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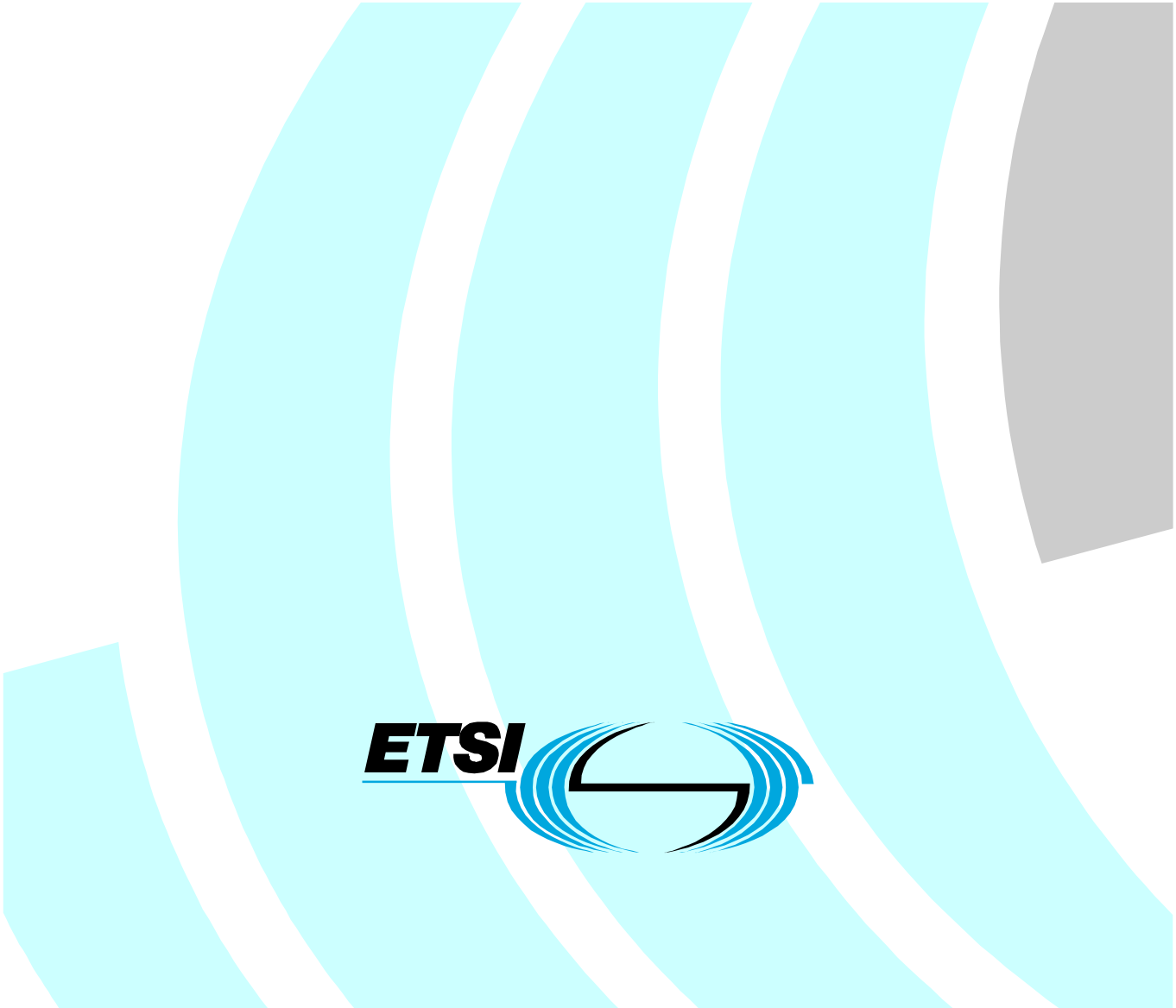
Technical Specification

Access and Terminals (AT);
Test Case Selection for Basic Access for
TBR 033 layers 2 and 3



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Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Access and Terminals (AT).

Introduction

The present document has the following differences to ITAAB Advisory Note no. 104:

- Layer 2 TC27031, Condition changed from PX_SAPI_0 AND (PC_AUTOMAT_TEI to PX_SAPI_0 AND (PC_AUTOMAT_TEI AND PC_PTMP_L2).
- Layer 3 requirement 11.4, all Layer 3 test cases, Condition NT_ACTIVATED_SAPI0 OR (TE_ACTIVATED_SAPI0 AND SAPI0_PROVOCABLE) added.

