Access Networks (BRAN); HIPERACCESS; Conformance Testing for the Data Link Control (DLC) layer; Sub-part 3: Abstract Test Suite (ATS) specification".

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

[7] ISO/IEC 9646-2: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 2: Abstract test suite specification".

[8] ISO/IEC 9646-3: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 3: The tree and tabular combined notation".

[9] ISO/IEC 9646-6: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 6: Protocol profile test specification".

[10] ISO/IEC 9646-7: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 7: Implementation conformance statement".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in ISO/IEC 9646-7 [10] and TS 102 115-2 [2] apply.

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in ISO/IEC 9646-1 [6], ISO/IEC 9646-6 [9], ISO/IEC 9646-7 [10], TS 102 115-2 [2] and the following apply:

AP	Access Point
ASP	Abstract Service Primitive
AT	Mobile Terminal
ATM	Abstract Test Method
ATM	Asynchronous Transfer Mode
ATS	Abstract Test Suite
BI	Invalid Behaviour
BO	Inopportune Behaviour
BRAN	Broadband Radio Access Networks (Project)
BV	Valid Behaviour
CA	Capability tests
CL	Convergence Layer
DLC	Data Link Control
IUT	Implementation Under Test
LAN	Local Area Network
LT	Lower Tester
PCO	Point of Control and Observation
PCTR	Protocol Conformance Test Report
PDU	Protocol Data Unit
PICS	Protocol Implementation Conformance Statement
SAP	Service Access Point
SDU	Service Data Unit
SSCS	Service Specific Convergence Sublayer
SUT	System Under Test
TC	Test Case
TP	Test Purposes
TSS	Test Suite Structure
TTCN	Tree and Tabular Combined Notation
UNI	User Network Interface
UT	Upper Tester
ATSP	Abstract Testing Service Primitives

4 Abstract Test Method (ATM)

This clause describes the ATM used to test the HIPERACCESS UNI SSCS at the AP side and at the AT side.

4.1 Test architecture

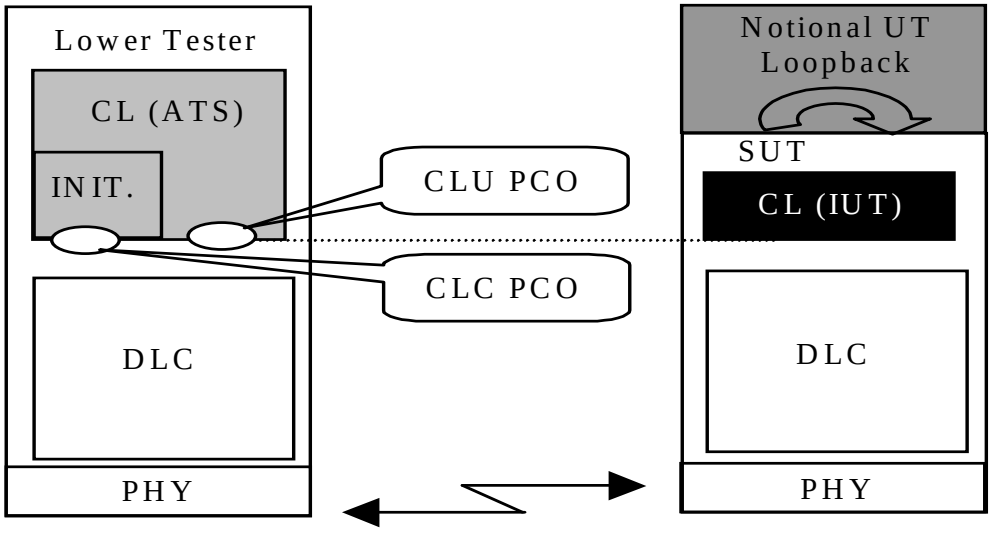

Figure 1: Test architecture for Cell CL - UNI SSCS

A single-party testing concept is used, which consists of the following abstract testing functions:

Lower Tester A Lower Tester (LT) is located in the remote BRAN HIPERACCESS test system. It controls and observes the behaviour of the IUT.

CL ATS: A Convergence Layer (CL) Abstract Test Suite (ATS) is located in the remote BRAN HIPERACCESS test system. Contains part of SSCS functionalities for testing UNI SSCS behaviour.

CLU PCO: U-plane. The first Point of Control and Observation (PCO) for Convergence Layer testing is located at the DLC_SAP. All test events at the PCO are specified in terms of Abstract Testing Service Primitives (ATSP defined in clause 7) containing complete DLC SDU.

CLC PCO: C-plane. The secondPoint of Control and Observation (PCO) for Convergence Layer testing is located at a SAP between the Service Specific Convergence Sub-layer (SSCS) and the DLC layer. All test events at the PCO are specified in terms of Abstract Testing Service Primitives (ATSP defined in clause 7) containing complete DLC SDU.

INIT.: Part of a generic SSCS has to be simulated as a initialisation process by the ATS to provide the establishment of the U-plane needed for convergence layer testing.

Notional UT: No explicit Upper Tester (UT) exists in the system under test. Nevertheless, some specific actions to cover implicit send events and to obtain feedback informations are necessary for the need of the test procedures. A black box covering these requirements is used in the SUT as a notional UT as defined in ISO 9646. This notional UT is part of the test system.

4.2 Test Configurations

4.2.1 Test Configurations for AT

Two configurations are defined for AT testing.

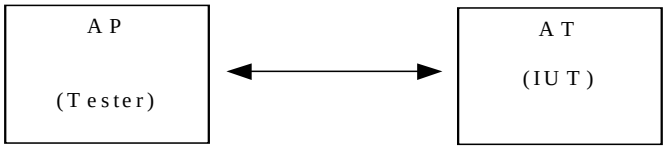

Figure 2: Normal configuration for AT

The normal configuration is defined and used for functionality that requires only interaction between the tested AT and one AP.

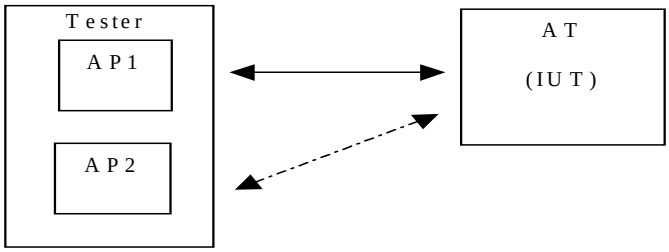

Figure 3: Handover configuration for AT

The handover configuration is used when the AT has to interact with two AP. In that case, the two simulated AP are configurable to be either a multi-sector AP or two separate AP. The concurrent TTCN facilities are used in this configuration.

4.2.2 Test Configurations for AP

Only one configuration is defined for AP testing.

Figure 4: Normal configuration for AP

The normal configuration is defined and used for functionality that requires only interaction between the tested AP and one AT.

5 Untestable Test Purposes (TP)

This clause gives a list of TP, which are not implemented in the ATS due to the chosen ATM or other restrictions.

Table 1: Untestable TP

Test purpose	Reason

6 ATS conventions

The ATS conventions are intended to give a better understanding of the ATS but they also describe the conventions made for the development of the ATS. These conventions shall be considered during any later maintenance or further development of the ATS.

The ATS conventions contain two clauses, the naming conventions and the implementation conventions. The naming conventions describe the structure of the naming of all ATS elements. The implementation conventions describe the functional structure of the ATS.

To define the ATS, the guidelines of the document ETS 300 406 [3] was considered.

6.1 Naming conventions

6.1.1 Declarations part

This clause describes the naming conventions chosen for the elements of the ATS declarations part.

6.1.1.1 General

The following general rules apply for the name giving in the declarations part. All type definitions (simple type definitions, structured type definitions, ASP type definitions and PDU type definitions) shall be written in uppercase.

All element names (structured type definition), parameter names (ASP type definition) and field names (PDU type definition) shall be written in lowercase.

Predefined types (e.g. BITSTRING[8]) are never used in structured type definitions, ASP type definitions or PDU type definitions. Simple types are used instead.

