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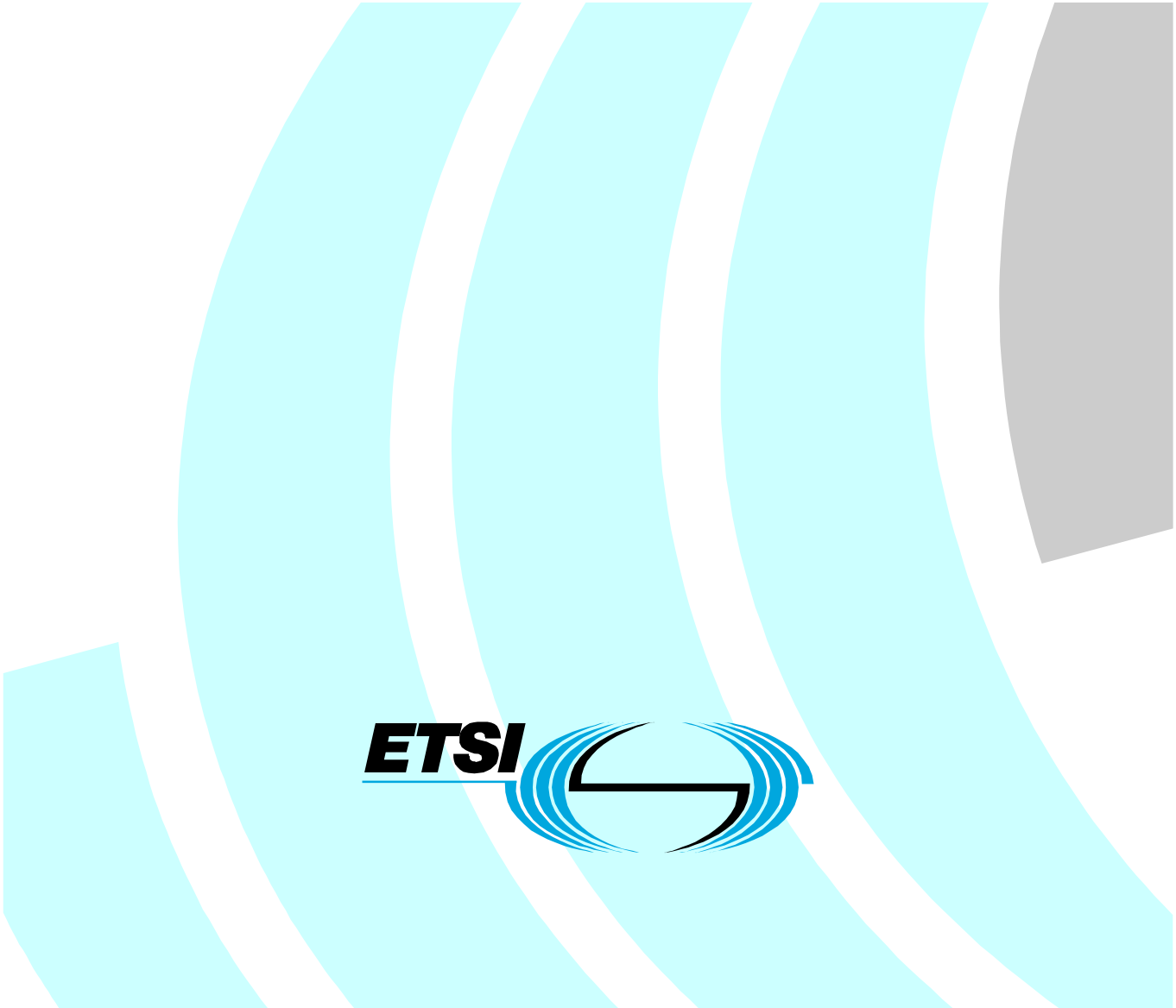
Technical Specification

Broadband Radio Access Networks (BRAN);
HIPERLAN Type 2;
Conformance testing for the packet based convergence layer;
Part 3: IEEE 1394 Service Specific Convergence Sublayer (SSCS);
Sub-part 2: Test Suite Structure and
Test Purposes (TSS&TP) specification



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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 3, sub-part 2 of a multi-part deliverable. Full details of the entire series can be found in part 1, sub-part 1 [9].

1 Scope

The present document contains the Test Suite Structure (TSS) and Test Purposes (TP) to test TS 101 493-3 [3].

The objective of the present document is to provide a basis for conformance tests for BRAN, HIPERLAN Type 2 equipment giving a high probability of air interface inter-operability between different manufacturer's BRAN, HIPERLAN Type 2 equipment.

The ISO standard for the methodology of conformance testing (ISO/IEC 9646-1 [5] and ISO/IEC 9646-2 [6]) as well as the ETSI rules for conformance testing (ETS 300 406 [4]) are used as a basis for the test methodology.

