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Technical Specification

**Intelligent Transport Systems (ITS);
Test specifications for Intelligent Transport Systems;
Communications Access for Land Mobiles (CALM);
Medium Service Access Points (ISO 21218);
Part 2: Test Suite Structure and Test Purposes (TSS&TP)**



Reference

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Foreword

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

The present document is part 2 of a multi-part deliverable covering the test specifications for access layer service access points and related procedures as identified below:

- Part 1: "Implementation Conformance Statement (ICS) proforma";
- Part 2: "Test Suite Structure and Test Purposes (TSS&TP)";**
- Part 3: "Abstract Test Suite (ATS) and partial PIXIT proforma".

1 Scope

The present document specifies "Test Suite Structure and Test Purposes" (TSS&TP) for the access layer service access points MI-SAP and IN-SAP and related procedures as defined in ISO 21218 [1] in accordance with the relevant guidance given in TS 102 760-1 [4], ISO/IEC 9646-1 [5], ISO/IEC 9646-2 [6] and ETS 300 406 [7].

NOTE: ISO 21218 [1] cannot be tested without being applied to a specific CALM-compliant communication interface (CI). Conformance with ISO 21218 thus always is restricted to the CALM-compliant CI declared in the ICS proforma [4].

2 References

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.
- Non-specific reference may be made only to a complete document or a part thereof and only in the following cases:
 - if it is accepted that it will be possible to use all future changes of the referenced document for the purposes of the referring document;
 - for informative references.

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 indispensable for the application of the present document. For dated references, only the edition cited applies. For non-specific references, the latest edition of the referenced document (including any amendments) applies.

- [1] ISO 21218-2008: "Intelligent Transport Systems - Communications access for land mobiles (CALM) - Medium Service Access Points".
- [2] DIS 21217-2009: "Intelligent Transport Systems - Communications access for land mobiles (CALM) - Architecture".
- [3] DIS 24102-2009: "Intelligent Transport Systems - Communications access for land mobiles (CALM) - Management".
- [4] ETSI TS 102 760-1: "Intelligent Transport Systems (ITS); Test specifications for Intelligent Transport Systems; Communications Access for Land Mobiles (CALM); Medium Service Access Points (ISO 21218); Part 1: Implementation Conformance Statement (ICS) proforma".
- [5] ISO/IEC 9646-1: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concept".
- [6] ISO/IEC 9646-2: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 2: Abstract Test Suite Specification".
- [7] 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 essential to the use of the present document but they assist the user with regard to a particular subject area. For non-specific references, the latest version of the referenced document (including any amendments) applies.

Not applicable.

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in ISO 21218 [1], ISO 21217, [2], ISO 24102 [3], TS 102 760-1 [4], ISO/IEC 9646-1 [5], ISO/IEC 9646-2 [6] and the following apply:

tester: entity in the test architecture controlling the tests

tester CI: CI contained in the tester

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in ISO 21218 [1], ISO 21217, [2], ISO 24102 [3], TS 102 760-1 [4], ISO/IEC 9646-1 [5] and ISO/IEC 9646-2 [6] apply.

4 Test suite architecture

ISO 21218 [1] cannot be tested without being applied to a specific CALM-compliant communication interface (CI). Thus the test architecture presented in figure 1 contains also the OSI communication layers PHY and DLL which are below the "Communication Adaptation Layer" (CAL), both in the system under test (SUT) and in the tester.

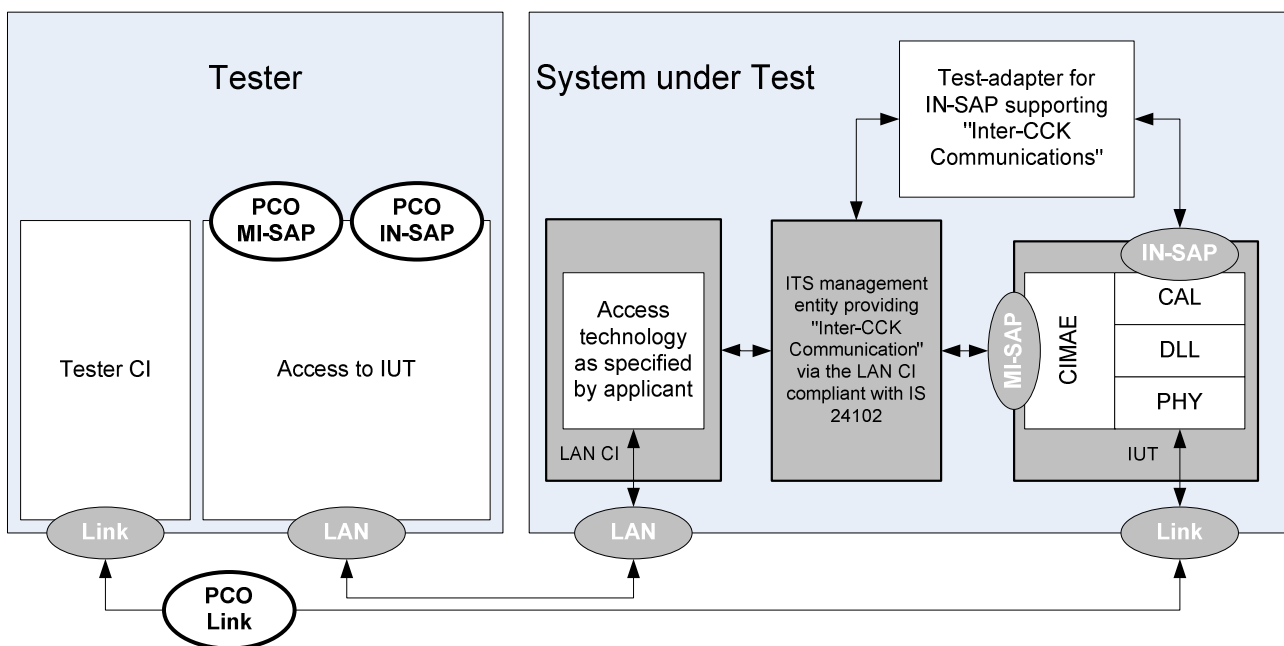


Figure 1: Test architecture

The IUT is connected via three points of control and observation (PCO) with the tester:

- "PCO IN-SAP", providing access to the IN-SAP of the IUT;
- "PCO MI-SAP", providing access to the MI-SAP of the IUT;
- "PCO Link", the communication link.

Access to the MI-SAP preferably uses "Inter-CCK Communications" as specified in [3]. Access to the IN-SAP preferably uses an extension of "Inter-CCK Communications" as specified in annex A. Alternative approaches to access the IN-SAP and MI-SAP also are allowed.

NOTE: Not using "Inter-CCK Communications" to access IM-SAP and MI-SAP may cause extra cost to the applicant in order to adapt the SUT to the test environment in a test house.

A SUT may contain several CIs. However in a given test at a given time, only a single of them together with the functionality of ISO 21218 [1] shall constitute the IUT. Testing of a SUT containing several CIs thus requires repetition of the tests for all CIs contained in the SUT.

Tests for a configuration with several active CIs in a single SUT are not considered in the present document.

5 Test purposes

5.1 Introduction

5.1.1 Definition conventions

The test purposes (TPs) are defined following particular rules as shown in table 1.

Table 1: TP definition rules

TP ID	Title:
	Reference:
	ICS Selection:
	TC Reference
	Initial condition:
Stimulus and Expected behaviour:	

TP ID	The TP ID is a unique identifier. It shall be specified according to the TP naming conventions defined in the sub-clause below.
Title	Short description of test purpose objective.
Reference	The reference should contain the references of the subject to be validated by the actual TP (specification reference, clause and paragraph).
ICS Selection	Reference to the ICS statement involved for selection of the TP. Contains a Boolean expression. Only those ICS statements are shown that are explicitly related to the test.
TC reference	Shows the reference number of the related test case in the ATS.
Initial condition	The condition defines in which initial state the IUT has to be to apply the actual TP.
Stimulus and Expected behaviour	Definition of the events the tester performs, and the events that are expected from the IUT to conform to the base specification.

5.1.2 Naming conventions

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

Table 2: TP naming convention

Identifier:	TP/<group>/<x>/<n>		
	group = Group of tests	SE	State event transitions
		MB	MIB M-parameters
		HC	Handling of CIs
		DP	Handling of data plane
	x = Type of testing	BV	Valid Behaviour Tests
		BI	Invalid Behaviour Tests
	<n> = sequential number	>0	Test Purpose Number

5.1.3 Sources of TP definitions

All TPs are specified according to requirements set up in ISO 21218 [1].

5.1.4 General reference

For all TPs the general references to clause 5.2.3 and to annex E of ISO 21218 [1] shall be applicable.

5.1.5 General conditions

The following pre-conditions shall apply for all TPs, if not defined differently in a specific TP:

- The CI-ID of all CIs not being in the CI state "not_existent" and of all existent VCIs shall be known to the Tester, see figure 1.
- The MIB of the CI / VCI shall contain default values except for the M-parameters listed below.
 - Parameter 11 "MinimumUserPriority" shall be set to zero if not requested differently.

Additional pre-conditions may apply for specific TPs.

5.1.6 M-SAP confirm service primitives

According to [1], the service primitives COMMAND.confirm and REQUEST.confirm shall be present in case of an error and may be omitted otherwise. The optional presence of confirm service primitives with ErrStatus indicating success are not explicitly included in the TPs, but will have to be considered in the abstract test suite, i.e. in part 3 of this multi-part deliverable.

5.2 CI state transitions

5.2.1 Valid behaviour tests

TP/SE/BV/01	Verify that the IUT with CI class different from "CIC-wl5" registers correctly at the management entity
	Reference: ISO 21218 [1]: clauses 5.2.1, 5.2.4.2, 5.2.4.10 and 5.3.2, annexes B and C
	ICS Selection: NOT Table C.2/5
	TC reference: TC_SE_BV_01
Initial condition: The IUT shall be in the CI state "not-existent"	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Dependent on the implementation, request the IUT to start the registration procedure. 2) Verify reception of REQUEST 0 "RegReq" at the M-SAP with "MedType" equal to the value declared by the applicant, "MAC address" set to the unique MAC address of the IUT as declared by the applicant, "CCK-ID" and "MedID" contained in the "CI-ID" set to zero, and the "CtrlCI" bits contained in the "CI-ID" set to zero. Note the "SerialNumber" contained in the "CI-ID". 3) Verify that the "SerialNumber" noted in step 2) is in the range 0x0001 to 0xFEFF. 4) Before the timer "T_register" expires in the IUT, send COMMAND 0 "RegCmd" via the M-SAP to the CI-ID with CtrlCI bits, CCK-ID and MedID set to zero and the SerialNumber set to the value reported in step 2), providing in "M-Command" correct values of "CCK-ID" and "MedID", and confirming the unique MAC address. 5) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "registered". 	

TP/SE/BV/02	Verify that the IUT with CI class "CIC-wl5" registers correctly at the management entity
	Reference: ISO 21218 [1]: clauses 5.2.1, 5.2.4.2, 5.2.4.10 and 5.3.2, annexes B and C
	ICS Selection: Table C.2/5
	TC reference: TC_SE_BV_02
Initial condition: The IUT shall be in the CI state "not-existent"	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Dependent on the implementation, request the IUT to start the registration procedure. 2) Verify reception of REQUEST 0 "RegReq" at the M-SAP with "MedType" equal to the value declared by the applicant, "MAC address" set to the unique MAC address of the IUT as declared by the applicant, "CCK-ID" contained in the "CI-ID" set to zero, "MedID" contained in the "CI-ID" set to zero and the "CtrlCI" bits contained in the "CI-ID" set to one. Note the "SerialNumber" contained in the "CI-ID". 3) Verify that the "SerialNumber" noted in step 2) is in the range 0x0001 to 0xFEFF. 4) Before the timer "T_register" expires in the IUT, send the COMMAND 0 "RegCmd" via the M-SAP to the CI-ID with CtrlCI bits, CCK-ID and MedID set to zero and the SerialNumber set to the value reported in step 2), providing in the M-COMMAND correct values of "CCK-ID" and "MedID", and confirming the unique MAC address. 5) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "registered". 	

TP/SE/BV/03	Verify that the IUT with CI class "CIC-wl2" automatically creates a UC-VCI and reaches the CI state "active"
	Reference: ISO 21218 [1]: clauses 5.2.1, 5.2.4.10, 5.3.3.1 and 5.3.2; annex C
	ICS Selection: Table C.2/2 AND Table C.6/3 AND Table C.8/16
	TC reference: TC_SE_BV_03
Initial condition: The IUT shall be in the CI state "registered".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Oppose the IUT to the signals of a related base station and wait at least the time needed to register at the base station. 2) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "active", and verify reception of REQUEST 9 "Event" indicating the event number 3 and the CI-ID of the newly created UC-VCI. 	

TP/SE/BV/04	Verify that the IUT with CI class "CIC-wl3" automatically creates a BC-VCI and reaches the CI state "active"
	Reference: ISO 21218 [1]: clauses 5.2.4.10, 5.3.3.1 and 5.3.2; annex C
	ICS Selection: Table C.2/3 AND Table C.6/1 AND NOT Table C.6/2 AND Table C.8/14
	TC reference: TC_SE_BV_04
Initial condition: The IUT shall be in the CI state "registered". MAC multicast groups are not known.	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Wait at least the time needed to create a broadcast VCI. 2) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "active", and verify reception of REQUEST 9 "Event" indicating the event number 3 and the CI-ID of the newly created BC-VCI. 	

TP/SE/BV/05	Verify that the IUT with CI class "CIC-wl4" automatically creates a RX-VCI and reaches the CI state "active"
	Reference: ISO 21218 [1]: clauses 5.2.4.10, 5.3.3.1 and 5.3.2; annex C
	ICS Selection: Table C.2/4 AND Table C.6/4 AND Table C.8/17
	TC reference: TC_SE_BV_05
Initial condition: The IUT shall be in the CI state "registered"	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Wait at least the time needed to create a RX-VCI. 2) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "active", and verify reception of REQUEST 9 "Event" indicating the event number 3 and the CI-ID of the newly created RX-VCI. 	

TP/SE/BV/06	Verify that the IUT with CI class "CIC-wl1" automatically creates a UC-VCI and a BC-VCI and reaches the CI state "active"
	Reference: ISO 21218 [1]: clauses 5.2.4.10, 5.3.3.1 and 5.3.2; annex C
	ICS Selection: Table C.2/1 AND Table C.6/1 AND NOT Table C.6/2 AND Table C.6/3 AND Table C.8/14 AND Table C.8/16
	TC reference: TC_SE_BV_06
Initial condition: The IUT shall be in the CI state "registered". MAC multicast groups shall not be known.	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Wait at least the time needed to create a BC-VCI and a UC-VCI. 2) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "active", and verify reception of REQUEST 9 "Event" indicating the event number 3 and the CI-ID of the newly created UC-VCI, and verify reception of REQUEST 9 "Event" indicating the event number 3 and the CI-ID of the newly created BC-VCI. 	

TP/SE/BV/07	Verify that the IUT with CI class "CIC-wl3" automatically creates a BC-VCI and known MC-VCI and reaches the CI state "active"
	Reference: ISO 21218 [1]: clauses 5.2.4.10, 5.3.3.1 and 5.3.2; annex C
	ICS Selection: Table C.2/3 AND Table C.6/1 AND Table C.6/2 AND Table C.8/14 AND Table C.8/15
	TC reference: TC_SE_BV_07
Initial condition: The IUT shall be in the CI state "registered". MAC multicast groups shall be known.	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Wait at least the time needed to create a broadcast VCI. 2) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "active", and verify reception of REQUEST 9 "Event" indicating the event number 3 and the CI-ID of the newly created BC-VCI, and for all known MAC multicast groups verify reception of REQUEST 9 "Event" indicating the event number 3 and the CI-ID of the newly created MC-VCI. 	