6.1.1.2 Test suite operations definition

The test suite operation identifiers are composed of substrings in lowercase letters, except for standard prefix "TSO_". An underscore character ("_") separates each substring.

EXAMPLE: TSO_substring

6.1.1.3 Test suite parameter declarations

The test suite parameter identifiers are composed of substrings in lowercase letters, except for the standard prefix "TSP_". An underscore character ("_") separates each substring.

EXAMPLE 1: TSP_t_wait

If the test suite parameter references a Protocol Implementation Conformance Statement (PICS) item, the letter "C" is added to the standard prefix.

EXAMPLE 2: TSPC_encryption_support

If the test suite parameter references a PIXIT item, the letter "X" is added to the standard prefix.

EXAMPLE 3: TSPX_pid

6.1.1.4 Test case selection expression definition

The test case selection expression identifiers are composed of substrings in lowercase letters, beginning with the prefix "TCS_". An underscore character ("_") separates each substring.

6.1.1.5 Test suite constant declarations

The test suite constant identifiers are composed of substrings in lowercase letters, except for the prefix "TSC_". An underscore character ("_") separates each substring.

If the test suite constant represents a system parameter, the complete name defined in the protocol standard is used.

6.1.1.6 Test suite variable declarations

The test suite variable identifiers are composed of substrings in lowercase letters, except for the prefix "TSV_". An underscore character ("_") separates each substring.

Complete names as defined in the protocol standard are used.

6.1.1.7 Test case variable declarations

The test case variable identifiers are composed of substrings in lowercase letters, except for the prefix "TCV_". An underscore character ("_") separates each substring.

Complete names as defined in the protocol standard are used.

6.1.1.8 Timer declarations

Two types of timers can be identified:

1) Standardized:

   - Those defined in the protocol standard, e.g. T201. They use exactly the same name as in the standard.

   As there is a tolerance margin accepted for these timers, three values are needed:

   - The maximum value allowed, which will use the suffix "_max";
   - The minimum value allowed, which will use the suffix "_min";
   - The value actually implemented, with no suffix;

EXAMPLE 1: T201_max, T201_min, and T201.

2) Not standardized:

   - Those not defined in the protocol standard, i.e. for execution use, e.g. a timer waiting for a response. These timers begin with the prefix "T_", followed by a string in lowercase letters.

EXAMPLE 2: T_resp represents a timer for controlling the response time of the IUT.

6.1.1.9 ASP type definitions

The general conventions in clause 6.1.1.1 apply.

The identifier of an ASP type uses the same name as the name defined in the protocol standard.

6.1.1.10 PDU type definitions

The general conventions in clause 6.1.1.1 apply.

The PDU type identifier shall identify the related structure or type as defined in the protocol standard.

6.1.1.11 CM type definitions

The CM types are defined as the ASP types without sub-fields.

6.1.1.12 Alias definitions

Alias definitions are not used.

6.1.2 Constraints part

This clause describes the naming conventions chosen for the elements of the ATS constraints part.

6.1.2.1 General

Constraints shall be written with the first letter in uppercase, and the rest in lowercase.

The first part of the constraint declaration identifier name is equivalent to the corresponding type identifier used in the declaration part. The second part of the name describes the content of this constraint.

EXAMPLE: Declaration part: HEADER_FIELD
Constraint part: Header_field_paging

6.1.3 Dynamic part

This clause describes the naming conventions used for the elements of the ATS dynamic part.

6.1.3.1 General

All test cases shall be listed in the order in which they appear in the Test Suite Structure (TSS) and TP document.

6.1.3.2 Test Case (TC) identifier

The identifier of the test case is built in the same way as for the test purpose described in TS 102 147-2-2 [4] with the exception that "TP" is replaced by "TC". The identifier of a TC is built according to table 2.

Table 2: TC naming convention

Identifier:	**TC_<st>_<pg>_<fm>_<x>_<nnn>**		
	<st> = side type	AP	Access Point
		AT	Access Terminal
	<pg> = protocole group	ATM	UNI SSCS procedures
	<fm> = functional module	CL	Convergence layer identification function
		DL	DLC connection functions
		HN	Handover functions
	x = Type of testing	CA	Capability tests
		BV	Valid Behaviour tests
		BI	Invalid Behaviour tests
		BO	Inoportune Behaviour tests
	<nnn> = sequential number	(000-999)	Test Purpose Number

EXAMPLE: TP identifier: TP/AT/ATM/DL/BV-010.
TC identifier: TC_AT_ATM_DL_BV_010.

6.1.3.3 Test step identifier

The test step identifier is built of substrings in lowercase letters, preceded by a string of uppercase letters. Underscore characters join the substrings. The first substring indicates the main function of the test step; e.g. PR for preamble, PO for postamble, LTS for local tree and STP for general test step. The second substring indicates the purpose of the step.

EXAMPLE: PO_release_duc.

6.1.3.4 Default identifier

The default identifiers begin with the prefix "DF_", followed by a string in lowercase letters.

6.1.3.5 Label identifier

The identifiers in the label column is built according to table 3:

Table 3: Naming convention for verdict assignment identifier

Identifier:	<Table><nn>		
	<Table> = type of table	TB	Test Body
		CS	Check State test step
		DF	DeFault
		PO	POstamble
		PR	PReamble
		TS	TestStep
	<nn> = sequential number	(00-99)	Label number

6.1.3.6 ATS abbreviations

These abbreviations are used to shorten identifier names:

addr	address
ack	acknowledgement
bear	bearer
cap	capability
cfm	confirm
chn	channel
con	connection
ctrl	control
est	establish
ext	extension
id	identification
ind	indication

info	information
max	maximum
min	minimum
par	parameter
prop	proprietary
rel	release
req	request
rsp	response
std	standard
sys	system

6.2 Implementation conventions

6.2.1 Declaration part

The comment line of single element TTCN tables (e.g. test suite constants) is used to give a reference where the format and content of the element is described in the relevant protocol standards. Any particularity of the element format or content is described in the comment line.

The comment line in the header of multi element TTCN tables (e.g. ASP) is used to reference to the protocol standard.

The detailed comments are used to describe any particularity of the table.

In the ASP and PDU declarations the comment column is further used to give information about the parameter/field value, in particular if the parameter/field contains a fixed spare value.

6.2.2 Constraint part

The ASPs and PDUs are defined in a way that all relevant parameters/fields are parameterized. That improves the transparency of the constraints in the dynamic part, as all values, which are relevant for the test, are always present.

Generally no modified constraints are used. This allows an easier reuse and adaptation of constraints if they are reused in other test specifications.

The Comment line of a constraint always contains a reference to the relevant protocol standard.

The detailed comment footer is used to describe any particularity of the table.

6.2.3 Dynamic part

All events which are defined as a conformance requirement by the TP, causes a preliminary verdict PASS if the requirement is met.

All invalid events are handled in the default tree. Only FAIL or INCONC verdicts are assigned in the default tree.

The preamble, the test body and the postamble have different defaults, which allows a specific verdict handling, e.g. only INCONC verdicts are assigned in the preamble.

All verdict assignments are labelled. According to ISO 9646-3 [8], clause E.2, labels should be written to the conformance log. This allows, for example, to identify were the test failed. To allow an exact identification of the table, in which the verdict was assigned, the convention described in clause 6.1.3.5 is applied.

TPs, which are listed in the untestable TP list in clause 5 are not considered in the ATS, thus these TC identifiers are missing in the ATS and the numbering of the TC is not always continuous.

7 Abstract testing service primitives

7.1 Tester primitives

Void.

7.2 DLC primitives

Void.

Annex A (normative): Abstract Test Suite (ATS)

This ATS has been produced using the Tree and Tabular Combined Notation (TTCN) according to ISO/IEC 9646-3 [8].

The ATS was developed on a separate TTCN software tool and therefore the TTCN tables are not completely referenced in the table of contents. The ATS itself contains a test suite overview part, which provides additional information and references.