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 101 493-1 (V1.1.1): "Broadband Radio Access Networks (BRAN); HIPERLAN Type 2; Packet based Convergence Layer; Part 1: Common Part".

[2] ETSI TS 101 493-2 (V1.1.1): "Broadband Radio Access Networks (BRAN); HIPERLAN Type 2; Packet based Convergence Layer; Part 2: Ethernet Service Specific Convergence Sublayer (SSCS)".

[3] ETSI TS 101 493-3 (V1.2.1): "Broadband Radio Access Networks (BRAN); HIPERLAN Type 2; Packet based convergence layer; Part 3: IEEE 1394 Service Specific Convergence Sublayer (SSCS)".

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

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

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

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

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

[9] ETSI TS 101 811-1-1: "Broadband Radio Access Networks (BRAN); HIPERLAN Type 2; Conformance testing for the packet based convergence layer; Part 1: Common part; Sub-part 1: Protocol Implementation Conformance Statement (PICS) proforma".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in ISO/IEC 9646-7 [8] and TS 101 493-3 [3] apply.

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in ISO/IEC 9646-1 [5], ISO/IEC 9646-6 [7], ISO/IEC 9646-7 [8], TS 101 493-3 [3] and the following definitions apply:

AP	Access Point
BI	Invalid Behaviour
BO	Inopportune Behaviour
BV	Valid Behaviour
CA	Capability tests
CC	Central Controller
CL	Convergence Layer
DLC	Data Link Control
DM	Direct Mode
HARP	HIPERLAN/2 Address Resolution Protocol
IUT	Implementation Under Test
LT	Lower Tester
MAC	Medium Access Control
MT	Mobile Terminal
PBCL	Packet Based Convergence Layer
PDU	Protocol Data Unit
PICS	Protocol Implementation Conformance Statement
RLC	Radio Link Control
SSCS	Service Specific Convergence Sublayer
SUT	System Under Test
TP	Test Purposes
TSS	Test Suite Structure
WT	Wireless Terminal

4 Test suite structure

4.1 Structure

Figure 1 shows the IEEE 1394 Service Specific PBCL Test Suite Structure (TSS) including its subgroups defined for the conformance testing.

Test Suite	Protocol group	Protocol subgroup	Test group			
			CA	BV	BI	BO
IEE-AP/ IEE-MT/ IEE-HS	User plane procedures	Clock synchronization	x			
		Asynchronous transaction	x			
		Isochronous Stream	x			
		Asynchronous Stream	x			
	Control plane procedures	Association - Initialization	x			
		Bus reset	x			
		Clock information connection	x			
		CL responsibility handover	x			
		HL2 Address Resolution service	x			
		Asynchronous transaction	x			
		Isochronous stream	x			
		Asynchronous stream	x			

Figure 1: TSS for Hiperlan 2 IEEE 1394 Service Specific PBCL

The test suite is structured as a tree with a first level defined as IEE-AP, IEE-MT or IEE-HS representing the protocol group "IEEE 1394 Service Specific PBCL for AP", "IEEE 1394 Service Specific PBCL for MT" and "IEEE 1394 Service Specific PBCL for HL2 Bus system".

4.2 Test groups

The test groups are organized in three levels. The first level creates one protocol group representing the protocol services. The second level separates the protocol services in functional modules. The last level in each branch contains one or more of the standard ISO subgroups CA, BV, BI and BO.

4.2.1 Protocol groups

The protocol group identifies the User plane procedures and the Control plane procedures as defined in TS 101 493 3 [3].

4.2.1.1 User plane procedures

The User plane procedures group is divided in four functional modules. The first functional module distinguishes the Clock synchronization service. The second functional module distinguishes the Asynchronous transaction data transport service. The third functional module distinguishes the isochronous stream data transport service. The last functional module distinguishes the Asynchronous stream data transport service.

4.2.1.2 Control plane procedures

The Control plane procedures group is divided in eight functional modules. The first functional module distinguishes the Association - Initialization service. The second functional module distinguishes the Bus reset service. The third functional module distinguishes the Clock information connection control service. The fourth functional module identifies the CL responsibility handover service. The fith functional module distinguishes the HL2 Address Resolution service (HARP). The sixth functional module distinguishes Asynchronous transaction connection control service. The seventh functional module distinguishes the isochronous stream connection control service. The last functional module distinguishes the Asynchronous streams connection control service.

4.2.2 Main test groups

The main test groups are the capability group, the valid behaviour group, the invalid behaviour group and the inoportune behaviour group.

4.2.2.1 Capability (CA) tests

This test sub group shall provide limited testing of the major IUT capabilities aiming to insure that the claimed capabilities are correctly supported, according to the PICS.