1 Scope

The present document will replace ITAAB Advisory Note no. 104.

The present document gives guidance on Layers 2 and 3 test selection in the following specifications:

- TBR 033 [1]

2 References

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

- References are either specific (identified by date of publication and/or edition number or version number) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.

[1] ETSI TBR 033 (1997): "Integrated Services Digital Network (ISDN); Attachment requirements for packet mode terminal equipment to connect to an ISDN using ISDN basic access".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in TBR 033apply.

3.2 Abbreviations

For the purposes of the present document, the abbreviations defined in TBR 033 apply.

4 Layer 2

4.1 Layer 2 Test Case Selection Criteria

The set of tests required to verify compliance with the layer 2 requirements of TBR 033 for Basic Access are described in clause 4.2.

The set of tests relevant for a specific implementation depends on certain capabilities of the TE. The information on implementation of these capabilities has to be provided by the manufacturer.

Corresponding to the declaration made by the manufacturer concerning each of these capabilities, a corresponding conditioning parameter is given the value TRUE or FALSE. The conditioning parameters are used in Boolean expressions to define the conditions for relevance of each test.

The abbreviations used for the Boolean expressions and the value associated with the implemented capabilities appear from the table 1:

Table 1: Layer 2 Abbreviations

Abbreviation	Value of corresponding conditioning parameter
PC_PTMP_L2	TRUE if the IUT does not use a single point to point data link
PC_AUTOMAT_TEI	TRUE if the IUT supports automatic TEI assignment
DL_NT_DEMAND	TRUE if the IUT supports data link establishment on NT demand
DL_TE_DEMAND	TRUE if the IUT supports data link establishment on TE demand
DL_SEMI_PERM_NT	TRUE if the IUT supports a semi-permanent data link under NT responsibility
DL_SEMI_PERM_TE	TRUE if the IUT supports a semi-permanent data link under TE responsibility
DISC_RX	TRUE if the IUT is able to receive and take action on a DISC
PX_IUT_STA_S1	TRUE if the IUT is stable in state 1
PX_IUT_STA_S4	TRUE if the IUT is stable in state 4
PX_SAPI_0	TRUE if PX_SAPI='000000'B

4.2 Layer 2 Test Case Selection

The table 2 describes the set of relevant tests required to verify compliance with the layer 2 requirements of TBR 033 for Basic Access.

Column 1, Requirement from TBR 033, references the actual requirements in TBR 033.

Column 2, Description, provides a brief description of the test case.

Column 3, Test case identifier, provides the reference to the relevant TTCN test case in TBR 033.

Column 4, Condition, provides the test selection criteria. The condition is described as a Boolean expression of the conditioning parameters. When the Boolean expression evaluates to TRUE, the test is relevant. When the condition is blank, the test is always relevant.