A.1 The TTCN Graphical form (TTCN.GR)

The TTCN.GR representations of the ATS is contained in Adobe Portable Document Format™ file and is contained in the compressed archive file, which is provided together with the TS 102 149-3 [5].

A.2 The TTCN Machine Processable form (TTCN.MP)

The TTCN.MP representations corresponding to the ATS is contained in ASCII file and is contained in the compressed archive file, which is provided together with the TS 102 149-3 [5].

Annex B (normative): Partial PIXIT proforma for HIPERACCESS UNI SSCS AT

The PIXIT Proforma is based on ISO/IEC 9646-6. Any needed additional information can be found in the ISO/IEC 9646-6.

B.1 Identification summary

Table B.1

PIXIT Number:	
Test Laboratory Name:	
Date of Issue:	
Issued to:	

B.2 ATS summary

Table B.2

Protocol Specification:	TS 102 115-2
Protocol to be tested:	
ATS Specification:	TS 102 147-2-3
Abstract Test Method:	TS 102 147-2-3, clause 4

B.3 Test laboratory

Table B.3

Test Laboratory Identification:	
Test Laboratory Manager:	
Means of Testing:	
SAP Address:	

B.4 Client identification

Table B.4

Client Identification:	
Client Test manager:	
Test Facilities required:	

B.5 SUT

Table B.5

Name:	
Version:	
SCS Number:	
Machine configuration:	
Operating System Identification:	
IUT Identification:	
PICS Reference for IUT:	
Limitations of the SUT:	
Environmental Conditions:	

B.6 Protocol layer information

B.6.1 Protocol identification

Table B.6

Name:	BRAN HIPERACCESS – UNI SSCS TS 102 115-2
Version:	
PICS References:	

B.6.2 IUT information

Table B.7: Generic parameters

TSPX_authorisation_implemented	BOOLEAN	TRUE if authorisation shall be in use for testing, FALSE otherwise.
TSPX_Triple_Des	BOOLEAN	Indicate if the triple DES encryption is implemented and in use.
TSPX_Acid	AssignedCid	AssignedCid to be used in connection management.
TSPX_dataCID_other	AssignedCid	AssignedCid to be used in connection management for not assigned Cid.
TSPX_Said	Said	Said to be used in connection management.
TSPX_Said_ATM	Said	Said for ATM to be used in connection management.
TSPX_Said2_ATM	Said	Said for ATM to be used in connection management.
TSPX_Said_ETH	Said	Said for Ethernet to be used in connection management.
TSPX_Said2_ETH	Said	Said for Ethernet to be used in connection management.
TSPX_SCId	SCId	QOS class for testing purposes.
TSPX_SCId2	SCId	Second QOS class for testing purposes.
TSPX_SCId_ATM	SCId	QOS class for ATM for testing purposes.
TSPX_SCId2_ATM	SCId	Second QOS class for ATM for testing purposes.
TSPX_SCId_ETH	SCId	QOS class for Ethernet for testing purposes.
TSPX_SCId2_ETH	SCId	Second QOS class for Ethernet for testing purposes.
TSPX_Stub	Stub	Some data to send.
TSPX_Stub1	Stub	Part 1 of big message to send.
TSPX_Stub2	Stub	Part 2 of big message to send.
TSPX_Stub3	Stub	Part 3 of big message to send.
TSPX_Stub4	Stub	Part 4 of big message to send.
TSPX_Stub5	Stub	Part 5 of big message to send.
TSPX_DownlinkDescr	DirectionDescr	Downlink Description to be used to setup a one-way Connection.
TSPX_DownlinkPhyMode	DownlinkPhyMode	DownlinkPhyMode for testing purpose.
TSPX_AT_MAC_Addr	AtMacAddress	AT MAC address for TID assignment and load levelling.
TSPX_PairOfCarrierFrequencies	PairOfCarrierFrequencies	PairOfCarrierFrequencies for load levelling.
TSPX_ss	INTEGER	Used to construct a valid Ranging Grant message.
TSPX_uiuc	UIUC	UIUC for a normal grant to send.
TSPX_RangingStatus	RangingStatus	RangingStatus for testing purpose.
TSPX_SecurityUse	SecurityUse	SecurityUse for testing purpose.
TSPX_Fine_Tune	BOOLEAN	For testing only. Test equipment must send Ranging messages, which require fine-tuning.

Table B.8: Framing construction informations

TSPX_maxNbrDIUC	INTEGER	Maximum number of DL maps entries to be expected for testing proper frame formation.
TSPX_maxNbrARQ	INTEGER	Maximum number of ARQ entries to be expected for testing proper frame formation.
TSPX_maxNbrWindow	INTEGER	Maximum number of window entries to be expected for testing proper frame formation.
TSPX_maxNbrULmaps	INTEGER	Maximum number of UL maps entries to be expected for testing proper frame formation.
TSPX_maxNbrTDMA	INTEGER	Maximum number of TDMA maps entries to be expected for testing proper frame formation.
TSPX_FrameCountDur	INTEGER	Duration in which to count valid number of frames.
TSPX_FrameCountErrorPrcnt	INTEGER	Percentage, which frame count, can be off because of test equipment timing delays.
TSPX_FrameCountTol	INTEGER	Tolerance in frames which a frame count can be off and still yield an accurate result. Compensates for test equipment's timing delays and variations.
TSPX_FrameLoopMax	INTEGER	The total number of frames to be sampled to determine if frames are valid.
TSPX_ValidFrameTestDur	INTEGER	The duration over which one frame is to be randomly selected to determine validity.
TSPX_GBI_Period	INTEGER	Period in s in which a GBI is transmitted.
TSPX_GBI_Dur_Tol	INTEGER	Tolerance in percent to establish window in which GBI arrives. Used for both min and max window values.
TSPX_GBI_samples	INTEGER	Number of times to test successive transmissions of GBI.
TSPX_Wait_Invite_Dur	INTEGER	Time to wait for a Ranging Invitation message. AP sends this upon operator instruction or configuration information. Period is not part of specification.
TSPX_Wait_Range_Gr_Dur	INTEGER	Time to wait for a Ranging Grant to arrive in a frame following a Ranging message.
TSPX_NOAC_long_dur	INTEGER	Time to wait for IUT reaction, relatively long.
TSPX_RangingGrants	INTEGER	The number of times to receive repeated ranging grants from AP if the peer does not reply to initial Ranging Invitation message and grants.
TSPX_RangingInvites	INTEGER	The number of times to receive repeated Ranging Invitation messages from AP if the peer does not reply to initial Ranging Invitation message and grants.

Table B.9: Timer parameters

TSPX_RlcConnectionAdditionAckDUR	INTEGER	Timer Duration.
TSPX_RlcConnectionChangeAckDUR	INTEGER	Timer Duration.
TSPX_RlcConnectionDeletionAckDUR	INTEGER	Timer Duration.
TSPX_RlcConnectionDeletionInitDUR	INTEGER	Timer Duration.
TSPX_RlcConnectionAdditionInitDUR	INTEGER	Timer Duration.
TSPX_RlcConnectionChangeInitDUR	INTEGER	Timer Duration.
TSPX_RlcConnectionAdditionSetupDUR	INTEGER	Timer Duration.
TSPX_RlcConnectionChangeSetupDUR	INTEGER	Timer Duration.
TSPX_TimerTolerance	INTEGER	Pourcentage valu to adjust specification timers for test conditions.

Table B.10: Loop control parameters

TSPX_ConnAddSetup_Loops	INTEGER	Number of times to test that RlcConnectionAdditionSetup PDU is repeated if a corresponding Ack is not received.
TSPX_ConnChangeSetup_Loops	INTEGER	Number of times to test that RlcConnectionChangeSetup PDU is repeated if a corresponding Ack is not received.
TSPX_ConnReleaseInit_Loops	INTEGER	Number of times to test that RlcConnectionDeletionInit PDU is repeated if a corresponding Ack is not received.
TSPX_ConnAddAck_Loops	INTEGER	Number of times to test that RlcConnectionAdditionAck PDU is repeated if a corresponding RlcConnectionAdditionSetup is sent before the expry of the corresponding timer.
TSPX_ConnAddInit_Loops	INTEGER	Number of times to test that RlcConnectionAdditionInit PDU is repeated if a corresponding RlcConnectionAdditionSetup is not received.
TSPX_ConnChgInit_Loops	INTEGER	Number of times to test that RlcConnectionChangeInit PDU is repeated if a corresponding RlcConnectionChangeSetup is not received.