4.2.2.2 Valid Behaviour (BV) tests

This test sub group shall verify that the IUT reacts in conformity with the TS, after receipt or exchange of valid Protocol Data Units (PDUs). Valid PDUs means that the exchange of messages and the content of the exchanged messages are considered as valid.

4.2.2.3 Invalid Behaviour (BI) tests

This test sub group shall verify that the IUT reacts in conformity with the TS, after receipt of a syntactically invalid PDU.

4.2.2.4 Inoportune Behaviour (BO) tests

This test sub group shall verify that the IUT reacts in conformity with the TS, after receipt of a syntactically correct PDU not expected in the actual message exchange.

5 Test Purposes (TP)

5.1 Introduction

5.1.1 TP definition conventions

The TPs are defined following particular rules as shown in table 1.

Table 1: TP definition rules

TP Id	Reference. Initial condition. Stimulus. Expected behaviour.
TP Id	The TP Id is a unique identifier it shall be specified according to the TP naming conventions defined in clause 5.1.2.
Reference	The reference should contain the references of the subject to be validated by the actual TP (specification reference, clause, and paragraph).
Initial condition	The condition defines in which initial state the IUT has to be to apply the actual TP.
Stimulus	The stimulus defines the test event to which the TP is related.
Expected behaviour	Definition of the events that are expected from the IUT to conform to the base specification.

5.1.2 TP naming conventions

The identifier of the TP is built according to table 2.

Table 2: TP naming convention

Identifier:	**TP/<st>/<pg>/<fm>/<x>-<nnn>**		
<st>	= Side type	AP	Access Point
		MT	Mobile Terminal
		HS	HL2 Bus system
<pg>	= Protocole group	UPP	User plane procedures
		CPP	Control plane procedures
<fm>	= Functional module	CS	Clock synchronization
		AT	Asynchronous transaction
		IS	Isochronous Stream
		AS	Asynchronous Stream
		AI	Association - Initialization
		BR	Bus reset
		CI	Clock information connection
		RH	CL responsibility handover
		HA	HL2 Address Resolution service
x	= Type of testing	CA	Capability Tests
		BV	Valid Behaviour Tests
		BI	Invalid Behaviour Tests
		BO	Inoportune Behaviour Tests
<nnn>	= Sequential number	(000 to 999)	Test Purpose Number

EXAMPLE: TP/MT/CPP/RH/BV-010 is the tenth purpose for the valid behaviour testing the Control plane CL responsibility handover procedures of the IEEE 1394 Service Specific layer implemented at MT side.

5.1.3 Sources of TP definitions

All TPs are specified according to TS 101 493-3 [3].

5.2 Test purposes for AP

5.2.1 Association - Initialization

TP/AP/CPP/AI/CA-000	Reference: TS 101 493-3 [3], clause 6.3 Initial condition: IUT is the AP/CC. LT is acting as WT1 and as WT2 Only for IUT that supports 1394 SSCS. Check, that: once the association procedure, the CC as WCM setups the clock channels and joins the multicast clock group.

5.2.2 Bus reset service

TP/AP/CPP/BR/CA-000	Reference: TS 101 493-3 [3], clause 6.4.1 Initial condition: IUT is the AP/CC. LT is acting as WT1 and as WT2. WT1 has joined the clock multicast group. WT2 joins the clock multicast group Only for IUT that supports 1394 SSCS. Check, that: the CC initiates a bus-reset procedure when a wireless node joins the HL2 Bus.
TP/AP/CPP/BR/CA-001	Reference: TS 101 493-3 [3], clause 6.4.1 Initial condition: IUT is the AP/CC. LT is acting as WT1 and as WT2. WT1 has joined the clock multicast group. WT2 leaves the clock multicast group and dissasociates from CC. Only for IUT that supports 1394 SSCS. Check, that: the CC initiates a bus-reset procedure when a wireless node leaves the HL2 Bus.