Table 2: Test Case Selection

Requirement from TBR 033	Description	Test case identifier	Condition
10.4.2	To ensure that the IUT when in state 1 discards an incoming UI frame with TEI value different from 127.	TC11013	PC_AUTOMAT_TEI AND PC_PTMP_L2 AND PX_IUT_STA_S1
10.5.2.1	To ensure that the IUT when in state 3 ignores a TEI denied frame.	TC13008	PC_AUTOMAT_TEI AND PC_PTMP_L2
10.5.2.1	To check that the IUT transmits an ID-request at least N202 times when there is no response from the network during the TEI assignment procedure.	TC13010	PC_AUTOMAT_TEI AND PC_PTMP_L2
10.5.2	To ensure that the IUT when in state 3 ignores an ID assign message containing a RI different from the one transmitted in the ID request message.	TC13014	PC_AUTOMAT_TEI AND PC_PTMP_L2
10.4.1 10.5.3	To ensure that the IUT will perform TEI check on request from the network.	TC14001	PC_PTMP_L2 AND PX_IUT_STA_S4
10.5.3	To ensure that the IUT sends a CHECK RESPONSE on receipt of a CHECK REQUEST with AI equal to own TEI value and remains in state 4.	TC14002	PC_PTMP_L2 AND PX_IUT_STA_S4
10.6.1.2.1	To test the normal initialization of multiple frame operation initiated by the IUT.	TC24004	(PX_SAPI_0 OR PC_PTMP_L2) AND (PX_IUT_STA_S4 AND (DL_TE_DEMAND OR DL_SEMI_PERM_TE))
10.9.2	To ensure that the IUT when in state 4 takes no action on receipt of a SABME frame containing a TEI different from the TEI assigned to the IUT.	TC24020	(PX_SAPI_0 OR PC_PTMP_L2) AND PX_IUT_STA_S4
10.6.1.2.2	Ensure the normal procedure of establishment of the Multiple Frame Operation initiated by the tester.	TC240x1	(PX_SAPI_0 OR PC_PTMP_L2) AND (PX_IUT_STA_S4 AND (DL_NT_DEMAND OR DL_SEMI_PERM_NT))
10.6.1.2.1	To ensure that the IUT takes appropriate actions if the link cannot be initialized and enters state 4.	TC25002	PX_SAPI_0
10.6.1.3	Ensure that the IUT when in state 5 and receive no response from the network, retransmits SABME at least N200 times.	TC25005	PX_SAPI_0
10.7.1 10.7.2 10.7.2.2 10.7.3	Ensure the operation of the sequence numbering of N(R) and N(S).	TC27003	PX_SAPI_0
10.7.3	To test the IUT correctly accepts an I frame as a valid response to an I frame which it has transmitted.	TC27004	PX_SAPI_0
10.7.4 10.7.5.4	To ensure that the IUT when in state 7.0 and an I-frame is outstanding, and the IUT receives a REJ F=0 indicating request of retransmission of last transmitted I-frame, retransmits the requested I-frame.	TC27011	PX_SAPI_0
10.6.2	To test the normal data link disconnection sequences.	TC27012	PX_SAPI_0 AND DISC_RX
10.7.6	To test that the layer 2 retransmits the last transmitted I frame at least twice or transmits an RR command at least twice if no acknowledgement for the last transmitted I-frame is received.	TC27015	PX_SAPI_0
10.7.6	To test IUT recovery mechanism in the event of RR frame loss.	TC27019	PX_SAPI_0
10.6.1 10.8	To ensure that the IUT when in state 7.0 and an I-frame is outstanding and the IUT receives no acknowledgement for the outstanding I-frame , will either retransmit the I frame or transmit an RR P=1 at expiry of T200.	TC27022	PX_SAPI_0

Requirement from TBR 033	Description	Test case identifier	Condition
10.9.1	To ensure that the IUT when in state 7.0 and receiving an I-frame P=1 and N(S) error transmits a REJ F=1.	TC27027	PX_SAPI_0
10.9.1	To ensure that the IUT when in state 7.0 and receiving an I-frame P=0 and N(S) error transmits a REJ F=0.	TC27028	PX_SAPI_0
10.9.4 10.5.4.2 10.5.5.2	To ensure that the IUT when in state 7.0 and receiving an UA F=1, initiates TEI removal or TEI verify procedure.	TC27031	PX_SAPI_0 AND (PC_AUTOMAT_TEI AND PC_PTMP_L2)
10.9.3	To ensure that the IUT resets the data link on receipt of a RR command frame with a N(R) error.	TC27040	PX_SAPI_0
10.9.3	To ensure that the IUT resets the data link on receipt of a RR response frame with F=1 and a N(R) error.	TC27043	PX_SAPI_0
10.9.3	To ensure that the IUT resets the data link on receipt of a RR response frame with F=0 and a N(R) error.	TC27046	PX_SAPI_0
10.9.2	To ensure that the IUT ignores a frame containing FCS error.	TC27058	PX_SAPI_0
10.7.5.1 10.7.5.4	To ensure correct Handling of peer busy conditions. No I frame is to be received from the IUT during busy condition.	TC27404	PX_SAPI_0
10.7.5.2 10.7.6	To ensure the correct value of N200.	TC27411	PX_SAPI_0
10.7.5.4	To ensure that the IUT when in state 7.4 and receiving an RR P=1 frame transmits an RR F=1 and enters state 7.0.	TC27412	PX_SAPI_0
10.7.5.4	To ensure that the IUT when in state 7.4 and receiving an RR F=0 frame enters state 7.0.	TC27413	PX_SAPI_0
10.7.5.3	To ensure that the IUT when in state 7.4 and receiving a RNR P=1 frame transmits an RR F=1 and remains in state 7.4.	TC27414	PX_SAPI_0
10.7.5.2 10.7.6	To ensure T200 is within the allowed tolerance of its value.	TC27417	PX_SAPI_0
10.7.4 10.7.6	To ensure that on receipt of a REJ F=1 during the timer recovery condition the IUT retransmits the appropriate I frame.	TC28005	PX_SAPI_0
10.7.2	To ensure that when in the timer recovery state the IUT is able to receive I frames.	TC28012	PX_SAPI_0
10.7.2	To ensure that when in 8.4 the IUT is able to receive I frames.	TC28406	PX_SAPI_0
10.7.4	To ensure that the IUT when in state 8.4 and receiving a REJ P=1 frame not acknowledging the last transmitted I-frame, transmits an RR F=1 and enters state 8.0.	TC28424	PX_SAPI_0

5 Layer 3

5.1 Layer 3 Test Case Selection Criteria

The set of tests required to verify compliance with the layer 3 requirements of TBR 033 for Basic Access are described in clause 5.2.