Table B.11: Ranging Invitation message parameters

TSPX_AT_TID	Tid	Tid to be used to construct a valid Ranging Invitation message.
TSPX_BasicCid	BasicCid	BasicCid to be used to construct a valid Ranging Invitation message.
TSPX_PrimaryCid	PrimaryCid	PrimaryCid to be used to construct a valid Ranging Invitation message.
TSPX_SecondaryCid	SecondaryCid	SecondaryCid to be used to construct a valid Ranging Invitation message.
TSPX_apTxPowerIndication	ApTxPowerIndication	ApTxPowerIndication to be used to construct a valid Ranging Invitation message.
TSPX_basicCaid	Caid	BasicCaid.
TSPX_primaryCaid	Caid	PrimaryCaid.
TSPX_secondaryCaid	Caid	SecondaryCaid.
TSPX_assignedCaid	Caid	AssignedCaid.
TSPX_assignedCaid_ATM	Caid	AssignedCaid for ATM.
TSPX_assignedCaid2_ATM	Caid	AssignedCaid for ATM.
TSPX_assignedCaid_ETH	Caid	AssignedCaid for Ethernet.
TSPX_assignedCaid2_ETH	Caid	AssignedCaid for Ethernet.

Table B.12: Ranging Continue message parameters

TSPX_TimingAdjustRanging	TimingAdjustRanging	TimingAdjustRanging to be used to construct a valid Ranging Continue message.
TSPX_UplinkPowerInc	UplinkPowerInc	UplinkPowerInc to be used to construct a valid Ranging Continue message.

Table B.13: RlcMeasurementReportData message parameters

TSPX_CnrMeasured	CnrMeasured	CnrMeasured to be used to construct a valid RlcMeasurementReportData message.
TSPX_RxPowerMeasured	RxPowerMeasured	RxPowerMeasured to be used to construct a valid RlcMeasurementReportData message.
TSPX_TxPowerMeasured	TxPowerMeasured	TxPowerMeasured to be used to construct a valid RlcMeasurementReportData message.
TSPX_TxPowerMargin	TxPowerMargin	TxPowerMargin to be used to construct a valid RlcMeasurementReportData message.
TSPX_UplinkPhyMode	UplinkPhyMode	UplinkPhyMode to be used to construct a valid RlcMeasurementReportData message.
TSPX_MaxUplinkPhyMode	UplinkPhyMode	MaxUplinkPhyMode to be used to construct a valid RlcMeasurementReportData message.

Table B.14: RlcPhyCapabilitiesCnf message parameters

TSPX_Downlink64QamUse	Downlink64QamUse	Downlink64QamUse to be used for RlcPhyCapabilitiesCnf message.
TSPX_Uplink16QamUse	Uplink16QamUse	Uplink16QamUse to be used for RlcPhyCapabilitiesCnf message.
TSPX_UplinkTurboEncUse	UplinkTurboEncUse	UplinkTurboEncUse to be used for RlcPhyCapabilitiesCnf message.
TSPX_UplinkPreambleLength	UplinkPreambleLength	UplinkPreambleLength to be used for RlcPhyCapabilitiesCnf message.
TSPX_UplinkPowerMaxQpsk	UplinkPowerMax	UplinkPowerMaxQpsk to be used for RlcPhyCapabilitiesCnf message.
TSPX_UplinkPowerMax16Qam	UplinkPowerMax	UplinkPowerMax16Qam to be used for RlcPhyCapabilitiesCnf message.
TSPX_InitializationStatus	InitializationStatus	InitializationStatus to be used for RlcPhyCapabilitiesCnf message.

Table B.15: RlcPhyCapabilitiesInfo message parameters

TSPX_downlink64QamSupport	Downlink64QamSupport	Downlink64QamSupport to be used for RlcPhyCapabilitiesInfo message.
TSPX_uplink16QamSupport	Uplink16QamSupport	Uplink16QamSupport to be used for RlcPhyCapabilitiesInfo message.
TSPX_uplinkTurboEncSupport	UplinkTurboEncSupport	UplinkTurboEncSupport to be used for RlcPhyCapabilitiesInfo message.
TSPX_uplinkPowerMaxQpsk	UplinkPowerMax	UplinkPowerMaxQpsk to be used for RlcPhyCapabilitiesInfo message.
TSPX_uplinkPowerMax16Qam	UplinkPowerMax	UplinkPowerMax16Qam to be used for RlcPhyCapabilitiesInfo message.
TSPX_numberSaidSupport	NumberSaidSupport	NumberSaidSupport to be used for RlcPhyCapabilitiesInfo message.
TSPX_terminalType	TerminalType	TerminalType to be used for RlcPhyCapabilitiesInfo message.
TSPX_PairOfCarrierFrequencies1	PairOfCarrierFrequencies	PairOfCarrierFrequencies 1 to be used for RlcPhyCapabilitiesInfo message.
TSPX_PairOfCarrierFrequencies2	PairOfCarrierFrequencies	PairOfCarrierFrequencies 2 to be used for RlcPhyCapabilitiesInfo message.

Table B.16: RlcAuthKeyCmd message parameters

TSPX_HmacOfAuthKey	HmacOfAuthKey	HmacOfAuthKey for inopportune RlcAuthKeyCmd.
TSPX_AuthKeyEncrypted	AuthKeyEncrypted	AuthKeyEncrypted for inopportune RlcAuthKeyCmd.
TSPX_Nonce2	Nonce	Nonce for inopportune RlcAuthKeyCmd.
TSPX_HmacOfAuthKey_invalid	HmacOfAuthKey	Provide an invalid HmacOfAuthKey for testing retransmission.

Table B.17: RlcAuthReply message parameters

TSPX_said	Said	Said for sending RlcAuthReply messages.

Table B.18: RlcAuthCertificateInfo message parameters

TSPX_ManufacturerCertificate	ManufacturerCertificate	ManufacturerCertificate for sending RlcAuthCertificateInfo message.
TSPX_AtCertificate	AtCertificate	AtCertificate for sending RlcAuthCertificateInfo message.
TSPX_AtCertificate_Invalid	AtCertificate	Invalid AtCertificate for sending RlcAuthCertificateInfo message.

Table B.19: RlcTekAllocationFirst message or RlcTekAllocationRefresh message parameters

TSPX_TekEncrypted1	TekEncrypted	TekEncrypted1 for TEK Allocation first.
TSPX_HmacOfTek1	HmacOfTek	HmacOfTek1 for TEK Allocation first.
TSPX_HmacOfTek1_Invalid	HmacOfTek	HmacOfTek1 invalid for TEK Allocation first.
TSPX_Ivp1	Ivp	Ivp1 for TEK Allocation first.
TSPX_TekEncrypted2	TekEncrypted	TekEncrypted2 for TEK Allocation first.
TSPX_HmacOfTek2	HmacOfTek	HmacOfTek2 for TEK Allocation first.
TSPX_Ivp2	Ivp	Ivp2 for TEK Allocation first.
TSPX_EksAllocated	EksAllocated	EksAllocated for TEK Allocation first.
TSPX_Nonce	Nonce	Nonce for TEK Allocation first.