TP/AP/CPP/BR/CA-002	Reference: TS 101 493-3 [3], clause 6.4.2.1 Initial condition: IUT is the AP/CC. LT is acting as WT1 and as WT2. WT1 and WT2 have joined the clock multicast group. WT1 has sent a BUS_RESET. Only for IUT that supports 1394 SSCS. Check, that: when the CC receives a BUS_RESET, it acknowledges the WT by sending to the WT the same BUS_RESET information element.
TP/AP/CPP/BR/CA-003	Reference: TS 101 493-3 [3], clause 6.4.2.3 Initial condition: IUT is the AP/CC. LT is acting as WT1 and as WT2. WT1 and WT2 have joined the clock multicast group. Only for IUT that supports 1394 SSCS. Check, that: the CC starts the BUS_RESET procedure by sending first a BUS_SUSPEND information element to all associated WTs
TP/AP/CPP/BR/CA-004	Reference: TS 101 493-3 [3], clause 6.4.2.3 Initial condition: IUT is the AP/CC. LT is acting as WT1 and as WT2. WT1 and WT2 have joined the clock multicast group. WT1 and WT2 have sent a BUS_SUSPEND response. Only for IUT that supports 1394 SSCS. Check, that: after having received the BUS_SUSPEND information element from all associated WTs, the CC sends a BUS_RESUME information element to all associated WTs
TP/AP/CPP/BR/CA-005	Reference: TS 101 493-3 [3], clause 6.4.2.3 Initial condition: IUT is the AP/CC. LT is acting as WT1 and as WT2. WT1 and WT2 have joined the clock multicast group. WT1 and WT2 have not sent the BUS_RESUME response within the ΔT timer. Only for IUT that supports 1394 SSCS. Check, that: if the CC cannot complete the BUS_RESET procedure within the ΔT timer, it starts another BUS_RESET procedure.
TP/AP/CPP/BR/CA-006	Reference: TS 101 493-3 [3], clause 6.4.2.3 Initial condition: IUT is the AP/CC. LT is acting as WT1 and as WT2. WT1 and WT2 have joined the clock multicast group. WT1 has sent the BUS_SUSPEND response and WT2 has not. Only for IUT that supports 1394 SSCS. Check, that: if the CC did not receive the BUS_SUSPEND information element response from all associated WTs, it retransmits the BUS_SUSPEND information element to only those WTs that did not acknowledge it.
TP/AP/CPP/BR/CA-007	Reference: TS 101 493-3 [3], clause 6.4.2.3 Initial condition: IUT is the AP/CC. LT is acting as WT1 and as WT2. WT1 and WT2 have joined the clock multicast group. WT1 has sent the BUS_RESUME response and WT2 has not. Only for IUT that supports 1394 SSCS. Check, that: if the CC did not receive the BUS_RESUME information element response from all associated WTs, it retransmits the BUS_RESUME information element to only those WTs that did not acknowledge it.
TP/AP/CPP/BR/CA-008	Reference: TS 101 493-3 [3], clause 6.4.3 Initial condition: IUT is the AP/CC. LT is acting as WT1 and as WT2. Only for IUT that supports 1394 SSCS. Check, that: the CC assigns the same physical_IDs to all associated WTs.
TP/AP/CPP/BR/CA-009	Reference: TS 101 493-3 [3], clause 6.4.3 Initial condition: IUT is the AP/CC. LT is acting as WT1 and as WT2. WT1 and WT2 have joined the clock multicast group. WT1 has sent a BUS_RESET with *new_phy_ID* parameter set to one. Only for IUT that supports 1394 SSCS. Check, that: when the bus reset is WT-initiated, the CC assigns a new physical_ID if the *new_phy_ID* parameter in the received BUS_RESET information element is set to one.

5.2.3 Clock information connection control

TP/AP/CPP/CI/CA-000	Reference: TS 101 493-3 [3], clause 6.5.2.2 Initial condition: IUT is the AP/CC. LT is acting as WT1 and as WT2. WT2 is an unrestricted bridge. Only for IUT that supports 1394 SSCS. Check, that: when the CC as WCM detects that another WCM is operating on the HL2 Bus, the CC disables its cycle master function.
TP/AP/CPP/CI/CA-001	Reference: TS 101 493-3 [3], clause 6.5.4 Initial condition: IUT is the AP/CC. LT is acting as WT1 and as WT2. WT1 has joined the clock multicast group. WT2 joins the forwarding multicast group. Only for IUT that supports 1394 SSCS. Check, that: when a WT needs to join the forwarding multicast group of the clock channel, the CC set ups the forwarding multicast DLC connection for this group.
TP/AP/CPP/CI/CA-002	Reference: TS 101 493-3 [3], clause 6.5.4 Initial condition: IUT is the AP/CC. LT is acting as WT1 and as WT2. WT1 has joined the clock multicast group. WT2 has joined the forwarding multicast group. WT2 leaves the forwarding multicast group. Only for IUT that supports 1394 SSCS. Check, that: the CC releases the forwarding multicast DLC connection when it detects that the last WT has left the forwarding group.

5.2.4 CL responsibility handover

TP/AP/CPP/RH/CA-000	Reference: TS 101 493-3 [3], clause 6.6 Initial condition: IUT is the old AP/CC. LT is acting as WT1 and as new AP/CC. Only for IUT that supports 1394 SSCS. Check, that: during the CL responsibility handover, the old CC sends a BUS_SUSPEND message to all the devices (WTs and new CC) to inform them about the ongoing CC handover.

5.3 Test purposes for MT

5.3.1 Association - Initialization

TP/MT/CPP/AI/CA-000	Reference: TS 101 493-3 [3], clause 6.3 Initial condition: IUT is the WT. LT is acting as AP/CC. Only for IUT that supports 1394 SSCS. Check, that: the WT completes the association phase by sending one EUI_64 information element.