TP/SE/BV/08	Verify that the IUT with CI class "CIC-wl1" automatically creates a UC-VCI a BC-VCI and known MC-VCI and reaches the CI state "active"
	Reference: ISO 21218 [1]: clauses 5.2.4.10, 5.3.3.1 and 5.3.2; annex C
	ICS Selection: Table C.2/1 AND Table C.6/1 AND Table C.6/2 AND Table C.6/3 AND Table C.8/14 AND Table C.8/15 AND Table C.8/16
	TC reference: TC_SE_BV_08
Initial condition: The IUT shall be in the CI state "registered". MAC multicast groups shall be known.	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Wait at least the time needed to create a broadcast VCI. 2) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "active", and verify reception of REQUEST 9 "Event" indicating the event number 3 and the CI-ID of the newly created UC-VCI, and verify reception of REQUEST 9 "Event" indicating the event number 3 and the CI-ID of the newly created BC-VCI, and for all known MAC multicast groups verify reception of REQUEST 9 "Event" indicating the event number 3 and the CI-ID of the newly created MC-VCI. 	

TP/SE/BV/09	Verify that the IUT deregisters correctly from the management entity
	Reference: ISO 21218 [1]: clauses 5.2.4.3 and 5.2.4.10, annexes B and D
	ICS Selection:
	TC reference: TC_SE_BV_09
Initial condition: The IUT shall be in the CI state "active".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue COMMAND 1 "CIstateChng" with the value "deregister". 2) Wait at least the time declared by the applicant needed to perform deregistration. 3) Issue COMMAND 1 "CIstateChng" with the value "disconnect". 4) Verify that no change of state and no error are notified via the M-SAP. 5) Repeat steps 1) through 4) for the initial condition: The IUT shall be in the CI state "connected". 6) Repeat steps 1) through 4) for the initial condition: The IUT shall be in the CI state "suspended". 7) Repeat steps 1) through 4) for the initial condition: The IUT shall be in the CI state "inactive". 	

TP/SE/BV/10	Verify that the IUT correctly performs inactivation
	Reference: ISO 21218 [1]: clauses 5.2.4.4 and 5.2.4.10; annexes B and C
	ICS Selection:
	TC reference: TC_SE_BV_10
Initial condition: The IUT shall be in the CI state "active".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue COMMAND 1 "CIstateChng" with the value "inactivate". 2) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "inactive". 3) Repeat steps 1) and 2) for the initial condition: The IUT shall be in the CI state "connected". 4) Repeat steps 1) and 2) for the initial condition: The IUT shall be in the CI state "suspended". 	

TP/SE/BV/11	Verify that the IUT with CI class "CIC-wl2" correctly performs activation
	Reference: ISO 21218 [1]: clauses 5.2.4.5, 5.2.4.10, 5.3.3.1 and 5.3.2; annexes B and C
	ICS Selection: Table C.2/2
	TC reference: TC_SE_BV_11
Initial condition: The IUT shall be in the CI state "inactive".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue COMMAND 1 "CIstateChng" with the value "activate". 2) Oppose the IUT to the signals of a related base station and wait at least the time typically needed to register at the base station. 3) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "active", and verify reception of REQUEST 9 "Event" indicating the event number 3 and the CI-ID of the newly created UC-VCI. 	

TP/SE/BV/12	Verify that the IUT with CI class "CIC-wl3" correctly performs activation
	Reference: ISO 21218 [1]: clauses 5.2.4.5, 5.2.4.10, 5.3.3.1 and 5.3.2; annexes B and C
	ICS Selection: Table C.2/3
	TC reference: TC_SE_BV_12
Initial condition: The IUT shall be in the CI state "inactive".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue COMMAND 1 "CIstateChng" with the value "activate". 2) Wait at least the time needed to create a broadcast VCI. 3) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "active", and verify reception of REQUEST 9 "Event" indicating the event number 3 and the CI-ID of the newly created BC-VCI. 	

TP/SE/BV/13	Verify that the IUT with CI class "CIC-wl4" correctly performs activation
	Reference: ISO 21218 [1]: clauses 5.2.4.5, 5.2.4.10, 5.3.3.1 and 5.3.2; annexes B and C
	ICS Selection: Table C.2/4
	TC reference: TC_SE_BV_13
Initial condition: The IUT shall be in the CI state "inactive".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue COMMAND 1 "CIstateChng" with the value "activate". 2) Wait at least the time needed to create a RX-VCI. 3) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "active", and verify reception of REQUEST 9 "Event" indicating the event number 3 and the CI-ID of the newly created RX-VCI. 	

TP/SE/BV/14	Verify that the IUT with CI class "CIC-wl1" correctly performs activation
	Reference: ISO 21218 [1]: clauses 5.2.4.5, 5.2.4.10, 5.3.3.1 and 5.3.2; annexes B and C
	ICS Selection: Table C.2/1
	TC reference: TC_SE_BV_14
Initial condition: The IUT shall be in the CI state "inactive".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue COMMAND 1 "CIstateChng" with the value "activate". 2) Wait at least the time needed to create a BC-VCI and a UC-VCI. 3) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "active", and verify reception of REQUEST 9 "Event" indicating the event number 3 and the CI-ID of the newly created UC-VCI, and verify reception of REQUEST 9 "Event" indicating the event number 3 and the CI-ID of the newly created BC-VCI. 	

TP/SE/BV/15	Verify that the IUT correctly performs suspension
	Reference: ISO 21218 [1]: clauses 5.2.4.6 and 5.2.4.10; annexes B and C
	ICS Selection:
	TC reference: TC_SE_BV_15
Initial condition: The IUT shall be in the CI state "connected".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue COMMAND 1 "CIstateChng" with the value "suspend". 2) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "suspended". 	

TP/SE/BV/16	Verify that the IUT correctly performs reactivation
	Reference: ISO 21218 [1]: clauses 5.2.4.7 and 5.2.4.10; annexes B and C
	ICS Selection:
	TC reference: TC_SE_BV_16
Initial condition: The IUT shall be in the CI state "connected".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue COMMAND 1 "CIstateChng" with the value "reactivate". 2) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "connected". 	

TP/SE/BV/17	Verify that the IUT with CI class "CIC-wl2" and "CIAC-2" and with M-parameter 51 "Connect" set to "manual" creates a UC-VCI and reaches the CI state "connected"
	Reference: ISO 21218 [1]: clauses 5.2.1, 5.2.2, 5.2.4.8, 5.2.4.10 and 5.3.3.1; annexes B and C
	ICS Selection: Table C.2/2 AND Table C.3/2 AND Table C.6/3 AND Table C.8/16
	TC reference: TC_SE_BV_17
Initial condition: The IUT shall be in the CI state "active". Valid access information in M-parameters 27 "SIMpin" / M-parameter 28 "ProviderInfo" shall be present. The IUT is opposed to the signals of a related base station. M-parameter 51 "Connect" set to "manual".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue COMMAND 1 "CIstateChng" with the value "connect". 2) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "connected". 	

TP/SE/BV/18	Verify that the IUT with CI class "CIC-wl2" and "CIAC-2" and with M-parameter 51 "Connect" set to "automatic" automatically creates a UC-VCI and reaches the CI state "connected"
	Reference: ISO 21218 [1]: clauses 5.2.1, 5.2.2, 5.2.4.8, 5.2.4.10, 5.3.3.1 and 5.3.2; annex C
	ICS Selection: Table C.2/2 AND Table C.3/2 AND Table C.6/3 AND Table C.8/16
	TC reference: TC_SE_BV_18
Initial condition: The IUT shall be in the CI state "registered". M-parameter 51 "Connect" set to "automatic".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Oppose the IUT to the signals of a related base station and Wait at least the time typically needed to connect to the base station. 2) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "active", and verify reception of REQUEST 9 "Event" indicating the event number 3 and the CI-ID of the newly created UC-VCI, and verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "connected". 	

TP/SE/BV/19	Verify that the IUT with CI class "CIC-wl2" and "CIAC-1" automatically creates a UC-VCI and reaches the CI state "connected"
	Reference: ISO 21218 [1]: clauses 5.2.1, 5.2.2, 5.2.4.8, 5.2.4.10, 5.3.3.1 and 5.3.2; annex C
	ICS Selection: Table C.2/2 AND Table C.3/1 AND Table C.6/3 AND Table C.8/16
	TC reference: TC_SE_BV_19
Initial condition: The IUT shall be in the CI state "registered".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Oppose the IUT to the signals of a related base station and Wait at least the time typically needed to connect to the base station. 2) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "active", and verify reception of REQUEST 9 "Event" indicating the event number 3 and the CI-ID of the newly created UC-VCI, and verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "connected". 	

TP/SE/BV/20	Verify that the IUT with CI class "CIC-wl2" and "CIAC-3" automatically creates a UC-VCI and reaches the CI state "connected"
	Reference: ISO 21218 [1]: clauses 5.2.1, 5.2.2, 5.2.4.8, 5.2.4.10, 5.3.3.1 and 5.3.2; annex C
	ICS Selection: Table C.2/2 AND Table C.3/3 AND Table C.6/3 AND Table C.8/16
	TC reference: TC_SE_BV_20
Initial condition: The IUT shall be in the CI state "registered".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Oppose the IUT to the signals of a related base station and Wait at least the time typically needed to connect to the base station. 2) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "active", and verify reception of REQUEST 9 "Event" indicating the event number 3 and the CI-ID of the newly created UC-VCI, and verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "connected". 	

TP/SE/BV/21	Verify that the IUT correctly performs disconnection
	Reference: ISO 21218 [1]: clauses 5.2.4.9 and 5.2.4.10, annexes B and C
	ICS Selection: Table C.6/3
	TC reference: TC_SE_BV_21
Initial condition: The IUT shall be in the CI state "connected".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue COMMAND 1 "CIstateChng" with the value "disconnect". 2) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "active". 	

TP/SE/BV/22	Verify that the IUT with CI class "CIC-w11" automatically reaches the CI state "active" upon timeout of all relations to peer stations.
	Reference: ISO 21218 [1]: clauses 5.2.4.9, 5.3.3.3, 5.3.3.4; annex C
	ICS Selection: Table C.2/1
	TC reference: TC_SE_BV_22
Initial condition: The IUT shall be in the CI state "connected". There shall be a relation to a single peer station.	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Wait time given in M-parameter 13 "InactivityTimeLimit" in order to allow all relations to peer stations to time-out. 2) Verify reception of REQUESTs 9 "Event" <ul style="list-style-type: none"> - indicating event number 4 "VCI deleted" - indicating event number 5 and the M-parameter 42 "CIstatus" set to "active" - indicating event number 3 "VCI created". 	

5.2.2 Invalid behaviour tests

TP/SE/BI/01	Verify that the IUT with CI class different from "CIC-w15" only registers correctly at the management entity in case the valid MAC address is reported by the tester
	Reference: ISO 21218 [1]: clause 5.2.4.2, annexes B and C
	ICS Selection: NOT Table C.2/5
	TC reference: TC_SE_BI_01
Initial condition: The IUT shall be in the CI state "not_existent"	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Dependent on the implementation, request the IUT to start the registration procedure. 2) Verify reception of REQUEST 0 "RegReq" at the M-SAP with "MedType" equal to the value declared by the applicant, "MAC address" set to the unique MAC address of the IUT as declared by the applicant, "CCK-ID" and "MedID" contained in the "CI-ID" set to zero, and the "CtrlCI" bits contained in the "CI-ID" set to zero. Note the "SerialNumber" contained in the "CI-ID". 3) Verify that the "SerialNumber" noted in step 2) is in the range 0x0001 to 0xFEFF. 4) Before the timer "T_register" expires in the IUT, send COMMAND 0 "RegCmd" via the M-SAP to the CI-ID with CtrlCI bits, CCK-ID and MedID set to zero and the SerialNumber set to the value reported in step 2), providing in "M-Command" correct values of "CCK-ID" and "MedID", and a MAC address value different from the one received in step 2). 5) Verify reception of REQUEST 0 "RegReq" at the M-SAP with "MedType" equal to the value declared by the applicant, "MAC address" set to the unique MAC address of the IUT as declared by the applicant, "CCK-ID" and "MedID" contained in the "CI-ID" set to zero. Note the "SerialNumber" contained in the "CI-ID". 6) Verify that the "SerialNumber" noted in step 5) is in the range 0x0001 to 0xFEFF, and is different from the "SerialNumber" noted in step 2). 7) Before the timer "T_register" expires in the IUT, send COMMAND 0 "RegCmd" via the M-SAP to the CI-ID with CtrlCI bits, CCK-ID and MedID set to zero and the SerialNumber set to the value reported in step 4), providing in "M-Command" correct values of "CCK-ID" and "MedID", and confirming the unique MAC address as received in step 4). 8) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "registered". 	

TP/SE/BI/02	Verify that the IUT with CI class different from "CIC-w15" only registers correctly at the management entity in case the valid CI-ID is used by the tester
	Reference: ISO 21218 [1]: clause 5.2.4.2, annexes B and C
	ICS Selection: NOT Table C.2/5
	TC reference: TC_SE_BI_02
Initial condition: The IUT shall be in the CI state "not_existent"	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Dependent on the implementation, request the IUT to start the registration procedure. 2) Verify reception of REQUEST 0 "RegReq" at the M-SAP with "MedType" equal to the value declared by the applicant, "MAC address" set to the unique MAC address of the IUT as declared by the applicant, "CCK-ID" and "MedID" contained in the "CI-ID" set to zero, and the "CtrlCI" bits contained in the "CI-ID" set to zero. Note the "SerialNumber" contained in the "CI-ID". 3) Verify that the "SerialNumber" noted in step 2) is in the range 0x0001 to 0xFEFF. 4) Before the timer "T_register" expires in the IUT, issue COMMAND 0 "RegCmd" to the CI-ID with CtrlCI bits and MedID set to zero, CCK-ID set to a value different from zero, and the SerialNumber set to the value reported in step 2), providing in "M-Command" correct values of "CCK-ID" and "MedID", and confirming the unique MAC address as received in step 2). 5) Wait until timer "T_register" expires in the IUT. 6) Repeat step 2). 7) Verify that the "SerialNumber" noted in step 6) is in the range 0x0001 to 0xFEFF, and is different from the "SerialNumber" noted in step 2). 8) Before the timer "T_register" expires in the IUT, issue COMMAND 0 "RegCmd" to the CI-ID with CtrlCI bits and CCK-ID set to zero, MedID set to a value different from zero, and the SerialNumber set to the value reported in step 6), providing in "M-Command" correct values of "CCK-ID" and "MedID", and confirming the unique MAC address as received in step 6). 9) Wait until timer "T_register" expires in the IUT. 10) Repeat step 2). 11) Verify that the "SerialNumber" noted in step 10) is in the range 0x0001 to 0xFEFF, and is different from the "SerialNumber" noted in step 6). 12) Before the timer "T_register" expires in the IUT, issue COMMAND 0 "RegCmd" to the CI-ID with CtrlCI bits, CCK-ID and MedID set to zero, and the SerialNumber set to a value different from the one reported in step 9), providing in "M-Command" correct values of "CCK-ID" and "MedID", and confirming the unique MAC address as received in step 9). 13) Wait until timer "T_register" expires in the IUT. 14) Repeat step 2). 15) Verify that the "SerialNumber" noted in step 14) is in the range 0x0001 to 0xFEFF, and is different from the "SerialNumber" noted in step 10). 16) Before the timer "T_register" expires in the IUT, issue COMMAND 0 "RegCmd" to the CI-ID with CtrlCI bits, MedID and CCK-ID set to zero, and the SerialNumber set to the value reported in step 14), providing in "M-Command" correct values of "CCK-ID" and "MedID", and confirming the unique MAC address as received in step 14). 17) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "registered". 	