The set of tests relevant for a specific implementation depends on certain capabilities of the TE. The information on implementation of these capabilities has to be provided by the manufacturer.

Corresponding to the declaration made by the manufacturer concerning each of these capabilities, a corresponding conditioning parameter is given the value TRUE or FALSE. The conditioning parameters are used in Boolean expressions to define the conditions for relevance of each test.

The abbreviations used for the Boolean expressions and the value associated with the implemented capabilities appear from the table 3:

Table 3: Layer 3 Abbreviations

Abbreviation	Corresponding conditioning parameter
INCOMING_CALL	TRUE, if the IUT is able to operate with ISDN incoming calls
OUTGOING_CALL	TRUE, if the IUT is able to operate with ISDN outgoing calls
PH_ACCESS_D_CHANNEL	TRUE, if the IUT is able to operate PH access over the D-channel
PH_ACCESS_D_CHN_ONLY	TRUE, if the IUT is able to operate PH access over the D-channel only
INCOMING_VIRTUAL_CALL	TRUE, if the IUT is able to handle incoming virtual calls
OUTGOING_VIRTUAL_CALL	TRUE, if the IUT is able to handle outgoing virtual calls
TE_ACTIVATED_SAPI0	TRUE, if the IUT is capable of TE demand data link activation (SAPI 0)
TE_ACTIVATED_SAPI16	TRUE, if the IUT is capable of TE demand data link activation (SAPI 16)
NT_ACTIVATED_SAPI0	TRUE, if the IUT is capable of NT demand data link activation (SAPI 0)
NT_ACTIVATED_SAPI16	TRUE, if the IUT is capable of NT demand data link activation (SAPI 16)
BDL	FALSE, if the IUT supports a configuration using only a single point-to-point data link
IBCC	TRUE if the TE performs checking of the Bearer capability IE in an incoming SETUP PDU
SETUP_PROVOCABLE	TRUE, if the IUT can be provoked to send a SETUP message
CONNECT_PROVOCABLE	TRUE, if the IUT can be provoked to send a CONNECT message
DISCONNECT_PROVOCABLE	TRUE, if the IUT can be provoked to send a DISCONNECT message
SAPI0_PROVOCABLE	TRUE, if the IUT can be provoked to set up a data link connection on SAPI 0
SAPI16_PROVOCABLE	TRUE, if the IUT can be provoked to set up a data link connection on SAPI 16
ACCEPT_ON_B_CHANNEL	TRUE, if the IUT can be set to accept incoming virtual calls on the B-channel
U7_MAINT	TRUE, if U7>3s and U7 ability = YES, FALSE, if U7<3s or U7 ability = NO
U9_MAINT	TRUE, if U9>3s and U9 ability = YES, FALSE, if U9<3s or U9 ability = NO
KEEP_B_CHANNEL	TRUE, if the IUT is able to keep a B-channel connection set up, if no virtual call is active
BCP	TRUE, if the TE is capable of sending the CALL PROCEEDING PDU
BAL	TRUE, if the TE is capable of sending the ALERT PDU

5.2 Layer 3 Test Case Selection

The tables in the following clauses describe the set of relevant tests required to verify compliance with the layer 3 requirements of TBR 033 for Basic Access.

Column 1, Requirement from TBR 033, references the requirements in TBR 033.

Column 2, Description, provides a brief description of the test case.

Column 3, Test case identifier, provides the reference to the relevant TTCN test case in TBR 033.

Column 4, Condition, provides the test selection criteria. The condition is described as a Boolean expression of the conditioning parameters. When the Boolean expression evaluates to TRUE, the test is relevant. When the condition is blank, the test is always relevant.