5.3.2 Bus reset service

TP/MT/CPP/BR/CA-000	Reference: TS 101 493-3 [3], clause 6.4.2.1 Initial condition: IUT is the WT. LT is acting as AP/CC. Only for IUT that supports 1394 SSCS. Check, that: when the WT needs to initiate a bus-reset procedure, the WT sends a BUS_RESET information element to the CC.
TP/MT/CPP/BR/CA-001	Reference: TS 101 493-3 [3], clause 6.4.2.4 Initial condition: IUT is the WT. LT is acting as AP/CC. AP/CC has sent a BUS_SUSPEND information element. Only for IUT that supports 1394 SSCS. Check, that: when the WT receives a BUS_SUSPEND information element from the CC, the WT acknowledges it by sending the same BUS_SUSPEND information element
TP/MT/CPP/BR/CA-002	Reference: TS 101 493-3 [3], clause 6.4.2.4 Initial condition: IUT is the WT. LT is acting as AP/CC. AP/CC has sent a BUS_RESUME information element. Only for IUT that supports 1394 SSCS. Check, that: when the WT receives a BUS_RESUME information element from the CC, the WT acknowledges it by sending the same BUS_RESUME information element.
TP/MT/CPP/BR/CA-003	Reference: TS 101 493-3 [3], clause 6.4.2.4 Initial condition: IUT is the WT. LT is acting as AP/CC. AP/CC has sent three BUS_SUSPEND information elements. Only for IUT that supports 1394 SSCS. Check, that: when the WT receives more than one BUS_SUSPEND information element from the CC, the WT acknowledges only the first one received by sending the same BUS_SUSPEND information element.

5.3.3 Clock information connection control

TP/MT/CPP/CI/CA-000	Reference: TS 101 493-3 [3], clause 6.5.3 Initial condition: IUT is the WT. LT is acting as AP/CC. Only for IUT that supports 1394 SSCS. Check, that: during the initialization phase, the WT joins the main multicast group of the clock channel by sending to the CC a RLC_MULTICAST_JOIN message containing the CHANNEL information element.
TP/MT/CPP/CI/CA-001	Reference: TS 101 493-3 [3], clause 6.5.3 Initial condition: IUT is the WT. LT is acting as AP/CC. The main clock multicast group is not active. Only for IUT that supports 1394 SSCS. Check, that: if the main multicast group of the clock channel is not well received, the WT joins the forwarding multicast group of the clock channel by sending a RLC_MULTICAST_JOIN message containing the CHANNEL information element.
TP/MT/CPP/CI/CA-002	Reference: TS 101 493-3 [3], clause 6.5.3 Initial condition: IUT is the WT. LT is acting as AP/CC. After the WT has joined the forwarding clock multicast group, the main clock multicast group is actived. Only for IUT that supports 1394 SSCS. Check, that: after having joined the forwarding multicast group, if it gets clock information from the main channel, the WT leaves the forwarding multicast group and joins the main multicast group.