TP/SE/BI/03	<p>Verify that the IUT with CI class "CIC-w15" only registers correctly at the management entity in case the valid MAC address is reported by the tester</p> <p>Reference: ISO 21218 [1]: clause 5.2.4.2, annexes B and C</p> <p>ICS Selection: Table C.2/5</p> <p>TC reference: TC_SE_BI_03</p> <p>Initial condition: The IUT shall be in the CI state "not_existent"</p>
<p>Stimulus and Expected Behaviour:</p> <ol style="list-style-type: none"> 1) Dependent on the implementation, request the IUT to start the registration procedure. 2) Verify reception of REQUEST 0 "RegReq" at the M-SAP with "MedType" equal to the value declared by the applicant, "MAC address" set to the unique MAC address of the IUT as declared by the applicant, "CCK-ID" and "MedID" contained in the "CI-ID" set to zero, and the "CtrlCI" bits contained in the "CI-ID" set to one. Note the "SerialNumber" contained in the "CI-ID". 3) Verify that the "SerialNumber" noted in step 2) is in the range 0x0001 to 0xFEFF. 4) Before the timer "T_register" expires in the IUT, issue COMMAND 0 "RegCmd" via the M-SAP to the CI-ID with CCK-ID and MedID set to zero, CtrlCI bits set to one and the SerialNumber set to the value reported in step 2), providing correct values of "CCK-ID" and "MedID", and a MAC address value different from the one received in step 2). 5) Repeat step 2) 6) Verify that the "SerialNumber" noted in step 5) is in the range 0x0001 to 0xFEFF, and is different from the "SerialNumber" noted in step 2). 7) Before the timer "T_register" expires in the IUT, issue COMMAND 0 "RegCmd" to the CI-ID with CCK-ID and MedID set to zero, CtrlCI bits set to one and the SerialNumber set to the value reported in step 5), providing correct values of "CCK-ID" and "MedID", and confirming the unique MAC address as received in step 5). 8) Verify reception of the REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "registered". 	

TP/SE/BI/04	Verify that the IUT with CI class "CIC-wI5" only registers correctly at the management entity in case the valid CI-ID is used by the tester
	Reference: ISO 21218 [1]: clause 5.2.4.2, annexes B and C
	ICS Selection: Table C.2/5
	TC reference: TC_SE_BI_04
Initial condition: The IUT shall be in the CI state "not_existent"	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Dependent on the implementation, request the IUT to start the registration procedure. 2) Verify reception of REQUEST 0 "RegReq" at the M-SAP with "MedType" equal to the value declared by the applicant, "MAC address" set to the unique MAC address of the IUT as declared by the applicant, "CCK-ID" and "MedID" contained in the "CI-ID" set to zero and the "CtrlCI" bits contained in the "CI-ID" set to one. Note the "SerialNumber" contained in the "CI-ID". 3) Verify that the "SerialNumber" noted in step 2) is in the range 0x0001 to 0xFEFF. 4) Before the timer "T_register" expires in the IUT, issue COMMAND 0 "RegCmd" to the CI-ID with MedID set to zero, CCK-ID set to a value different from zero, the "CtrlCI" bits contained in the "CI-ID" set to one and the SerialNumber set to the value reported in step 2), providing in "M-Command" correct values of "CCK-ID" and "MedID", and confirming the unique MAC address as received in step 2). 5) Wait until timer "T_register" expires in the IUT. 6) Repeat step 2). 7) Verify that the "SerialNumber" noted in step 6) is in the range 0x0001 to 0xFEFF, and is different from the "SerialNumber" noted in step 2). 8) Before the timer "T_register" expires in the IUT, issue COMMAND 0 "RegCmd" to the CI-ID with CCK-ID set to zero, MedID set to a value different from zero, the "CtrlCI" bits contained in the "CI-ID" set to one and the SerialNumber set to the value reported in step 6), providing in "M-Command" correct values of "CCK-ID" and "MedID", and confirming the unique MAC address as received in step 6). 9) Wait until timer "T_register" expires in the IUT. 10) Repeat step 2). 11) Verify that the "SerialNumber" noted in step 10) is in the range 0x0001 to 0xFEFF, and is different from the "SerialNumber" noted in step 2). 12) Before the timer "T_register" expires in the IUT, issue COMMAND 0 "RegCmd" to the CI-ID with CCK-ID and MedID set to zero, the "CtrlCI" bits contained in the "CI-ID" set to one and the SerialNumber set to the value different from the one reported in step 10), providing in "M-Command" correct values of "CCK-ID" and "MedID", and confirming the unique MAC address as received in step 10). 13) Wait until timer "T_register" expires in the IUT. 14) Repeat step 2). 15) Verify that the "SerialNumber" noted in step 14) is in the range 0x0001 to 0xFEFF, and is different from the "SerialNumber" noted in step 14). 16) Before the timer "T_register" expires in the IUT, issue COMMAND 0 "RegCmd" to the CI-ID with MedID and CCK-ID set to zero, CtrlCI bits set to a value different from one, and the SerialNumber set to the value reported in step 14), providing in "M-Command" correct values of "CCK-ID" and "MedID", and confirming the unique MAC address as received in step 14). 17) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "registered". 	

TP/SE/BI/05	Verify that the IUT correctly handles an invalid inactivate request
	Reference: ISO 21218 [1]: clause 5.2.4.4; annexes B and D
	ICS Selection:
	TC reference: TC_SE_BI_05
Initial condition: The IUT shall be in the CI state "inactive"	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue COMMAND 1 "CIstateChng" with the value "inactivate". 2) Verify reception of the COMMAND.confirm related to the COMMAND in step 1) reporting ErrStatus set to 6 "INVALID COMMAND/REQUEST VALUE". 	

TP/SE/BI/06	Verify that the IUT correctly handles an invalid activation request
	Reference: ISO 21218 [1]: clause 5.2.4.5; annexes B and D
	ICS Selection:
	TC reference: TC_SE_BI_06
Initial condition: The IUT shall be in the CI state "active".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue COMMAND 1 "CIstateChng" with the value "activate". 2) Verify reception of the COMMAND.confirm related to the COMMAND in step 1 reporting ErrStatus set to 6 "INVALID COMMAND/REQUEST VALUE". 3) Repeat steps 1) and 2) for the initial condition: The ITU shall be in the CI state "connected". 4) Repeat steps 1) and 2) for the initial condition: The ITU shall be in the CI state "suspended". 	

TP/SE/BI/07	Verify that the IUT correctly handles an invalid suspension request
	Reference: ISO 21218 [1]: clause 5.2.4.6; annexes B and D
	ICS Selection:
	TC reference: TC_SE_BI_07
Initial condition: The IUT shall be in the CI state "active".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue COMMAND 1 "CIstateChng" with the value "suspend". 2) Verify reception of the COMMAND.confirm related to the COMMAND in step 1) reporting ErrStatus set to 6 "INVALID COMMAND/REQUEST VALUE". 3) Repeat steps 1) and 2) for the initial condition: The ITU shall be in the CI state "suspended". 4) Repeat steps 1) and 2) for the initial condition: The ITU shall be in the CI state "inactive". 	

TP/SE/BI/08	Verify that the IUT correctly handles an invalid reactivation request
	Reference: ISO 21218 [1]: clause 5.2.4.7; annexes B and D
	ICS Selection:
	TC reference: TC_SE_BI_08
Initial condition: The IUT shall be in the CI state "active".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue COMMAND 1 "CIstateChng" with the value "reactivate". 2) Verify reception of the COMMAND.confirm related to the COMMAND in step 1) reporting ErrStatus set to 6 "INVALID COMMAND/REQUEST VALUE". 3) Repeat steps 1) and 2) for the initial condition: The ITU shall be in the CI state "connected". 4) Repeat steps 1) and 2) for the initial condition: The ITU shall be in the CI state "inactive". 	

TP/SE/BI/09	Verify that the IUT correctly handles an invalid connection request
	Reference: ISO 21218 [1]: clause 5.2.4.8; annexes B and D
	ICS Selection:
	TC reference: TC_SE_BI_09
Initial condition: The IUT shall be in the CI state "connected"	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue COMMAND 1 "CIstateChng" with the value "connect". 2) Verify reception of the COMMAND.confirm related to the COMMAND in step 1) reporting ErrStatus set to 6 "INVALID COMMAND/REQUEST VALUE". 3) Repeat steps 1) and 2) for the initial condition: The ITU shall be in the CI state "suspended". 4) Repeat steps 1) and 2) for the initial condition: The ITU shall be in the CI state "inactive". 	

TP/SE/BI/10	Verify that the IUT correctly handles an invalid disconnection request
	Reference: ISO 21218 [1]: clause 5.2.4.9; annexes B and D
	ICS Selection:
	TC reference: TC_SE_BI_10
Initial condition: The IUT shall be in the CI state "active".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue COMMAND 1 "CIstateChng" with the value "disconnect". 2) Verify reception of the COMMAND.confirm related to the COMMAND in step 1) reporting ErrStatus set to 6 "INVALID COMMAND/REQUEST VALUE". 3) Repeat steps 1) and 2) for the initial condition: The ITU shall be in the CI state "suspended". 4) Repeat steps 1) and 2) for the initial condition: The ITU shall be in the CI state "inactive". 	

TP/SE/BI/11	Verify that the IUT with CI class "CIC-wl2" and CI access class "CIAC-2" rejects to reach the CI state "connected" automatically
	Reference: ISO 21218 [1]: clauses 5.2.4.2 and 5.3.3.1; annex C
	ICS Selection: Table C.2/2 AND Table C.3/2 AND (Table C.19/1 OR Table C.19/2)
	TC reference: TC_SE_BI_11
	Initial condition: The IUT shall be in the CI state "non-existent". M-parameter 51 "Connect" shall be set to "automatic". Valid access information in M-parameters 27 "SIMpin" / M-parameter 28 "ProviderInfo" shall not be present.
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Oppose the IUT to the signals of a related base station and Wait at least the time typically needed to register at the base station. 2) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "active", and verify reception of REQUEST 9 "Event" indicating the event number 3 and the CI-ID of the newly created UC-VCI. 3) Request transmission of a data frame via the UC-VCI. 4) Verify that REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "connected" is not received. 	

TP/SE/BI/12	Verify that the IUT with CI class "CIC-wl2" and CI access class "CIAC-3" rejects to reach the CI state "connected" automatically
	Reference: ISO 21218 [1]: clauses 5.2.4.2 and 5.3.3.1; annex C
	ICS Selection: Table C.2/2 AND Table C.3/3 AND (Table C.19/1 OR Table C.19/2)
	TC reference: TC_SE_BI_12
	Initial condition: The IUT shall be in the CI state "non-existent". Valid access information in M-parameters 27 "SIMpin" / M-parameter 28 "ProviderInfo" shall not be present.
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Oppose the IUT to the signals of a related base station and Wait at least the time typically needed to register at the base station. 2) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "active", and verify reception of REQUEST 9 "Event" indicating the event number 3 and the CI-ID of the newly created UC-VCI. 3) Request transmission of a data frame via the UC-VCI. 4) Verify that REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "connected" is not received. 	

TP/SE/BI/13	Verify that the IUT with CI class "CIC-wl2" and CI access class "CIAC-2" rejects the manual request to reach the CI state "connected"
	Reference: ISO 21218 [1]: clauses 5.2.4.2 and 5.3.3.1; annexes B and C
	ICS Selection: Table C.2/2 AND Table C.3/2 AND (Table C.19/1 OR Table C.19/2)
	TC reference: TC_SE_BI_13
	Initial condition: The IUT shall be in the CI state "non-existent". M-parameter 51 "Connect" shall be set to "manual". Valid access information in M-parameters 27 "SIMpin" / M-parameter 28 "ProviderInfo" shall not be present.
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Oppose the IUT to the signals of a related base station and Wait at least the time typically needed to register at the base station. 2) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "active", and verify reception of REQUEST 9 "Event" indicating the event number 3 and the CI-ID of the newly created UC-VCI. 3) Wait 10 ms. 4) Send COMMAND 1 "CIstateChng" requesting to connect to the communication service. 5) Verify that REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "connected" is not received. 	

5.3 MIB parameters

5.3.1 Valid behaviour tests

TP/MB/BV/01	Verify that the IUT correctly handles GETPARAM and SETPARAM requests for read/write VCI MIB M-parameters
	Reference: ISO 21218 [1]: Clauses 5.5.2 and 5.5.3, annex A
	ICS Selection:
	TC reference: TC_MB_BV_01
Initial condition: The IUT shall be in the CI state "active".	
Stimulus and Expected Behaviour: 5	
<ol style="list-style-type: none"> 1) Perform the following steps for one of the VCIs of the IUT and for all mandatory and optionally supported parameters in ICS selection Table C.15. 2) Issue a GETPARAM.request service primitive to the VCI in order to retrieve the current value of the selected M-parameter. 3) Verify reception of a GETPARAM.confirm service primitive and verify that the value retrieved is equal to the default value of the retrieved M-parameter. 4) Issue a SETPARAM.request service primitive in order to write a value different from the default value. 5) Wait at least for a time specified by the applicant that is needed to ensure reception of a SETPARAM.confirm service primitive as a reply to step 4). 6) Verify that either no SETPARAM.confirm service primitive was received in step 5), or the service primitive indicates success of the SETPARAM.request performed in step 4). 7) Repeat step 2). 8) Verify reception of a GETPARAM.confirm service primitive and verify that the value retrieved is equal to the value used in step 4). 	

TP/MB/BV/02	Verify that the IUT correctly handles GETPARAM and SETPARAM requests for read/write CI MIB M-parameters
	Reference: ISO 21218 [1]: Clauses 5.5.2 and 5.5.3, annex A
	ICS Selection:
	TC reference: TC_MB_BV_02
Initial condition: The IUT shall be in the CI state "active".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Perform the following steps for all mandatory and optionally supported M-parameters in ICS selection Table C.16. 2) Issue a GETPARAM.request service primitive in order to retrieve the current value of the selected M-parameter. 3) Verify reception of a GETPARAM.confirm service primitive and verify that the value retrieved is equal to the default value of the retrieved M-parameter. 4) Issue a SETPARAM.request service primitive in order to write a value different from the default value. 5) Wait at least for a time specified by the applicant that is needed to ensure reception of a SETPARAM.confirm service primitive as a reply to step 4). 6) Verify that either no SETPARAM.confirm service primitive was received in step 5), or the service primitive indicates success of the SETPARAM.request performed in step 4). 7) Repeat step 2). 8) Verify reception of a GETPARAM.confirm service primitive and verify that the value retrieved is equal to the value used in step 4). 	

TP/MB/BV/03	Verify that the IUT correctly handles GETPARAM requests for read-only VCI MIB M-parameters
	Reference: ISO 21218 [1]: Clause 5.5.3, annex A
	ICS Selection:
	TC reference: TC_MB_BV_03
Initial condition: The IUT shall be in the CI state "active".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Perform the following steps for one of the VCIs of the IUT and for all mandatory and optionally supported M-parameters in ICS selection Table C.17. 2) Issue a GETPARAM.request service primitive to the VCI in order to retrieve the current value of the selected M-parameter. 3) Verify reception of a GETPARAM.confirm service primitive and verify that the value retrieved is equal to the default value of the retrieved M-parameter. 	

