ETSI TS 102 917-2 V1.1.1 (2013-01)

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

Reference
DTS/ITS-0040026

Keywords
ITS, radio, TSS&TP

ETSI

650 Route des Lucioles
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C
Association à but non lucratif enregistrée à la
Sous-Préfecture de Grasse (06) N° 7803/88

Important notice

Individual copies of the present document can be downloaded from:
http://www.etsi.org

The present document may be made available in more than one electronic version or in print. In any case of existing or perceived difference in contents between such versions, the reference version is the Portable Document Format (PDF). In case of dispute, the reference shall be the printing on ETSI printers of the PDF version kept on a specific network drive within ETSI Secretariat.

Users of the present document should be aware that the document may be subject to revision or change of status. Information on the current status of this and other ETSI documents is available at
http://portal.etsi.org/tb/status/status.asp

If you find errors in the present document, please send your comment to one of the following services:
http://portal.etsi.org/chaircor/ETSI_support.asp

Copyright Notification

Contents

Intellectual Property Rights

IPRs essential or potentially essential to the present document may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: *"Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards"*, which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (http://ipr.etsi.org).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

Foreword

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

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

Part 1: "Protocol Implementation Conformance Statement (PICS)";

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

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

1 Scope

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

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

2 References

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the reference document (including any amendments) applies.

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

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

2.1 Normative references

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

[1] ETSI TS 102 687: "Intelligent Transport Systems (ITS); Decentralized Congestion Control Mechanisms for Intelligent Transport Systems operating in the 5 GHz range; Access layer part".

[2] ETSI TS 102 724: "Intelligent Transport Systems (ITS); Harmonized Channel Specifications for Intelligent Transport Systems operating in the 5 GHz frequency band".

[3] ETSI TS 102 723-3: "Intelligent Transport Systems (ITS); OSI cross-layer topics; Part 3: Interface between management entity and access layer".

[4] ETSI TS 102 723-10: "Intelligent Transport Systems (ITS); OSI cross-layer topics; Part 10: Interface between access layer and networking & transport layer".

[5] ETSI TS 102 917-1: "Intelligent Transport Systems (ITS); Test specifications for the channel congestion control algorithms operating in the 5,9 GHz range; Part 1: Protocol Implementation Conformance Statement (PICS)".

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

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

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

2.2 Informative references

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

Not applicable.

3 Definitions and abbreviations

3.1 Definitions

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

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

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

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

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

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

3.2 Abbreviations

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

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

4 Test configurations

4.1 Test architecture

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

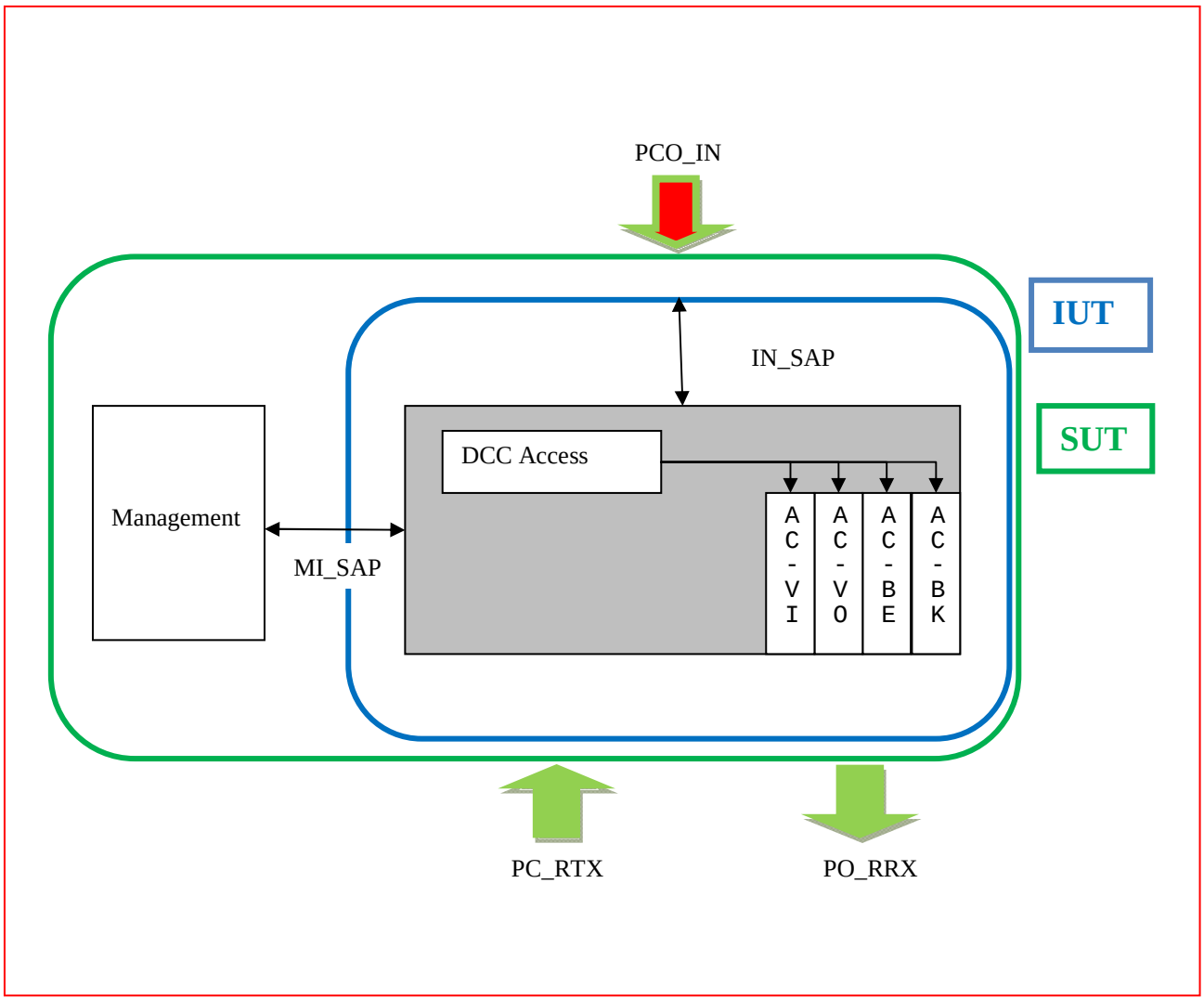

Figure 1: Test architecture

4.2 Radio Control and Observation Points

The following two testing reference points may be co-located in the same radio test equipment.

4.2.1 Radio Control Point PC_RTX

The radio point of control (PC) PC_RTX (Radio Transmission) will be used to trigger the entry of CCH and SCHs into the different DCC_access states. This is done via an Upper Tester (UT) that sends an abstract service primitives (ASP) of type SetDCC_AccessState to the Test System (TS). The UT will typically be realised within a radio test equipment.

The idea behind this is to stimulate the channelling probing functionality within the DCC access layer which will inform the DCC management via the MI_SAP about the observed channel situation. DCC management will set the transmission parameters based on the DCC_Access state. This is an indirect and non-transparent method of achieving the entry into a DCC_Access state and to determine the transmission parameters for a given CH as the MI_SAP will not be observed and furthermore there may exist a multitude of traffic situations that can be used at PC_RTX to stimulate the transition to a DCC_Access state.

4.2.1.1 SetDCC_AccessState - Description

This ASP is used to set the DCC_Access state.

4.2.1.2 SetDCC_AccessState – Fields

Table 1: SetDCC_AccessState

Name	Value
Channel	0: CCH 1: SCH1 2: SCH2 3: SCH3 4: SCH4
State	0: Relaxed 1: Active 2: Restrictive

4.2.2 Radio Observation Point PO_RRX

The radio point of observation (PO) PO_RRX (Radio Reception) will be used to examine the traffic generated by the SUT. This is done via a UT that receives ASPs of type Traffic_Characteristics from the TS.

4.2.2.1 Traffic_Characteristics – Description

This ASP is used to report the traffic characteristics.

4.2.2.2 Traffic_Characteristics – Fields

Table 2: Traffic_Characteristics

Name	Value
Channel	0: CCH 1: SCH1 2: SCH2 3: SCH3 4: SCH4
Measured power	Value in dBm
Inter-packet Spacing T_{off}	Value in ms

4.3 Control and Observation Point PCO_IN for Triggering ITS frames

TS 102 723-3 [3] and figure 4 in TS 102 724 [2] describe the IN-UNIDATA service for transport on the IN_SAP between access and network & transport layer. The behaviour on the IN_SAP will be controlled and observed via the point of control and observation (PCO) PCO_IN. Two testing ASPs are defined to request the transmission of frames on the radio interfaces and to observe indications that may be received from the access layer. They are called IN_Request and IN_Status and use a subset of the parameters defined in TS 102 723-010 [4] for the IN service primitives IN-UNIDATA.request and IN-UNIDATA.status.

4.3.1 IN_Request - Description

This ASP is used to request the transmission of frames on the radio interface, see also TS 102 723-010 [4] clause 5.2.

4.3.2 IN_Request – Fields

Table 3: IN_Request

Name	Value
Command reference	Integer (0 to 255)
Message	Octetstring
Requested send power P_{tx}	Value in dBm
DCC profile identifier DP#	Integer value

4.3.3 IN_Status - Description

This ASP is used to report the status related to the transmission (or non-transmission) of frames on the radio interface, see also TS 102 723-010 [4] clause 5.4.

4.3.4 IN_Status – Fields

Table 4: IN_Status

Name	Value
Command reference	Integer(0 to 255)
Channel	0: CCH 1: SCH1 2: SCH2 3: SCH3 4: SCH4
Transmission success status	Boolean value
Achieved send power P_{tx}	Value in dBm

5 Test Suite Structure (TSS) and Test Purposes (TP)

5.1 Test Suite Structure

5.1.1 TP naming convention

TPs are numbered, starting at 001, within each group. Groups are organized according to the TSS.

Table 5: TP identifier naming convention scheme

Identifier: **<TP>_<channel>_<channel_state>_<nn>**			
<tp>	=	Test Purpose:	fixed to "**TP**"
<config>	=		STS for single transceiver station MTS for multiple transceiver station G5B for multiple transceiver station using the G5B spectrum
<channel/CCH_channel_state>	=		REL for CCH relaxed state ACT for CCH active state RES for CCH restrictive state CCH for tests where the CCH channel state is variable or irrelevant SCH1 for tests related to SCH1 SCH2 for tests related to SCH2 SCH3 for tests related to SCH3 SCH4 for tests related to SCH4
<nn>	=	sequential number	(01-99)

5.1.2 Test strategy

As the base standards TS 102 687 [1] contains no explicit requirements for testing, the TPs were generated as a result of an analysis of the base standard of TS 102 723-3 [3], T S 102 723-10 [4] and TS 102 724 [2] and of the PICS specification TS 102 917-1 [5].

5.1.3 TP structure

Each TP has been written in a manner which is consistent with all other TPs. The intention of this is to make the TPs more readable and checkable. A particular structure has been used which is illustrated in table 6. Table 6 should be read in conjunction with any TP, i.e. please use a TP as an example to facilitate the full comprehension of table 6.

Table 6: Structure of a single TP

TP part	Text	Example
TP Id	**<clause number in base standard>**	see table 1
Test objective	*Short free text description of the test objective*	Verify that the IUT can correctly send a frame with priority DP1 on the CCH in state relaxed when $P_{Tx} < P_1$.
Reference	**<clause number in base standard>**	**clause 5.4.3.2**
PICS Selection	**<PICS reference>**	**A.5/3**
Initial conditions		
Free text description of the condition that the IUT has reached before the test purpose applies.		CCH = Relaxed P_1 = 25 dBm
Expected behaviour		
Start point	Ensure that the IUT with	
	<channel state> *may be repeated for multiple channels*	CCH in the relaxed state
Stimulus	<**trigger**>	on receipt of a IN_Request ASP containing a payload and indicating DP1 and P_{Tx} = 20 dBm
Reaction1	<**action1**> *related to radio interface, monitored at PO_RRX.*	transmits a frame on the CCH
	description of frame on the radio interface	with P_{Tx} = 20 dBm and $T_{off} \geq$ 100 ms
Reaction2	< **action2**> *related to IN_SAP, monitored at PCO_IN.*	and sends on the PCO_IN
	description of ASP content	an IN_Status indicating channel = CCH, successful transmission, achieved P_{Tx} = 20 dBm
NOTE: Text in italics will not appear in TPs and text between <> is filled in for each TP and may differ from one TP to the next.		

5.2 Test Purposes

All PICS items referred to in this clause are as specified in TS 102 917-1 [5] unless indicated otherwise by another numbered reference. PICS items are only meant for test selection, therefore only PICS items with status optional or conditional are explicitly mentioned.