Table B.20: RlcOtherCapabilitiesInfo message parameters

TSPX_numberUplinkConnsSupport	NumberUplinkConnsSupport	NumberUplinkConnsSupport for sending RlcOtherCapabilitiesInfo message.
TSPX_numberDownlinkConnsSupport	NumberDownlinkConnsSupport	NumberDownlinkConnsSupp for sending RlcOtherCapabilitiesInfo message.
TSPX_numberConnAggsSupport	NumberConnAggsSupport	NumberConnAggsSupport for sending RlcOtherCapabilitiesInfo message.
TSPX_numberConnsPerConnAggSupport	NumberConnsPerConnAggSupport	NumberConnsPerConnAggSupport for sending RlcOtherCapabilitiesInfo message.
TSPX_TerminalClCapabilities	TerminalClCapabilities	TerminalClCapabilities for sending RlcOtherCapabilitiesInfo message.
TSPX_crSupport	CrSupport	CrSupport for sending RlcOtherCapabilitiesInfo message.
TSPX_TripleDesSupport	TripleDesSupport	TripleDesSupport for sending RlcOtherCapabilitiesInfo message.

Table B.21: RlcOtherCapabilitiesCnf message parameters

TSPX_numberUplinkConnsUse	NumberUplinkConnsUse	NumberUplinkConnsUse to be used for sending RlcOtherCapabilitiesCnf message.
TSPX_numberDownlinkConnsUse	NumberDownlinkConnsUse	NumberDownlinkConnsUse to be used for sending RlcOtherCapabilitiesCnf message.
TSPX_numberConnAggsUse	NumberConnAggsUse	NumberConnAggsUse to be used for sending RlcOtherCapabilitiesCnf message.
TSPX_numberConnsPerConnAggUse	NumberConnsPerConnAggUse	NumberConnsPerConnAggUse to be used for sending RlcOtherCapabilitiesCnf message.
TSPX_tripleDesUse	TripleDesUse	TripleDesUse to be used for sending RlcOtherCapabilitiesCnf message.

Table B.22: Connection establishment parameters

TSPX_Clid	Clid	Clid to be used in connection establishment.
TSPX_Clid_ATM	Clid	Clid for ATM to be used in connection establishment.
TSPX_Clid2_ATM	Clid	Clid for ATM to be used in connection establishment.
TSPX_Clid_ETH	Clid	Clid for Ethernet to be used in connection establishment.
TSPX_Clid2_ETH	Clid	Clid for Ethernet to be used in connection establishment.
TSPX_Direction	DirectionChoice	Direction to be used in connection establishment.
TSPX_Direction2	DirectionChoice	Direction to be used in connection establishment.
TSPX_Direction_ATM	DirectionChoice	Direction for ATM to be used in connection establishment.
TSPX_Direction2_ATM	DirectionChoice	Direction for ATM to be used in connection establishment.
TSPX_Direction_ETH	DirectionChoice	Direction for Ethernet to be used in connection establishment.
TSPX_Direction2_ETH	DirectionChoice	Direction for Ethernet to be used in connection establishment.
TSPX_ArqUsage	ArqUsage	ARQ to be used in connection establishment.
TSPX_ArqUsage2	ArqUsage	ARQ to be used in connection establishment.
TSPX_ArqUsage_ATM	ArqUsage	ARQ for ATM to be used in connection establishment.
TSPX_ArqUsage2_ATM	ArqUsage	ARQ for ATM to be used in connection establishment.
TSPX_ArqUsage_ETH	ArqUsage	ARQ for Ethernet to be used in connection establishment.
TSPX_ArqUsage2_ETH	ArqUsage	ARQ for Ethernet to be used in connection establishment.
TSPX_connectionClParameters	ConnectionClParameters	ConnectionClParameters to be used in connection establishment.
TSPX_connectionClParameters1	ConnectionClParameters	ConnectionClParameters to be used in connection establishment.
TSPX_connectionClParameters2	ConnectionClParameters	ConnectionClParameters to be used in connection establishment.
TSPX_connectionClParameters_ATM	ConnectionClParameters	ConnectionClParameters to be used in connection establishment.
TSPX_connectionClParameters2_ATM	ConnectionClParameters	ConnectionClParameters to be used in connection establishment.
TSPX_connectionClParameters_ETH	ConnectionClParameters	ConnectionClParameters to be used in connection establishment.
TSPX_connectionClParameters2_ETH	ConnectionClParameters	ConnectionClParameters to be used in connection establishment.
TSPX_pmAssociation	PmAssociation	PmAssociation to be used in connection establishment.
TSPX_pmAssociation_ATM	PmAssociation	PmAssociation for ATM to be used in connection establishment.
TSPX_pmAssociation2_ATM	PmAssociation	PmAssociation for ATM to be used in connection establishment.
TSPX_pmAssociation_ETH	PmAssociation	PmAssociation for Ethernet to be used in connection establishment.
TSPX_pmAssociation2_ETH	PmAssociation	PmAssociation for Ethernet to be used in connection establishment.
TSPX_ContentionFlag	ContentionFlag	ContentionFlag to be used in connection establishment.
TSPX_ContentionFlag_ATM	ContentionFlag	ContentionFlag for ATM to be used in connection establishment.
TSPX_ContentionFlag2_ATM	ContentionFlag	ContentionFlag for ATM to be used in connection establishment.
TSPX_ContentionFlag_ETH	ContentionFlag	ContentionFlag for Ethernet to be used in connection establishment.
TSPX_ContentionFlag2_ETH	ContentionFlag	ContentionFlag for Ethernet to be used in connection establishment.

Table B.23: Connection change parameters

TSPX_Clid2	Clid	Clid to be used in connection change.

Table B.24: RlcHandoverCmd message parameters

TSPX_ApcId	ApcId	ApcId to be used for sending RlcHandoverCmd message.

Annex C (normative): Partial PIXIT proforma for HIPERACCESS UNI SSCS AP

The PIXIT proforma is based on ISO/IEC 9646-6. Any needed additional information can be found in the ISO/IEC 9646-6.

C.1 Identification summary

Table C.1

PIXIT Number:	
Test Laboratory Name:	
Date of Issue:	
Issued to:	

C.2 ATS summary

Table C.2

Protocol Specification:	TS 102 115-2
Protocol to be tested:	
ATS Specification:	TS 102 147-2-3
Abstract Test Method:	TS 102 147-2-3 clause 4

C.3 Test laboratory

Table C.3

Test Laboratory Identification:	
Test Laboratory Manager:	
Means of Testing:	
SAP Address:	

C.4 Client identification

Table C.4

Client Identification:	
Client Test manager:	
Test Facilities required:	

C.5 SUT

Table C.5

Name:	
Version:	
SCS Number:	
Machine configuration:	
Operating System Identification:	
IUT Identification:	
PICS Reference for IUT:	
Limitations of the SUT:	
Environmental Conditions:	

C.6 Protocol layer information

C.6.1 Protocol identification

Table C.6

Name:	BRAN HIPERACCESS – UNI SSCS TS 102 115-2
Version:	
PICS References:	

C.6.2 IUT information

Table C.7: Generic parameters

TSPX_authorisation_implemented	BOOLEAN	TRUE if authorisation shall be in use for testing, FALSE otherwise.
TSPX_Triple_Des	BOOLEAN	Indicate if the triple DES encryption is implemented and in use.
TSPX_Acid	AssignedCid	AssignedCid to be used in connection management.
TSPX_dataCID_other	AssignedCid	AssignedCid to be used in connection management for not assigned Cid.
TSPX_Said	Said	Said to be used in connection management.
TSPX_Said_ATM	Said	Said for ATM to be used in connection management.
TSPX_Said2_ATM	Said	Said for ATM to be used in connection management.
TSPX_Said_ETH	Said	Said for Ethernet to be used in connection management.
TSPX_Said2_ETH	Said	Said for Ethernet to be used in connection management.
TSPX_SCId	SCId	QOS class for testing purposes.
TSPX_SCId2	SCId	Second QOS class for testing purposes.
TSPX_SCId_ATM	SCId	QOS class for ATM for testing purposes.
TSPX_SCId2_ATM	SCId	Second QOS class for ATM for testing purposes.
TSPX_SCId_ETH	SCId	QOS class for Ethernet for testing purposes.
TSPX_SCId2_ETH	SCId	Second QOS class for Ethernet for testing purposes.
TSPX_Stub	Stub	Some data to send.
TSPX_Stub1	Stub	Part 1 of big message to send.
TSPX_Stub2	Stub	Part 2 of big message to send.
TSPX_Stub3	Stub	Part 3 of big message to send.
TSPX_Stub4	Stub	Part 4 of big message to send.
TSPX_Stub5	Stub	Part 5 of big message to send.
TSPX_DownlinkDescr	DirectionDescr	Downlink Description to be used to setup a one-way Connection.
TSPX_DownlinkPhyMode	DownlinkPhyMode	DownlinkPhyMode for testing purpose.
TSPX_AT_MAC_Addr	AtMacAddress	AT MAC address for TID assignment and load levelling.
TSPX_PairOfCarrierFrequencies	PairOfCarrierFrequencies	PairOfCarrierFrequencies for load levelling.
TSPX_ss	INTEGER	Used to construct a valid Ranging Grant message.
TSPX_uiuc	UIUC	UIUC for a normal grant to send.
TSPX_RangingStatus	RangingStatus	RangingStatus for testing purpose.
TSPX_SecurityUse	SecurityUse	SecurityUse for testing purpose.
TSPX_Fine_Tune	BOOLEAN	For testing only. Test equipment must send Ranging messages, which require fine-tuning.

