![ETSI logo]

INTERIM
EUROPEAN
TELECOMMUNICATION
STANDARD

Source: ETSI TC-TE

Reference: DI/TE-04120-1

ICS: 33.080

Key words: audio, inband, ISDN, service, telephony, testing

Integrated Services Digital Network (ISDN);
Audiovisual services in-band signalling testing;
Part 1: Test Suite Structure and Test Purposes
(TSS & TP) specification

ETSI

European Telecommunications Standards Institute

ETSI Secretariat

Postal address: F-06921 Sophia Antipolis CEDEX - FRANCE
Office address: 650 Route des Lucioles - Sophia Antipolis - Valbonne - FRANCE
X.400: c=fr, a=atlas, p=etsi, s=secretariat - **Internet:** secretariat@etsi.fr

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

*

Contents

Foreword

This draft Interim European Telecommunication Standard (I-ETS) has been produced by the Terminal Equipment (TE) Technical Committee of the European Telecommunications Standards Institute (ETSI), and is now submitted for the Public Enquiry phase of the ETSI standards approval procedure.

An ETSI standard may be given I-ETS status either because it is regarded as a provisional solution ahead of a more advanced standard, or because it is immature and requires a "trial period". The life of an I-ETS is limited to three years after which it can be converted into an ETS, have it's life extended for a further two years, be replaced by a new version, or be withdrawn.

This I-ETS is part 1 of a multipart standard covering "Integrated Services Digital Network (ISDN); audiovisual services in-band signalling testing", as described below:

Part 1: **"Test Suite Structure and Test Purpose (TSS & TP) specification";**

Part 2: "Abstract Test Suite (ATS) and partial Protocol Implementation Conformance Statement (PICS) proforma specification";

Part 3: "Protocol Implementation eXtra Information for Testing (PIXIT) proforma specification".

Proposed announcement date	
Date of latest announcement of this I-ETS (doa):	3 months after ETSI publication

Blank page

1 Scope

This Interim European Telecommunication Standard (I-ETS) is part 1 of a three part I-ETS dealing with conformance testing of Integrated Services Digital Network (ISDN) Videotelephony terminals. Part 2 contains the Abstract Test Suite (ATS) in Tree and Tabular Combined Notation (TTCN) and the partial Protocol Implementation eXtra Information for Testing (PIXIT) proforma. Part 3 provides the Protocol Implementation Conformance Statement (PICS) proforma.

This I-ETS contains the Test Suite Structure and Test Purposes for conformance testing the in-band signalling aspects of an ISDN Videotelephony terminal which uses one or two B channels, and which implements the frame structure and associated syntax as specified in ETS 300 144 [2] and the in-band signalling procedures as specified in ETS 300 143 [1]. No testing of data commands or applications is included among the tests. Test purposes for signal content of the B-channel are included in this part of the I-ETS but no corresponding test cases have been included in part 2. Restricted network operation is outside the scope of this I-ETS.

It may be possible to use these test purposes in order to test a non-ISDN Videotelephony terminal, as long as it provides one or two 64 kbit/s digital channels for transmission. It may also be possible to use the majority of these test purposes to test in-band signalling implementations according to ETS 300 143 [1] and ETS 300 144 [2] using single or multiple channels up to 1 920 kbit/s.

2 Normative references

This I-ETS incorporates by dated and undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this I-ETS only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

[1]   ETS 300 143 (1994): "Integrated Services Digital Network (ISDN); Audiovisual services, Inband signalling procedures for audiovisual terminals using digital channels up to 2 048 kbit/s".

[2]   ETS 300 144 Edition 1 (1994): "Integrated Services Digital Network (ISDN); Audiovisual services, Frame structure for a 64 kbit/s to 1 920 kbit/s channel and associated syntax for inband signalling".

[3]   ETS 300 145 (1994): "Integrated Services Digital Network (ISDN); Audiovisual services, Videotelephone systems and terminal equipment operating on one or two 64 kbit/s channels".

[4]   ISO/IEC 9646 Parts 1 to 7 (1994): "Information technology - Open systems interconnection - Conformance testing methodology and framework".

[5]   CCITT Recommendation G.711 (1990): "Pulse code modulation (PCM) of voice frequencies".

[6]   CCITT Recommendation G.722 (1988): "7 KHz audio-coding within 64kbit/s".

[7]   CCITT Recommendation G.725 (1988): "System aspects for the use of the 7KHz audio codec within 64 kbit/s".

[8]   CCITT Recommendation G.728 (1988): "Coding of speech at 16 kbit/s using low-delay code excited linear prediction".

[9]   ITU-T Recommendation H.261 (1993): "Video codec for audiovisual services at p x 64kbit/s".