5.2.1 Layer 3

Table 4: Layer 3 Applicability

Requirement from TBR 033	Description	Test case identifier	Condition
11.4	All Layer 3 Tests (If FALSE no Layer 3 tests applicable)	ALL	NT_ACTIVATED_SAPI0 OR (TE_ACTIVATED_SAPI0 AND SAPI0_PROVOCABLE)

5.2.2 Incoming Call Handling Tests State U00

Table 5: Layer 3 State U00

Requirement from TBR 033	Description	Test case identifier	Condition
11.4.6.1	Ensure that on receipt of a REL PDU, the IUT responds with REL_COM PDU and remains in the same state.	TC10002	
11.4.6.7	Ensure that on receipt of a STATUS PDU indicating any state except the null state, the IUT responds with either a REL or REL_COM PDU with the cause #101.	TC10004	
11.4.2.1 **11.4.2.5**	Ensure that on receipt of a valid SETUP without the sending complete IE the IUT responds with either SETUP_ACK, CALL_PROC, ALERT or CONN PDU and moves to the relevant state 25, 9, 7 or 8.	TC10005	INCOMING_CALL AND INCOMING_VIRTUAL_CALL
11.4.2.2	Ensure that on receipt of a valid SETUP PDU containing an incompatible Bearer Capability IE (mandatory parameter) the IUT: -responds by sending a REL_COM PDU or ignore the SETUP PDU/PTMP -responds by sending a REL_COM PDU/PTP	TC10008	IBCC AND INCOMING_CALL AND INCOMING_VIRTUAL_CALL
11.4.6.1	Ensure that the IUT responds to an inopportune PDU (DISC) with a REL PDU or REL_COM PDU.	TC10010	
11.4.6.1	Ensure that on receipt of a repeated valid SETUP with the same call reference as the initial SETUP, the IUT ignores the second SETUP and remains in the same state.	TC10011	INCOMING_CALL AND INCOMING_VIRTUAL_CALL
11.4.6.4.1	Ensure that on receipt of a SETUP without a mandatory IE the IUT responds with a REL_COM PDU and remains in the same state.	TC10015	INCOMING_CALL AND INCOMING_VIRTUAL_CALL
11.4.6.3	Ensure that on receipt of a PDU with invalid duplicated IE, the IUT ignores the invalid duplication and processes the remaining contents of the PDU as valid.	TC10024	INCOMING_CALL AND INCOMING_VIRTUAL_CALL
11.4.6.5.1	Ensure that the IUT responds to the receipt of a SETUP PDU with unrecognized optional IE coded "comprehension required" by sending a REL_COM PDU and remains in the same state.	TC10027	INCOMING_CALL AND INCOMING_VIRTUAL_CALL
11.4.6.5.1	Ensure that the IUT on receipt of a compatible SETUP PDU with all the mandatory information correctly coded and an unrecognized optional IE with comprehension not required responds with a STATUS PDU (optional) followed by either a SETUP_ACK, CALL_PROC, ALERT or CONN PDU and moves to the relevant state 25, 9, 7 or 8.	TC10028	INCOMING_CALL AND INCOMING_VIRTUAL_CALL
11.4.6.5.2	Ensure that the IUT on receipt of a SETUP PDU with non mandatory IE content error the IUT processes the PDU and its remaining contents as valid and optionally sense a STATUS PDU with cause value 100.	TC10029	INCOMING_CALL AND INCOMING_VIRTUAL_CALL