5.2.1 Single Transceiver ITS Station Tests

5.2.1.1 CCH in the relaxed channel state

TP Id	**TP_STS_REL_01**
Test objective	Verify that the single transceiver IUT can correctly send frames with priority **VAL_DP** at a rate of **VAL_Message_Interval** on the **CCH in state relaxed** when $P_{Tx} < P_{CCH\_rel}$.
Reference	5.4.3.2, table 1
PICS Selection	A.2/1
Initial conditions	
CCH = Relaxed P_{CCH_rel} = PICS A.5/1 P_{Tx} = PIXIT_P_{Tx} $P_{Tx} < P_{CCH\_rel}$	
Expected behaviour	
Ensure that the IUT, with **CCH in the relaxed state** **on receipt** of IN_Request ASPs at a rate of **VAL_Message_Interval**, each containing a payload and indicating, DP# = **VAL_DP,** P_{Tx} = PIXIT_P_{Tx} < P_{CCH_rel}, **transmits** the frames on the CCH with P_{Tx} = PIXIT_P_{Tx} and T_{off} = **VAL_T_{off}** **sends** on the PCO_IN IN_Status ASPs indicating channel = CCH, successful transmission, achieved P_{Tx} = PIXIT_P_{Tx}.	
Comments	PIXIT_P_{Tx} has to be chosen based on the value for P_{CCH_rel} given in PICS A.5/1. This test case is also valid for multiple transceiver ITS stations.

TP Id	**TP_STS_REL_02**
Test objective	Verify that the single transceiver IUT can reduce the transmit power on the **CCH in state relaxed** when **$P_{Tx} > P_{CCH\_rel}$** and can report this power reduction to the upper layer.
Reference	5.4.3.2, table 1
PICS Selection	A.2/1
Initial conditions	
CCH = Relaxed P_{CCH_rel} = PICS A.5/1 P_{Tx} = PIXIT_P_{Tx} $P_{Tx} < P_{CCH\_rel}$	
Expected behaviour	
Ensure that the IUT, with **CCH in the relaxed state**, **on receipt** of IN_Request ASPs at a rate of **VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP**, P_{Tx} = PIXIT_P_{Tx} > P_{CCH_rel}, **transmits** the frames on the CCH with P_{Tx} = P_{CCH_rel} and T_{off} = **VAL_T_{off}** **sends** on the PCO_IN IN_Status ASPs indicating channel = CCH, successful transmission, achieved P_{Tx} = P_{CCH_rel}.	
Comments	PIXIT_P_{Tx} has to be chosen based on the value for P_{CCH_rel} given in PICS A.5/1. This test case is also valid for multiple transceiver ITS stations.

TP Id	TP_STS_REL_03
Test objective	Verify that the single transceiver IUT can report unsuccessful sending of frames on the **CCH in state relaxed** when the request frame rate is higher than the maximum allowed **VAL_Message_Interval**.
Reference	5.4.3.2, table 1
PICS Selection	A.2/1
Initial conditions	
CCH = Relaxed	
Expected behaviour	
Ensure that the IUT, with **CCH in the active state**, **on receipt** of IN_Request ASPs at a **rate higher than the maximum allowed VAL_Message_Interval**, each containing a payload and indicating, DP# = **VAL_DP,** P_{Tx} = acceptable P_{Tx} value, **transmits** frames on the CCH with T_{off} = **VAL_T_{off}** **and drops** the remaining frames **sends** on the PCO_IN IN_Status ASPs **for the transmitted frames** indicating channel = CCH, successful transmission **and sends** on the PCO_IN IN_Status ASPs **for the dropped frames** indicating unsuccessful transmission.	

Table 7: DP#, message interval and T_{off} values for TP_STS_REL_01, TP_STS_REL_02 and TP_STS_REL_03

VAL_DP	VAL_Message_Interval [Hz]	VAL_T_{off} [ms]
DP0	20	> 50
DP1	10	> 95
DP2	10	> 95
DP3	4	> 250
DP4	2	> 500
DP5	1	> 1 000
DP6	0,2	> 5 000
DP7	0,1	> 10 000
DP8	0,1	> 10 000
The tests have to be repeated for all value combinations.		

TP Id	TP_STS_REL_04
Test objective	Verify that the single transceiver IUT drops frames with **priority values above DP8** on the **CCH in state relaxed**.
Reference	5.4.3.2, table 1
PICS Selection	A.2/1
Initial conditions	
CCH = Relaxed	
Expected behaviour	
Ensure that the IUT, with **CCH in the relaxed state**, **on receipt** of an IN_Request ASP, containing a payload and indicating **DP#** in the range between **9 and 32**, **drops** the frame and does **not transmit** it, **sends** on the PCO_IN an IN_Status ASP indicating unsuccessful transmission.	

5.2.1.2 CCH in the active channel state

TP Id	TP_STS_ACT_01
Test objective	Verify that the single transceiver IUT can correctly send frames with priority **VAL_DP** at a rate of **VAL_Message_Interval** on the **CCH in state active** when $P_{Tx} < P_{CCH\_act}$.
Reference	5.4.3.2, table 1
PICS Selection	A.2/1
Initial conditions	
CCH = Active P_{CCH_act} = PICS A.5/2 P_{Tx} = PIXIT_P_{Tx} $P_{Tx} < P_{CCH\_act}$	
Expected behaviour	
Ensure that the IUT, with **CCH in the active state**, **on receipt** of IN_Request ASPs at a rate of **VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP** P_{Tx} = PIXIT_P_{Tx} < P_{CCH_act}, **transmits** the frames on the CCH with P_{Tx} = PIXIT_P_{Tx} and T_{off} = **VAL_T_{off}** **sends** on the PCO_IN IN_Status ASPs indicating channel = CCH, successful transmission, achieved P_{Tx} = PIXIT_P_{Tx}.	
Comments	PIXIT_P_{Tx} has to be chosen based on the value for P_{CCH_act} given in PICS A.5/2. This test case is also valid for multiple transceiver ITS stations.

TP Id	TP_STS_ACT_02
Test objective	Verify that the single transceiver IUT can reduce the transmit power **on the CCH in state active** when **$P_{Tx} > P_{CCH\_act}$** and can report this power reduction to the upper layer
Reference	5.4.3.2, table 1
PICS Selection	A.2/1
Initial conditions	
CCH = Active P_1 = PICS A.5/2 P_{Tx} = PIXIT_P_{Tx} $P_{Tx} > P_{CCH\_act}$	
Expected behaviour	
Ensure that the IUT, with **CCH in the active state**, **on receipt** of IN_Request ASPs at a rate of **VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP**, P_{Tx} = PIXIT_P_{Tx} > P_{CCH_act}, **transmits** the frames on the CCH with P_{Tx} = P_{CCH_act} and T_{off} = **VAL_T_{off}** **sends** on the PCO_IN IN_Status ASPs indicating channel = CCH, successful transmission, achieved P_{Tx} = P_{CCH_act}.	
Comments	PIXIT_P_{Tx} has to be chosen based on the value for P_{CCH_act} given in PICS A.5/2. This test case is also valid for multiple transceiver ITS stations.

TP Id	TP_STS_ACT_03
Test objective	Verify that the single transceiver IUT can report unsuccessful sending of frames on the **CCH in state active** when the request frame rate is higher than the maximum allowed **VAL_Message_Interval**.
Reference	5.4.3.2, table 1
PICS Selection	A.2/1
Initial conditions	
CCH = Active	
Expected behaviour	
Ensure that the IUT, with **CCH in the active state**, **on receipt** of IN_Request ASPs at a **rate higher than the maximum allowed VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP** P_{Tx} = acceptable P_{Tx} value, **transmits** frames on the CCH with T_{off} = **VAL_T_{off}** **and drops** the remaining frames **sends** on the PCO_IN IN_Status ASPs **for the transmitted frames** indicating channel = CCH, successful transmission **and sends** on the PCO_IN IN_Status ASPs **for the dropped frames** indicating unsuccessful transmission.	

Table 8: DP#, message interval and T_{off} values for TP_STS_ACT_01, TP_STS_ACT_02 and TP_STS_ACT_03

VAL_DP	VAL_Message_Interval [Hz]	VAL_T_{off} [ms]
DP0	20	> 50
DP1	5	> 190
DP2	5	> 190
DP3	2	> 500
NOTE: The tests have to be repeated for all value combinations.		

TP Id	TP_STS_ACT_04
Test objective	Verify that the single transceiver IUT drops frames with **priority values above DP8** on the **CCH in state active**.
Reference	5.4.3.2, table 1
PICS Selection	A.2/1
Initial conditions	
CCH = Active	
Expected behaviour	
Ensure that the IUT, with **CCH in the active state**, **on receipt** of an IN_Request ASP, containing a payload and indicating **DP#** in the range between **4 and 32**, **drops** the frame and does **not transmit** it, **sends** on the PCO_IN an IN_Status ASP indicating unsuccessful transmission.	

5.2.1.3 CCH in the restrictive channel state

TP Id	TP_STS_RES_01
Test objective	Verify that the single transceiver IUT can correctly send frames with priority **VAL_DP** at a rate of **VAL_Message_Interval** on the **CCH in state restrictive** when $P_{Tx} < P_{CCH\_res}$.
Reference	5.4.3.2, table 1
PICS Selection	A.2/1
Initial conditions	
CCH = Restrictive P_{CCH_res} = PICS A.5/3 P_{Tx} = PIXIT_P_{Tx} $P_{Tx} < P_{CCH\_res}$	
Expected behaviour	
Ensure that the IUT, with **CCH in the restrictive state**, **on receipt** of IN_Request ASPs at a rate of **VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP** P_{Tx} = PIXIT_P_{Tx} < P_{CCH_res}, **transmits** the frames on the CCH with P_{Tx} = PIXIT_P_{Tx} and T_{off} = **VAL_T_{off}** **sends** on the PCO_IN IN_Status ASPs indicating channel = CCH, successful transmission, achieved P_{Tx} = PIXIT_P_{Tx}.	
Comments	PIXIT_P_{Tx} has to be chosen based on the value for P_{CCH_res} given in PICS A.5/3. This test case is also valid for multiple transceiver ITS stations.

TP Id	TP_STS_RES_02
Test objective	Verify that the single transceiver IUT can reduce the transmit power **on the CCH in state restrictive** when **$P_{Tx} > P_{CCH\_res}$** and can report this power reduction to the upper layer.
Reference	5.4.3.2, table 1
PICS Selection	A.2/1
Initial conditions	
CCH = Restrictive P_1 = PICS A.5/3 P_{Tx} = PIXIT_P_{Tx} $P_{Tx} > P_{CCH\_res}$	
Expected behaviour	
Ensure that the IUT, with **CCH in the restrictive state**, **on receipt** of IN_Request ASPs at a rate of **VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP**, P_{Tx} = PIXIT_P_{Tx} > P_{CCH_res}, **transmits** the frames on the CCH with P_{Tx} = P_{CCH_res} and T_{off} = **VAL_T_{off}** **sends** on the PCO_IN IN_Status ASPs indicating channel = CCH, successful transmission, achieved P_{Tx} = P_{CCH_res}.	
Comments	PIXIT_P_{Tx} has to be chosen based on the value for P_{CCH_res} given in PICS A.5/3. This test case is also valid for multiple transceiver ITS stations.

TP Id	TP_STS_RES_03
Test objective	Verify that the single transceiver IUT can report unsuccessful sending of frames on the **CCH in state restrictive** when the request frame rate is higher than the maximum allowed **VAL_Message_Interval**.
Reference	5.4.3.2, table 1
PICS Selection	A.2/1
Initial conditions	
CCH = Restrictive	
Expected behaviour	
Ensure that the IUT, with **CCH in the restrictive state**, **on receipt** of IN_Request ASPs at a **rate higher than the maximum allowed VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP** P_{Tx} = acceptable P_{Tx} value, **transmits** frames on the CCH with T_{off} = **VAL_T_{off}** **and drops** the remaining frames **sends** on the PCO_IN IN_Status ASPs **for the transmitted frames** indicating channel = CCH, successful transmission **and sends** on the PCO_IN IN_Status ASPs **for the dropped frames** indicating unsuccessful transmission.	

Table 9: DP#, message interval and T_{off} values for TP_STS_RES_01, TP_STS_RES_02 and TP_STS_RES_03

VAL_DP	VAL_Message_Interval [Hz]	VAL_T_{off} [ms]
DP0	20	> 50
DP1	4	> 250
DP2	4	> 250
DP3	1	> 1 000
NOTE: The tests have to be repeated for all value combinations.		

TP Id	TP_STS_RES_04
Test objective	Verify that the single transceiver IUT drops frames with **priority values above DP4** on the **CCH in state restrictive**.
Reference	5.4.3.2, table 1
PICS Selection	A.2/1
Initial conditions	
CCH = Relaxed	
Expected behaviour	
Ensure that the IUT, with **CCH in the restrictive state**, **on receipt** of an IN_Request ASP, containing a payload and indicating **DP#** in the range between **4 and 32**, **drops** the frame and does **not transmit** it, **sends** on the PCO_IN an IN_Status ASP indicating unsuccessful transmission.	