TP/MB/BV/04	Verify that the IUT correctly handles GETPARAM requests for read-only CI MIB M-parameters
	Reference: ISO 21218 [1]: Clause 5.5.3, annex A
	ICS Selection:
	TC reference: TC_MB_BV_04
Initial condition: The IUT shall be in the CI state "active".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Perform the following steps for all mandatory and optionally supported M-parameters in ICS selection Table C.18. 2) Issue a GETPARAM.request service primitive in order to retrieve the current value of the selected M-parameter. 3) Verify reception of a GETPARAM.confirm service primitive and verify that the value retrieved is equal to the default value of the retrieved M-parameter. 	

TP/MB/BV/05	Verify that the IUT correctly handles SETPARAM requests for write-only CI MIB M-parameters
	Reference: ISO 21218 [1]: Clause 5.5.2, annex A
	ICS Selection: Table C.19/1 OR Table C.19/2 OR Table C.19/3
	TC reference: TC_MB_BV_05
Initial condition: The IUT shall be in the CI state "active".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Perform the following steps for all mandatory and optionally supported M-parameters in ICS selection Table C.19. 2) Issue a SETPARAM.request service primitive in order to write a value. 3) Wait at least for a time specified by the applicant that is needed to ensure reception of a SETPARAM.confirm service primitive as a reply to step 2). 4) Verify that either no SETPARAM.confirm service primitive was received in step 5), or the service primitive indicates success of the SETPARAM.request performed in step 2). 	

TP/MB/BV/06	Verify that the IUT correctly handles the COMMAND "Monitor"
	Reference: ISO 21218 [1]: Clauses 5.5.2, 5.5.3, 5.5.4, 5.5.6; annex B
	ICS Selection:
	TC reference: TC_MB_BV_06
Initial condition: Automatic monitoring is not activated for any M-parameter, except where automatic monitoring is mandatory.	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue a GETPARAM.request service primitive in order to retrieve the value of M-parameter 13 "InactivityTimeLimit". 2) Verify reception of the GETPARAM.confirm service primitive providing the actual value of M-parameter 13. 3) Issue a GETPARAM.request service primitive in order to retrieve the value of M-parameter 43 "Notify". 4) Verify reception of the GETPARAM.confirm service primitive providing the actual value of M-parameter 43 and verify that M-parameter 13 is not listed in M-parameter 43. 5) Issue a SETPARAM.request service primitive in order to set the value of M-parameter 13 to a value different from the one retrieved in step 2). 6) Verify that no automatic notification of the change of value of M-parameter 13 is performed. 7) Issue a GETPARAM.request service primitive in order to retrieve the value of M-parameter 13. 8) Verify reception of the GETPARAM.confirm service primitive providing the value of M-parameter 13 used in step 5). 9) Issue COMMAND 10 "Monitor" with value 255 in order to start monitoring of M-parameter 13. 10) Issue a SETPARAM.request service primitive in order to set the value of M-parameter 13 to a value different from the one retrieved in step 5). 11) Verify correct automatic notification of the change of value of M-parameter 13. 12) Issue COMMAND 10 "Monitor" with value 0 in order to stop monitoring of M-parameter 13. 13) Issue a SETPARAM.request service primitive in order to set the value of M-parameter 13 to a value different from those used in steps 2), 5) and 11). 14) Verify that no automatic notification of the change of value of M-parameter 13 is performed. 	

TP/MB/BV/07	Verify that the IUT correctly handles GETPARAM and SETPARAM requests for read/write VCI MIB M-parameters in case multiple UC-VCIs are existent
	Reference: ISO 21218 [1]: Clause 5.3.1; annex A
	ICS Selection: Table C.6/3
	TC reference: TC_MB_BV_07
	Initial condition: The IUT shall be in the CI state "connected". At least two UC-VCIs A and B shall exist. All parameters shall have default values.
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Perform the following steps for all mandatory and optionally supported parameters in ICS selection Table C.15. 2) Issue a GETPARAM.request service primitive to the VCI A in order to retrieve the current value of the selected M-parameter. 3) Verify reception of a GETPARAM.confirm service primitive from VCI A and verify that the value retrieved is equal to the default value of the retrieved M-parameter. 4) Issue a SETPARAM.request service primitive to VCI A in order to write a value different from the default value. 5) Wait at least for a time specified by the applicant that is needed to ensure reception of a SETPARAM.confirm service primitive as a reply to step 4). 6) Verify that either no SETPARAM.confirm service primitive was received in step 5), or the service primitive indicates success of the SETPARAM.request performed in step 4). 7) Issue a GETPARAM.request service primitive to the VCI B in order to retrieve the current value of the selected M-parameter. 8) Verify reception of a GETPARAM.confirm service primitive from VCI B and verify that the value retrieved is equal to the default value of the retrieved M-parameter. 9) Issue a SETPARAM.request service primitive to VCI B in order to write a value different from the default value and different from the value used in step 4). 10) Wait at least for a time specified by the applicant that is needed to ensure reception of a SETPARAM.confirm service primitive as a reply to step 9). 11) Verify that either no SETPARAM.confirm service primitive was received in step 10), or the service primitive indicates success of the SETPARAM.request performed in step 9). 12) Issue a GETPARAM.request service primitive to the VCI A in order to retrieve the current value of the selected M-parameter. 13) Verify reception of a GETPARAM.confirm service primitive from VCI A and verify that the value retrieved is equal to the one used in step 4). 14) Issue a GETPARAM.request service primitive to the VCI B in order to retrieve the current value of the selected M-parameter. 15) Verify reception of a GETPARAM.confirm service primitive from VCI B and verify that the value retrieved is equal to the one used in step 9). 	

TP/MB/BV/08	Verify that the IUT correctly handles GETPARAM and SETPARAM requests for read/write VCI MIB M-parameters in case a UC-VCI and a BC-VCI are existent
	Reference: ISO 21218 [1]: Clause 5.3.1; annex A
	ICS Selection: Table C.6/1 AND Table C.6/3
	TC reference: TC_MB_BV_08
Initial condition: The IUT shall be in the CI state "active". All parameters shall have default values.	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Perform the following steps for all mandatory and optionally supported parameters in ICS selection Table C.15. 2) Issue a GETPARAM.request service primitive to the UC-VCI in order to retrieve the current value of the selected M-parameter. 3) Verify reception of a GETPARAM.confirm service primitive from UC-VCI and verify that the value retrieved is equal to the default value of the retrieved M-parameter. 4) Issue a SETPARAM.request service primitive to UC-VCI in order to write a value different from the default value. 5) Wait at least for a time specified by the applicant that is needed to ensure reception of a SETPARAM.confirm service primitive as a reply to step 4). 6) Verify that either no SETPARAM.confirm service primitive was received in step 5), or the service primitive indicates success of the SETPARAM.request performed in step 4). 7) Issue a GETPARAM.request service primitive to the BC-VCI in order to retrieve the current value of the selected M-parameter. 8) Verify reception of a GETPARAM.confirm service primitive from BC-VCI and verify that the value retrieved is equal to the default value of the retrieved M-parameter. 9) Issue a SETPARAM.request service primitive to BC-VCI in order to write a value different from the default value and different from the value used in step 4). 10) Wait at least for a time specified by the applicant that is needed to ensure reception of a SETPARAM.confirm service primitive as a reply to step 9). 11) Verify that either no SETPARAM.confirm service primitive was received in step 10), or the service primitive indicates success of the SETPARAM.request performed in step 9). 12) Issue a GETPARAM.request service primitive to the UC-VCI in order to retrieve the current value of the selected M-parameter. 13) Verify reception of a GETPARAM.confirm service primitive from UC-VCI and verify that the value retrieved is equal to the one used in step 4). 14) Issue a GETPARAM.request service primitive to the BC-VCI in order to retrieve the current value of the selected M-parameter. 15) Verify reception of a GETPARAM.confirm service primitive from BC-VCI and verify that the value retrieved is equal to the one used in step 9). 	

TP/MB/BV/09	Verify that the IUT correctly handles GETPARAM and SETPARAM requests for read/write VCI MIB M-parameters in case multiple MC-VCIs are existent
	Reference: ISO 21218 [1]: Clause 5.3.1; annex A
	ICS Selection: Table C.6/2
	TC reference: TC_MB_BV_09
	Initial condition: The IUT shall be in the CI state "connected". At least two MC-VCIs A and B shall exist. All parameters shall have default values.
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Perform the following steps for all mandatory and optionally supported parameters in ICS selection Table C.15. 2) Issue a GETPARAM.request service primitive to the VCI A in order to retrieve the current value of the selected M-parameter. 3) Verify reception of a GETPARAM.confirm service primitive from VCI A and verify that the value retrieved is equal to the default value of the retrieved M-parameter. 4) Issue a SETPARAM.request service primitive to VCI A in order to write a value different from the default value. 5) Wait at least for a time specified by the applicant that is needed to ensure reception of a SETPARAM.confirm service primitive as a reply to step 4). 6) Verify that either no SETPARAM.confirm service primitive was received in step 5), or the service primitive indicates success of the SETPARAM.request performed in step 4). 7) Issue a GETPARAM.request service primitive to the VCI B in order to retrieve the current value of the selected M-parameter. 8) Verify reception of a GETPARAM.confirm service primitive from VCI B and verify that the value retrieved is equal to the default value of the retrieved M-parameter. 9) Issue a SETPARAM.request service primitive to VCI B in order to write a value different from the default value and different from the value used in step 4). 10) Wait at least for a time specified by the applicant that is needed to ensure reception of a SETPARAM.confirm service primitive as a reply to step 9). 11) Verify that either no SETPARAM.confirm service primitive was received in step 10), or the service primitive indicates success of the SETPARAM.request performed in step 9). 12) Issue a GETPARAM.request service primitive to the VCI A in order to retrieve the current value of the selected M-parameter. 13) Verify reception of a GETPARAM.confirm service primitive from VCI A and verify that the value retrieved is equal to the one used in step 4). 14) Issue a GETPARAM.request service primitive to the VCI B in order to retrieve the current value of the selected M-parameter. 15) Verify reception of a GETPARAM.confirm service primitive from VCI B and verify that the value retrieved is equal to the one used in step 9). 	

TP/MB/BV/10	Verify that the IUT correctly assigns default values of MIB M-parameters for a newly created UC-VCI
	Reference: ISO 21218 [1]: Clause 5.3.3.1; annex A
	ICS Selection: Table C.6/3
	TC reference: TC_MB_BV_10
	Initial condition: The IUT shall be in the CI state "active". A single UC-VCI A shall exist. All parameters shall have default values.
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Perform the following steps for all mandatory and optionally supported parameters in ICS selection Table C.15. 2) Issue a GETPARAM.request service primitive to the VCI A in order to retrieve the current value of the selected M-parameter. 3) Verify reception of a GETPARAM.confirm service primitive from VCI A and verify that the value retrieved is equal to the default value of the retrieved M-parameter. 4) Issue a SETPARAM.request service primitive to VCI A in order to write a value different from the default value. 5) Wait at least for a time specified by the applicant that is needed to ensure reception of a SETPARAM.confirm service primitive as a reply to step 4). 6) Verify that either no SETPARAM.confirm service primitive was received in step 5), or the service primitive indicates success of the SETPARAM.request performed in step 4). 7) Issue a GETPARAM.request service primitive to the VCI A in order to retrieve the current value of the same M-parameter as used in step 4). 8) Verify reception of a GETPARAM.confirm service primitive from VCI B and verify that the value retrieved is equal to the value as used in step 4)..Issue COMMAND 9 "VCIcmd" in order to create a new UC-VCI, referred to as VCI B. 9) Verify that the command issued in step 7) is not confirmed with an error message. 10) Verify reception of REQUEST 9 notifying creation of the new UC-VCI B by the IUT. 11) Issue a GETPARAM.request service primitive to the VCI B in order to retrieve the current value of the same M-parameter as used in step 2). 12) Verify reception of a GETPARAM.confirm service primitive from VCI B and verify that the value retrieved is equal to the default value of the retrieved M-parameter. 	

5.3.2 Invalid behaviour tests

TP/MB/BI/01	Verify that a VCI in the IUT correctly handles GETPARAM requests for non-existent M-parameters
	Reference: ISO 21218 [1]: Clause 5.5.3, annex A, D
	ICS Selection:
	TC reference: TC_MB_BI_01
	Initial condition: The IUT shall be in the CI state "active".
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Perform the following steps for one of the VCIs of the IUT and for all values of M-Param.No which are reserved for future use or not supported by the IUT. 2) Issue a GETPARAM.request service primitive to the VCI in order to retrieve the current value of the selected M-parameter. 3) Verify reception of a GETPARAM.confirm service primitive indicating ErrStatus 2 "INVALID PARAMETER NUMBER". 	

TP/MB/BI/02	Verify that the CI in the IUT correctly handles GETPARAM requests for non-existent M-parameters
	Reference: ISO 21218 [1]: Clause 5.5.3, annexes A and D
	ICS Selection:
	TC reference: TC_MB_BI_02
	Initial condition: The IUT shall be in the CI state "active".
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Perform the following steps for all values of M-Param.No which are reserved for future use or not supported by the IUT. 2) Issue a GETPARAM.request service primitive to the CI in order to retrieve the current value of the selected M-parameter. 3) Verify reception of a GETPARAM.confirm service primitive indicating ErrStatus 2 "INVALID PARAMETER NUMBER". 	

TP/MB/BI/03	Verify that a VCI in the IUT correctly handles SETPARAM requests for read-only M-parameters
	Reference: ISO 21218 [1]: Clause 5.5.2, annexes A and D
	ICS Selection:
	TC reference: TC_MB_BI_03
Initial condition: The IUT shall be in the CI state "active".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Perform the following steps for one of the VCIs of the IUT and for all mandatory and optionally supported read-only M-parameters. 2) Issue a SETPARAM.request service primitive to the VCI in order to set a value of the selected M-parameter. 3) Verify reception of a SETPARAM.confirm service primitive indicating ErrStatus 7 "ACCESS VIOLATION". 	

TP/MB/BI/04	Verify that a CI in the IUT correctly handles SETPARAM requests for read-only M-parameters
	Reference: ISO 21218 [1]: Clause 5.5.2, annexes A and D
	ICS Selection:
	TC reference: TC_MB_BI_04
Initial condition: The IUT shall be in the CI state "active".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Perform the following steps for all mandatory and optionally supported read-only M-parameters. 2) Issue a SETPARAM.request service primitive to the CI in order to set a value of the selected M-parameter. 3) Verify reception of a SETPARAM.confirm service primitive indicating ErrStatus 7 "ACCESS VIOLATION". 	

TP/MB/BI/05	Verify that a VCI in the IUT correctly handles SETPARAM requests for read/write M-parameters with illegal value.
	Reference: ISO 21218 [1]: Clause 5.5.2; annexes A and D
	ICS Selection:
	TC reference: TC_MB_BI_05
Initial condition: The IUT shall be in the CI state "active".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Perform the following steps for one of the VCIs of the IUT and for all mandatory and optionally supported read-only M-parameters in case illegal values exist as specified in the related standard. 2) Issue a SETPARAM.request service primitive to the VCI in order to set an illegal value of the selected M-parameter. 3) Verify reception of a SETPARAM.confirm service primitive indicating ErrStatus 3 "INVALID PARAMETER VALUE". 	

TP/MB/BI/06	Verify that a VCI in the IUT correctly handles SETPARAM requests for non-existent M-parameters
	Reference: ISO 21218 [1]: Clause 5.5.2; annexes A and D
	ICS Selection:
	TC reference: TC_MB_BI_06
Initial condition: The IUT shall be in the CI state "active".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Perform the following steps for one of the VCIs of the IUT and for all read-only M-parameters being reserved for future use or not being supported optionally. 2) Issue a SETPARAM.request service primitive to the VCI in order to set a value of the selected M-parameter. 3) Verify reception of a SETPARAM.confirm service primitive indicating ErrStatus 2 "INVALID PARAMETER NUMBER". 	