Table C.8: Framing construction informations

TSPX_maxNbrDIUC	INTEGER	Maximum number of DL maps entries to be expected for testing proper frame formation.
TSPX_maxNbrARQ	INTEGER	Maximum number of ARQ entries to be expected for testing proper frame formation.
TSPX_maxNbrWindow	INTEGER	Maximum number of window entries to be expected for testing proper frame formation.
TSPX_maxNbrULmaps	INTEGER	Maximum number of UL maps entries to be expected for testing proper frame formation.
TSPX_maxNbrTDMA	INTEGER	Maximum number of TDMA maps entries to be expected for testing proper frame formation.
TSPX_FrameCountDur	INTEGER	Duration in which to count valid number of frames.
TSPX_FrameCountErrorPrcnt	INTEGER	Percentage, which frame count, can be off because of test equipment timing delays.
TSPX_FrameCountTol	INTEGER	Tolerance in frames which a frame count can be off and still yield an accurate result. Compensates for test equipment's timing delays and variations.
TSPX_FrameLoopMax	INTEGER	The total number of frames to be sampled to determine if frames are valid.
TSPX_ValidFrameTestDur	INTEGER	The duration over which one frame is to be randomly selected to determine validity.
TSPX_GBI_Period	INTEGER	Period in s in which a GBI is transmitted.
TSPX_GBI_Dur_Tol	INTEGER	Tolerance in percent to establish window in which GBI arrives. Used for both min and max window values.
TSPX_GBI_samples	INTEGER	Number of times to test successive transmissions of GBI.
TSPX_Wait_Invite_Dur	INTEGER	Time to wait for a Ranging Invitation message. AP sends this upon operator instruction or configuration information. Period is not part of specification.
TSPX_Wait_Range_Gr_Dur	INTEGER	Time to wait for a Ranging Grant to arrive in a frame following a Ranging message.
TSPX_NOAC_long_dur	INTEGER	Time to wait for IUT reaction, relatively long.
TSPX_RangingGrants	INTEGER	The number of times to receive repeated ranging grants from AP if the peer does not reply to initial Ranging Invitation message and grants.
TSPX_RangingInvites	INTEGER	The number of times to receive repeated Ranging Invitation messages from AP if the peer does not reply to initial Ranging Invitation message and grants.

Table C.9: Timer Parameters

TSPX_RlcConnectionAdditionAckDUR	INTEGER	Timer Duration.
TSPX_RlcConnectionChangeAckDUR	INTEGER	Timer Duration.
TSPX_RlcConnectionDeletionAckDUR	INTEGER	Timer Duration.
TSPX_RlcConnectionDeletionInitDUR	INTEGER	Timer Duration.
TSPX_RlcConnectionAdditionInitDUR	INTEGER	Timer Duration.
TSPX_RlcConnectionChangeInitDUR	INTEGER	Timer Duration.
TSPX_RlcConnectionAdditionSetupDUR	INTEGER	Timer Duration.
TSPX_RlcConnectionChangeSetupDUR	INTEGER	Timer Duration.
TSPX_TimerTolerance	INTEGER	Pourcentage value to adjust specification timers for test conditions.

Table C.10: Loop control parameters

TSPX_ConnAddSetup_Loops	INTEGER	Number of times to test that RlcConnectionAdditionSetup PDU is repeated if a corresponding Ack is not received.
TSPX_ConnChangeSetup_Loops	INTEGER	Number of times to test that RlcConnectionChangeSetup PDU is repeated if a corresponding Ack is not received.
TSPX_ConnReleaseInit_Loops	INTEGER	Number of times to test that RlcConnectionDeletionInit PDU is repeated if a corresponding Ack is not received.
TSPX_ConnAddAck_Loops	INTEGER	Number of times to test that RlcConnectionAdditionAck PDU is repeated if a corresponding RlcConnectionAdditionSetup is sent before the expry of the corresponding timer.
TSPX_ConnAddInit_Loops	INTEGER	Number of times to test that RlcConnectionAdditionInit PDU is repeated if a corresponding RlcConnectionAdditionSetup is not received.
TSPX_ConnChgInit_Loops	INTEGER	Number of times to test that RlcConnectionChangeInit PDU is repeated if a corresponding RlcConnectionChangeSetup is not received.

Table C.11: Ranging Invitation message parameters

TSPX_AT_TID	Tid	Tid to be used to construct a valid Ranging Invitation message.
TSPX_BasicCid	BasicCid	BasicCid to be used to construct a valid Ranging Invitation message.
TSPX_PrimaryCid	PrimaryCid	PrimaryCid to be used to construct a valid Ranging Invitation message.
TSPX_SecondaryCid	SecondaryCid	SecondaryCid to be used to construct a valid Ranging Invitation message.
TSPX_apTxPowerIndication	ApTxPowerIndication	ApTxPowerIndication to be used to construct a valid Ranging Invitation message.
TSPX_basicCaid	Caid	BasicCaid.
TSPX_primaryCaid	Caid	PrimaryCaid.
TSPX_secondaryCaid	Caid	SecondaryCaid.
TSPX_assignedCaid	Caid	AssignedCaid.
TSPX_assignedCaid_ATM	Caid	AssignedCaid for ATM.
TSPX_assignedCaid2_ATM	Caid	AssignedCaid for ATM.
TSPX_assignedCaid_ETH	Caid	AssignedCaid for Ethernet.
TSPX_assignedCaid2_ETH	Caid	AssignedCaid for Ethernet.

Table C.12: Ranging Continue message parameters

TSPX_TimingAdjustRanging	TimingAdjustRanging	TimingAdjustRanging to be used to construct a valid Ranging Continue message.
TSPX_UplinkPowerInc	UplinkPowerInc	UplinkPowerInc to be used to construct a valid Ranging Continue message.

Table C.13: RlcMeasurementReportData message parameters

TSPX_CnrMeasured	CnrMeasured	CnrMeasured to be used to construct a valid RlcMeasurementReportData message.
TSPX_RxPowerMeasured	RxPowerMeasured	RxPowerMeasured to be used to construct a valid RlcMeasurementReportData message.
TSPX_TxPowerMeasured	TxPowerMeasured	TxPowerMeasured to be used to construct a valid RlcMeasurementReportData message.
TSPX_TxPowerMargin	TxPowerMargin	TxPowerMargin to be used to construct a valid RlcMeasurementReportData message.
TSPX_UplinkPhyMode	UplinkPhyMode	UplinkPhyMode to be used to construct a valid RlcMeasurementReportData message.
TSPX_MaxUplinkPhyMode	UplinkPhyMode	MaxUplinkPhyMode to be used to construct a valid RlcMeasurementReportData message.