5.2.2 Multiple Transceiver ITS Station Tests – G5A

The following single transceiver ITS station tests also apply to multiple transceiver stations:

TP_STS_REL_01

TP_STS_REL_02

TP_STS_ACT_01

TP_STS_ACT_02

TP_STS_RES_01

TP_STS_RES_02

5.2.2.1 CCH related tests

5.2.2.1.1 CCH in variable channel states

TP Id	**TP_MTS_CCH_01**
Test objective	Verify that the multiple transceivers IUT can drop frames with priority **VAL_DP** when the request frame rate is higher than the maximum allowed **VAL_Message_Interval** of the **CCH in state VAL_State_CCH** and with **SCH1 in state VAL_State_SCH1**.
Reference	5.4.3.2, table 1, table 2
PICS Selection	A.2/2, A.4/2
Initial conditions	
CCH = **VAL_State_CCH** SCH1 = **VAL_State_SCH1** SCH2 = Status irrelevant	
Expected behaviour	
Ensure that the IUT, with **CCH in the VAL_State_CCH state** and **SCH1 in state VAL_State_SCH1**, **on receipt** of IN_Request ASPs at a **rate higher than the maximum allowed VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP** acceptable P_{Tx} value, **transmits** frames on the **CCH** T_{off} > **VAL_T_{off}** **and drops** the remaining frames **sends** on the PCO_IN IN_Status ASPs **for the transmitted frames** indicating channel = CCH, successful transmission **and sends** on the PCO_IN IN_Status ASPs **for the dropped frames** indicating unsuccessful transmission.	

Table 10: DP#, CCH channel state, message interval, T_{off} and SCH1 channel state values for TP_MTS_CCH_01

VAL_DP	**VAL_State_CCH**	**VAL_Message_Interval [Hz]**	**VAL_T_{off} [ms]**	**VAL_State_SCH1**
DP1	Active	5	190	Relaxed
				Active
				Restrictive
	Restrictive	4	250	Relaxed
				Active
				Restrictive
DP2	Active	5	190	Active
				Restrictive
	Restrictive	4	250	Active
				Restrictive
DP3	Active	5	190	Restrictive
	Restrictive	4	250	Restrictive
NOTE: The test has to be repeated for all value combinations.				

TP Id	TP_MTS_CCH_02
Test objective	Verify that the multiple transceivers IUT can drop all frames for **VAL_DP** in the range between 5 and 8 when **CCH, SCH1 and SCH2 are in channel states other than the relaxed state**.
Reference	5.4.3.2, table 1, table 2, table 3
PICS Selection	A.2/2, A.4/2, A.4/3
Initial conditions	
CCH = **VAL_State_CCH** SCH1 = **VAL_State_SCH1** SCH2 = **VAL_State_SCH2**	
Expected behaviour	
Ensure that the IUT, with **CCH, SCH1 and SCH2 in channel states other than the relaxed state**, **on receipt** of an IN_Request ASP, containing a payload and indicating DP# = **VAL_DP** in the range between 5 and 8, **drops** the frame and does **not transmit** it, **sends** on the PCO_IN an IN_Status ASP indicating unsuccessful transmission.	

Table 11: DP#, CCH, SCH1 and SCH2 channel state values values for TP_MTS_CCH_02

VAL_DP	VAL_State_CCH	VAL_State_SCH1	VAL_State_SCH2
DP5	Active	Active	Active
		Restrictive	Active
		Active	Restrictive
		Restrictive	Restrictive
	Restrictive	Active	Active
		Restrictive	Active
		Active	Restrictive
		Restrictive	Restrictive
DP6	Active	Active	Active
		Restrictive	Active
		Active	Restrictive
		Restrictive	Restrictive
	Restrictive	Active	Active
		Restrictive	Active
		Active	Restrictive
		Restrictive	Restrictive
DP7	Active	Active	Active
		Restrictive	Active
		Active	Restrictive
		Restrictive	Restrictive
	Restrictive	Active	Active
		Restrictive	Active
		Active	Restrictive
		Restrictive	Restrictive
DP8	Active	Active	Active
		Restrictive	Active
		Active	Restrictive
		Restrictive	Restrictive
	Restrictive	Active	Active
		Restrictive	Active
		Active	Restrictive
		Restrictive	Restrictive
NOTE: The tests have to be repeated for all value combinations.			

5.2.2.1.2 CCH in the active channel state

TP Id	TP_MTS_ACT_01
Test objective	Verify that the multiple transceivers IUT can transmit frames with priority **VAL_DP** on **CCH and SCH1** when the request frame rate is higher than the maximum allowed **VAL_Message_Interval** of the **CCH in state active** and with **SCH1 in state VAL_State_SCH1**.
Reference	5.4.3.2, table 1, table 2
PICS Selection	A.2/2, A.4/2
Initial conditions	
CCH = Active SCH1 = **VAL_State_SCH1** SCH2 = Status irrelevant	
Expected behaviour	
Ensure that the IUT, with **CCH in the active** and **SCH1 in state VAL_State_SCH1**, **on receipt** of IN_Request ASPs at a rate of **rate higher than the maximum allowed VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP** acceptable P_{Tx} value, **transmits** frames on the **CCH** T_{off} > **VAL_T_{off}** **and transmits** frames on the **SCH1** **sends** on the PCO_IN IN_Status ASPs **for CCH transmitted frames** indicating channel = CCH, successful transmission and **sends** on the PCO_IN IN_Status ASPs **for SCH1 transmitted frames** indicating channel = SCH1, successful transmission.	

Table 12: DP#, message interval, T_{off} and SCH1 channel state values for TP_MTS_ACT_01

VAL_DP	VAL_Message_Interval [Hz]	VAL_T_{off} [ms]	VAL_State_SCH1
DP2	5	190	Relaxed
DP3	2	500	Relaxed
			Active
NOTE: The tests have to be repeated for all value combinations.			

TP Id	TP_MTS_ACT_02
Test objective	Verify that the multiple transceivers IUT can transmit frames with priority **DP4** at a rate of **2 Hz** on **SCH1 in state VAL_State_SCH1** with **CCH in state active**.
Reference	5.4.3.2, table 1, table 2
PICS Selection	A.2/2, A.4/2
Initial conditions	
CCH = Active SCH1 = **VAL_State_SCH1** SCH2 = Status irrelevant	
Expected behaviour	
Ensure that the IUT, with **CCH in the active** and **SCH1 in state VAL_State_SCH1**, **on receipt** of IN_Request ASPs at a rate of **2 Hz**, each containing a payload and indicating DP# = **DP4** acceptable P_{Tx} value, **transmits** frames on the **SCH1** T_{off} > **500 ms** **sends** on the PCO_IN IN_Status ASPs indicating channel = SCH1, successful transmission.	

Table 13: SCH1 channel state values for TP_MTS_ACT_02

VAL_State_SCH1
Relaxed
Active

TP Id	TP_MTS_ACT_03
Test objective	Verify that the multiple transceivers IUT can transmit frames with priority **DP4** at a rate of **2 Hz** on **SCH2 in state VAL_State_SCH2** with **CCH in state active** and with **SCH1 in state restrictive**.
Reference	5.4.3.2, table 1, table 2
PICS Selection	A.2/2, A.4/3
Initial conditions	
CCH = Active SCH1 = Restrictive SCH2 = **VAL_State_SCH2**	
Expected behaviour	
Ensure that the IUT, with **CCH in the active**, **SCH1 in the restrictive** and **SCH2 in state VAL_State_SCH2**, **on receipt** of IN_Request ASPs at a rate of **2 Hz**, each containing a payload and indicating DP# = **DP4** acceptable P_{Tx} value, **transmits** frames on the **SCH2** T_{off} > **500 ms** **sends** on the PCO_IN IN_Status ASPs indicating channel = SCH2, successful transmission.	

Table 14: SCH2 channel state values for TP_MTS_ACT_03

VAL_State_SCH2
Relaxed
Active
Restrictive

TP Id	TP_MTS_ACT_04
Test objective	Verify that the multiple transceivers IUT can correctly send frames with priority **VAL_DP** at a rate of **VAL_Message_Interval** on the **SCH1 in state relaxed** with **CCH in the active state**.
Reference	5.4.3.2, table 2
PICS Selection	A.2/2, A.4/2
Initial conditions	
CCH = Active SCH1 = Relaxed SCH2 = Status irrelevant	
Expected behaviour	
Ensure that the IUT, with **CCH in the active** and **SCH1 in the relaxed state**, **on receipt** of IN_Request ASPs at a rate of **VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP**, P_{Tx} = acceptable P_{Tx} value, **transmits** the frames on the SCH1 with T_{off} = **VAL_T_{off}** **sends** on the PCO_IN IN_Status ASPs indicating channel = SCH1, successful transmission.	

Table 15: DP#, message interval and T_{off} values for TP_MTS_ACT_04

VAL_DP	VAL_Message_Interval [Hz]	VAL_T_{off} [ms]
DP5	2	> 500
DP6	2	> 500
DP7	1	> 1 000
DP8	1	>1 000
NOTE: The tests have to be repeated for all value combinations.		

TP Id	TP_MTS_ACT_05
Test objective	Verify that the multiple transceivers IUT can correctly send frames with priority **VAL_DP** at a rate of **VAL_Message_Interval** on the **SCH2 in state relaxed** with **CCH in the active state and SCH1 in state VAL_State_SCH1**.
Reference	5.4.3.2, table 2
PICS Selection	A.2/2, A.4/3
Initial conditions	
CCH = Active SCH1 = **VAL_State_SCH1** SCH2 = Relaxed	
Expected behaviour	
Ensure that the IUT, with **CCH in the active**, **SCH 1 in the VAL_State_SCH1** and **SCH2 in the relaxed state**, **on receipt** of IN_Request ASPs at a rate of **VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP**, P_{Tx} = acceptable P_{Tx} value, **transmits** the frames on the SCH2 with T_{off} = **VAL_T_{off}** **sends** on the PCO_IN IN_Status ASPs indicating channel = SCH2, successful transmission.	

Table 16: SCH1 channel state, DP#, message interval and T_{off} values for TP_MTS_ACT_05

VAL_State_SCH1	VAL_DP	VAL_Message_Interval [Hz]	VAL_T_{off} [ms]
Active	DP5	2	> 500
	DP6	2	> 500
	DP7	1	> 1 000
	DP8	0,5	> 2 000
Restrictive	DP5	2	> 500
	DP6	2	> 500
	DP7	1	> 1 000
	DP8	0,5	> 2 000
NOTE: The tests have to be repeated for all value combinations.			

5.2.2.1.3 CCH in the restrictive channel state

TP Id	TP_MTS_RES_01
Test objective	Verify that the multiple transceivers IUT can transmit frames with priority **VAL_DP** on **CCH and SCH1** when the request frame rate is higher than the maximum allowed **VAL_Message_Interval** of the **CCH in state restrictive** and with **SCH1 in state VAL_State_SCH1**.
Reference	5.4.3.2, table 1, table 2
PICS Selection	A.2/2, A.4/2
Initial conditions	
CCH = Restrictive SCH1 = **VAL_State_SCH1** SCH2 = Status irrelevant	
Expected behaviour	
Ensure that the IUT, with **CCH in the restrictive** and **SCH1 in state VAL_State_SCH1**, **on receipt** of IN_Request ASPs at a rate of **rate higher than the maximum allowed VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP** acceptable P_{Tx} value, **transmits** frames on the **CCH** T_{off} = **VAL_T_{off}** **and transmits** frames on the **SCH1** **sends** on the PCO_IN IN_Status ASPs **for CCH transmitted frames** indicating channel = CCH, successful transmission and **sends** on the PCO_IN IN_Status ASPs **for SCH1 transmitted frames** indicating channel = SCH1, successful transmission.	

Table 17: DP#, message interval, T_{off} and SCH1 channel state values for TP_MTS_RES_01

VAL_DP	VAL_Message_Interval [Hz]	VAL_T_{off} [ms]	VAL_State_SCH1
DP2	> 4	250	Relaxed
DP3	> 1	1 000	Relaxed
			Active
NOTE: The tests have to be repeated for all value combinations.			

TP Id	TP_MTS_RES_02
Test objective	Verify that the multiple transceivers IUT can transmit frames with priority **DP4** at a rate of **2 Hz** on **SCH1 in state VAL_State_SCH1** with **CCH in state restrictive**.
Reference	5.4.3.2, table 1, table 2
PICS Selection	A.2/2, A.4/2
Initial conditions	
CCH = Restrictive SCH1 = **VAL_State_SCH1** SCH2 = Status irrelevant	
Expected behaviour	
Ensure that the IUT, with **CCH in the restrictive** and **SCH1 in state VAL_State_SCH1**, **on receipt** of IN_Request ASPs at a rate of **2 Hz**, each containing a payload and indicating DP# = **DP4** acceptable P_{Tx} value, **transmits** frames on the **SCH1** T_{off} > **500 ms** **sends** on the PCO_IN IN_Status ASPs indicating channel = SCH1, successful transmission.	