5.4 Test purposes for HL2 Bus system

5.4.1 Resources allocation

TP/HS/UPP/IS/CA-000	Reference: TS 101 493-3 [3], clause 6.9.2.4 Initial condition: LT is the 1394 controler. SUT is composed with a 1394 talker, a 1394 listener and an AP/CC-IRM. The AP/CC-IRM part of the SUT is tested in this TP (the IUT). Only for SUT that supports 1394 SSCS. Check, that: the IUT having received an ALLOCATE_SOME request while being processing a bus reset, it sends an ALLOCATE_SOME response with the status field set to RESET code.
TP/HS/UPP/IS/CA-001	Reference: TS 101 493-3 [3], clause 6.9.2.4 Initial condition: LT is the 1394 controler. SUT is composed with a 1394 talker, a 1394 listener and an AP/CC-IRM. The AP/CC-IRM part of the SUT is tested in this TP (the IUT). Only for SUT that supports 1394 SSCS. Check, that: the IUT having received an ALLOCATE_SOME request and if there are enough available resources, it sends an ALLOCATE_SOME response with the status field set to DONE code and the handle field containing the allocated multicast mac_ID.
TP/HS/UPP/IS/CA-002	Reference: TS 101 493-3 [3], clause 6.9.2.4 Initial condition: LT is the 1394 controler. SUT is composed with a 1394 talker, a 1394 listener and an AP/CC-IRM. The AP/CC-IRM part of the SUT is tested in this TP (the IUT). Only for SUT that supports 1394 SSCS. Check, that: the IUT having received an ALLOCATE_SOME request and if there are not enough available resources, it sends an ALLOCATE_SOME response with the status field set to an appropriate failure code.
TP/HS/UPP/IS/CA-003	Reference: TS 101 493-3 [3], clause 6.9.2.4 Initial condition: LT is the 1394 controler, the 1394 talker and the 1394 listener. SUT is composed with an AP/CC-IRM. The AP/CC-IRM part of the SUT is tested in this TP (the IUT). Only for SUT that supports 1394 SSCS. Check, that: the IUT having received an ALLOCATE_SOME request and having completed the multicast join procedure for both the talker and the listener, it starts a multicast setup procedure between the talker and the listener.
TP/HS/UPP/IS/CA-004	Reference: TS 101 493-3 [3], clause 6.9.2.2 Initial condition: LT is the 1394 controler. SUT is composed with a 1394 talker, a 1394 listener and an AP/CC-IRM. The talker part of the SUT is tested in this TP (the IUT). Only for SUT that supports 1394 SSCS. Check, that: the IUT having received a lock request on its oPCR, and if the result of the compare and swap transaction is negative, it sends a negative lock response.
TP/HS/UPP/IS/CA-005	Reference: TS 101 493-3 [3], clause 6.9.2.2 Initial condition: LT is the 1394 controler and the AP/CC-IRM. SUT is composed with a 1394 talker and a 1394 listener. The talker part of the SUT is tested in this TP (the IUT). Only for SUT that supports 1394 SSCS. Check, that: the IUT having received a lock request on its oPCR, and if the result of the compare and swap transaction is positive, it sends, to the AP/CC-IRM, a RLC_MC_GROUP_JOIN message containing the CHANNEL information element.
TP/HS/UPP/IS/CA-006	Reference: TS 101 493-3 [3], clause 6.9.2.2 Initial condition: LT is the 1394 controler. SUT is composed with a 1394 talker, a 1394 listener and an AP/CC-IRM. The talker part of the SUT is tested in this TP (the IUT). Only for SUT that supports 1394 SSCS. Check, that: the IUT having received, from the AP/CC-IRM, a RLC_DM_MULTICAST_CONNECT message containing the multicast mac_ID, it sends a positive lock response.
TP/HS/UPP/IS/CA-007	Reference: TS 101 493-3 [3], clause 6.9.2.2 Initial condition: LT is the 1394 controler and the AP/CC-IRM. SUT is composed with a 1394 talker and a 1394 listener. The talker part of the SUT is tested in this TP (the IUT). Only for SUT that supports 1394 SSCS. Check, that: if during the talker side resource allocation, the multicast join procedure fails, the IUT returns a lock response with the channel field set to an appropriate error code.

TP/HS/UPP/IS/CA-008	Reference: TS 101 493-3 [3], clause 6.9.2.2 Initial condition: LT is the 1394 controler and the AP/CC-IRM. SUT is composed with a 1394 talker and a 1394 listener. The talker part of the SUT is tested in this TP (the IUT). Only for SUT that supports 1394 SSCS. Check, that: if during the talker side resource allocation, the multicast set-up procedure fails, the IUT returns a lock response with the channel field set to an appropriate error code.
TP/HS/UPP/IS/CA-009	Reference: TS 101 493-3 [3], clause 6.9.2.3 Initial condition: LT is the 1394 controler. SUT is composed with a 1394 talker, a 1394 listener and an AP/CC-IRM. The listener part of the SUT is tested in this TP (the IUT). Only for SUT that supports 1394 SSCS. Check, that: the IUT having received a lock request on its iPCR, and if the result of the compare and swap transaction is negative, it sends a negative lock response.
TP/HS/UPP/IS/CA-010	Reference: TS 101 493-3 [3], clause 6.9.2.3 Initial condition: LT is the 1394 controler and the AP/CC-IRM. SUT is composed with a 1394 talker and a 1394 listener. The listener part of the SUT is tested in this TP (the IUT). Only for SUT that supports 1394 SSCS. Check, that: the IUT having received a lock request on its iPCR, and if the result of the compare and swap transaction is positive, it sends, to the AP/CC-IRM, a RLC_MC_GROUP_JOIN message containing the CHANNEL information element.
TP/HS/UPP/IS/CA-011	Reference: TS 101 493-3 [3], clause 6.9.2.3 Initial condition: LT is the 1394 controler. SUT is composed with a 1394 talker, a 1394 listener and an AP/CC-IRM. The listener part of the SUT is tested in this TP (the IUT). Only for SUT that supports 1394 SSCS. Check, that: the IUT having received, from the AP/CC-IRM, a RLC_DM_MULTICAST_CONNECT message containing the multicast mac_ID, it sends a positive lock response.
TP/HS/UPP/IS/CA-012	Reference: TS 101 493-3 [3], clause 6.9.2.3 Initial condition: LT is the 1394 controler and the AP/CC-IRM. SUT is composed with a 1394 talker and a 1394 listener. The talker part of the SUT is tested in this TP (the IUT). Only for SUT that supports 1394 SSCS. Check, that: if during the listener side resource allocation, the multicast join procedure fails, the IUT returns a lock response with the channel field set to an appropriate error code.
TP/HS/UPP/IS/CA-013	Reference: TS 101 493-3 [3], clause 6.9.2.3 Initial condition: LT is the 1394 controler and the AP/CC-IRM. SUT is composed with a 1394 talker and a 1394 listener. The talker part of the SUT is tested in this TP (the IUT). Only for SUT that supports 1394 SSCS. Check, that: if during the listener side resource allocation, the multicast setup procedure fails, the IUT returns a lock response with the channel field set to an appropriate error code.