Table C.14: RlcPhyCapabilitiesCnf message parameters

TSPX_Downlink64QamUse	Downlink64QamUse	Downlink64QamUse to be used for RlcPhyCapabilitiesCnf message.
TSPX_Uplink16QamUse	Uplink16QamUse	Uplink16QamUse to be used for RlcPhyCapabilitiesCnf message.
TSPX_UplinkTurboEncUse	UplinkTurboEncUse	UplinkTurboEncUse to be used for RlcPhyCapabilitiesCnf message.
TSPX_UplinkPreambleLength	UplinkPreambleLength	UplinkPreambleLength to be used for RlcPhyCapabilitiesCnf message.
TSPX_UplinkPowerMaxQpsk	UplinkPowerMax	UplinkPowerMaxQpsk to be used for RlcPhyCapabilitiesCnf message.
TSPX_UplinkPowerMax16Qam	UplinkPowerMax	UplinkPowerMax16Qam to be used for RlcPhyCapabilitiesCnf message.
TSPX_InitializationStatus	InitializationStatus	InitializationStatus to be used for RlcPhyCapabilitiesCnf message.

Table C.15: RlcPhyCapabilitiesInfo message parameters

TSPX_downlink64QamSupport	Downlink64QamSupport	Downlink64QamSupport to be used for RlcPhyCapabilitiesInfo message.
TSPX_uplink16QamSupport	Uplink16QamSupport	Uplink16QamSupport to be used for RlcPhyCapabilitiesInfo message.
TSPX_uplinkTurboEncSupport	UplinkTurboEncSupport	UplinkTurboEncSupport to be used for RlcPhyCapabilitiesInfo message.
TSPX_uplinkPowerMaxQpsk	UplinkPowerMax	UplinkPowerMaxQpsk to be used for RlcPhyCapabilitiesInfo message.
TSPX_uplinkPowerMax16Qam	UplinkPowerMax	UplinkPowerMax16Qam to be used for RlcPhyCapabilitiesInfo message.
TSPX_numberSaidSupport	NumberSaidSupport	NumberSaidSupport to be used for RlcPhyCapabilitiesInfo message.
TSPX_terminalType	TerminalType	TerminalType to be used for RlcPhyCapabilitiesInfo message.
TSPX_PairOfCarrierFrequencies1	PairOfCarrierFrequencies	PairOfCarrierFrequencies 1 to be used for RlcPhyCapabilitiesInfo message.
TSPX_PairOfCarrierFrequencies2	PairOfCarrierFrequencies	PairOfCarrierFrequencies 2 to be used for RlcPhyCapabilitiesInfo message.

Table C.16: RlcAuthKeyCmd message parameters

TSPX_HmacOfAuthKey	HmacOfAuthKey	HmacOfAuthKey for inopportune RlcAuthKeyCmd.
TSPX_AuthKeyEncrypted	AuthKeyEncrypted	AuthKeyEncrypted for inopportune RlcAuthKeyCmd.
TSPX_Nonce2	Nonce	Nonce for inopportune RlcAuthKeyCmd.
TSPX_HmacOfAuthKey_invalid	HmacOfAuthKey	Provide an invalid HmacOfAuthKey for testing retransmission.

Table C.17: RlcAuthReply message parameters

TSPX_said	Said	Said for sending RlcAuthReply messages.

Table C.18: RlcAuthCertificateInfo message parameters

TSPX_ManufacturerCertificate	ManufacturerCertificate	ManufacturerCertificate for sending RlcAuthCertificateInfo message.
TSPX_AtCertificate	AtCertificate	AtCertificate for sending RlcAuthCertificateInfo message.
TSPX_AtCertificate_Invalid	AtCertificate	Invalid AtCertificate for sending RlcAuthCertificateInfo message.

Table C.19: RlcTekAllocationFirst message or RlcTekAllocationRefresh message parameters

TSPX_TekEncrypted1	TekEncrypted	TekEncrypted1 for TEK Allocation first.
TSPX_HmacOfTek1	HmacOfTek	HmacOfTek1 for TEK Allocation first.
TSPX_HmacOfTek1_Invalid	HmacOfTek	HmacOfTek1 invalid for TEK Allocation first.
TSPX_Ivp1	Ivp	Ivp1 for TEK Allocation first.
TSPX_TekEncrypted2	TekEncrypted	TekEncrypted2 for TEK Allocation first.
TSPX_HmacOfTek2	HmacOfTek	HmacOfTek2 for TEK Allocation first.
TSPX_Ivp2	Ivp	Ivp2 for TEK Allocation first.
TSPX_EksAllocated	EksAllocated	EksAllocated for TEK Allocation first.
TSPX_Nonce	Nonce	Nonce for TEK Allocation first.

Table C.20: RlcOtherCapabilitiesInfo message parameters

TSPX_numberUplinkConnsSupport	NumberUplinkConnsSupport	NumberUplinkConnsSupport for sending RlcOtherCapabilitiesInfo message.
TSPX_numberDownlinkConnsSupport	NumberDownlinkConnsSupport	NumberDownlinkConnsSupp for sending RlcOtherCapabilitiesInfo message.
TSPX_numberConnAggsSupport	NumberConnAggsSupport	NumberConnAggsSupport for sending RlcOtherCapabilitiesInfo message.
TSPX_numberConnsPerConnAggSupport	NumberConnsPerConnAggSupport	NumberConnsPerConnAggSupport for sending RlcOtherCapabilitiesInfo message.
TSPX_TerminalClCapabilities	TerminalClCapabilities	TerminalClCapabilities for sending RlcOtherCapabilitiesInfo message.
TSPX_crSupport	CrSupport	CrSupport for sending RlcOtherCapabilitiesInfo message.
TSPX_TripleDesSupport	TripleDesSupport	TripleDesSupport for sending RlcOtherCapabilitiesInfo message.

Table C.21: RlcOtherCapabilitiesCnf message parameters

TSPX_numberUplinkConnsUse	NumberUplinkConnsUse	NumberUplinkConnsUse to be used for sending RlcOtherCapabilitiesCnf message.
TSPX_numberDownlinkConnsUse	NumberDownlinkConnsUse	NumberDownlinkConnsUse to be used for sending RlcOtherCapabilitiesCnf message.
TSPX_numberConnAggsUse	NumberConnAggsUse	NumberConnAggsUse to be used for sending RlcOtherCapabilitiesCnf message.
TSPX_numberConnsPerConnAggUse	NumberConnsPerConnAggUse	NumberConnsPerConnAggUse to be used for sending RlcOtherCapabilitiesCnf message.
TSPX_tripleDesUse	TripleDesUse	TripleDesUse to be used for sending RlcOtherCapabilitiesCnf message.