Table 18: SCH1 channel state values for TP_MTS_RES_02

VAL_State_SCH1
Relaxed
Active

TP Id	TP_MTS_RES_03
Test objective	Verify that the multiple transceivers IUT can transmit frames with priority **DP4** at a rate of **2 Hz** on **SCH2 in state VAL_State_SCH2** with **CCH** and **SCH1 in state restrictive**.
Reference	5.4.3.2, table 1, table 2
PICS Selection	A.2/2, A.4/3
Initial conditions	
CCH = Restrictive SCH1 = Restrictive SCH2 = **VAL_State_SCH2**	
Expected behaviour	
Ensure that the IUT, with **CCH** and **SCH1 in the restrictive** and **SCH2 in state VAL_State_SCH2**, **on receipt** of IN_Request ASPs at a rate of **2 Hz**, each containing a payload and indicating DP# = **DP4** acceptable P_{Tx} value, **transmits** frames on the **SCH2** T_{off} > **500 ms** **sends** on the PCO_IN IN_Status ASPs indicating channel = SCH2, successful transmission.	

Table 19: SCH2 channel state values for TP_MTS_RES_03

VAL_State_SCH2
Relaxed
Active
Restrictive

TP Id	TP_MTS_RES_04
Test objective	Verify that the multiple transceivers IUT can correctly send frames with priority **VAL_DP** at a rate of **VAL_Message_Interval** on the **SCH1 in state relaxed** with **CCH in the restrictive state**.
Reference	5.4.3.2, table 2
PICS Selection	A.2/2, A.4/2
Initial conditions	
CCH = Restrictive SCH1 = Relaxed SCH2 = Status irrelevant	
Expected behaviour	
Ensure that the IUT, with **CCH in the restrictive** and **SCH1 in the relaxed state**, **on receipt** of IN_Request ASPs at a rate of **VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP**, P_{Tx} = acceptable P_{Tx} value, **transmits** the frames on the SCH1 with T_{off} = **VAL_T_{off}** **sends** on the PCO_IN IN_Status ASPs indicating channel = SCH1, successful transmission.	

Table 20: DP#, message interval and T_{off} values for TP_MTS_RES_04

VAL_DP	VAL_Message_Interval [Hz]	VAL_T_{off} [ms]
DP5	2	> 500
DP6	2	> 500
DP7	1	> 1 000
DP8	1	> 1 000
NOTE: The tests have to be repeated for all value combinations.		

TP Id	TP_MTS_RES_05
Test objective	Verify that the multiple transceivers IUT can correctly send frames with priority **VAL_DP** at a rate of **VAL_Message_Interval** on the **SCH2 in state relaxed** with **CCH in the restrictive state and SCH1 in state VAL_State_SCH1**.
Reference	5.4.3.2, table 2
PICS Selection	A.2/2, A.4/3
Initial conditions	
CCH = Restrictive SCH1 = **VAL_State_SCH1** SCH2 = Relaxed	
Expected behaviour	
Ensure that the IUT, with **CCH in the restrictive**, **SCH 1 in the VAL_State_SCH1** and **SCH2 in the relaxed state**, **on receipt** of IN_Request ASPs at a rate of **VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP**, P_{Tx} = acceptable P_{Tx} value, **transmits** the frames on the SCH2 with T_{off} = **VAL_T_{off}** **sends** on the PCO_IN IN_Status ASPs indicating channel = SCH2, successful transmission.	

Table 21: SCH1 channel state, DP#, message interval and T_{off} values for TP_MTS_RES_05

VAL_State_SCH1	VAL_DP	VAL_Message_Interval [Hz]	VAL_T_{off} [ms]
Active	DP5	2	> 500
	DP6	2	> 500
	DP7	1	> 1 000
	DP8	0,5	> 2 000
Restrictive	DP5	2	> 500
	DP6	2	> 500
	DP7	1	> 1 000
	DP8	0,5	> 2 000
NOTE: The tests have to be repeated for all value combinations.			

5.2.2.2 SCH1 related tests

5.2.2.2.1 SCH1 in the relaxed channel state

TP Id	TP_MTS_SCH1_01
Test objective	Verify that the multiple transceiver IUT can correctly send frames with priority **VAL_DP** at a rate of **VAL_Message_Interval** on the **SCH1 in state relaxed** when $P_{Tx} < P_{SCH1\_rel}$.
Reference	5.4.3.2, table 2
PICS Selection	A.2/2, A.4/2
Initial conditions	
CCH = Status irrelevant SCH1 = Relaxed SCH2 = Status irrelevant P_{SCH1_rel} = PICS A.5/4 P_{Tx} = PIXIT_P_{Tx} $P_{Tx} < P_{SCH1\_rel}$	
Expected behaviour	
Ensure that the IUT, with **SCH1 in the relaxed state**, **on receipt** of IN_Request ASPs at a rate of **VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP**, P_{Tx} = PIXIT_$P_{Tx} < P_{SCH1_rel}$, **transmits** the frames on the SCH1 with P_{Tx} = PIXIT_P_{Tx} and T_{off} = **VAL_T_{off}** **sends** on the PCO_IN IN_Status ASPs indicating channel = SCH1, successful transmission, achieved P_{Tx} = PIXIT_P_{Tx}.	
Comments	PIXIT_P_{Tx} has to be chosen based on the value for P_{SCH1_rel} given in PICS A.5/4.

TP Id	TP_MTS_SCH1_02
Test objective	Verify that the multiple transceiver IUT can reduce the transmit power on the **SCH1 in state relaxed** when **$P_{Tx} > P_{SCH1\_rel}$** and can report this power reduction to the upper layer
Reference	5.4.3.2, table 2
PICS Selection	A.2/2, A.4/2
Initial conditions	
CCH = Status irrelevant SCH1 = Relaxed SCH2 = Status irrelevant P_{SCH1_rel} = PICS A.5/4 P_{Tx} = PIXIT_P_{Tx} $P_{Tx} < P_{SCH1\_rel}$	
Expected behaviour	
Ensure that the IUT, with **SCH1 in the relaxed state**, **on receipt** of IN_Request ASPs at a rate of **VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP**, P_{Tx} = PIXIT_$P_{Tx} > P_{SCH1_rel}$, **transmits** the frames on the SCH1 with P_{Tx} = P_{SCH1_rel} and T_{off} = **VAL_T_{off}** **sends** on the PCO_IN IN_Status ASPs indicating channel = SCH1, successful transmission, achieved P_{Tx} = P_{SCH1_rel}.	
Comments	PIXIT_P_{Tx} has to be chosen based on the value for P_{SCH1_rel} given in PICS A.5/4.

TP Id	TP_MTS_SCH1_03
Test objective	Verify that the multiple transceivers IUT can report unsuccessful sending of frames on the **SCH1 in state relaxed** when the request frame rate is higher than the maximum allowed **VAL_Message_Interval**.
Reference	5.4.3.2, table 2
PICS Selection	A.2/2, A.4/2
Initial conditions	
CCH = Status irrelevant SCH1 = Relaxed SCH2 = Status irrelevant	
Expected behaviour	
Ensure that the IUT, with **SCH1 in the relaxed state**, **on receipt** of IN_Request ASPs at a **rate higher than the maximum allowed VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP** P_{Tx} = acceptable P_{Tx} value, **transmits** frames on the SCH1 with T_{off} = **VAL_T_{off}** **and drops** the remaining frames **sends** on the PCO_IN IN_Status ASPs **for the transmitted frames** indicating channel = SCH1, successful transmission **and sends** on the PCO_IN IN_Status ASPs **for the dropped frames** indicating unsuccessful transmission.	

Table 22: DP#, message interval and T_{off} values for TP_MTS_SCH1_01, TP_MTS_SCH1_02 and TP_MTS_SCH1_03

VAL_DP	VAL_Message_Interval [Hz]	VAL_T_{off} [ms]
DP9	10	> 100
DP10	10	> 100
DP11	10	> 100
DP12	2	> 500
DP13	1	> 1 000
DP14	0,2	> 5 000
DP15	0,1	> 10 000
DP16	0,1	> 10 000
NOTE: The tests have to be repeated for all value combinations.		

TP Id	TP_MTS_SCH1_04
Test objective	Verify that the multiple transceivers IUT drops frames with **priority values above DP16** on the **SCH1 in state relaxed**.
Reference	5.4.3.2, table 2
PICS Selection	A.2/2, A.4/2
Initial conditions	
CCH = Status irrelevant SCH1 = Relaxed SCH2 = Status irrelevant	
Expected behaviour	
Ensure that the IUT, with **SCH1 in the relaxed state**, **on receipt** of an IN_Request ASP, containing a payload and indicating **DP#** in the range between **17 and 32**, **drops** the frame and does **not transmit** it, **sends** on the PCO_IN an IN_Status ASP indicating unsuccessful transmission.	

5.2.2.2.2 SCH1 in the active channel state

TP Id	TP_MTS_SCH1_05
Test objective	Verify that the multiple transceiver IUT can correctly send frames with priority **VAL_DP** at a rate of **VAL_Message_Interval** on the **SCH1 in state active** when $P_{Tx} < P_{SCH1\_act}$.
Reference	5.4.3.2, table 2
PICS Selection	A.2/2, A.4/2
Initial conditions	
CCH = Status irrelevant SCH1 = Active SCH2 = Status irrelevant P_{SCH1_act} = PICS A.5/5 P_{Tx} = PIXIT_P_{Tx} $P_{Tx} < P_{SCH1\_act}$	
Expected behaviour	
Ensure that the IUT, with **SCH1 in the active state**, **on receipt** of IN_Request ASPs at a rate of **VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP**, P_{Tx} = PIXIT_$P_{Tx} < P_{SCH1_act}$, **transmits** the frames on the SCH1 with P_{Tx} = PIXIT_P_{Tx} and T_{off} = **VAL_T_{off}** **sends** on the PCO_IN IN_Status ASPs indicating channel = SCH1, successful transmission, achieved P_{Tx} = PIXIT_P_{Tx}.	
Comments	PIXIT_P_{Tx} has to be chosen based on the value for P_{SCH1_act} given in PICS A.5/5.

TP Id	TP_MTS_SCH1_06
Test objective	Verify that the multiple transceiver IUT can reduce the transmit power on the **SCH1 in state active** when **$P_{Tx} > P_{SCH1\_act}$** and can report this power reduction to the upper layer
Reference	5.4.3.2, table 2
PICS Selection	A.2/2, A.4/2
Initial conditions	
CCH = Status irrelevant SCH1 = Active SCH2 = Status irrelevant P_{Sch1_act} = PICS A.5/5 P_{Tx} = PIXIT_P_{Tx} $P_{Tx} < P_{SCH1\_act}$	
Expected behaviour	
Ensure that the IUT, with **SCH1 in the active state**, **on receipt** of IN_Request ASPs at a rate of **VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP**, P_{Tx} = PIXIT_$P_{Tx} > P_{SCH1_act}$, **transmits** the frames on the SCH1 with $P_{Tx} = P_{SCH1\_act}$ and T_{off} = **VAL_T_{off}** **sends** on the PCO_IN IN_Status ASPs indicating channel = SCH1, successful transmission, achieved $P_{Tx} = P_{SCH1\_act}$.	
Comments	PIXIT_P_{Tx} has to be chosen based on the value for P_{SCH1_rel} given in PICS A.5/5.

TP Id	TP_MTS_SCH1_07
Test objective	Verify that the multiple transceivers IUT can report unsuccessful sending of frames on the **SCH1 in state active** when the request frame rate is higher than the maximum allowed **VAL_Message_Interval**.
Reference	5.4.3.2, table 2
PICS Selection	A.2/2, A.4/2
Initial conditions	
CCH = Status irrelevant SCH1 = Active SCH2 = Status irrelevant	
Expected behaviour	
Ensure that the IUT, with **SCH1 in the active state**, **on receipt** of IN_Request ASPs at a **rate higher than the maximum allowed VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP** P_{Tx} = acceptable P_{Tx} value, **transmits** frames on the SCH1 with T_{off} = **VAL_T_{off}** **and drops** the remaining frames **sends** on the PCO_IN IN_Status ASPs **for the transmitted frames** indicating channel = SCH1, successful transmission **and sends** on the PCO_IN IN_Status ASPs **for the dropped frames** indicating unsuccessful transmission.	