TP/MB/BI/07	Verify that a CI in the IUT correctly handles SETPARAM requests for non-existent M-parameters
	Reference: ISO 21218 [1]: Clause 5.5.2; annexes A and D
	ICS Selection:
	TC reference: TC_MB_BI_07
Initial condition: The IUT shall be in the CI state "active".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Perform the following steps for all read-only M-parameters being reserved for future use or not being supported optionally. 2) Issue a SETPARAM.request service primitive to the CI in order to set a value of the selected M-parameter. 3) Verify reception of a SETPARAM.confirm service primitive indicating ErrStatus 2 "INVALID PARAMETER NUMBER". 	

TP/MB/BI/08	Verify that a CI in the IUT correctly handles GETPARAM requests for write-only M-parameters
	Reference: ISO 21218 [1]: Clause 5.5.3; annexes A and D
	ICS Selection:
	TC reference: TC_MB_BI_08
Initial condition: The IUT shall be in the CI state "active".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Perform the following steps for all mandatory and optionally supported write-only M-parameters. 2) Issue a GETPARAM.request service primitive in order to retrieve the current value of the selected M-parameter. 3) Verify reception of a GETPARAM.confirm service primitive indicating ErrStatus 7 "ACCESS VIOLATION". 	

5.4 Handling of CIs

5.4.1 Valid behaviour tests

TP/HC/BV/01	Verify that the IUT correctly handles COMMAND 2 "WakeUp"
	Reference: ISO 21218 [1]: clause 5.5.4; annex B
	ICS Selection: Table C.11/3
	TC reference: TC_HC_BV_01
Initial condition: The IUT shall be in the CI state "active".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue COMMAND 2 "WakeUp" in order to disable transmission of wake-up signals. 2) Verify that no wake-up signals are sent. 3) Issue COMMAND 2 "WakeUp" in order to enable transmission of wake-up signals with a valid repetition rate. 4) Verify reception of wake-up signals in the rate requested in step 3). 	

TP/HC/BV/02	Verify that the IUT correctly handles COMMAND 8 "ManuCmd" and REQUEST 8 "ManuReq"
	Reference: ISO 21218 [1]: clauses 5.5.4, 5.5.5; annexes B, C and D
	ICS Selection: Table C.11/9 AND Table C.12/6
	TC reference: TC_HC_BV_02
Initial condition: The IUT shall be in any one of the possible CI states different from the CI states "non-existent" and "existent".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue COMMAND 8 "ManuCmd" to send a manufacturer-specific command to the IUT. 2) Verify that the command issued in step 1) is not confirmed with an error message. 3) Verify reception of REQUEST 2 "ManuReq" containing a valid reply to the command issued in step 1). 	

TP/HC/BV/03	Verify that the IUT correctly handles COMMAND 7 "RIcmd" and REQUEST 7 "RIreq"
	Reference: ISO 21218 [1]: clauses 5.2.4.13, 5.5.4, 5.5.5; annexes A, B, C and D
	ICS Selection: Table C.8/13
	TC reference: TC_HC_BV_03
Initial condition: The IUT shall be in any one of the possible CI states different from the CI states "non-existent" and "existent".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue GETPARAM.request service primitive in order to retrieve the actual value of M-parameter 25 "RegulatoryInformation". 2) Dependent on the implementation, request the IUT to issue REQUEST 7 "RIcmd". 3) Verify reception of REQUEST 7 "RIcmd". 4) Issue COMMAND 7 "RIcmd" to provide regulatory information to the IUT which is different from the one retrieved in step 1). 5) Verify that the command issued in step 4) is not confirmed with an error message. 6) Issue GETPARAM.request service primitive in order to retrieve the actual value of M-parameter 25 "RegulatoryInformation". 7) Verify that the regulatory information retrieved in step 6) is equal to the information used in step 4). 	

TP/HC/BV/04	Verify that the IUT correctly handles COMMAND 7 "Rlcmd"
	Reference: ISO 21218 [1]: clauses 5.2.4.13, 5.5.4, 5.5.5; annexes A, B and D
	ICS Selection: Table C.8/13
	TC reference: TC_HC_BV_04
Initial condition: The IUT shall be in any one of the possible CI states different from the CI states "non-existent" and "existent".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue GETPARAM.request service primitive in order to retrieve the actual value of M-parameter 25 "RegulatoryInformation". 2) Issue COMMAND 7 "Rlcmd" to provide regulatory information to the IUT which is different from the one retrieved in step 1). 3) Verify that the command issued in step 2) is not confirmed with an error message. 4) Issue GETPARAM.request service primitive in order to retrieve the actual value of M-parameter 25 "RegulatoryInformation". 5) Verify that the regulatory information retrieved in step 4) is equal to the information used in step 2). 	

TP/HC/BV/05	Verify that the IUT correctly handles COMMAND 9 "VCIcmd" - Delete UC-VCI
	Reference: ISO 21218 [1]: clauses 5.3.3.3, 5.4, 5.5.4; annexes B, C and D
	ICS Selection: Table C.6/3
	TC reference: TC_HC_BV_05
Initial condition: The IUT shall be in the CI state "connected".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue COMMAND 9 "VCIcmd" in order to delete the UC-VCI. 2) Verify that the command issued in step 1) is not confirmed with an error message. 3) Verify reception of REQUEST 9 notifying deletion of the UC-VCI by the IUT. 4) Request transmission of a frame by the Tester CI to the MAC address of the IUT with a source MAC address equal to the MAC address related to the UC-VCI deleted in step 1). 5) Verify reception of REQUEST 9 notifying creation of a new UC-VCI with the source MAC address of step 4), and verify reception of a DL-UNITDATA.indication service primitive containing the message transmitted in step 4). 	

TP/HC/BV/06	Verify that the IUT correctly handles COMMAND 9 "VCIcmd" - Reset UC-VCI
	Reference: ISO 21218 [1]: clause 5.3.3.2, clause 5.5.4; annexes B, C and D
	ICS Selection: Table C.6/3
	TC reference: TC_HC_BV_06
Initial condition: The IUT shall be in the CI state "connected".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue a GETPARAM.request service primitive to the UC-VCI in order to retrieve the value of M-parameter 13 "InactivityTimeLimit". 2) Verify that the value of M-parameter 13 read in step 1) is equal to the default value. 3) Issue a SETPARAM.request service primitive to the UC-VCI in order to set M-parameter 13 to a value different from the default value. 4) Issue a GETPARAM.request service primitive to the UV-VCI in order to retrieve the value of M-parameter 13. 5) Verify that the value of M-parameter 13 read in step 4) is equal to the value set in step 3). 6) Issue COMMAND 9 "VCIcmd" in order to reset the UC-VCI. 7) Verify that the command issued in step 6) is not confirmed with an error message. 8) Verify reception of REQUEST 9 notifying resetting of the UC-VCI by the IUT. 9) Issue a GETPARAM.request service primitive to the UV-VCI in order to retrieve the value of M-parameter 13. 10) Verify that the value of M-parameter 13 read in step 1) is equal to the default value. 	

TP/HC/BV/07	Verify that the IUT correctly handles COMMAND 9 "VCIcmd" - Create UC-VCI
	Reference: ISO 21218 [1]: clauses 5.3.3.1, 5.4, 5.5.4; annexes B, C and D
	ICS Selection: Table C.6/3
	TC reference: TC_HC_BV_07
Initial condition: The IUT shall be in the CI state "connected".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue COMMAND 9 "VCIcmd" in order to create a UC-VCI. 2) Verify that the command issued in step 1) is not confirmed with an error message. 3) Verify reception of REQUEST 9 notifying creation of the UC-VCI by the IUT. 4) Request transmission of a frame by the Tester CI to the MAC address of the IUT with a source MAC address equal to the MAC address related to the UC-VCI created in step 1). 5) Verify reception of a DL-UNITDATA.indication service primitive containing the message transmitted in step 4). 6) Verify that, within a time needed to create a new VCI upon reception of a frame from a new peer station, no REQUEST 9 is received notifying creation of a new UC-VCI. 	

TP/HC/BV/08	Verify that the IUT correctly handles position updates
	Reference: ISO 21218 [1]: clauses 5.5.2, 5.5.5; annexes B, C and D
	ICS Selection: Table C.12/8 AND Table C.19/3
	TC reference: TC_HC_BV_08
Initial condition: The IUT shall be in the CI state "active".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Dependent on the implementation, request the IUT to request periodic provision of position updates with a given interval. 2) Verify reception of REQUEST 10 requesting position updates. Note the interval requested. 3) Issue a SETPARAM.request service primitive to the CI in order to set M-parameter 40 "KinematicVectorIn" . 4) Verify that there is no SETPARAM.confirm service primitive received which indicates an error in step 3). 5) Repeat steps 3) and 4) with a period as given by the interval in step 2) until the IUT, dependent on the implementation, requests to stop periodic provision of position updates. 6) Verify reception of REQUEST 10 requesting to stop position updates. 	

TP/HC/BV/09	Verify that the IUT correctly supports at least one networking protocol carried on a MAC broadcast frame
	Reference: ISO 21218 [1]: annex A
	ICS Selection: NOT (Table C.4/1 AND Table C.4/2 AND Table C.4/3 AND Table C.4/4 AND Table C.4/5) AND Table C.6/1
	TC reference: TC_HC_BV_09
Initial condition: The IUT shall be in the CI state "active".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue a GETPARAM.request service primitive to the CI in order to retrieve the value of M-parameter 23 "NWsupport". 2) Verify that the SETPARAM.confirm service primitive reports support of at least one networking protocol. Note the supported networking protocols. 3) Transmit a data frame via the BC-VCI of the Tester CI using one of the networking protocols for which support was claimed in step 2). 4) Verify reception of the frame transmitted in step 3) by the IUT, i.e. reporting the proper SAP address in the DL-UNITDATA.indication service primitive of the C-SAP. 5) Repeat steps 3) and 4) for all other networking protocols for which support was claimed in step 2). 	

TP/HC/BV/10	Verify that the IUT correctly supports at least one networking protocol carried on a MAC multicast frame
	Reference: ISO 21218 [1]: annex A
	ICS Selection: NOT (Table C.4/1 AND Table C./2 AND Table C.4/3 AND Table C.4/4 AND Table C.4/5) AND Table C.6/2
	TC reference: TC_HC_BV_10
Initial condition: The IUT shall be in the CI state "active".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue a GETPARAM.request service primitive to the CI in order to retrieve the value of M-parameter 23 "NWsupport" . 2) Verify that the SETPARAM.confirm service primitive reports support of at least one networking protocol. Note the supported networking protocols. 3) Transmit a data frame via the MC-VCI of the Tester CI using one of the networking protocols for which support was claimed in step 2). 4) Verify reception of the frame transmitted in step 3) by the IUT, i.e. reporting the proper SAP address in the DL-UNITDATA.indication service primitive of the C-SAP. 5) Repeat steps 3) and 4) for all other networking protocols for which support was claimed in step 2). 	

TP/HC/BV/11	Verify that the IUT correctly supports at least one networking protocol carried on a MAC unicast frame
	Reference: ISO 21218 [1]: annex A
	ICS Selection: NOT (Table C.4/1 AND Table C./2 AND Table C.4/3 AND Table C.4/4 AND Table C.4/5) AND Table C.6/3
	TC reference: TC_HC_BV_11
Initial condition: The IUT shall be in the CI state "connected".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue a GETPARAM.request service primitive to the CI in order to retrieve the value of M-parameter 23 "NWsupport" . 2) Verify that the SETPARAM.confirm service primitive reports support of at least one networking protocol. Note the supported networking protocols. 3) Transmit a data frame via the UC-VCI of the Tester CI using one of the networking protocols for which support was claimed in step 2). 4) Verify reception of the frame transmitted in step 3) by the IUT, i.e. reporting the proper SAP address in the DL-UNITDATA.indication service primitive of the C-SAP. 5) Repeat steps 3) and 4) for all other networking protocols for which support was claimed in step 2). 	

TP/HC/BV/12	Verify that the IUT correctly reports the type of medium
	Reference: ISO 21218 [1]: annex A
	ICS Selection:
	TC reference: TC_HC_BV_12
Initial condition: The IUT shall be in the CI state "active".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue a GETPARAM.request service primitive to the CI in order to retrieve the value of M-parameter 22 "MedType" . 2) Verify reception of a SETPARAM.confirm service primitive being a reply to step 1). 3) Verify that the service primitive received in step 2) does not report the value "0" (unknown). 4) Verify that the service primitive received in step 2) does not report the value "1" (any type). 5) Verify that the service primitive received in step 2) reports the same medium type as declared by the applicant. 	

5.4.2 Invalid behaviour tests

TP/HC/BI/01	Verify that the IUT correctly handles REQUEST 7 "Rlreq" and invalid information provided in COMMAND 7 "Rlcmd"
	Reference: ISO 21218 [1]: clauses 5.2.4.13, 5.5.3, 5.5.4, 5.5.5; annex A, B, C and D
	ICS Selection: Table C.8/13
	TC reference: TC_HC_BI_01
Initial condition: The IUT shall be in any one of the possible CI states different from the CI states "non-existent" and "existent".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue GETPARAM.request service primitive in order to retrieve the actual value of M-parameter 25 "RegulatoryInformation". 2) Dependent on the implementation, request the IUT to issue REQUEST 7 "Rlcmd". 3) Verify reception of REQUEST 7 "Rlcmd". 4) Issue COMMAND 7 "Rlcmd" to provide invalid (=valid for a different type of CI) regulatory information to the IUT. 5) Verify that the command issued in step 4) is confirmed with an error message with error code 7 "INVALID COMMAND/REQUEST VALUE". 6) Issue GETPARAM.request service primitive in order to retrieve the actual value of M-parameter 25 "RegulatoryInformation". 7) Verify that the regulatory information retrieved in step 6) is equal to the information retrieved in step 1). 	
TP/HC/BI/02	Verify that the IUT correctly handles invalid information provided in COMMAND 7 "Rlcmd"
	Reference: ISO 21218 [1]: clauses 5.2.4.13, 5.5.3, 5.5.4, 5.5.5; annexes A, B and D
	ICS Selection: Table C.8/13
	TC reference: TC_HC_BI_02
Initial condition: The IUT shall be in any one of the possible CI states different from the CI states "non-existent" and "existent".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue GETPARAM.request service primitive in order to retrieve the actual value of M-parameter 25 "RegulatoryInformation". 2) Issue COMMAND 7 "Rlcmd" to provide invalid (=valid for a different type of CI) regulatory information to the IUT which is different from the one retrieved in step 1). 3) Verify that the command issued in step 2) is confirmed with an error message with error code 7 "INVALID COMMAND/REQUEST VALUE". 4) Issue GETPARAM.request service primitive in order to retrieve the actual value of M-parameter 25 "RegulatoryInformation". 5) Verify that the regulatory information retrieved in step 4) is equal to the information retrieved in step 1). 	
TP/HC/BI/03	Verify that the IUT correctly handles an invalid COMMAND
	Reference: ISO 21218 [1]: clause 5.5.4; annexes B, D and E
	ICS Selection:
	TC reference: TC_HC_BI_03
Initial condition: The IUT shall be in any one of the possible CI states different from the CI states "non-existent" and "existent".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue a COMMAND.request service primitive with invalid M-Command.No. 2) Verify that the command issued in step 2) is confirmed with an error message with error code 5 "INVALID COMMAND/REQUEST NUMBER". 3) Repeat steps 1) and 2) for all missing invalid values of M-Command.No. 	