Table C.22: Connection establishment parameters

TSPX_Clid	Clid	Clid to be used in connection establishment.
TSPX_Clid_ATM	Clid	Clid for ATM to be used in connection establishment.
TSPX_Clid2_ATM	Clid	Clid for ATM to be used in connection establishment.
TSPX_Clid_ETH	Clid	Clid for Ethernet to be used in connection establishment.
TSPX_Clid2_ETH	Clid	Clid for Ethernet to be used in connection establishment.
TSPX_Direction	DirectionChoice	Direction to be used in connection establishment.
TSPX_Direction2	DirectionChoice	Direction to be used in connection establishment.
TSPX_Direction_ATM	DirectionChoice	Direction for ATM to be used in connection establishment.
TSPX_Direction2_ATM	DirectionChoice	Direction for ATM to be used in connection establishment.
TSPX_Direction_ETH	DirectionChoice	Direction for Ethernet to be used in connection establishment.
TSPX_Direction2_ETH	DirectionChoice	Direction for Ethernet to be used in connection establishment.
TSPX_ArqUsage	ArqUsage	ARQ to be used in connection establishment.
TSPX_ArqUsage2	ArqUsage	ARQ to be used in connection establishment.
TSPX_ArqUsage_ATM	ArqUsage	ARQ for ATM to be used in connection establishment.
TSPX_ArqUsage2_ATM	ArqUsage	ARQ for ATM to be used in connection establishment.
TSPX_ArqUsage_ETH	ArqUsage	ARQ for Ethernet to be used in connection establishment.
TSPX_ArqUsage2_ETH	ArqUsage	ARQ for Ethernet to be used in connection establishment.
TSPX_connectionClParameters	ConnectionClParameters	ConnectionClParameters to be used in connection establishment.
TSPX_connectionClParameters1	ConnectionClParameters	ConnectionClParameters to be used in connection establishment.
TSPX_connectionClParameters2	ConnectionClParameters	ConnectionClParameters to be used in connection establishment.
TSPX_connectionClParameters_ATM	ConnectionClParameters	ConnectionClParameters to be used in connection establishment.
TSPX_connectionClParameters2_ATM	ConnectionClParameters	ConnectionClParameters to be used in connection establishment.
TSPX_connectionClParameters_ETH	ConnectionClParameters	ConnectionClParameters to be used in connection establishment.
TSPX_connectionClParameters2_ETH	ConnectionClParameters	ConnectionClParameters to be used in connection establishment.
TSPX_pmAssociation	PmAssociation	PmAssociation to be used in connection establishment.
TSPX_pmAssociation_ATM	PmAssociation	PmAssociation for ATM to be used in connection establishment.
TSPX_pmAssociation2_ATM	PmAssociation	PmAssociation for ATM to be used in connection establishment.
TSPX_pmAssociation_ETH	PmAssociation	PmAssociation for Ethernet to be used in connection establishment.
TSPX_pmAssociation2_ETH	PmAssociation	PmAssociation for Ethernet to be used in connection establishment.
TSPX_ContentionFlag	ContentionFlag	ContentionFlag to be used in connection establishment.
TSPX_ContentionFlag_ATM	ContentionFlag	ContentionFlag for ATM to be used in connection establishment.
TSPX_ContentionFlag2_ATM	ContentionFlag	ContentionFlag for ATM to be used in connection establishment.
TSPX_ContentionFlag_ETH	ContentionFlag	ContentionFlag for Ethernet to be used in connection establishment.
TSPX_ContentionFlag2_ETH	ContentionFlag	ContentionFlag for Ethernet to be used in connection establishment.

Table C.23: Connection change parameters

TSPX_Clid2	Clid	Clid to be used in connection change.

Table C.24: RlcHandoverCmd message parameters

TSPX_ApcId	ApcId	ApcId to be used for sending RlcHandoverCmd message.

Annex D (normative): PCTR Proforma for HIPERACCESS UNI SSCS AT

The PCTR proforma is based on ISO/IEC 9646-6. Any needed additional information can be found in the ISO/IEC 9646-6.

D.1 Identification summary

D.1.1 Protocol conformance test report

Table D.1

PCTR Number:	
PCTR Date:	
Corresponding SCTR Number:	
Corresponding SCTR Date:	
Test Laboratory Identification:	
Test Laboratory Manager:	
Signature:	

D.1.2 IUT identification

Table D.2

Name:	
Version:	
Protocol specification:	
PICS:	
Previous PCTR if any:	

D.1.3 Testing environment

Table D.3

PIXIT Number:	
ATS Specification:	
Abstract Test Method:	Remote test method, Embedded variant with notional UT
Means of Testing identification:	
Date of testing:	
Conformance Log reference(s):	
Retention Date for Log reference(s):	

D.1.4 Limits and reservation

Additional information relevant to the technical contents or further use of the test report, or the rights and obligations of the test laboratory and the client, may be given here. Such information may include restriction on the publication of the report.

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D.1.5 Comments

Additional comments may be given by either the client or the test laboratory on any of the contents of the PCTR, for example, to note disagreement between the two parties.

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D.2 IUT Conformance status

This IUT has or has not been shown by conformance assessment to be non conforming to the specified protocol specification.

Strike the appropriate words in this sentence. If the PICS for this IUT is consistent with the static conformance requirements (as specified in clause D.3) and there are no "FAIL" verdicts to be recorded (in clause D.6) strike the words "has or", otherwise strike the words "or has not".

D.3 Static conformance summary

The PICS for this IUT is or is not consistent with the static conformance requirements in the specified protocol.

Strike the appropriate words in this sentence.

D.4 Dynamic conformance summary

The test campaign did or did not reveal errors in the IUT.

Strike the appropriate words in this sentence. If there are no "FAIL" verdicts to be recorded (in clause D.6) strike the words "did or" otherwise strike the words "or did not".

Summary of the results of groups of test:

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D.5 Static conformance review report

If clause D.3 indicates non-conformance, this clause itemises the mismatches between the PICS and the static conformance requirements of the specified protocol specification.

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D.6 Test campaign report

Table D.4

ATS Reference	Selected?	Run?	Verdict	Observations (Reference to any observations made in clause 7)
TP-AT-ATM-CL-BV-000	Yes/No	Yes/No		
TP-AT-ATM-CL-BV-001	Yes/No	Yes/No		
TP-AT-ATM-DL-BV-000	Yes/No	Yes/No		

D.7 Observations

Additional information relevant to the technical content of the PCTR is given here.

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Annex E (normative): PCTR Proforma for HIPERACCESS UNI SSCS AP

The PCTR proforma is based on ISO/IEC 9646-6. Any needed additional information can be found in the ISO/IEC 9646-6.

E.1 Identification summary

E.1.1 Protocol conformance test report

Table E.1

PCTR Number:	
PCTR Date:	
Corresponding SCTR Number:	
Corresponding SCTR Date:	
Test Laboratory Identification:	
Test Laboratory Manager:	
Signature:	

E.1.2 IUT identification

Table E.2

Name:	
Version:	
Protocol specification:	
PICS:	
Previous PCTR if any:	

E.1.3 Testing environment

Table E.3

PIXIT Number:	
ATS Specification:	
Abstract Test Method:	Remote test method, Embedded variant with notional UT
Means of Testing identification:	
Date of testing:	
Conformance Log reference(s):	
Retention Date for Log reference(s):	

E.1.4 Limits and reservation

Additional information relevant to the technical contents or further use of the test report, or the rights and obligations of the test laboratory and the client, may be given here. Such information may include restriction on the publication of the report.

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E.1.5 Comments

Additional comments may be given by either the client or the test laboratory on any of the contents of the PCTR, for example, to note disagreement between the two parties.

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E.2 IUT Conformance status

This IUT has or has not been shown by conformance assessment to be non conforming to the specified protocol specification.

Strike the appropriate words in this sentence. If the PICS for this IUT is consistent with the static conformance requirements (as specified in clause D.3) and there are no "FAIL" verdicts to be recorded (in clause D.6) strike the words "has or", otherwise strike the words "or has not".

E.3 Static conformance summary

The PICS for this IUT is or is not consistent with the static conformance requirements in the specified protocol.

Strike the appropriate words in this sentence.

E.4 Dynamic conformance summary

The test campaign did or did not reveal errors in the IUT.

Strike the appropriate words in this sentence. If there are no "FAIL" verdicts to be recorded (in clause D.6) strike the words "did or" otherwise strike the words "or did not".

Summary of the results of groups of test:

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E.5 Static conformance review report

If clause D.3 indicates non-conformance, this clause itemises the mismatches between the PICS and the static conformance requirements of the specified protocol specification.

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E.6 Test campaign report

Table E.4

ATS Reference	Selected?	Run?	Verdict	Observations (Reference to any observations made in clause 7)
TP-AP-ATM-CL-BV-000	Yes/No	Yes/No		
TP-AP-ATM-DL-BV-000	Yes/No	Yes/No		

E.7 Observations

Additional information relevant to the technical content of the PCTR is given here.

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Annex F (informative): Bibliography

- ITU-T Recommendation X.290: "OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications - General concepts".
- ITU-T Recommendation X.291: "OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications - Abstract test suite specification".
- ITU-T Recommendation X.292: "OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications – The Tree and Tabular Combined Notation (TTCN)".

History

Document history		
V1.1.1	November 2002	Publication
V1.2.1	April 2004	Publication