Table 23: DP#, message interval and T_{off} values for TP_MTS_SCH1_05, TP_MTS_SCH1_06 and TP_MTS_SCH1_07

VAL_DP	VAL_Message_Interval [Hz]	VAL_T_{off} [ms]
DP9	5	> 200
DP10	5	> 200
DP11	2	> 500
NOTE: The tests have to be repeated for all value combinations.		

TP Id	TP_MTS_SCH1_08
Test objective	Verify that the multiple transceivers IUT drops frames with **priority values above DP11** on the **SCH1 in state active**.
Reference	5.4.3.2, table 2
PICS Selection	A.2/2, A.4/2
Initial conditions	
CCH = Status irrelevant SCH1 = Active SCH2 = Status irrelevant	
Expected behaviour	
Ensure that the IUT, with **SCH1 in state active**, **on receipt** of an IN_Request ASP, containing a payload and indicating **DP#** in the range between **12 and 32**, **drops** the frame and does **not transmit** it, **sends** on the PCO_IN an IN_Status ASP indicating unsuccessful transmission.	

5.2.2.2.3 SCH1 in the restrictive channel state

TP Id	TP_MTS_SCH1_09
Test objective	Verify that the multiple transceiver IUT can correctly send frames with priority **VAL_DP** at a rate of **VAL_Message_Interval** on the **SCH1 in state restrictive** when $P_{Tx} < P_{SCH1\_res}$.
Reference	5.4.3.2, table 2
PICS Selection	A.2/2, A.4/2
Initial conditions	
CCH = Status irrelevant SCH1 = Restrictive SCH2 = Status irrelevant P_{SCH1_res} = PICS A.5/6 P_{Tx} = PIXIT_P_{Tx} $P_{Tx} < P_{SCH1\_res}$	
Expected behaviour	
Ensure that the IUT, with **SCH1 in the restrictive state**, **on receipt** of IN_Request ASPs at a rate of **VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP**, P_{Tx} = PIXIT_$P_{Tx} < P_{SCH1_res}$, **transmits** the frames on the SCH1 with P_{Tx} = PIXIT_P_{Tx} and T_{off} = **VAL_T_{off}** **sends** on the PCO_IN IN_Status ASPs indicating channel = SCH1, successful transmission, achieved P_{Tx} = PIXIT_P_{Tx}.	
Comments	PIXIT_P_{Tx} has to be chosen based on the value for P_{SCH1_res} given in PICS A.5/6.

TP Id	TP_MTS_SCH1_10
Test objective	Verify that the multiple transceiver IUT can reduce the transmit power on the **SCH1 in state restrictive** when **$P_{Tx} > P_{SCH1\_res}$** and can report this power reduction to the upper layer
Reference	5.4.3.2, table 2
PICS Selection	A.2/2, A.4/2
Initial conditions	
CCH = Status irrelevant SCH1 = Restrictive SCH2 = Status irrelevant P_{Sch1_res} = PICS A.5/6 P_{Tx} = PIXIT_P_{Tx} $P_{Tx} < P_{SCH1\_res}$	
Expected behaviour	
Ensure that the IUT, with **SCH1 in the restrictive state**, **on receipt** of IN_Request ASPs at a rate of **VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP**, P_{Tx} = PIXIT_$P_{Tx} > P_{SCH1_res}$, **transmits** the frames on the SCH1 with $P_{Tx} = P_{SCH1\_res}$ and T_{off} = **VAL_T_{off}** **sends** on the PCO_IN IN_Status ASPs indicating channel = SCH1, successful transmission, achieved $P_{Tx} = P_{SCH1\_res}$.	
Comments	PIXIT_P_{Tx} has to be chosen based on the value for P_{SCH1_rel} given in PICS A.5/6.

TP Id	TP_MTS_SCH1_11
Test objective	Verify that the multiple transceivers IUT can report unsuccessful sending of frames on the **SCH1 in state restrictive** when the request frame rate is higher than the maximum allowed **VAL_Message_Interval**.
Reference	5.4.3.2, table 2
PICS Selection	A.2/2, A.4/2
Initial conditions	
CCH = Status irrelevant SCH1 = Restrictive SCH2 = Status irrelevant	
Expected behaviour	
Ensure that the IUT, with **SCH1 in the restrictive state**, **on receipt** of IN_Request ASPs at a **rate higher than the maximum allowed VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP** P_{Tx} = acceptable P_{Tx} value, **transmits** frames on the SCH1 with T_{off} = **VAL_T_{off}** **and drops** the remaining frames **sends** on the PCO_IN IN_Status ASPs **for the transmitted frames** indicating channel = SCH1, successful transmission **and sends** on the PCO_IN IN_Status ASPs **for the dropped frames** indicating unsuccessful transmission.	

Table 24: DP#, message interval and T_{off} values for TP_MTS_SCH1_09, TP_MTS_SCH1_10 and TP_MTS_SCH1_11

VAL_DP	VAL_Message_Interval [Hz]	VAL_T_{off} [ms]
DP9	4	> 250
DP10	4	> 250
NOTE: The tests have to be repeated for all value combinations.		

TP Id	TP_MTS_SCH1_12
Test objective	Verify that the multiple transceivers IUT drops frames with **priority values above DP10** on the **SCH1 in state restrictive**.
Reference	5.4.3.2, table 2
PICS Selection	A.2/2, A.4/2
Initial conditions	
CCH = Status irrelevant SCH1 = Restrictive SCH2 = Status irrelevant	
Expected behaviour	
Ensure that the IUT, with **SCH1 in state restrictive**, **on receipt** of an IN_Request ASP, containing a payload and indicating **DP#** in the range between **11 and 32**, **drops** the frame and does **not transmit** it, **sends** on the PCO_IN an IN_Status ASP indicating unsuccessful transmission.	

5.2.2.3 SCH2 related tests

5.2.2.3.1 SCH2 in the relaxed channel state

TP Id	TP_MTS_SCH2_01
Test objective	Verify that the multiple transceiver IUT can correctly send frames with priority **VAL_DP** at a rate of **VAL_Message_Interval** on the **SCH2 in state relaxed** when $P_{Tx} < P_{SCH2\_rel}$.
Reference	5.4.3.2, table 3
PICS Selection	A.2/2, A.4/3
Initial conditions	
CCH = Status irrelevant SCH1 = Restrictive SCH2 = Relaxed P_{SCH2_rel} = PICS A.5/7 P_{Tx} = PIXIT_P_{Tx} $P_{Tx} < P_{SCH2\_rel}$	
Expected behaviour	
Ensure that the IUT, with **SCH2 in the relaxed state**, **on receipt** of IN_Request ASPs at a rate of **VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP**, P_{Tx} = PIXIT_$P_{Tx} < P_{SCH2_rel}$, **transmits** the frames on the SCH2 with P_{Tx} = PIXIT_P_{Tx} and T_{off} = **VAL_T_{off}** **sends** on the PCO_IN IN_Status ASPs indicating channel = SCH2, successful transmission, achieved P_{Tx} = PIXIT_P_{Tx}.	
Comments	PIXIT_P_{Tx} has to be chosen based on the value for P_{SCH2_rel} given in PICS A.5/7.

TP Id	TP_MTS_SCH2_02
Test objective	Verify that the multiple transceiver IUT can reduce the transmit power on the **SCH2 in state relaxed** when **$P_{Tx} > P_{SCH2\_rel}$** and can report this power reduction to the upper layer
Reference	5.4.3.2, table 3
PICS Selection	A.2/2, A.4/3
Initial conditions	
CCH = Status irrelevant SCH1 = Restrictive SCH2 = Relaxed P_{SCH1_rel} = PICS A.5/7 P_{Tx} = PIXIT_P_{Tx} $P_{Tx} < P_{SCH2\_rel}$	
Expected behaviour	
Ensure that the IUT, with **SCH2 in the relaxed state**, **on receipt** of IN_Request ASPs at a rate of **VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP**, P_{Tx} = PIXIT_$P_{Tx} > P_{SCH2_rel}$, **transmits** the frames on the SCH2 with P_{Tx} = P_{SCH2_rel} and T_{off} = **VAL_T_{off}** **sends** on the PCO_IN IN_Status ASPs indicating channel = SCH2, successful transmission, achieved P_{Tx} = P_{SCH2_rel}.	
Comments	PIXIT_P_{Tx} has to be chosen based on the value for P_{SCH2_rel} given in PICS A.5/7.

TP Id	TP_MTS_SCH2_03
Test objective	Verify that the multiple transceivers IUT can report unsuccessful sending of frames on the **SCH2 in state relaxed** when the request frame rate is higher than the maximum allowed **VAL_Message_Interval**.
Reference	5.4.3.2, table 2
PICS Selection	A.2/2, A.4/3
Initial conditions	
CCH = Status irrelevant SCH1 = Restrictive SCH2 = Relaxed	
Expected behaviour	
Ensure that the IUT, with **SCH2 in the relaxed state**, **on receipt** of IN_Request ASPs at a **rate higher than the maximum allowed VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP** P_{Tx} = acceptable P_{Tx} value, **transmits** frames on the SCH2 with T_{off} = **VAL_T_{off}** **and drops** the remaining frames **sends** on the PCO_IN IN_Status ASPs **for the transmitted frames** indicating channel = SCH2, successful transmission **and sends** on the PCO_IN IN_Status ASPs **for the dropped frames** indicating unsuccessful transmission.	

Table 25: DP#, message interval and T_{off} values for TP_MTS_SCH2_01, TP_MTS_SCH2_02 and TP_MTS_SCH2_03

VAL_DP	VAL_Message_Interval [Hz]	VAL_T_{off} [ms]
DP11 (see note)	0,2	> 5 000
DP12	0,2	> 5 000
DP13	0,2	> 5 000
DP14	0,1	> 10 000
DP15	0,05	> 20 000
DP16	0,05	> 20 000
NOTE 1: The tests have to be repeated for all value combinations. NOTE 2: For values DP12 through to DP16 the SCH1 channel state active will deliver equivalent results.		

TP Id	TP_MTS_SCH2_04
Test objective	Verify that the multiple transceivers IUT drops frames with **priority values above DP16** on the **SCH2 in state relaxed**.
Reference	5.4.3.2, table 3
PICS Selection	A.2/2, A.4/3
Initial conditions	
CCH = Status irrelevant SCH1 = Restrictive SCH2 = Relaxed	
Expected behaviour	
Ensure that the IUT, with **SCH2 in the relaxed state**, **on receipt** of an IN_Request ASP, containing a payload and indicating **DP#** in the range between **17 and 32**, **drops** the frame and does **not transmit** it, **sends** on the PCO_IN an IN_Status ASP indicating unsuccessful transmission.	

5.2.2.3.2 SCH2 in the active channel state

TP Id	TP_MTS_SCH2_05
Test objective	Verify that the multiple transceivers IUT can correctly send frames with priority **DP11** at a rate of **0,1 Hz** on the **SCH2 in state active** when $P_{Tx} < P_{SCH2\_act}$.
Reference	5.4.3.2, table 3
PICS Selection	A.2/2, A.4/3
Initial conditions	
CCH = Status irrelevant SCH1 = Restrictive SCH2 = Active P_{SCH2_act} = PICS A.5/8 P_{Tx} = PIXIT_P_{Tx} $P_{Tx} < P_{SCH2\_act}$	
Expected behaviour	
Ensure that the IUT, with **SCH2 in the active state**, **on receipt** of IN_Request ASPs at a rate of **0,1 Hz**, each containing a payload and indicating DP# = **DP11**, P_{Tx} = PIXIT_$P_{Tx} < P_{SCH2_act}$, **transmits** the frames on the SCH2 with P_{Tx} = PIXIT_P_{Tx} and T_{off} > **10 s** **sends** on the PCO_IN IN_Status ASPs indicating channel = SCH2, successful transmission, achieved P_{Tx} = PIXIT_P_{Tx}.	
Comments	PIXIT_P_{Tx} has to be chosen based on the value for P_{SCH2_act} given in PICS A.5/8.

TP Id	TP_MTS_SCH2_06
Test objective	Verify that the multiple transceiver IUT can reduce the transmit power on the **SCH2 in state active** when **$P_{Tx} > P_{SCH2\_act}$** and can report this power reduction to the upper layer
Reference	5.4.3.2, table 3
PICS Selection	A.2/2, A.4/3
Initial conditions	
CCH = Status irrelevant SCH1 = Restrictive SCH2 = Active P_{SCH1_act} = PICS A.5/7 P_{Tx} = PIXIT_P_{Tx} $P_{Tx} < P_{SCH2\_act}$	
Expected behaviour	
Ensure that the IUT, with **SCH2 in the active state**, **on receipt** of IN_Request ASPs at a rate of **0,1 Hz** each containing a payload and indicating DP# = **DP11**, P_{Tx} = PIXIT_$P_{Tx} > P_{SCH2_act}$, **transmits** the frames on the SCH2 with $P_{Tx} = P_{SCH2\_act}$ and T_{off} > **10 s** **sends** on the PCO_IN IN_Status ASPs indicating channel = SCH2, successful transmission, achieved $P_{Tx} = P_{SCH2\_act}$.	
Comments	PIXIT_P_{Tx} has to be chosen based on the value for P_{SCH2_act} given in PICS A.5/8.