3 Definitions

For the purposes of this I-ETS, all the definitions in ISO/IEC 9646 [4] apply, as well as the following:

additional channel: The second or subsequent channels established in a videophone call.

bit-rate allocation signal: Bit position within the frame structure to transmit commands, control and indication signals, capabilities.

capability marker; Cap marker: The first code in a capability set.

capability set; Cap set: A sequence of capability codes started by the capability marker code.

ECS channel: Optional 800 kbit/s channel for use in encryption.

initial channel: The first channel established in a videophone call.

mode 0F: Transmission mode in which the initial channel contains framing, and 7-bit CCITT Recommendation G.711 [5] audio signal is being transmitted.

mode 0U: Transmission mode in which the initial channel does not contain framing, and 8-bit CCITT Recommendation G.711 [5] audio is being transmitted.

remote terminal: The terminal with which the IUT is communicating, i.e. the test tool.

4 Abbreviations

For the purposes of this I-ETS, the following abbreviations apply:

AIA	Audio Indicate Active
AIM	Audio Indicate Muted
ASP	Abstract Service Primitive
ATM	Abstract Test Method
ATS	Abstract Test Suite
BAS	Bit rate Allocation Signal
C&I	Control and Indication
CIF	Common Intermidiate Format (picture format defined in ITU-T Recommendation H.261 [9])
CM	Co-ordination Message
CP	Coordination Point
CRC	Cyclic Redundancy Check
CTP	Combined Test Purpose
ECS	Encryption Control Signal
FAW	Frame Alignment Word
FAS	Frame Alignment Signal
H-MLP	High speed Multi Layer Protocol
H0	384 kbit/s channel
H11	1 536 kbit/s channel
H12	1920 kbit/s channel
HSD	High Speed Data
IUT	Implementation Under Test
ISDN	Integrated Services Digital Network
LCA	Loopback Command "Audio loop request"
LCD	Loopback Command "Digital loop request"
LCO	Loopback Command "Loop off request"
LCV	Loopback Command "Video loop request"
LSB	Least Significant Bit
LSD	Low Speed Data
LT	Lower Tester
MBE	Multiple Byte Extension
MCC	Multipoint Command Conference
MIS	Multipoint Indication Secondary-status

MCU	Multipoint Conference Unit
MCV	Multipoint Command Visualisation-Forcing
MIV	Multipoint Indication Visualisation
MIZ	Multipoint Indication Zero-communication
MLP	Multi Layer Protocol
MPI	Minimum Picture Interval
MSB	Most Significant Bit
MTC	Master Test Component
PCO	Point of Control and Observation
PDU	Protocol Data Unit
PICS	Protocol Implementation Conformance Statement
PIXIT	Protocol Implementation eXtra Information for Testing
PTC	Parallel Test Component
QCIF	Quarter Common Intermidiate Format (picture format defined in ITU-T Recommendation H.261 [9])
SBE	Single Byte Extension
SC	Service Channel
SP	Super Test Purpose
TEA	Terminal Equipment Alarm
TP	Test Purpose(s)
TSS	Test Suite Structure
TTCN	Tree & Tabular Combined Notation
VCF	Video Command "Freeze-picture request"
VCU	Video Command "fast-Update request"
VIA	Video Indicate Active
VIR	Video Indicate Ready-to-Activate
VIS	Video Indicate Suppressed

5   Naming convention and document structure

This I-ETS is structured into 9 clauses. Clauses 1 to 3 deal with the scope, references and abbreviations. Clause 4 onwards forms the main body. Clause 5 contains the Test Suite Structure. Clauses 6 and 7 contain the complete list of test purposes which apply to the in-band signalling specifications referenced above: clause 6 applying to 1B communication and clause 7 applying to 2B communication. Clauses 8 and 9 also refer to 1B and 2B respectively, but contain the list of combined test purposes.

In this I-ETS, test purposes are referenced with TP, combined test purposes are referenced with CTP. Super test purposes are referenced with SP, with corresponding derived Test Purposes having D appended to the reference. Super test purposes are only used if they provide clarification of an obscure test purpose.

Each test purpose contained in clauses 6 and 7 also appears in clauses 8 and 9 respectively. Clauses 8 and 9 contain combined test purposes, i.e. test purposes which can be tested together in one test case. Each combined test purpose contains references to the original, uncombined test purposes contained within it, from clauses 6 and 7. Any test purposes which cannot be combined with others have been copied from clauses 6 and 7 into clauses 8 and 9 respectively, with unchanged references. Therefore, clauses 8 and 9 contain the complete set of test purposes, and there is a one to one mapping between these test purposes and the corresponding test cases in the ATS in part 2 of this I-ETS.