5.5 Handling of data plane

5.5.1 Valid behaviour tests

TP/DP/BV/01	Verify that the IUT correctly handles a DL-UNITDATA transmission request with MAC broadcast address
	Reference: ISO 21218 [1]: clause 5.4
	ICS Selection: Table C.6/1
	TC reference: TC_DP_BV_01
Initial condition: The IUT shall be in the CI state "active".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Request transmission of a data frame via the BC-VCI of the IUT. 2) Verify reception of the frame transmitted in step 1 by the Tester CI. 	

TP/DP/BV/02	Verify that the IUT correctly handles a DL-UNITDATA transmission request with MAC multicast address
	Reference: ISO 21218 [1]: clause 5.4
	ICS Selection: Table C.6/2
	TC reference: TC_DP_BV_02
Initial condition: The IUT shall be in the CI state "active".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Request transmission of a data frame via the MC-VCI of the IUT. 2) Verify reception of the frame transmitted in step 1 by the Tester CI. 	

TP/DP/BV/03	Verify that the IUT correctly handles a DL-UNITDATA transmission request with MAC unicast address
	Reference: ISO 21218 [1]: clause 5.4
	ICS Selection: Table C.6/3
	TC reference: TC_DP_BV_03
Initial condition: The IUT shall be in the CI state "connected"	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Request transmission of a data frame via the UC-VCI of the IUT. 2) Verify reception of the frame transmitted in step 1 by the Tester CI. 	

TP/DP/BV/04	Verify that the IUT correctly handles a DL-UNITDATA reception notification with MAC broadcast address
	Reference: ISO 21218 [1]: clause 5.4
	ICS Selection: Table C.6/3 OR Table C.6/4
	TC reference: TC_DP_BV_04
Initial condition: The IUT shall be in the CI state "connected"	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Request transmission of a data frame via the Tester CI to the IUT using a MAC broadcast address. 2) Verify reception of a DL-UNITDATA.indication service primitive at the C-SAP containing the data transmitted in step 1. 	

TP/DP/BV/05	Verify that the IUT correctly handles a DL-UNITDATA reception notification with MAC multicast address
	Reference: ISO 21218 [1]: clause 5.4
	ICS Selection: Table C.6/3 OR Table C.6/4
	TC reference: TC_DP_BV_05
Initial condition: The IUT shall be in the CI state "active".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Request transmission of a data frame via the Tester CI to the IUT using a MAC multicast address. 2) Verify reception of a DL-UNITDATA.indication service primitive at the C-SAP containing the data transmitted in step 1. 	

TP/DP/BV/06	Verify that the IUT correctly handles a DL-UNITDATA reception notification with MAC unicast address with the IUT being in the state "connected"
	Reference: ISO 21218 [1]: clause 5.4
	ICS Selection: Table C.6/3
	TC reference: TC_DP_BV_06
Initial condition: The IUT shall be in the CI state "connected"	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Request transmission of a data frame via the Tester CI to the IUT using the MAC unicast address of the IUT. 2) Verify reception of a DL-UNITDATA.indication service primitive at the C-SAP containing the data transmitted in step 1. 	

TP/DP/BV/07	Verify that the IUT correctly handles a DL-UNITDATA reception notification with MAC unicast address with the IUT being in the state "active"
	Reference: ISO 21218 [1]: clause 5.4
	ICS Selection: Table C.6/3
	TC reference: TC_DP_BV_07
Initial condition: The IUT shall be in the CI state "active".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Request transmission of a data frame via the Tester CI to the IUT using the MAC unicast address of the IUT. 2) Verify reception of a DL-UNITDATA.indication service primitive at the C-SAP containing the data transmitted in step 1. 	

TP/DP/BV/08	Verify that the IUT correctly handles concurrent DL-UNITDATA transmission requests to MAC broadcast, multicast and unicast addresses with different priority values
	Reference: ISO 21218 [1]: clause 5.3.1, 5.4, 5.5.4, 5.5.5; annexes A, B, C and D
	ICS Selection: Table C.6/1 AND Table C.6/2 AND Table C.6/3
	TC reference: TC_DP_BV_08
Initial condition: The IUT shall be in the CI state "connected"	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue COMMAND 1 "CIstateChng" with the value "suspend". 2) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "suspended". 3) Request transmission of a data frame via the BC-VCI of the IUT with the parameter "priority" in the DL-UNITDATA.request service primitive set to zero. 4) Request transmission of a data frame via the MC-VCI of the IUT with the parameter "priority" in the DL-UNITDATA.request service primitive set to the previous value incremented by one. 5) Request transmission of a data frame via the UC-VCI of the IUT with the parameter "priority" in the DL-UNITDATA.request service primitive set to the previous value incremented by one. 6) Repeat step 3) with the parameter "priority" in the DL-UNITDATA.request service primitive set to the previous value incremented by one. 7) Repeat steps 4) through 6) until all valid values of "priority" are used. Avoid duplicate multicast addresses. 8) Issue COMMAND 1 "CIstateChng" with the value "reactivate". 9) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "connected". 10) Verify reception of DL-UNITDATA.indication service primitives at the Tester CI containing the data transmitted in steps 3) through 7) in the order of decreasing values of "priority". 	

TP/DP/BV/09	Verify that the IUT correctly handles concurrent DL-UNITDATA transmission requests to MAC broadcast and multicast addresses with different priority values
	Reference: ISO 21218 [1]: clause 5.3.1, 5.4, 5.5.4, 5.5.5; annexes A, B and C
	ICS Selection: Table C.6/1 AND Table C.6/2
	TC reference: TC_DP_BV_09
Initial condition: The IUT shall be in the CI state "active".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue COMMAND 1 "CIstateChng" with the value "suspend". 2) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "suspended". 3) Request transmission of a data frame via the BC-VCI of the IUT with the parameter "priority" in the DL-UNITDATA.request service primitive set to zero. 4) Request transmission of a data frame via the MC-VCI of the IUT with the parameter "priority" in the DL-UNITDATA.request service primitive set to the previous value incremented by one. 5) Repeat step 3) with the parameter "priority" in the DL-UNITDATA.request service primitive set to the previous value incremented by one. 6) Repeat steps 4) through 5) until all valid values of "priority" are used. Avoid duplicate multicast addresses. 7) Issue COMMAND 1 "CIstateChng" with the value "reactivate". 8) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "active". 9) Verify reception of DL-UNITDATA.indication service primitives at the Tester CI containing the data transmitted in steps 3) through 6) in the order of decreasing values of "priority". 	

TP/DP/BV/10	Verify that the IUT correctly handles concurrent DL-UNITDATA transmission requests to a MAC broadcast address with different priority values
	Reference: ISO 21218 [1]: clause 5.3.1, 5.4, 5.5.4, 5.5.5; annexes A, B and C
	ICS Selection: Table C.6/1
	TC reference: TC_DP_BV_10
Initial condition: The IUT shall be in the CI state "active".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue COMMAND 1 "CIstateChng" with the value "suspend". 2) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "suspended". 3) Request transmission of a data frame via the BC-VCI of the IUT with the parameter "priority" in the DL-UNITDATA.request service primitive set to zero. 4) Repeat step 3) with the parameter "priority" in the DL-UNITDATA.request service primitive set to the previous value incremented by one. 5) Repeat step 4) with the parameter "priority" in the DL-UNITDATA.request service primitive set to the previous value incremented by one until all valid values of "priority" are used. 6) Issue COMMAND 1 "CIstateChng" with the value "reactivate". 7) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "active". 8) Verify reception of DL-UNITDATA.indication service primitives at the Tester CI containing the data transmitted in steps 3) through 5) in the order of decreasing values of "priority". 	

TP/DP/BV/11	Verify that the IUT correctly handles concurrent DL-UNITDATA transmission requests to a MAC unicast address with different priority values
	Reference: ISO 21218 [1]: clause 5.3.1, 5.4, 5.5.4, 5.5.5; annexes A, B and C
	ICS Selection: Table C.6/3
	TC reference: TC_DP_BV_11
Initial condition: The IUT shall be in the CI state "connected".	

Stimulus and Expected Behaviour:

- 1) Issue COMMAND 1 "CIstateChng" with the value "suspend".
- 2) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "suspended".
- 3) Request transmission of a data frame via the UC-VCI of the IUT with the parameter "priority" in the DL-UNITDATA.request service primitive set to zero.
- 4) Repeat step 3) with the parameter "priority" in the DL-UNITDATA.request service primitive set to the previous value incremented by one.
- 5) Repeat step 4) with the parameter "priority" in the DL-UNITDATA.request service primitive set to the previous value incremented by one until all valid values of "priority" are used.
- 6) Issue COMMAND 1 "CIstateChng" with the value "reactivate".
- 7) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "connected".
- 8) Verify reception of DL-UNITDATA.indication service primitives at the Tester CI containing the data transmitted in steps 3) through 5) in the order of decreasing values of "priority".

TP/DP/BV/12	Verify that the IUT correctly handles transmission of MAC management frames to a MAC broadcast address
	Reference: ISO 21218 [1]: clauses 5.4, 5.5.4, 5.5.7 ; annex B
	ICS Selection: Table C.6/1
	TC reference: TC_DP_BV_12
Initial condition: The IUT shall be in the CI state "active".	

Stimulus and Expected Behaviour:

- 1) Issue COMMAND 255 "UnitDataCmd" with a value defined by the applicant requesting transmission of a MAC management frame to the MAC broadcast address.
- 2) Verify reception of a MAC management frame at the Tester CI with the payload used in step 1).

TP/DP/BV/13	Verify that the IUT correctly handles transmission of MAC management frames to a MAC multicast address
	Reference: ISO 21218 [1]: clauses 5.4, 5.5.4, 5.5.7; annex B
	ICS Selection: Table C.6/2
	TC reference: TC_DP_BV_13
Initial condition: The IUT shall be in the CI state "active".	

Stimulus and Expected Behaviour:

- 1) Issue COMMAND 255 "UnitDataCmd" with a value defined by the applicant requesting transmission of a MAC management frame to a MAC multicast address.
- 2) Verify reception of a MAC management frame at the Tester CI with the payload used in step 1).

TP/DP/BV/14	Verify that the IUT correctly handles transmission of MAC management frames to a MAC unicast address
	Reference: ISO 21218 [1]: clauses 5.4, 5.5.4, 5.5.7; annex B
	ICS Selection: Table C.6/3
	TC reference: TC_DP_BV_14
Initial condition: The IUT shall be in the CI state "connected"	

Stimulus and Expected Behaviour:

- 1) Issue COMMAND 255 "UnitDataCmd" with a value defined by the applicant requesting transmission of a MAC management frame to a MAC unicast address.
- 2) Verify reception of a MAC management frame at the Tester CI with the payload used in step 1).

TP/DP/BV/15	Verify that the IUT correctly handles reception of MAC management frames to a MAC broadcast address
	Reference: ISO 21218 [1]: clauses 5.4, 5.5.5, 5.5.7; annex C
	ICS Selection: Table C.6/1 AND Table C.12/9
	TC reference: TC_DP_BV_15
Initial condition: The IUT shall be in the CI state "active".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Request transmission of a MAC management frame to the MAC broadcast address by the Tester CI with a payload defined by the applicant. 2) Verify reception of REQUEST 255 "UnitDataReq" with the payload used in step 1). 	

TP/DP/BV/16	Verify that the IUT correctly handles transmission of MAC management frames to a MAC multicast address
	Reference: ISO 21218 [1]: clauses 5.4, 5.5.5, 5.5.7; annex C
	ICS Selection: Table C.6/2 AND Table C.12/9
	TC reference: TC_DP_BV_16
Initial condition: The IUT shall be in the CI state "active".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Request transmission of a MAC management frame to the MAC multicast address by the Tester CI with a payload defined by the applicant. 2) Verify reception of REQUEST 255 "UnitDataReq" with the payload used in step 1). 	

TP/DP/BV/17	Verify that the IUT correctly handles transmission of MAC management frames to a MAC unicast address
	Reference: ISO 21218 [1]: clauses 5.4, 5.5.5, 5.5.7; annex C
	ICS Selection: Table C.6/3 AND Table C.12/9
	TC reference: TC_DP_BV_17
Initial condition: The IUT shall be in the CI state "connected"	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Request transmission of a MAC management frame to the MAC unicast address by the Tester CI with a payload defined by the applicant. 2) Verify reception of REQUEST 255 "UnitDataReq" with the payload used in step 1). 	

TP/DP/BV/18	Verify that the IUT correctly handles notification of usage of priority queue in case of unicast transmissions
	Reference: ISO 21218 [1]: clauses 5.3.1, 5.4, 5.5.4, 5.5.5; annexes A, B and C
	ICS Selection: Table C.6/3 AND Table C.16/7 AND Table C.16/12
	TC reference: TC_DP_BV_18
	Initial condition: The IUT shall be in the CI state "connected" There shall be no pending frames for transmission.
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue COMMAND 1 "CIstateChng" with the value "suspend". 2) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "suspended". 3) Request transmission of a data frame via the UC-VCI of the IUT with priority set to 255 with a given fixed size of the LPDU. The LPDU shall contain a message counter.. 4) Repeat step 3) with incremented message counter until REQUEST 9 "Events" is received, indicating that the transmission queue has reached the upper threshold. Note the total number of transmission requests. 5) Verify that the event notified in step 4) indicated the priority value used in step 3). 6) Repeat step 3) with incremented message counter. 7) Repeat step 6) until REQUEST 9 "Events" is received, indicating that the transmission queue is full. Note the total number of transmission requests. 8) Verify that the event notified in step 7) indicates the priority value used in step 6). 9) Issue COMMAND 1 "CIstateChng" with the value "reactivate". 10) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "connected". 11) Verify that the Tester CI receives a number of unicast frames being sent by the IUT in the same order as transmission was requested, with the number of frames being equal to the number of transmission requests performed in step 7). 12) Verify that the Tester CI receives a unicast frame sent by the IUT which is the next being requested for transmission. 13) Repeat step 12) until REQUEST 9 "Events" is received, indicating that the transmission queue has reached the lower threshold. Note the number of frames received. 14) Verify that the event notified in step 13) indicates the priority value used in step 3). 15) Verify that the Tester CI receives all missing frames sent by the IUT, where the last transmission request might have failed. 	

TP/DP/BV/19	<p>Verify that the IUT correctly handles notification of usage of priority queue in case of broadcast and unicast transmissions</p> <p>Reference: ISO 21218 [1]: clauses 5.3.1, 5.4, 5.5.4, 5.5.5; annexes A,B and C</p> <p>ICS Selection: Table C.6/1 AND Table C.6/3 AND Table C.16/7 AND Table C.16/12</p> <p>TC reference: TC_DP_BV_19</p> <p>Initial condition: The IUT shall be in the CI state "connected" There shall be no pending frames for transmission.</p>
<p>Stimulus and Expected Behaviour:</p> <ol style="list-style-type: none"> 1) Issue COMMAND 1 "CIstateChng" with the value "suspend". 2) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "suspended". 3) Request transmission of a data frame via the BC-VCI of the IUT with priority set to 255 with a given fixed size of the LPDU. The LPDU shall contain a message counter. 4) Request transmission of a data frame via the UC-VCI of the IUT with priority set to the same value as in step 3) and with a given fixed size of the LPDU. The LPDU shall contain a message counter. The message counter shall be shared with the one for broadcast transmissions. 5) Repeat steps 3) and 4) until REQUEST 9 "Events" is received, indicating that the transmission queue has reached the upper threshold. Note the total number of transmission requests. 6) Verify that the event notified in step 5) indicated the priority value used in steps 3) and 4). 7) Repeat step 3) with incremented message counter. 8) Repeat step 4) with incremented message counter. 9) Repeat steps 7) and 8) until REQUEST 9 "Events" is received, indicating that the transmission queue is full. Note the total number of transmission requests. 10) Verify that the event notified in step 9) indicated the priority value used in steps 7) and 8). 11) Issue COMMAND 1 "CIstateChng" with the value "reactivate". 12) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "connected". 13) Verify that the Tester CI receives a number of broadcast frames indicated in step 7) being sent by the IUT in the same order as transmission was requested. 14) Verify that the Tester CI receives broadcast and unicast frames sent by the IUT in the sequence as requested for transmission, until REQUEST 9 "Events" is received, indicating that the transmission queue has reached the lower threshold. Note the number of frames received. 15) Verify that the event notified in step 15) indicates the priority value used in step 3). 16) Verify that the Tester CI receives all missing frames sent by the IUT in the sequence as requested for transmission, where the last transmission request might have failed. 	