TP Id	TP_MTS_SCH2_07
Test objective	Verify that the multiple transceiver IUT can report unsuccessful sending of frames on the **SCH2 in state active** when the request frame rate is higher than **the maximum allowed message interval of 0,1 Hz**.
Reference	5.4.3.2, table 2
PICS Selection	A.2/2, A.4/3
Initial conditions	
CCH = Status irrelevant SCH1 = Restrictive SCH2 = Active	
Expected behaviour	
Ensure that the IUT, with **SCH2 in the active state**, **on receipt** of IN_Request ASPs at a **rate higher than 0,1 Hz**, each containing a payload and indicating DP# = **DP11** P_{Tx} = acceptable P_{Tx} value, **transmits** frames on the SCH2 with T_{off} = **10 s** **and drops** the remaining frames **sends** on the PCO_IN IN_Status ASPs **for the transmitted frames** indicating channel = SCH2, successful transmission **and sends** on the PCO_IN IN_Status ASPs **for the dropped frames** indicating unsuccessful transmission.	

TP Id	TP_MTS_SCH2_08
Test objective	Verify that the multiple transceivers IUT drops frames with **priority values above DP11** on the **SCH2 in state active**.
Reference	5.4.3.2, table 3
PICS Selection	A.2/2, A.4/3
Initial conditions	
CCH = Status irrelevant SCH1 = Restrictive SCH2 = Active	
Expected behaviour	
Ensure that the IUT, with **SCH1 in the active state**, **on receipt** of an IN_Request ASP, containing a payload and indicating **DP#** in the range between **12 and 32**, **drops** the frame and does **not transmit** it, **sends** on the PCO_IN an IN_Status ASP indicating unsuccessful transmission.	

5.2.3 Multiple Transceiver ITS Station Tests – G5B

For the multiple transceiver station tests for the G5B frequencies it is assumed that the G5A service channels SCH1 and SCH2 are switched off within the IUT, i.e. only CCH, SCH3 and SCH4 are available.

5.2.3.1 CCH related tests

TP Id	TP_G5B_CCH_01
Test objective	Verify that the multiple transceivers IUT can drop all frames with priority **DP4** when **CCH is in a channel state other than the relaxed state**.
Reference	5.5.3, table 1, table 4, table 5
PICS Selection	A.2/2, A.3/2
Initial conditions	
CCH = **VAL_State_CCH** SCH3 = Status irrelevant SCH4 = Status irrelevant	
Expected behaviour	
Ensure that the IUT, with **CCH in state VAL_State_CCH**, **on receipt** of an IN_Request ASP, containing a payload and indicating DP# = **4**, **drops** the frame and does **not transmit** it, **sends** on the PCO_IN an IN_Status ASP indicating unsuccessful transmission.	

Table 26: CCH channel state values for TP_G5B_CCH_01

VAL_State_CCH
Active
Restrictive

TP Id	TP_G5B_CCH_02
Test objective	Verify that the multiple transceivers IUT can drop all frames with priority **VAL_DP** when **CCH and SCH3 in channel states other than the relaxed state**.
Reference	5.5.3, table 1, table 4, table 5
PICS Selection	A.2/2, A.3/2, A.4/4
Initial conditions	
CCH = **VAL_State_CCH** SCH3 = **VAL_State_SCH3** SCH4 = Status irrelevant	
Expected behaviour	
Ensure that the IUT, with **CCH in state VAL_State_CCH and SCH3 in state VAL_State_SCH3**, **on receipt** of an IN_Request ASP, containing a payload and indicating DP# = **VAL_DP**, **drops** the frame and does **not transmit** it, **sends** on the PCO_IN an IN_Status ASP indicating unsuccessful transmission.	

Table 27: DP#, CCH and SCH3 channel state for TP_G5B_CCH_02

VAL_DP	VAL_State_CCH	VAL_State_SCH3
DP7	Active	Restrictive
	Restrictive	Restrictive
DP8	Active	Active
		Restrictive
	Restrictive	Active
		Restrictive
NOTE: The tests have to be repeated for all value combinations.		

TP Id	TP_G5B_CCH_03
Test objective	Verify that the multiple transceivers IUT can correctly send frames with priority **VAL_DP** at a rate of **VAL_Message_Interval** on the **SCH3 in state VAL_State_SCH3** with **CCH in the active state**.
Reference	5.5.3, table 1, table 4
PICS Selection	A.2/2, A.3/2, A.4/4
Initial conditions	
CCH = Active SCH3 = **VAL_State_SCH3** SCH4 = Status irrelevant	
Expected behaviour	
Ensure that the IUT, with **CCH in the active** and **SCH3 in the VAL_State_SCH3 state**, **on receipt** of IN_Request ASPs at a rate of **VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP**, P_{Tx} = acceptable P_{Tx} value, **transmits** the frames on the SCH3 with T_{off} = **VAL_T_{off}** **sends** on the PCO_IN IN_Status ASPs indicating channel = SCH3, successful transmission.	

TP Id	TP_G5B_CCH_04
Test objective	Verify that the multiple transceivers IUT can correctly send frames with priority **VAL_DP** at a rate of **VAL_Message_Interval** on the **SCH3 in state VAL_State_SCH3** with **CCH in the restrictive state**.
Reference	5.5.3, table 1, table 4
PICS Selection	A.2/2, A.3/2, A.4/4
Initial conditions	
CCH = Restrictive SCH3 = **VAL_State_SCH3** SCH4 = Status irrelevant	
Expected behaviour	
Ensure that the IUT, with **CCH in the restrictive** and **SCH3 in the VAL_State_SCH3 state**, **on receipt** of IN_Request ASPs at a rate of **VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP**, P_{Tx} = acceptable P_{Tx} value, **transmits** the frames on the SCH3 with T_{off} = **VAL_T_{off}** **sends** on the PCO_IN IN_Status ASPs indicating channel = SCH3, successful transmission.	

Table 28: SCH3 channel state, DP#, message interval and T_{off} values for TP_G5B_CCH_03 and TP_G5B_CCH_04

VAL_State_SCH3	VAL_DP	VAL_Message_Interval [Hz]	VAL_T_{off} [ms]
Relaxed	DP5	10	> 100
	DP6	10	> 100
	DP7	4	> 250
	DP8	2	> 500
Active	DP5	5	> 200
	DP6	5	> 200
	DP7	2	> 500
Restrictive	DP5	4	> 250
	DP6	4	> 250
NOTE: The tests have to be repeated for all value combinations.			

5.2.3.2 SCH3 related tests

5.2.3.2.1 SCH3 in the relaxed channel state

TP Id	TP_G5B_SCH3_01
Test objective	Verify that the multiple transceiver IUT can correctly send frames with priority **VAL_DP** at a rate of **VAL_Message_Interval** on the **SCH3 in state relaxed** when $P_{Tx} < P_{SCH3\_rel}$.
Reference	5.5.3, table 4
PICS Selection	A.2/2, A.3/2, A.4/4
Initial conditions	
CCH = Status irrelevant SCH3 = Relaxed SCH4 = Status irrelevant P_{SCH3_rel} = PICS A.5/10 P_{Tx} = PIXIT_P_{Tx} $P_{Tx} < P_{SCH3\_rel}$	
Expected behaviour	
Ensure that the IUT, with **SCH3 in the relaxed state**, **on receipt** of IN_Request ASPs at a rate of **VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP**, P_{Tx} = PIXIT_$P_{Tx} < P_{SCH3_rel}$, **transmits** the frames on the SCH3 with P_{Tx} = PIXIT_P_{Tx} and T_{off} = **VAL_T_{off}** **sends** on the PCO_IN IN_Status ASPs indicating channel = SCH3, successful transmission, achieved P_{Tx} = PIXIT_P_{Tx}.	
Comments	PIXIT_P_{Tx} has to be chosen based on the value for P_{SCH3_rel} given in PICS A.5/10.

TP Id	TP_G5B_SCH3_02
Test objective	Verify that the multiple transceiver IUT can reduce the transmit power on the **SCH3 in state relaxed** when **$P_{Tx} > P_{SCH3\_rel}$** and can report this power reduction to the upper layer
Reference	5.5.3, table 4
PICS Selection	A.2/2, A.3/2, A.4/4
Initial conditions	
CCH = Status irrelevant SCH3 = Relaxed SCH4 = Status irrelevant P_{SCH3_rel} = PICS A.5/10 P_{Tx} = PIXIT_P_{Tx} $P_{Tx} < P_{SCH3\_rel}$	
Expected behaviour	
Ensure that the IUT, with **SCH3 in the relaxed state**, **on receipt** of IN_Request ASPs at a rate of **VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP**, P_{Tx} = PIXIT_$P_{Tx} > P_{SCH3_rel}$, **transmits** the frames on the SCH3 with $P_{Tx} = P_{SCH3\_rel}$ and T_{off} = **VAL_T_{off}** **sends** on the PCO_IN IN_Status ASPs indicating channel = SCH3, successful transmission, achieved $P_{Tx} = P_{SCH3\_rel}$.	
Comments	PIXIT_P_{Tx} has to be chosen based on the value for P_{SCH3_rel} given in PICS A.5/10.

TP Id	TP_G5B_SCH3_03
Test objective	Verify that the multiple transceivers IUT can report unsuccessful sending of frames on the **SCH3 in state relaxed** when the request frame rate is higher than the maximum allowed **VAL_Message_Interval**.
Reference	5.5.3, table 4
PICS Selection	A.2/2, A.3/2, A.4/4
Initial conditions	
CCH = Status irrelevant SCH3 = Relaxed SCH4 = Status irrelevant	
Expected behaviour	
Ensure that the IUT, with **SCH3 in the relaxed state**, **on receipt** of IN_Request ASPs at a **rate higher than the maximum allowed VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP** P_{Tx} = acceptable P_{Tx} value, **transmits** frames on the SCH3 with T_{off} = **VAL_T_{off}** **and drops** the remaining frames **sends** on the PCO_IN IN_Status ASPs **for the transmitted frames** indicating channel = SCH3, successful transmission **and sends** on the PCO_IN IN_Status ASPs **for the dropped frames** indicating unsuccessful transmission.	

Table 29: DP#, message interval and T_{off} values for TP_MTS_SCH3_01, TP_MTS_SCH3_02 and TP_MTS_SCH3_03

VAL_DP	VAL_Message_Interval [Hz]	VAL_T_{off} [ms]
DP9	1	> 1 000
DP10	1	> 1 000
DP11	1	> 1 000
DP12	1	> 1 000
DP13	1	> 1 000
DP14	1	> 1 000
DP15	1	> 1 000
DP16	1	> 1 000
DP17	10	> 100
DP18	10	> 100
DP19	4	> 250
DP20	2	> 500
DP21	1	> 1 000
DP22	1	> 1 000
DP23	1	> 1 000
DP24	1	> 1 000
NOTE: The tests have to be repeated for all value combinations.		

TP Id	TP_G5B_SCH3_04
Test objective	Verify that the multiple transceivers IUT drops frames with **priority values above DP24** on the **SCH3 in state relaxed**.
Reference	5.5.3, table 4
PICS Selection	A.2/2, A.3/2, A.4/4
Initial conditions	
CCH = Status irrelevant SCH3 = Relaxed SCH4 = Status irrelevant	
Expected behaviour	
Ensure that the IUT, with **SCH3 in the relaxed state**, **on receipt** of an IN_Request ASP, containing a payload and indicating **DP#** in the range between **25 and 32**, **drops** the frame and does **not transmit** it, **sends** on the PCO_IN an IN_Status ASP indicating unsuccessful transmission.	

5.2.3.2.2 SCH3 in the active channel state

TP Id	TP_G5B_SCH3_05
Test objective	Verify that the multiple transceiver IUT can correctly send frames with priority **VAL_DP** at a rate of **VAL_Message_Interval** on the **SCH3 in state active** when $P_{Tx} < P_{SCH3\_act}$.
Reference	5.5.3, table 4
PICS Selection	A.2/2, A3/2 A.4/4
Initial conditions	
CCH = Status irrelevant SCH3 = Active SCH4 = Status irrelevant P_{SCH3_act} = PICS A.5/11 P_{Tx} = PIXIT_P_{Tx} $P_{Tx} < P_{SCH3\_act}$	
Expected behaviour	
Ensure that the IUT, with **SCH3 in the active state**, **on receipt** of IN_Request ASPs at a rate of **VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP**, P_{Tx} = PIXIT_$P_{Tx} < P_{SCH3_act}$, **transmits** the frames on the SCH3 with P_{Tx} = PIXIT_P_{Tx} and T_{off} = **VAL_T_{off}** **sends** on the PCO_IN IN_Status ASPs indicating channel = SCH3, successful transmission, achieved P_{Tx} = PIXIT_P_{Tx}.	
Comments	PIXIT_P_{Tx} has to be chosen based on the value for P_{SCH3_act} given in PICS A.5/11.