5.4.2 Resources modification

TP/HS/UPP/IS/CA-014	Reference: TS 101 493-3 [3], clause 6.9.2.4 Initial condition: LT is the 1394 controler. SUT is composed with a 1394 talker, a 1394 listener and an AP/CC-IRM. The AP/CC-IRM part of the SUT is tested in this TP (the IUT). Only for SUT that supports 1394 SSCS. Check, that: the IUT having received a MODIFY_BANDWIDTH request while being processing a bus reset, it sends a MODIFY_BANDWIDTH response with the status field set to RESET code.
TP/HS/UPP/IS/CA-015	Reference: TS 101 493-3 [3], clause 6.9.2.4 Initial condition: LT is the 1394 controler. SUT is composed with a 1394 talker, a 1394 listener and an AP/CC-IRM. The AP/CC-IRM part of the SUT is tested in this TP (the IUT). Only for SUT that supports 1394 SSCS. Check, that: the IUT having received a MODIFY_BANDWIDTH request and if the modification of the bandwidth is correctly done, it sends a MODIFY_BANDWIDTH response with the status field set to DONE code and the handle field containing the allocated multicast mac_ID.
TP/HS/UPP/IS/CA-016	Reference: TS 101 493-3 [3], clause 6.9.2.4 Initial condition: LT is the 1394 controler. SUT is composed with a 1394 talker, a 1394 listener and an AP/CC-IRM. The AP/CC-IRM part of the SUT is tested in this TP (the IUT). Only for SUT that supports 1394 SSCS. Check, that: the IUT having received a MODIFY_BANDWIDTH request and if the modification of the bandwidth is not correctly done, it sends a MODIFY_BANDWIDTH response with the status field set to an appropriate failure code.
TP/HS/UPP/IS/CA-017	Reference: TS 101 493-3 [3], clause 6.9.2.4 Initial condition: LT is the 1394 controler and the new 1394 listener. SUT is composed with a 1394 talker, a 1394 listener and an AP/CC-IRM. The AP/CC-IRM part of the SUT is tested in this TP (the IUT). Only for SUT that supports 1394 SSCS. Check, that: the IUT when a new listener appears, it sets up the multicast DLC connection corresponding to the 1394 channel towards this new listener.

5.4.3 Resources reclaim

TP/HS/UPP/IS/CA-018	Reference: TS 101 493-3 [3], clause 6.9.2.4 Initial condition: LT is the 1394 controler. SUT is composed with a 1394 talker, a 1394 listener and an AP/CC-IRM. The AP/CC-IRM part of the SUT is tested in this TP (the IUT). Only for SUT that supports 1394 SSCS. Check, that: the IUT having received a RECLAIM_THIS request and if the re-allocation of the resources is correctly done, it sends a RECLAIM_THIS response, with the *status* field set to DONE code.
TP/HS/UPP/IS/CA-019	Reference: TS 101 493-3 [3], clause 6.9.2.4 Initial condition: LT is the 1394 controler. SUT is composed with a 1394 talker, a 1394 listener and an AP/CC-IRM. The AP/CC-IRM part of the SUT is tested in this TP (the IUT). Only for SUT that supports 1394 SSCS. Check, that: the IUT having received a RECLAIM_THIS request and if the re-allocation of the resources is not correctly done, it sends a RECLAIM_THIS response, with the *status* field set to the appropriate failure code.
TP/HS/UPP/IS/CA-020	Reference: TS 101 493-3 [3], clause 6.9.2.4 Initial condition: LT is the 1394 controler. SUT is composed with a 1394 talker, a 1394 listener and an AP/CC-IRM. The AP/CC-IRM part of the SUT is tested in this TP (the IUT). Only for SUT that supports 1394 SSCS. Check, that: if timer T expires, the IUT initiates a multicast release procedure toward the concerned talker and each concerned listener.
TP/HS/UPP/IS/CA-021	Reference: TS 101 493-3 [3], clause 6.9.2.2 Initial condition: LT is the 1394 controler and the AP/CC-IRM. SUT is composed with a 1394 talker and a 1394 listener. The talker part of the SUT is tested in this TP (the IUT). Only for SUT that supports 1394 SSCS. Check, that: if channel bits are not written before the T timeout, the IUT generates a multicast leave procedure towards the AP/CC to leave the multicast group of the corresponding multicast mac_ID.
TP/HS/UPP/IS/CA-022	Reference: TS 101 493-3 [3], clause 6.9.2.3 Initial condition: LT is the 1394 controler and the AP/CC-IRM. SUT is composed with a 1394 talker and a 1394 listener. The listener part of the SUT is tested in this TP (the IUT). Only for SUT that supports 1394 SSCS. Check, that: if channel bits are not written before the T timeout, the IUT generates a multicast leave procedure towards the AP/CC to leave the multicast group of the corresponding multicast mac_ID.