TP/DP/BV/20	Verify that the IUT correctly handles notification of usage of priority queues in case of broadcast and unicast transmissions with different priorities
	Reference: ISO 21218 [1]: clauses 5.3.1, 5.4, 5.5.4, 5.5.5; annexes A, B and C
	ICS Selection: Table C.6/1 AND Table C.6/3 AND Table C.16/7 AND Table C.16/12
	TC reference: TC_DP_BV_20
	Initial condition: The IUT shall be in the CI state "connected". There shall be no pending frames for transmission.
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue COMMAND 1 "CIstateChng" with the value "suspend". 2) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "suspended". 3) Request transmission of a data frame via the BC-VCI of the IUT with priority set to 255 with a given fixed size of the LPDU. The LPDU shall contain a message counter dedicated to the priority value and the MAC frame type. 4) Request transmission of a data frame via the UC-VCI of the IUT with priority set to 100 with a given fixed size of the LPDU. The LPDU shall contain a message counter dedicated to the priority value and the MAC frame type. 5) Repeat steps 3) and / or 4) with incremented message counters until REQUEST 9 "Events" is received, indicating that the transmission queue has reached the upper threshold. Note the total number of transmission requests. Continue with step 6) only upon notification of both events, i.e. for priority used in step 3) and for priority used in step 4). 6) Verify that the events notified in step 5) indicated the priority values used in steps 3) and 4), respectively. 7) Request transmission of a data frame via the BC-VCI of the IUT with priority set to 100 with a given fixed size of the LPDU. The LPDU shall contain a message counter dedicated to the priority value and the MAC frame type. 8) Request transmission of a data frame via the UC-VCI of the IUT with priority set to 255 with a given fixed size of the LPDU. The LPDU shall contain a message counter dedicated to the priority value and the MAC frame type. 9) Repeat steps 7) and 8) with incremented message counters until REQUEST 9 "Events" is received, indicating that the transmission queue is full. Note the total number of transmission requests. Continue with step 10) only upon notification of both events, i.e. for priority used in step 7) and for priority used in step 8). 10) Verify that the events notified in step 9) indicated the priority values used in steps 7) and 8), respectively. 11) Issue COMMAND 1 "CIstateChng" with the value "reactivate". 12) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "connected". 13) Verify that the Tester CI receives frames from the IUT as requested for transmission in steps 3), 4), 7) and 8) in the sequence given by the priority value (first sorting) and the time of transmission request given by the value of the message counter (second sorting) until reception of two REQUESTs 9 "Events", indicating that the transmission queue has reached the lower threshold. Note the number of frames received. 14) Verify that the events notified in step 13) indicated the priority values used in steps 3)/8) and 4)/7). 15) Verify that the Tester CI receives all missing frames sent by the IUT in the sequence given by the priority value (first sorting) and the time of transmission request (second sorting), where the last two transmission request might have failed. 	

TP/DP/BV/21	Verify that the IUT correctly registers for the cross-CI prioritization procedure
	Reference: ISO 21218 [1]: clauses 5.2.4.11.2, 5.5.4, 5.5.5; annexes A, C and D
	ICS Selection: Table C.8/10
	TC reference: TC_DP_BV_21
	Initial condition: The IUT shall be in the CI state "not_existent".
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Dependent on the implementation, request the IUT to start the registration procedure. 2) Ignore all events which occur for the purpose to reach the CI state "active" and handle registration correctly. 3) Verify reception of REQUEST 1 "PrioReg" presenting the list of potential interferers and the timeout value as declared by the applicant. 	

TP/DP/BV/22	Verify that the IUT correctly requests cross-CI protection for BC-VCI transmission
	Reference: ISO 21218 [1]: clauses 5.2.4.11.3, 5.2.4.11.4, 5.3.1, 5.4, 5.5.4, 5.5.5; annexes A, B, C
	ICS Selection: Table C.6/1 AND Table C.8/10
	TC reference: TC_DP_BV_22
	Initial condition: The CI shall be registered for the cross-CI prioritization procedure. There shall be no pending frames for transmission. Parameter 44 "MinPrioCrossCI" shall be set to the value 100. The timeout value for cross-CI prioritization of the IUT shall be set to 255 ms. The IUT shall be in the CI state "active".
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Request transmission of a data frame via the BC-VCI with user priority equal to 100. 2) Verify reception of REQUEST 2 "RTSreq" indicating the priority used in step 1), a sequential number and the status "request". 3) Wait 200 ms and verify that the Tester CI did not receive the frame requested for transmission in step 1). 4) Send COMMAND 4 "RTSackCmd" with the sequential number presented in step 2) and the status "granted". 5) Verify that the Tester CI receives the frame requested for transmission in step 1). 6) Verify reception of REQUEST 2 "RTSreq" indicating the priority used in step 1), a sequential number used in step 1) and the status "release". 	

TP/DP/BV/23	Verify that the IUT correctly requests cross-CI protection for MC-VCI transmission
	Reference: ISO 21218 [1]: clauses 5.2.4.11.3, 5.2.4.11.4, 5.3.1, 5.4, 5.5.4, 5.5.5; annexes B and C
	ICS Selection: Table C.6/2 AND Table C.8/10
	TC reference: TC_DP_BV_23
	Initial condition: The CI shall be registered for the cross-CI prioritization procedure. There shall be no pending frames for transmission. Parameter 44 "MinPrioCrossCI" shall be set to the value 100. The timeout value for cross-CI prioritization of the IUT shall be set to 255 ms. The IUT shall be in the CI state "active".
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Request transmission of a data frame via the MC-VCI with user priority equal to 100. 2) Verify reception of REQUEST 2 "RTSreq" indicating the priority used in step 1), a sequential number and the status "request". 3) Wait 200 ms and verify that the Tester CI did not receive the frame requested for transmission in step 1). 4) Send COMMAND 4 "RTSackCmd" with the sequential number presented in step 2) and the status "granted". 5) Verify that the Tester CI receives the frame requested for transmission in step 1). 6) Verify reception of REQUEST 2 "RTSreq" indicating the priority used in step 1), a sequential number used in step 1) and the status "release". 	

TP/DP/BV/24	Verify that the IUT correctly requests cross-CI protection for UC-VCI transmission
	Reference: ISO 21218 [1]: clauses 5.2.4.11.3, 5.2.4.11.4, 5.3.1, 5.4, 5.5.4, 5.5.5; annexes A, B and C
	ICS Selection: Table C.6/3 AND Table C.8/10
	TC reference: TC_DP_BV_24
	Initial condition: The IUT shall be in the CI state "connected". The CI shall be registered for the cross-CI prioritization procedure. There shall be no pending frames for transmission. Parameter 44 "MinPrioCrossCI" shall be set to the value 100. The timeout value for cross-CI prioritization of the IUT shall be set to 255 ms.
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Request transmission of a data frame via the UC-VCI with user priority equal to 100. 2) Verify reception of REQUEST 2 "RTSreq" indicating the priority used in step 1), a sequential number and the status "request". 3) Wait 200 ms and verify that the Tester CI did not receive the frame requested for transmission in step 1). 4) Send COMMAND 4 "RTSackCmd" with the sequential number presented in step 2) and the status "granted". 5) Verify that the Tester CI receives the frame requested for transmission in step 1). 6) Verify reception of REQUEST 2 "RTSreq" indicating the priority used in step 1), a sequential number used in step 1) and the status "release". 	

TP/DP/BV/25	Verify that the IUT correctly performs BC-VCI transmission without requesting cross-CI protection
	Reference: ISO 21218 [1]: clause 5.2.4.11.3, 5.3.1, 5.4, 5.5.5; annexes A and C
	ICS Selection: Table C.6/1 AND Table C.8/10
	TC reference: TC_DP_BV_25
	Initial condition: The CI shall be registered for the cross-CI prioritization procedure. There shall be no pending frames for transmission. Parameter 44 "MinPrioCrossCI" shall be set to the value 100. The timeout value for cross-CI prioritization of the IUT shall be set to 255 ms. The IUT shall be in the CI state "active".
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Request transmission of a data frame via the BC-VCI with user priority equal to 99. 2) Verify that the Tester CI receives the frame requested for transmission in step 1). 3) Verify that no REQUEST 2 "RTSreq" is received. 	

TP/DP/BV/26	Verify that the IUT correctly performs MC-VCI transmission without requesting cross-CI protection
	Reference: ISO 21218 [1]: clauses 5.2.4.11.3, 5.3.1, 5.4, 5.5.5; annexes A and C
	ICS Selection: Table C.6/2 AND Table C.8/10
	TC reference: TC_DP_BV_26
	Initial condition: The CI shall be registered for the cross-CI prioritization procedure. There shall be no pending frames for transmission. Parameter 44 "MinPrioCrossCI" shall be set to the value 100. The timeout value for cross-CI prioritization of the IUT shall be set to 255 ms. The IUT shall be in the CI state "active".
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Request transmission of a data frame via the MC-VCI with user priority equal to 99. 2) Verify that the Tester CI receives the frame requested for transmission in step 1). 3) Verify that no REQUEST 2 "RTSreq" is received. 	

TP/DP/BV/27	Verify that the IUT correctly performs UC-VCI transmission without requesting cross-CI protection
	Reference: ISO 21218 [1]: clauses 5.2.4.11.3, 5.3.1, 5.4, 5.5.5; annexes A and C
	ICS Selection: Table C.6/3 AND Table C.8/10
	TC reference: TC_DP_BV_27
	Initial condition: The IUT shall be in the CI state "connected". The CI shall be registered for the cross-CI prioritization procedure. There shall be no pending frames for transmission. Parameter 44 "MinPrioCrossCI" shall be set to the value 100. The timeout value for cross-CI prioritization of the IUT shall be set to 255 ms.
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Request transmission of a data frame via the UC-VCI with user priority equal to 99. 2) Verify that the Tester CI receives the frame requested for transmission in step 1). 3) Verify that no REQUEST 2 "RTSreq" is received. 	

TP/DP/BV/28	Verify that the IUT with BC-VCI correctly handles a cross-CI prioritization request
	Reference: ISO 21218 [1]: clause 5.2.4.11.5, 5.3.1, 5.4, 5.5.4, 5.5.5; annexes A, B and C
	ICS Selection: Table C.6/1
	TC reference: TC_DP_BV_28
	Initial condition: The IUT shall be in the CI state "active". There shall be no pending frames for transmission. Parameter 44 "MinPrioCrossCI" shall be set to the value 100. The timeout value for cross-CI prioritization of the IUT shall be set to T_dummyAckGrant = 255 ms.
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue COMMAND 1 "CIstateChng" with the value "suspend". 2) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "suspended". 3) Request transmission of a data frame via the BC-VCI with priority 0. 4) Request transmission of a data frame via the BC-VCI with priority 255. 5) Send COMMAND 3 "RTScmd" to the IUT with "priority" set to 100, "seqNo" and "reqID" set to valid values indicating another CI than the IUT and "status" set to "request". 6) Wait for 20 ms. Verify that there will be no event from the IUT. 7) Issue COMMAND 1 "CIstateChng" with the value "reactivate". 8) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "active". 9) Verify that the Tester-CI receives the frame requested for transmission in step 4). 10) Verify reception of REQUEST 3 "RTSackReq" with "seqNo" and "reqID" as used in step 5), and "status" indicating "granted". 11) Wait for 20 ms. Verify that there will be no event from the IUT. 12) Send COMMAND 3 "RTScmd" to the IUT with "seqNo" and "reqID" as used in step 5) and "status" indicating "release". 13) Verify that the Tester-CI receives the frame requested for transmission in step 3). 	

TP/DP/BV/29	Verify that the IUT with MC-VCI correctly handles a cross-CI prioritization request
	Reference: ISO 21218 [1]: clauses 5.2.4.11.5, 5.3.1, 5.4, 5.5.4, 5.5.5; annexes A, B and C
	ICS Selection: Table C.6/2
	TC reference: TC_DP_BV_29
	Initial condition: The IUT shall be in the CI state "active". There shall be no pending frames for transmission. Parameter 44 "MinPrioCrossCI" shall be set to the value 100. The timeout value for cross-CI prioritization of the IUT shall be set to T_dummyAckGrant = 255 ms.
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue COMMAND 1 "CIstateChng" with the value "suspend". 2) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "suspended". 3) Request transmission of a data frame via the MC-VCI with priority 0. 4) Request transmission of a data frame via the MC-VCI with priority 255. 5) Send COMMAND 3 "RTScmd" to the IUT with "priority" set to 100, "seqNo" and "reqID" set to valid values indicating another CI than the IUT and "status" set to "request". 6) Wait for 20 ms. Verify that there will be no event from the IUT. 7) Issue COMMAND 1 "CIstateChng" with the value "reactivate". 8) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "active". 9) Verify that the Tester-CI receives the frame requested for transmission in step 4). 10) Verify reception of REQUEST 3 "RTSackReq" with "seqNo" and "reqID" as used in step 5), and "status" indicating "granted". 11) Wait for 20 ms. Verify that there will be no event from the IUT. 12) Send COMMAND 3 "RTScmd" to the IUT with "seqNo" and "reqID" as used in step 5) and "status" indicating "release". 13) Verify that the Tester-CI receives the frame requested for transmission in step 3). 	

TP/DP/BV/30	Verify that the IUT with UC-VCI correctly handles a cross-CI prioritization request
	Reference: ISO 21218 [1]: clauses 5.2.4.11.5, 5.3.1, 5.4, 5.5.4, 5.5.5; annexes A, B and C
	ICS Selection: Table C.6/3
	TC reference: TC_DP_BV_30
Initial condition: The IUT shall be in the CI state "connected" There shall be no pending frames for transmission. Parameter 44 "MinPrioCrossCI" shall be set to the value 100. The timeout value for cross-CI prioritization of the IUT shall be set to T_dummyAckGrant = 255 ms.	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue COMMAND 1 "CIstateChng" with the value "suspend". 2) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "suspended". 3) Request transmission of a data frame via the MC-VCI with priority 0. 4) Request transmission of a data frame via the MC-VCI with priority 255. 5) Send COMMAND 3 "RTScmd" to the IUT with "priority" set to 100, "seqNo" and "reqID" set to valid values indicating another CI than the IUT and "status" set to "request". 6) Wait for 20 ms. Verify that there will be no event from the IUT. 7) Issue COMMAND 1 "CIstateChng" with the value "reactivate". 8) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "active". 9) Verify that the Tester-CI receives the frame requested for transmission in step 4). 10) Verify reception of REQUEST 3 "RTSackReq" with "seqNo" and "reqID" as used in step 5), and "status" indicating "granted". 11) Wait for 20 ms. Verify that there will be no event from the IUT. 12) Send COMMAND 3 "RTScmd" to the IUT with "seqNo" and "reqID" as used in step 5) and "status" indicating "release". 13) Verify that the Tester-CI receives the frame requested for transmission in step 3). 	