TP Id	TP_G5B_SCH3_06
Test objective	Verify that the multiple transceiver IUT can reduce the transmit power on the **SCH3 in state active** when **$P_{Tx} > P_{SCH3\_act}$** and can report this power reduction to the upper layer
Reference	5.5.3, table 4
PICS Selection	A.2/2, A3/2 A.4/4
Initial conditions	
CCH = Status irrelevant SCH3 = Active SCH4 = Status irrelevant P_{SCH3_act} = PICS A.5/11 P_{Tx} = PIXIT_P_{Tx} $P_{Tx} < P_{SCH3\_act}$	
Expected behaviour	
Ensure that the IUT, with **SCH3 in the active state**, **on receipt** of IN_Request ASPs at a rate of **VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP**, P_{Tx} = PIXIT_P_{Tx} > P_{SCH3_act}, **transmits** the frames on the SCH3 with $P_{Tx} = P_{SCH3\_act}$ and T_{off} = **VAL_T_{off}** **sends** on the PCO_IN IN_Status ASPs indicating channel = SCH3, successful transmission, achieved $P_{Tx} = P_{SCH3\_act}$.	
Comments	PIXIT_P_{Tx} has to be chosen based on the value for P_{SCH3_rel} given in PICS A.5/11.

TP Id	TP_G5B_SCH3_07
Test objective	Verify that the multiple transceivers IUT can transmit frames with priority **VAL_DP** on **SCH3 and SCH4** when the request frame rate **VAL_Message_Interval** is higher than the maximum allowed **VAL_Message_Interval** of the **SCH3 in state active** and with **SCH4 in state VAL_State_SCH4**.
Reference	5.5.3, table 4, table 5
PICS Selection	A.2/2, A3/2 A.4/4, A.4/5
Initial conditions	
CCH = Status irrelevant SCH3 = Active SCH4 = **VAL_State_SCH4**	
Expected behaviour	
Ensure that the IUT, with **SCH3 in the active state**, **on receipt** of IN_Request ASPs at a **rate higher than the maximum allowed VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP** P_{Tx} = acceptable P_{Tx} value, **transmits** frames on the **SCH3** T_{off} = **VAL_T_{off}** **and transmits** frames on the **SCH4** **sends** on the PCO_IN IN_Status ASPs **for SCH3 transmitted frames** indicating channel = SCH3, successful transmission and **sends** on the PCO_IN IN_Status ASPs **for SCH4 transmitted frames** indicating channel = SCH4, successful transmission.	

Table 30: SCH4 channel state, DP#, message interval and T_{off} values for TP_G5B_SCH3_05, TP_G5B_SCH3_06 and TP_G5B_SCH3_07

VAL_State_SCH4	VAL_DP	VAL_Message_Interval [Hz]	VAL_T_{off} [ms]
Relaxed	DP17	5	> 200
	DP18	5	> 200
	DP19	2	> 500
Active	DP17	5	> 200
	DP18	5	> 200
	DP19	2	> 500
Restrictive	DP17	5	> 200
	DP18	5	> 200
	DP19	2	> 500
NOTE: The tests have to be repeated for all value combinations.			

TP Id	TP_G5B_SCH3_08
Test objective	Verify that the multiple transceivers IUT drops frames with **priority values above DP24** on the **SCH3 in state active**.
Reference	5.5.3, table 4
PICS Selection	A.2/2, A3/2 A.4/4
Initial conditions	
CCH = Status irrelevant SCH3 = Active SCH4 = Status irrelevant	
Expected behaviour	
Ensure that the IUT, with **SCH3 in state active**, **on receipt** of an IN_Request ASP, containing a payload and indicating **DP#** in the range between **25 and 32**, **drops** the frame and does **not transmit** it, **sends** on the PCO_IN an IN_Status ASP indicating unsuccessful transmission.	

TP Id	TP_G5B_SCH3_09
Test objective	Verify that the multiple transceivers IUT drops frames with **priority values between 11 and 16** and **between 20 and 24** on the **SCH3 in state active**, when **SCH4 is in state VAL_State_SCH4**.
Reference	5.5.3, table 4
PICS Selection	A.2/2, A3/2 A.4/4
Initial conditions	
CCH = Status irrelevant SCH3 = Active SCH4 = **VAL_State_SCH4**	
Expected behaviour	
Ensure that the IUT, with **SCH3 in state active**, **on receipt** of an IN_Request ASP, containing a payload and indicating **DP#** in the range between **11 and 16 and between 20 and 24**, **drops** the frame and does **not transmit** it, **sends** on the PCO_IN an IN_Status ASP indicating unsuccessful transmission.	

Table 31: SCH4 channel state and DP# values for TP_G5B_SCH3_09

VAL_State_SCH4	VAL_DP
Active	DP11
	DP12
	DP13
	DP14
	DP15
	DP16
	DP20
	DP21
	DP22
	DP23
	DP24
Restrictive	DP11
	DP12
	DP13
	DP14
	DP15
	DP16
	DP20
	DP21
	DP22
	DP23
	DP24
NOTE: The tests have to be repeated for all value combinations.	

5.2.3.2.3 SCH3 in the restrictive channel state

TP Id	TP_G5B_SCH3_10
Test objective	Verify that the multiple transceiver IUT can correctly send frames with priority **VAL_DP** at a rate of **VAL_Message_Interval** on the **SCH3 in state restrictive** when $P_{Tx} < P_{SCH3\_res}$.
Reference	5.5.3, table 4
PICS Selection	A.2/2, A.3/2, A.4/4
Initial conditions	
CCH = Status irrelevant SCH3 = Restrictive SCH4 = Status irrelevant P_{SCH3_res} = PICS A.5/12 P_{Tx} = PIXIT_P_{Tx} $P_{Tx} < P_{SCH3\_res}$	
Expected behaviour	
Ensure that the IUT, with **SCH3 in the restrictive state**, **on receipt** of IN_Request ASPs at a rate of **VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP**, P_{Tx} = PIXIT_$P_{Tx} < P_{SCH3_res}$, **transmits** the frames on the SCH3 with P_{Tx} = PIXIT_P_{Tx} and T_{off} = **VAL_T_{off}** **sends** on the PCO_IN IN_Status ASPs indicating channel = SCH3, successful transmission, achieved P_{Tx} = PIXIT_P_{Tx}.	
Comments	PIXIT_P_{Tx} has to be chosen based on the value for P_{SCH3_res} given in PICS A.5/12.

TP Id	TP_G5B_SCH3_11
Test objective	Verify that the multiple transceiver IUT can reduce the transmit power on the **SCH3 in state restrictive** when **$P_{Tx} > P_{SCH3\_res}$** and can report this power reduction to the upper layer
Reference	5.5.3, table 4
PICS Selection	A.2/2, A.3/2, A.4/4
Initial conditions	
CCH = Status irrelevant SCH3 = Restrictive SCH4 = Status irrelevant P_{SCH3_res} = PICS A.5/12 P_{Tx} = PIXIT_P_{Tx} $P_{Tx} < P_{SCH3\_res}$	
Expected behaviour	
Ensure that the IUT, with **SCH3 in the restrictive state**, **on receipt** of IN_Request ASPs at a rate of **VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP**, P_{Tx} = PIXIT_P_{Tx} > P_{SCH3_res}, **transmits** the frames on the SCH3 with $P_{Tx} = P_{SCH3\_res}$ and T_{off} = **VAL_T_{off}** **sends** on the PCO_IN IN_Status ASPs indicating channel = SCH3, successful transmission, achieved $P_{Tx} = P_{SCH3\_res}$.	
Comments	PIXIT_P_{Tx} has to be chosen based on the value for P_{SCH3_rel} given in PICS A.5/12.

TP Id	TP_G5B_SCH3_12
Test objective	Verify that the multiple transceivers IUT can transmit frames with priority **VAL_DP** on **SCH3 and SCH4** when the request frame rate **VAL_Message_Interval** is higher than the maximum allowed **VAL_Message_Interval** of the **SCH3 in state restrictive** and with **SCH4 in state VAL_State_SCH4**.
Reference	5.5.3, table 4, table 5
PICS Selection	A.2/2, A3/2 A.4/4, A.4/5
Initial conditions	
CCH = Status irrelevant SCH3 = Restrictive SCH4 = **VAL_State_SCH4**	
Expected behaviour	
Ensure that the IUT, with **SCH3 in the restrictive state**, **on receipt** of IN_Request ASPs at a **rate higher than the maximum allowed VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP** P_{Tx} = acceptable P_{Tx} value, **transmits** frames on the **SCH3** T_{off} = **VAL_T_{off}** **and transmits** frames on the **SCH4** **sends** on the PCO_IN IN_Status ASPs **for SCH3 transmitted frames** indicating channel = SCH3, successful transmission and **sends** on the PCO_IN IN_Status ASPs **for SCH4 transmitted frames** indicating channel = SCH4, successful transmission.	

Table 32: CCH4 channel state, DP#, message interval and T_{off} values for TP_G5B_SCH3_10, TP_G5B_SCH3_11 and TP_G5B_SCH3_12

VAL_State_SCH4	VAL_DP	VAL_Message_Interval [Hz]	VAL_T_{off} [ms]
Relaxed	DP17	4	> 250
	DP18	4	> 250
	DP19	1	> 1 050
Active	DP17	4	> 250
	DP18	4	> 250
	DP19	1	> 1 050
Restrictive	DP17	4	> 250
	DP18	4	> 250
	DP19	1	> 1 050
NOTE: The tests have to be repeated for all value combinations.			

TP Id	TP_G5B_SCH3_13
Test objective	Verify that the multiple transceivers IUT drops frames with **priority values above DP24** on the **SCH3 in state restrictive**.
Reference	5.5.3, table 4
PICS Selection	A.2/2, A.3/2, A.4/4
Initial conditions	
CCH = Status irrelevant SCH3 = Restrictive SCH4 = Status irrelevant	
Expected behaviour	
Ensure that the IUT, with **SCH3 in state restrictive**, **on receipt** of an IN_Request ASP, containing a payload and indicating **DP#** in the range between **25 and 32**, **drops** the frame and does **not transmit** it, **sends** on the PCO_IN an IN_Status ASP indicating unsuccessful transmission.	

TP Id	TP_G5B_SCH3_14
Test objective	Verify that the multiple transceivers IUT drops frames with **priority values between 11 and 16** and **between 20 and 24** on the **SCH3 in state restrictive**, when **SCH4 is in state VAL_State_SCH4**.
Reference	5.5.3, table 4
PICS Selection	A.2/2, A3/2 A.4/4
Initial conditions	
CCH = Status irrelevant SCH3 = Restrictive SCH4 = **VAL_State_SCH4**	
Expected behaviour	
Ensure that the IUT, with **SCH3 in state restrictive**, **on receipt** of an IN_Request ASP, containing a payload and indicating **DP#** in the range between **11 and 16 and between 20 and 24**, **drops** the frame and does **not transmit** it, **sends** on the PCO_IN an IN_Status ASP indicating unsuccessful transmission.	

Table 33: SCH4 channel state and DP# values for TP_G5B_SCH3_14

VAL_State_SCH4	VAL_DP
Active	DP11
	DP12
	DP13
	DP14
	DP15
	DP16
	DP20
	DP21
	DP22
	DP23
	DP24
Restrictive	DP11
	DP12
	DP13
	DP14
	DP15
	DP16
	DP20
	DP21
	DP22
	DP23
	DP24
NOTE: The tests have to be repeated for all value combinations.	

5.2.3.3 SCH4 related tests

5.2.3.3.1 SCH4 in the relaxed channel state

TP Id	TP_G5B_SCH4_01
Test objective	Verify that the multiple transceiver IUT can correctly send frames with priority **VAL_DP** on the **SCH4 in state relaxed** when $P_{Tx} < P_{SCH4\_rel}$.
Reference	5.5.3, table 5
PICS Selection	A.2/2, A.3/2, A.4/5
Initial conditions	
CCH = Status irrelevant SCH3 = VAL_State_SCH3 SCH4 = Relaxed P_{SCH4_rel} = PICS A.5/13 P_{Tx} = PIXIT_P_{Tx} $P_{Tx} < P_{SCH4\_rel}$	
Expected behaviour	
Ensure that the IUT, with **SCH4 in the relaxed** and **SCH3 in state VAL_State_SCH3**, **on receipt** of IN_Request ASPs, each containing a payload and indicating DP# = **VAL_DP**, P_{Tx} = PIXIT_P_{Tx} < P_{SCH4_rel}, **transmits** the frames on the SCH4 with P_{Tx} = PIXIT_P_{Tx} **sends** on the PCO_IN IN_Status ASPs indicating channel = SCH4, successful transmission, achieved P_{Tx} = PIXIT_P_{Tx}.	
Comments	PIXIT_P_{Tx} has to be chosen based on the value for P_{SCH4_rel} given in PICS A.5/13.