Requirement from TBR 033	Description	Test case identifier	Condition
11.4.6.5.2	Ensure that on receipt of a SETUP PDU with non-mandatory information element exceeding the maximum length the IUT processes the PDU and its remaining contents as valid and optionally sends a STATUS PDU with cause value 100.	TC100x1	INCOMING_CALL AND INCOMING_VIRTUAL_CALL
11.4.2.3	Ensure that on receipt of a SETUP PDU indicating in the Channel Identification information element an idle B-channel, "exclusive: only the indicated channel is acceptable" with the D-channel indicator set to "the channel is not the D-channel", the IUT accepts the virtual call on a channel that is compatible to the channel(s) offered by the network.	TC100x2	INCOMING_CALL AND INCOMING_VIRTUAL_CALL AND NOT PH_ACCESS_D_CHN_ONLY
11.4.2.3	Ensure that on receipt of a SETUP PDU indicating in the Channel Identification information element an idle B-channel, "exclusive: only the indicated channel is acceptable" with the D-channel indicator set to "the channel is the D-channel", the IUT accepts the virtual call on a channel that is compatible to the channel(s) offered by the network.	TC100x3	INCOMING_CALL AND INCOMING_VIRTUAL_CALL
11.4.2.3	Ensure that on receipt of a SETUP PDU indicating in the Channel Identification information element an idle B-channel, "indicated channel is preferred" with the D-channel indicator set to "the channel is not the D-channel", the IUT accepts the virtual call on a channel that is compatible to the channel(s) offered by the network.	TC100x4	INCOMING_CALL AND INCOMING_VIRTUAL_CALL AND NOT PH_ACCESS_D_CHN_ONLY
11.4.2.3	Ensure that on receipt of a SETUP PDU indicating in the Channel Identification information element an idle B-channel, "indicated channel is preferred" with the D-channel indicator set to "the channel is the D-channel", the IUT accepts the virtual call on a channel that is compatible to the channel(s) offered by the network.	TC100x5	INCOMING_CALL AND INCOMING_VIRTUAL_CALL
11.4.2.3	Ensure that on receipt of a SETUP PDU indicating in the Channel Identification information element no B-channel, "the indicated channel is preferred" with the D-channel indicator set to "the channel is not the D-channel", the IUT accepts the virtual call on a channel that is compatible to the channel(s) offered by the network.	TC100x6	INCOMING_CALL AND INCOMING_VIRTUAL_CALL AND NOT PH_ACCESS_D_CHN_ONLY AND KEEP_B_CHANNEL
11.4.2.3	Ensure that on receipt of a SETUP PDU indicating in the Channel Identification information element no B-channel, "the indicated channel is preferred" with the D-channel indicator set to "the channel is the D-channel", the IUT accepts the virtual call on a channel that is compatible to the channel(s) offered by the network.	TC100x7	INCOMING_CALL AND INCOMING_VIRTUAL_CALL AND PH_ACCESS_D_CHANNEL
11.4.2.3	Ensure that on receipt of a SETUP PDU indicating in the Channel Identification information element no B-channel, "the indicated channel is preferred" with the D-channel indicator set to "the channel is the D-channel", when a B-channel connection is already established, the IUT accepts the virtual call on a channel that is compatible to the channel(s) offered by the network.	TC100x8	INCOMING_CALL AND INCOMING_VIRTUAL_CALL AND NOT PH_ACCESS_D_CHN_ONLY AND KEEP_B_CHANNEL

Requirement from TBR 033	Description	Test case identifier	Condition
11.4.2.3	Ensure that on receipt of a SETUP PDU indicating in the Channel Identification information element no B-channel, “exclusive: only the indicated channel is acceptable” with the D-channel indicator set to “the channel is the D-channel”, the IUT accepts the virtual call on a channel that is compatible to the channel(s) offered by the network.	TC100x9	INCOMING_CALL AND INCOMING_VIRTUAL_CALL AND PH_ACCESS_D_CHANNEL
11.4.1.1	Ensure that the IUT transmits a valid SETUP and enters the Call Initiated state U1.	TC20002	OUTGOING_CALL AND OUTGOING_VIRTUAL_CALL AND SETUP_PROVOCABLE

5.2.3 Call Initiated State Tests, State U01

Table 6: Layer 3 State U01

Requirement from TBR 033	Description	Test case identifier	Condition
11.4.1.3	Ensure that on receipt of a CALL_PROC PDU the IUT enters the state U3.	TC10101	OUTGOING_CALL AND OUTGOING_VIRTUAL_CALL AND SETUP_PROVOCABLE
11.4.6.2	Ensure that on receipt of a REL_COM PDU the IUT does not respond but returns to the state U0.	TC10102	OUTGOING_CALL AND OUTGOING_VIRTUAL_CALL AND SETUP_PROVOCABLE
11.4.6.2	Ensure that on receipt of a REL PDU the IUT responds with a REL_COM PDU and enters the state U0.	TC10103	OUTGOING_CALL AND OUTGOING_VIRTUAL_CALL AND SETUP_PROVOCABLE
11.4.6.7	Ensure that on receipt of a STATUS PDU specifying the state U0, the IUT enters the state U0.	TC10105	OUTGOING_CALL AND OUTGOING_VIRTUAL_CALL AND SETUP_PROVOCABLE
11.4.6.2	Ensure that the IUT responds to an inopportune PDU with a STATUS PDU with cause value 98 or 101, or ST_ENQ PDU and remains in the same state.	TC10107	OUTGOING_CALL AND OUTGOING_VIRTUAL_CALL AND SETUP_PROVOCABLE
11.4.6.2	Ensure that the IUT responds to a syntactically invalid message type with a STATUS PDU with cause value 98 or 101, or ST_ENQ PDU and remains in the same state.	TC10120	OUTGOING_CALL AND OUTGOING_VIRTUAL_CALL AND SETUP_PROVOCABLE
11.4.6.1	Ensure that on receipt of a REL_COM PDU the IUT does not respond and remains in the same state.	TC10125	OUTGOING_CALL AND OUTGOING_VIRTUAL_CALL AND SETUP_PROVOCABLE