TP/DP/BV/31	Verify that the IUT correctly handles DL-UNITDATA reception notifications with MAC unicast addresses from different peer stations
	Reference: ISO 21218 [1]: clauses 5.3.2, 5.3.3.1, 5.3.3.4, 5.4
	ICS Selection: Table C.2/1 OR Table C.2/2
	TC reference: TC_DP_BV_31
Initial condition: The IUT shall be in the CI state "connected", maintaining two associations with peer stations A and B.	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Request transmission of a unicast data frame via the Tester CI to the IUT using the source MAC address of peer station A with a payload clearly identifying station A. 2) Verify reception of a DL-UNITDATA.indication service primitive at the C-SAP containing the data transmitted in step 1. Note the CI-ID. 3) Request transmission of a unicast data frame via the Tester CI to the IUT using the source MAC address of peer station B with a payload clearly identifying station B. 4) Verify reception of a DL-UNITDATA.indication service primitive at the C-SAP containing the data transmitted in step 3. Note the CI-ID. 5) Verify that the CI-IDs noted in steps 2) and 4) have the same values for CCK-ID and MedID, but different values for SerialNumber, indicating different VCIs of the same CI. 	

TP/DP/BV/32	Verify that the IUT correctly maintains UC-VCLs and pending packets whilst being in the CI state "suspended"
	Reference: ISO 21218 [1]: clauses 5.2.4.6, 5.2.4.7, 5.4
	ICS Selection: (Table C.2/1 OR Table C.2/2) OR (Table C.2/5 AND Table C.6/3)
	TC reference: TC_DP_BV_32
Initial condition: The IUT shall be in the CI state "connected"	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Request transmission of a 100 MAC unicast data frames of maximum length with distinct payload via the C-SAP of the IUT. 2) Issue COMMAND 1 "CIstateChng" with the value "suspend". 3) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "suspended", and verify reception of zero or several DL-UNITDATA.indication service primitives at the Tester CI related to the frames sent in step 1) until no more frames are received. Note the number of distinct frames received. 4) Request transmission of a unicast data frame via the Tester CI to the IUT. 5) Verify that no DL-UNITDATA.indication service primitive in relation to step 4) is notified at the C-SAP of the IUT. 6) Issue COMMAND 1 "CIstateChng" with the value "reactivate". 7) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "connected". 8) Verify reception of all DL-UNITDATA.indication service primitives at the Tester CI related to the frames send in step 1) and not yet received in step 3). 9) Verify that the frame sent in step 4) is not notified at the C-SAP of the IUT. 	

TP/DP/BV/33	Verify that the IUT correctly maintains BC-VCLs and pending packets whilst being in the CI state "suspended"
	Reference: ISO 21218 [1]: clauses 5.2.4.6, 5.2.4.7, 5.4
	ICS Selection: (Table C.2/1 OR Table C.2/3) OR (Table C.2/5 AND Table C.6/1)
	TC reference: TC_DP_BV_33
Initial condition: The IUT shall be in the CI state "active"	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Request transmission of a 100 MAC broadcast data frames of maximum length with distinct payload via the C-SAP of the IUT. 2) Issue COMMAND 1 "CIstateChng" with the value "suspend". 3) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "suspended", and verify reception of zero or several DL-UNITDATA.indication service primitives at the Tester CI related to the frames sent in step 1) until no more frames are received. Note the number of distinct frames received. 4) Issue COMMAND 1 "CIstateChng" with the value "reactivate". 5) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "active". 6) Verify reception of all DL-UNITDATA.indication service primitives at the Tester CI related to the frames send in step 1) and not yet received in step 3). 	

TP/DP/BV/34	Verify that the IUT correctly maintains MC-VCIs and pending packets whilst being in the CI state "suspended"
	Reference: ISO 21218 [1]: clauses 5.2.4.6, 5.2.4.7, 5.4
	ICS Selection: (Table C.2/1 OR Table C.2/3 OR Table C.2/5) AND Table C.6/2
	TC reference: TC_DP_BV_34
Initial condition: The IUT shall be in the CI state "active"	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Request transmission of a 100 MAC multicast data frames of maximum length with distinct payload via the C-SAP of the IUT. 2) Issue COMMAND 1 "CIstateChng" with the value "suspend". 3) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "suspended", and verify reception of zero or several DL-UNITDATA.indication service primitives at the Tester CI related to the frames sent in step 1) until no more frames are received. Note the number of distinct frames received. 4) Issue COMMAND 1 "CIstateChng" with the value "reactivate". 5) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "active". 6) Verify reception of all DL-UNITDATA.indication service primitives at the Tester CI related to the frames send in step 1) and not yet received in step 3). 	

TP/DP/BV/35	Verify that the IUT correctly maintains receive-only broadcast VCIs and transmission requests whilst being in the CI state "suspended"
	Reference: ISO 21218 [1]: clauses 5.2.4.6, 5.2.4.7, 5.4
	ICS Selection: Table C.2/4
	TC reference: TC_DP_BV_35
Initial condition: The IUT shall be in the CI state "active"	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue COMMAND 1 "CIstateChng" with the value "suspend". 2) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "suspended". 3) Request transmission of a MAC broadcast data frame via the Tester CI to the IUT. 4) Verify that no DL-UNITDATA.indication service primitive in relation to step 3) is notified at the C-SAP of the IUT. 5) Issue COMMAND 1 "CIstateChng" with the value "reactivate". 6) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "active". 7) Verify that no DL-UNITDATA.indication service primitive in relation to step 3) is notified at the C-SAP of the IUT. 	

5.5.2 Invalid behaviour tests

TP/DP/BI/01	Verify that the IUT correctly handles the minimum priority requested in a broadcast transmission request
	Reference: ISO 21218 [1]: clauses 5.3.1, 5.4, 5.5.2, 5.5.5; annexes A and C
	ICS Selection: Table C.6/1
	TC reference: TC_DP_BI_01
Initial condition: The IUT shall be in the CI state "active".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue SETPARAM.request service primitive in order to set M-parameter 32 "QueueAlarmThreshold" to the value 100. 2) Verify that the request in step 1) was performed correctly. 3) Request transmission of a data frame via the BC-VCI of the IUT with the parameter "priority" in the DL-UNITDATA.request service primitive set to 99. 4) Verify reception of REQUEST 9 "Events" indicating event 0 and the requested minimum priority of 100 needed to use the selected VCI. 5) Verify that the Tester CI does not receive the frame requested in step 3). 	

TP/DP/BI/02	Verify that the IUT correctly handles the minimum priority requested in a multicast transmission request
	Reference: ISO 21218 [1]: clauses 5.3.1, 5.5.2 5.4, 5.5.5; annexes A and C
	ICS Selection: Table C.6/2
	TC reference: TC_DP_BI_02
Initial condition: The IUT shall be in the CI state "active".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue SETPARAM.request service primitive in order to set M-parameter 32 "QueueAlarmThreshold" to the value 100. 2) Verify that the request in step 1) was performed correctly. 3) Request transmission of a data frame via a MC-VCI of the IUT with the parameter "priority" in the DL-UNITDATA.request service primitive set to 99. 4) Verify reception of REQUEST 9 "Events" indicating event 0 and the requested minimum priority of 100 needed to use the selected VCI. 5) Verify that the Tester CI does not receive the frame requested in step 3). 	

TP/DP/BI/03	Verify that the IUT correctly handles the minimum priority requested in a unicast transmission request
	Reference: ISO 21218 [1]: clause 5.3.1, 5.4, 5.5.2, 5.5.5; annexes A and C
	ICS Selection: Table C.6/3
	TC reference: TC_DP_BI_03
Initial condition: The IUT shall be in the CI state "active".	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue SETPARAM.request service primitive in order to set M-parameter 32 "QueueAlarmThreshold" to the value 100. 2) Verify that the request in step 1) was performed correctly. 3) Request transmission of a data frame via the UC-VCI of the IUT with the parameter "priority" in the DL-UNITDATA.request service primitive set to 99. 4) Verify reception of REQUEST 9 "Events" indicating event 0 and the requested minimum priority of 100 needed to use the selected VCI. 5) Verify that the Tester CI does not receive the frame requested in step 3). 	

TP/DP/BI/04	Verify that the IUT correctly ignores a MAC unicast frame transmission request whilst being in the CI state "suspended"
	Reference: ISO 21218 [1]: clauses 5.2.4.6, 5.4
	ICS Selection: (Table C.2/1 OR Table C.2/2) OR (Table C.2/5 AND Table C.6/3)
	TC reference: TC_DP_BI_04
Initial condition: The IUT shall be in the CI state "connected". There shall be no pending frames in the IUT.	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue COMMAND 1 "CIstateChng" with the value "suspended". 2) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "suspended". 3) Issue a DL-UNITDATA.request service primitive to the C-SAP of the IUT requesting transmission of a MAC unicast frame. 4) Verify that the Tester CI does not notify reception of a DL-UNITDATA.indication service primitive related to the request in step 3). 5) Issue COMMAND 1 "CIstateChng" with the value "reactivate". 6) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "connected". 7) Verify that the Tester CI does not notify reception of a DL-UNITDATA.indication service primitive related to the request in step 3). 	

TP/DP/BI/05	Verify that the IUT correctly ignores a MAC broadcast frame transmission request whilst being in the CI state "suspended"
	Reference: ISO 21218 [1]: clauses 5.2.4.6, 5.4
	ICS Selection: (Table C.2/1 OR Table C.2/3) OR (Table C.2/5 AND Table C.6/1)
	TC reference: TC_DP_BI_05
Initial condition: The IUT shall be in the CI state "active". There shall be no pending frames in the IUT.	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue COMMAND 1 "CIstateChng" with the value "suspended". 2) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "suspended". 3) Issue a DL-UNITDATA.request service primitive to the C-SAP of the IUT requesting transmission of a MAC broadcast frame. 4) Verify that the Tester CI does not notify reception of a DL-UNITDATA.indication service primitive related to the request in step 3). 5) Issue COMMAND 1 "CIstateChng" with the value "reactivate". 6) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "active". 7) Verify that the Tester CI does not notify reception of a DL-UNITDATA.indication service primitive related to the request in step 3). 	

TP/DP/BI/06	Verify that the IUT correctly ignores a MAC multicast frame transmission request whilst being in the CI state "suspended"
	Reference: ISO 21218 [1]: clauses 5.2.4.6, 5.4
	ICS Selection: (Table C.2/1 OR Table C.2/3 OR Table C.2/5) AND Table C.6/2
	TC reference: TC_DP_BI_06
Initial condition: The IUT shall be in the CI state "connected". There shall be no pending frames in the IUT.	
Stimulus and Expected Behaviour:	
<ol style="list-style-type: none"> 1) Issue COMMAND 1 "CIstateChng" with the value "suspended". 2) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "suspended". 3) Issue a DL-UNITDATA.request service primitive to the C-SAP of the IUT requesting transmission of a MAC multicast frame. 4) Verify that the Tester CI does not notify reception of a DL-UNITDATA.indication service primitive related to the request in step 3). 5) Issue COMMAND 1 "CIstateChng" with the value "reactivate". 6) Verify reception of REQUEST 9 "Event" indicating the event number 5 and the M-parameter 42 "CIstatus" set to "active". 7) Verify that the Tester CI does not notify reception of a DL-UNITDATA.indication service primitive related to the request in step 3). 	

Annex A (normative): Extension of "Inter-CCK Communications"

A.1 General description

"Inter-CCK Communications" is specified in [3]. This annex provides an amendment to the PDU specifications made in [3].

Table A.1 shows the mapping of PDU-ID values to type of PDU. The data details for all types listed here are specified in the next sub-clauses of this annex. The column "Response" indicates, whether a response PDU is mandatory (yes), prohibited (no) or optional (optional).

Table A.1: PDU-ID

PDU-ID	Type of PDU	Response	Comment
0 to 10			Specified in [3]
11 to 31			Reserved for ISO [3]
32 to 63			Reserved for CEN [3]
64	IN-Request	No	Access to DL-UNITDATA.request service primitive for test purposes.
65	IN-Indication	No	Access to DL-UNITDATA.indication service primitive for test purposes.
66 to 95			Reserved for test purposes by any standard organization in consultation with ISO TC204 WG16 [3]
96 to 127			Reserved for private use [3]

A.2 Protocol data units

A.2.1 ASN.1

```
TSSTPiso21218 { itu-t(0) identified-organization(4) etsi(0) itsDomain(5) wg2(2)
tsstpISO21218(102760) } DEFINITIONS ::= BEGIN
```

```
IMPORTS
```

```
CIMAE-Command-confirm, CIMAE-Command-request, CIMAE-Request-confirm, CIMAE-
Request-request, CIMAE-Getparam-confirm, CIMAE-Getparam-request, CIMAE-
Setparam-confirm, CIMAE-Setparam-request, DL-Unitdata-request, DL-Unitdata-
indication FROM CALM11sap {iso(1) standard(0) calm-11-sap(21218)}
```

```
CCKalive, A-Command-confirm, A-Command-request, A-Request-confirm, A-
Request-request, N-Command-confirm, N-Command-request, N-Request-confirm, N-
Request-request, VCI-info-res, VCI-info-req, VCI-update-req FROM
CALMmanagement {iso(1) standard(0) calm-management(24102)};
```

```
-- End of IMPORTS
```

```

PduRequest ::= CHOICE
{
  alive [0] CCKalive,
  a-rcmd [1] A-Command-request,
  a-rreq [2] A-Request-request,
  n-rcmd [3] N-Command-request,
  n-rreq [4] N-Request-request,
  m-rcmd [5] CIMAE-Command-request,
  m-rreq [6] CIMAE-Request-request,
  m-rget [7] CIMAE-Getparam-request,
  m-rset [8] CIMAE-Setparam-request,
  vCI-info [9] VCI-info-req,
  vCI-update [10] VCI-update-req,
  dL-UNITDATA-REQUEST [64] DL-Unitdata-request,
  dL-UNITDATA-INDICATION [65] DL-Unitdata-indication,
  ...
}

```

```

PduResponse ::= CHOICE
{
  alive [0] CCKalive,
  a-rcmd [1] A-Command-confirm,
  a-rreq [2] A-Request-confirm,
  n-rcmd [3] N-Command-confirm,
  n-rreq [4] N-Request-confirm,
  m-rcmd [5] CIMAE-Command-confirm,
  m-rreq [6] CIMAE-Request-confirm,
  m-rget [7] CIMAE-Getparam-confirm,
  m-rset [8] CIMAE-Setparam-confirm,
  vCI-info [9] VCI-info-res,
  vCI-update [10] NULL,
  dL-UNITDATA-REQUEST [64] NULL,
  dL-UNITDATA-INDICATION [65] NULL,
  ...
}

```

END

A.2.2 IN-Request (64)

Table A.2 shows details of the "Data" element in the CCK-Mngmt-Request PDU specified in [3] for PDU-ID = 64.

Table A.2: IN-Request request PDU

Name	Type	Valid Range	Description
DL-UNITDATA-REQUEST	DL-Unitdata-request as specified in [1]	As specified in [1]	This PDU allows to send a DL-UNITDATA.request service primitive to the remote IN-SAP of the selected CI. The address of the CI is given by the destination_address in the DL-Unitdata-request.

A.2.3 IN-Indication (65)

Table A.3 shows details of the "Data" element in the CCK-Mngmt-Request PDU specified in [3] for PDU-ID = 65.

Table A.3: IN-Request request PDU

Name	Type	Valid Range	Description
DL-UNITDATA-INDICATION	DL-Unitdata-indication as specified in [1]	As specified in [1]	This PDU allows to receive a DL-UNITDATA.indication service primitive from the remote IN-SAP of the selected CI. The address of the CI is given by the source_address in the DL-Unitdata-indication.

History

Document history		
V1.1.1	November 2009	Publication