5.4.4 Resources release

TP/HS/UPP/IS/CA-023	Reference: TS 101 493-3 [3], clause 6.9.2.4 Initial condition: LT is the 1394 controler, the 1394 talker and the 1394 listener. SUT is composed with an AP/CC-IRM. The AP/CC-IRM part of the SUT is tested in this TP (the IUT). Only for SUT that supports 1394 SSCS. Check, that: the IUT having received a RELEASE_THIS request while being processing a bus reset, it sends a RELEASE_THIS response with the status field set to RESET code.
TP/HS/UPP/IS/CA-024	Reference: TS 101 493-3 [3], clause 6.9.2.4 Initial condition: LT is the 1394 controler and the 1394 talker. SUT is composed with a 1394 listener and an AP/CC-IRM. The AP/CC-IRM part of the SUT is tested in this TP (the IUT). Only for SUT that supports 1394 SSCS. Check, that: the IUT having received a RELEASE_THIS request, it starts the multicast release procedure for the corresponding multicast mac_ID.

TP/HS/UPP/IS/CA-025	Reference: TS 101 493-3 [3], clause 6.9.2.4 Initial condition: LT is the 1394 controler. SUT is composed with a 1394 talker, a 1394 listener and an AP/CC-IRM. The talker part of the SUT is tested in this TP (the IUT). Only for SUT that supports 1394 SSCS. Check, that: the IUT having received a RELEASE_THIS request and if the multicast release procedure succeeds, it sends a RELEASE_THIS response with the status field set to DONE code.
TP/HS/UPP/IS/CA-026	Reference: TS 101 493-3 [3], clause 6.9.2.4 Initial condition: LT is the 1394 controler and the 1394 talker. SUT is composed with a 1394 listener and an AP/CC-IRM. The AP/CC-IRM part of the SUT is tested in this TP (the IUT). Only for SUT that supports 1394 SSCS. Check, that: the IUT having received a RELEASE_THIS request and if the multicast release procedure fails, it sends a RELEASE_THIS response with the status field set to an appropriate failure code.
TP/HS/UPP/IS/CA-027	Reference: TS 101 493-3 [3], clause 6.9.2.2 Initial condition: LT is the 1394 controler and the AP/CC-IRM. SUT is composed with a 1394 talker and a 1394 listener. The talker part of the SUT is tested in this TP (the IUT). Only for SUT that supports 1394 SSCS. Check, that: the IUT having received a request to set to zero the *point-to-point connection counter* field or the *broadcast connection counter* field of the oPCR, it releases the multicast connection corresponding to that channel and leaves the corresponding multicast group.
TP/HS/UPP/IS/CA-028	Reference: TS 101 493-3 [3], clause 6.9.2.2 Initial condition: LT is the 1394 controler. SUT is composed with a 1394 talker, a 1394 listener and an AP/CC-IRM. The talker part of the SUT is tested in this TP (the IUT). Only for SUT that supports 1394 SSCS. Check, that: when the multicast connection is released by other reason that a 1394 controller action, the IUT leaves the corresponding multicast group and sends a write request to the INTERRUPT_TARGET CSR of the 1394 controller to set the disconnected_pcr bit
TP/HS/UPP/IS/CA-029	Reference: TS 101 493-3 [3], clause 6.9.2.3 Initial condition: LT is the 1394 controler and the AP/CC-IRM. SUT is composed with a 1394 talker and a 1394 listener. The listener part of the SUT is tested in this TP (the IUT). Only for SUT that supports 1394 SSCS. Check, that: the IUT having received a request to set to zero the point-to-point connection counter field or the broadcast connection counter field of the oPCR, it releases the multicast connection corresponding to that channel and leaves the corresponding multicast group.
TP/HS/UPP/IS/CA-030	Reference: TS 101 493-3 [3], clause 6.9.2.3 Initial condition: LT is the 1394 controler. SUT is composed with a 1394 talker, a 1394 listener and an AP/CC-IRM. The listener part of the SUT is tested in this TP (the IUT). Only for SUT that supports 1394 SSCS. Check, that: when the multicast connection is released by other reason that a 1394 controller action, the IUT leaves the corresponding multicast group and sends a write request to the INTERRUPT_TARGET CSR of the 1394 controller to set the disconnected_pcr bit

History

Document history		
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