5.2.4 Outgoing Call Proceeding State Tests, State U03

Table 7: Layer 3 State U03

Requirement from TBR 033	Description	Test case identifier	Condition
11.4.1.5	Ensure that on receipt of a CONN PDU the IUT enters the state U10.	TC10302	OUTGOING_CALL AND OUTGOING_VIRTUAL_CALL AND SETUP_PROVOCABLE
11.4.3.4.2	Ensure that the IUT responds to a DISC PDU with a REL PDU and enters the Release Request state U19.	TC10303	OUTGOING_CALL AND OUTGOING_VIRTUAL_CALL AND SETUP_PROVOCABLE
11.4.3.3	Ensure that the IUT transmits a DISC PDU and enters the Disconnect Request state.	TC20301	(OUTGOING_CALL AND OUTGOING_VIRTUAL_CALL AND SETUP_PROVOCABLE) AND DISCONNECT_PROVOCABLE

5.2.5 Call Received State Tests, State U07

Table 8: Layer 3 State U07

Requirement from TBR 033	Description	Test case identifier	Condition
11.4.3.4.2	Ensure that the IUT responds to a DISC PDU with a REL PDU and enters the Release Request state U19.	TC10701	BAL AND U7_MAINT

5.2.6 Connect Request State Tests, State U08

Table 9: Layer 3 State U08

Requirement from TBR 033	Description	Test case identifier	Condition
11.4.2.7	Ensure that the IUT will enter the state U10 on receipt of a CONN_ACK PDU.	TC10801	(INCOMING CALL AND NOT PH_ACCESS_D_CHN_ONLY AND ACCEPT_ON_B_CHANNEL) AND CONNECT_PROVOCABLE
11.4.3.4.2	Ensure that the IUT responds to a DISC PDU with a REL PDU and enters the Release Request state U19.	TC10802	(INCOMING CALL AND NOT PH_ACCESS_D_CHN_ONLY AND ACCEPT_ON_B_CHANNEL) AND CONNECT_PROVOCABLE
11.4.2.8	Ensure that on receipt of a REL PDU the IUT responds with a REL_COM PDU and enters the state U0.	TC10805	(INCOMING CALL AND NOT PH_ACCESS_D_CHN_ONLY AND ACCEPT_ON_B_CHANNEL AND BDL) AND CONNECT_PROVOCABLE
11.4.3.4.2	Ensure that on receipt of a RELEASE PDU with cause value #7 “call awarded and being delivered in an established channel”, the IUT which has requested that the virtual call is set up in the D-channel responds with a RELEASE COMPLETE PDU, enters the null state U0 and accepts the incoming virtual call.	TC108x1	(INCOMING_CALL AND INCOMING_VIRTUAL_CALL AND PH_ACCESS_D_CHANNEL AND (NT_ACTIVATED_SAPI16 OR (TE_ACTIVATED_SAPI16 AND SAPI16_PROVOCABLE))) AND CONNECT_PROVOCABLE
11.4.3.4.2	Ensure that on receipt of a RELEASE PDU with cause value #7 “call awarded and being delivered in an established channel”, the IUT which has requested that the virtual call is set up in an already established B-channel responds with a RELEASE COMPLETE PDU, enters the null state U0 and accepts the incoming virtual call.	TC108x2	(INCOMING_CALL AND INCOMING_VIRTUAL_CALL AND NOT PH_ACCESS_D_CHN_ONLY AND KEEP_B_CHANNEL) AND CONNECT_PROVOCABLE

5.2.7 Incoming Call Proceeding State Tests, State U09

Table 10: Layer 3 State U09

Requirement from TBR 033	Description	Test case identifier	Condition
11.4.3.4.2	Ensure that the IUT responds to a DISC PDU with a REL PDU and enters the Release Request state U19.	TC10901	BCP AND U9_MAINT