TP Id	TP_G5B_SCH4_02
Test objective	Verify that the multiple transceiver IUT can reduce the transmit power on the **SCH4 in state relaxed** when **$P_{Tx} > P_{SCH4\_rel}$** and can report this power reduction to the upper layer.
Reference	5.5.3, table 5
PICS Selection	A.2/2, A.3/2, A.4/5
Initial conditions	
CCH = Status irrelevant SCH3 = VAL_State_SCH3 SCH4 = Relaxed P_{SCH4_rel} = PICS A.5/13 P_{Tx} = PIXIT_P_{Tx} $P_{Tx} < P_{SCH4\_rel}$	
Expected behaviour	
Ensure that the IUT, with **SCH4 in the relaxed** and **SCH3 in state VAL_State_SCH3**, **on receipt** of IN_Request ASPs, each containing a payload and indicating DP# = **VAL_DP**, P_{Tx} = PIXIT_P_{Tx} > P_{SCH4_rel}, **transmits** the frames on the SCH4 with $P_{Tx} = P_{SCH4\_rel}$ **sends** on the PCO_IN IN_Status ASPs indicating channel = SCH4, successful transmission, achieved $P_{Tx} = P_{SCH4\_rel}$.	
Comments	PIXIT_P_{Tx} has to be chosen based on the value for P_{SCH4_rel} given in PICS A.5/13.

TP Id	TP_G5B_SCH4_03
Test objective	Verify that the multiple transceivers IUT drops frames with **priority values above DP24** on the **SCH4 in state relaxed**.
Reference	5.5.3, table 5
PICS Selection	A.2/2, A.3/2, A.4/5
Initial conditions	
CCH = Status irrelevant SCH3 = VAL_State_SCH3 SCH4 = Relaxed	
Expected behaviour	
Ensure that the IUT, with **SCH4 in the relaxed** and **SCH4 in state VAL_State_SCH3**, **on receipt** of an IN_Request ASP, containing a payload and indicating **DP#** in the range between **25 and 32**, **drops** the frame and does **not transmit** it, **sends** on the PCO_IN an IN_Status ASP indicating unsuccessful transmission.	

Table 34: SCH3 channel state and DP# values for TP_G5B_SCH4_01, TP_G5B_SCH4_02 and TP_G5B_SCH4_03

VAL_State_SCH3	VAL_DP
Active	DP9
	DP10
	DP11
	DP12
	DP13
	DP14
	DP15
	DP16
	DP20
	DP21
	DP22
	DP23
	DP24
Restrictive	DP9
	DP10
	DP11
	DP12
	DP13
	DP14
	DP15
	DP16
	DP20
	DP21
	DP22
	DP23
	DP24
NOTE: The tests have to be repeated for all value combinations.	

5.2.3.3.2 SCH4 in the active channel state

TP Id	TP_G5B_SCH4_04
Test objective	Verify that the multiple transceiver IUT can correctly send frames with priority **VAL_DP** at a rate of **VAL_Message_Interval** on the **SCH4 in state active** when $P_{Tx} < P_{SCH4\_act}$.
Reference	5.5.3, table 5
PICS Selection	A.2/2, A3/2 A.4/5
Initial conditions	
CCH = Status irrelevant SCH3 = VAL_State_SCH3 SCH4 = Active P_{SCH4_act} = PICS A.5/14 P_{Tx} = PIXIT_P_{Tx} $P_{Tx} < P_{SCH4\_act}$	
Expected behaviour	
Ensure that the IUT, with **SCH4 in the active state**, **on receipt** of IN_Request ASPs at a rate of **VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP**, P_{Tx} = PIXIT_P_{Tx} < P_{SCH4_act}, **transmits** the frames on the SCH4 with P_{Tx} = PIXIT_P_{Tx} and T_{off} = **VAL_T_{off}** **sends** on the PCO_IN IN_Status ASPs indicating channel = SCH4, successful transmission, achieved P_{Tx} = PIXIT_P_{Tx}.	
Comments	PIXIT_P_{Tx} has to be chosen based on the value for P_{SCH4_act} given in PICS A.5/14.

TP Id	TP_G5B_SCH4_05
Test objective	Verify that the multiple transceiver IUT can reduce the transmit power on the **SCH4 in state active** when **$P_{Tx} > P_{SCH4\_act}$** and can report this power reduction to the upper layer
Reference	5.5.3, table 5
PICS Selection	A.2/2, A3/2 A.4/5
Initial conditions	
CCH = Status irrelevant SCH3 = VAL_State_SCH3 SCH4 = Active P_{SCH4_act} = PICS A.5/14 P_{Tx} = PIXIT_P_{Tx} $P_{Tx} < P_{SCH4\_act}$	
Expected behaviour	
Ensure that the IUT, with **SCH4 in the active state**, **on receipt** of IN_Request ASPs at a rate of **VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP**, P_{Tx} = PIXIT_P_{Tx} > P_{SCH4_act}, **transmits** the frames on the SCH4 with $P_{Tx} = P_{SCH4\_act}$ and T_{off} = **VAL_T_{off}** **sends** on the PCO_IN IN_Status ASPs indicating channel = SCH4, successful transmission, achieved $P_{Tx} = P_{SCH4\_act}$.	
Comments	PIXIT_P_{Tx} has to be chosen based on the value for P_{SCH4_act} given in PICS A.5/14.

TP Id	TP_G5B_SCH4_06
Test objective	Verify that the multiple transceivers IUT can report unsuccessful sending of frames on the **SCH4 in state active** when the request frame rate is higher than the maximum allowed **VAL_Message_Interval**.
Reference	5.5.3, table 5
PICS Selection	A.2/2, A3/2 A.4/5
Initial conditions	
CCH = Status irrelevant SCH3 = VAL_State_SCH3 SCH4 = Active	
Expected behaviour	
Ensure that the IUT, with **SCH4 in the active state**, **on receipt** of IN_Request ASPs at a **rate higher than the maximum allowed VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP** P_{Tx} = acceptable P_{Tx} value, **transmits** frames on the SCH4 with T_{off} = **VAL_T_{off}** **and drops** the remaining frames **sends** on the PCO_IN IN_Status ASPs **for the transmitted frames** indicating channel = SCH4, successful transmission **and sends** on the PCO_IN IN_Status ASPs **for the dropped frames** indicating unsuccessful transmission.	

TP Id	TP_G5B_SCH4_07
Test objective	Verify that the multiple transceivers IUT drops frames with **priority values above DP24** on the **SCH4 in state active**.
Reference	5.5.3, table 5
PICS Selection	A.2/2, A3/2, A.4/5
Initial conditions	
CCH = Status irrelevant SCH3 = VAL_State_SCH3 SCH4 = Active	
Expected behaviour	
Ensure that the IUT, with **SCH4 in the active state**, **on receipt** of an IN_Request ASP, containing a payload and indicating **DP#** in the range between **25 and 32**, **drops** the frame and does **not transmit** it, **sends** on the PCO_IN an IN_Status ASP indicating unsuccessful transmission.	

Table 35: SSCH3 channel state, DP#, message interval and T_{off} values for TP_G5B_SCH4_04, TP_G5B_SCH4_05, TP_G5B_SCH4_06 and TP_G5B_SCH4_07

VAL_State_SCH3	VAL_DP	VAL_Message_Interval [Hz]	VAL_T_{off} [ms]
Active	DP9	5	> 200
	DP10	5	> 200
	DP11	2	> 500
Restrictive	DP9	5	> 200
	DP10	5	> 200
	DP11	2	> 500
NOTE: The tests have to be repeated for all value combinations.			

5.2.3.3.3 SCH4 in the restrictive channel state

TP Id	TP_G5B_SCH4_08
Test objective	Verify that the multiple transceiver IUT can correctly send frames with priority **VAL_DP** at a rate of **VAL_Message_Interval** on the **SCH4 in state restrictive** when $P_{Tx} < P_{SCH4\_res}$.
Reference	5.5.3, table 5
PICS Selection	A.2/2, A3/2 A.4/5
Initial conditions	
CCH = Status irrelevant SCH3 = VAL_State_SCH3 SCH4 = Restrictive P_{SCH4_res} = PICS A.5/15 P_{Tx} = PIXIT_P_{Tx} $P_{Tx} < P_{SCH4\_res}$	
Expected behaviour	
Ensure that the IUT, with **SCH4 in the restrictive state**, **on receipt** of IN_Request ASPs at a rate of **VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP**, P_{Tx} = PIXIT_$P_{Tx} < P_{SCH4_res}$, **transmits** the frames on the SCH4 with P_{Tx} = PIXIT_P_{Tx} and T_{off} = **VAL_T_{off}** **sends** on the PCO_IN IN_Status ASPs indicating channel = SCH4, successful transmission, achieved P_{Tx} = PIXIT_P_{Tx}.	
Comments	PIXIT_P_{Tx} has to be chosen based on the value for P_{SCH4_res} given in PICS A.5/15.

TP Id	TP_G5B_SCH4_09
Test objective	Verify that the multiple transceiver IUT can reduce the transmit power on the **SCH4 in state restrictive** when $\mathbf{P_{Tx} > P_{SCH4\_res}}$ and can report this power reduction to the upper layer
Reference	5.5.3, table 5
PICS Selection	A.2/2, A3/2 A.4/5
Initial conditions	
CCH = Status irrelevant SCH3 = VAL_State_SCH3 SCH4 = Restrictive P_{SCH4_res} = PICS A.5/15 P_{Tx} = PIXIT_P_{Tx} $P_{Tx} < P_{SCH4\_res}$	
Expected behaviour	
Ensure that the IUT, with **SCH4 in the restrictive state**, **on receipt** of IN_Request ASPs at a rate of **VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP**, P_{Tx} = PIXIT_P_{Tx} > P_{SCH4_res}, **transmits** the frames on the SCH4 with $P_{Tx} = P_{SCH4\_res}$ and T_{off} = **VAL_T_{off}** **sends** on the PCO_IN IN_Status ASPs indicating channel = SCH4, successful transmission, achieved $P_{Tx} = P_{SCH4\_res}$.	
Comments	PIXIT_P_{Tx} has to be chosen based on the value for P_{SCH4_res} given in PICS A.5/15.

TP Id	TP_G5B_SCH4_10
Test objective	Verify that the multiple transceivers IUT can report unsuccessful sending of frames on the **SCH4 in state restrictive** when the request frame rate is higher than the maximum allowed **VAL_Message_Interval**.
Reference	5.5.3, table 5
PICS Selection	A.2/2, A3/2 A.4/5
Initial conditions	
CCH = Status irrelevant SCH3 = VAL_State_SCH3 SCH4 = Restrictive	
Expected behaviour	
Ensure that the IUT, with **SCH4 in the restrictive state**, **on receipt** of IN_Request ASPs at a **rate higher than the maximum allowed VAL_Message_Interval**, each containing a payload and indicating DP# = **VAL_DP** P_{Tx} = acceptable P_{Tx} value, **transmits** frames on the SCH4 with T_{off} = **VAL_T_{off}** **and drops** the remaining frames **sends** on the PCO_IN IN_Status ASPs **for the transmitted frames** indicating channel = SCH4, successful transmission **and sends** on the PCO_IN IN_Status ASPs **for the dropped frames** indicating unsuccessful transmission.	

TP Id	TP_G5B_SCH4_11
Test objective	Verify that the multiple transceivers IUT drops frames with **priority values above DP24** on the **SCH4 in state restrictive**.
Reference	5.5.3, table 5
PICS Selection	A.2/2, A3/2, A.4/5
Initial conditions	
CCH = Status irrelevant SCH3 = VAL_State_SCH3 SCH4 = Restrictive	
Expected behaviour	
Ensure that the IUT, with **SCH4 in the restrictive state**, **on receipt** of an IN_Request ASP, containing a payload and indicating **DP#** in the range between **25 and 32**, **drops** the frame and does **not transmit** it, **sends** on the PCO_IN an IN_Status ASP indicating unsuccessful transmission.	

Table 36: SCH3 channel state, DP#, message interval and T_{off} values for TP_G5B_SCH4_08, TP_G5B_SCH4_09, TP_G5B_SCH4_10 and TP_G5B_SCH4_11

VAL_State_SCH3	VAL_DP	VAL_Message_Interval [Hz]	VAL_T_{off} [ms]
Active	DP9	4	> 250
	DP10	4	> 250
Restrictive	DP9	4	> 250
	DP10	4	> 250
NOTE: The tests have to be repeated for all value combinations.			

History

Document history		
V1.1.1	January 2013	Publication