5.2.8 Active State Tests, State U10

Table 11: Layer 3 State U10

Requirement from TBR 033	Description	Test case identifier	Condition
11.4.6.2	Ensure that on receipt of a REL_COM PDU the IUT does not respond but returns to the null state.	TC11004	INCOMING_CALL AND INCOMING_VIRTUAL_CALL AND NOT PH_ACCESS_D_CHN_ONLY AND KEEP_B_CHANNEL
11.4.6.2	Ensure that on receipt of a REL PDU the IUT responds with a REL_COM PDU and enters the state U0.	TC11005	INCOMING_CALL AND INCOMING_VIRTUAL_CALL AND NOT PH_ACCESS_D_CHN_ONLY AND KEEP_B_CHANNEL
11.4.6.7	Ensure that on receipt of a STATUS PDU specifying the state U0, the IUT enters the state U0.	TC11007	INCOMING_CALL AND INCOMING_VIRTUAL_CALL AND NOT PH_ACCESS_D_CHN_ONLY AND KEEP_B_CHANNEL
11.4.6.2	Ensure that the IUT responds to an inopportune CONN PDU with a STATUS PDU with the cause 98 or 100 or with a ST_ENQ and remains in the same state.	TC11008	INCOMING_CALL AND INCOMING_VIRTUAL_CALL AND NOT PH_ACCESS_D_CHN_ONLY AND KEEP_B_CHANNEL
11.4.6.2	Ensure that the IUT responds to a syntactically invalid message type with a STATUS PDU with the cause 98 or 97 and that no change of state occurs.	TC11021	INCOMING_CALL AND INCOMING_VIRTUAL_CALL AND NOT PH_ACCESS_D_CHN_ONLY AND KEEP_B_CHANNEL
11.5	Ensure timer T308 is within the range 3 s to 15 s.	TC21001	INCOMING_CALL AND INCOMING_VIRTUAL_CALL AND NOT PH_ACCESS_D_CHN_ONLY AND KEEP_B_CHANNEL
11.4.3.3	Ensure that the IUT transmits a DISC PDU and enters the Disconnect Request state U11.	TC21003	(INCOMING_CALL AND INCOMING_VIRTUAL_CALL AND NOT PH_ACCESS_D_CHN_ONLY AND KEEP_B_CHANNEL) AND DISCONNECT_PROVOCABLE
11.5	Ensure timer T305 is within the range 15 s to 45 s.	TC21006	(INCOMING_CALL AND INCOMING_VIRTUAL_CALL AND NOT PH_ACCESS_D_CHN_ONLY AND KEEP_B_CHANNEL) AND DISCONNECT_PROVOCABLE

5.2.9 Disconnect Request State Tests, State U11

Table 12: Layer 3 State U11

Requirement from TBR 033	Description	Test case identifier	Condition
11.4.3.5	Ensure that the IUT responds to a DISC PDU with a REL PDU and enters the Release Request state U19.	TC11101	DISCONNECT_PROVOCABLE
11.4.3.3	Ensure that on receipt of a REL PDU the IUT responds with a REL_COM PDU and enters the state U0.	TC11105	DISCONNECT_PROVOCABLE
11.4.6.6	Ensure that the IUT responds to an inopportune PDU with a STATUS PDU with the cause 98 or 101 or with a ST_ENQ PDU and remains in the same state .	TC11107	DISCONNECT_PROVOCABLE
11.4.6.5.1	Ensure that on receipt of a REL PDU with unrecognized IE (coded comprehension not required) THE IUT sends a REL_COM PDU and enters the state U0.	TC11118	DISCONNECT_PROVOCABLE

5.2.10 Release Request State Tests, State U19

Table 13: Layer 3 State U19

Requirement from TBR 033	Description	Test case identifier	Condition
11.4.3.4.3	Ensure that on receipt of a REL_COM PDU the IUT does not respond but returns to the state U0.	TC11903	
11.4.3.5	Ensure that on receipt of a REL PDU the IUT does not respond and enters the state U0. This is a test of RELEASE collision handling.	TC11904	
11.4.6.7	Ensure that on receipt of a STATUS PDU specifying the state U0, the IUT enters the state U0.	TC11906	
11.4.6.2 11.4.6.3	Ensure that the IUT responds to an inopportune PDU with a STATUS PDU with the cause 98 or 101 or with a ST_ENQ and remains in the same state.	TC11908	
11.4.6.2 11.4.6.3	Ensure that the IUT responds to a syntactically invalid message type with a STATUS PDU with the cause 98 or 97 or with a ST_ENQ and remains in the same state.	TC11909	

5.2.11 Restart Null State Tests, State R0

Table 14: Layer 3 State R0

Requirement from TBR 033	Description	Test case identifier	Condition
11.4.8	Ensures that on receipt of a RESTART message the specified channel is returned to the Idle condition, the Call Reference is returned to the Null state and a RESTART_ACK is sent.	TC19003	NOT BDL

History

Document history		
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