Test purposes which do not have abstract test cases written for them are listed in italics. The usual reason for not writing a test case lies in the fact that they are testing transmission or reception of audio or video signals by the Implementation Under Test (IUT). The selected test method used in the abstract test suite does not have a Point of Control and Observation (PCO) for sending and receiving audio or video signals. The testing of audio or video signal content is outside the scope of testing in-band signalling content and to specify a sample audio or video content in the ATS would introduce unnecessary complication. Of course, if another test method is being used to implement the test purposes contained in this I-ETS, then these test cases shown in italics could be implemented.

It is recommended that, despite the fact that testing audio and video signal content is outside the scope of this I-ETS, a test tool implementing the in-band signalling test cases should include audio and video signals to match the Bit rate Allocation Signal (BAS) commands which it is sending. This avoids a terminal implementing a mode mismatch procedure when it does not detect the correct audio or video signal, which would prevent any testing from being carried out.

Test Purposes carry the following numbering scheme:

TP1-1-001D or CTP2-3-001:

- the first digit following TP or CTP refers to whether the test is for 1 B-channel operation or 2 B-channel operation (1 or 2);

- the second digit refers to:

    1   Capability tests;
    2   Valid behaviour tests; or
    3   Invalid behaviour tests.

- the number following that is a sequence number.

The numbering used in each test purpose will also be used in its corresponding test case, but a TC prefix will be used, rather than TP or CTP. Of the two examples above, the first refers to a test purpose in 1B Capability clause, derived from a super test purpose, the second refers to a test from 2B Invalid behaviour clause, a combined test purpose.

The separation of the tests into 1B-channel operation and 2B-channel operation has the following explanation: Almost all of the tests of the 1 B-channel operation clause will also apply to terminals offering a 2B service. These tests will only be performed when one B channel is operational however. Therefore, 2B terminals will have to satisfy tests from both the 1B and the 2B clauses. This approach was adopted because much of the frame structure, mode initialisation and mode switching tests do not refer to 2B specifically. Indeed much of this operation needs to be performed on the initial channel before a second channel is established. Thus, there is no duplication of tests between 1B and 2B channel operation.

In the following test purposes, the statement "verify IUT accepts..." occurs regularly. The IUT is considered to have accepted a capability set containing the capability BAS code under test when sequence A has been completed successfully and commands are being exchanged. The IUT is considered to have accepted a BAS command if it does not initiate a mode mismatch procedure within 2 seconds of receiving the command.

6   Test Suite Structure

Two versions of the test suite structure are presented here. The first is the structure which applies to the test purposes in clauses 6 and 7 of this I-ETS, i.e. the full list of test purposes. The second test suite structure is that which applies to the set of combined test purposes, i.e. clauses 8 and 9 of this I-ETS. As there is a one-to-one mapping between these combined test purposes and the test cases in the ATS, this second test suite structure also applies to the ATS. The two structures exist because certain groups of test purposes were merged during the combination of test purposes.

6.1   Test suite structure - full version

Single Channel Communication

        Capability
                Frame and Multiframe
                        Frame and Multiframe Alignment Signal
                        Alignment
                        Bits N1-N5
                        E_Bit, C1-C4
                BAS
                Basic Sequences and Procedures
                        Capability Exchange (Sequence A)
                                Audio capabilities (100)
                                Transfer-rate capabilities (100)
                                Video capabilities (100)
                        Mode Switching (Sequence B)
                        Mode Initialisation Procedure

        Valid Behaviour

Frame and Multiframe
BAS
Transfer-rate capabilities (100)
Video and MBE capabilities (101)
LSD/MLP capabilities (101)
Escape table values (111)
Aggregate Capabilities (111) [15]-(100)
Aggregate Capabilities (111) [15]-(101)
Escape_16 Capabilities (111) [16]-(100)
Escape_16 Capabilities (111) [16]-(101)
Escape_16 Capabilities (111) [16]-(110)
Audio command values (000)
Video, loopback and other commands (010)
Escape_16 Commands (111) [16]-(001)
C&I related to video (111) [17]-(000)
C&I related to audio (111) [17]-(000)
C&I related to simple multipoint conferences not using MLP (111) [17]-(001)
Data-apps (111) [18]-(101)
NUM (111) [19]
CHAR (111) [20]
Basic Sequences and Procedures
Capability Exchange (Sequence A)
Mode Switching (Sequence B)
Frame Reinstatement (Sequence C)
Mode Forcing Procedure
Mode 0 Forcing Procedure
Encryption Control Signal

Invalid Behaviour
Frame and Multiframe
Alignment
E_Bit, C1-C4
BAS
Basic Sequences and Procedures
Capability Exchange (Sequence A)
Mode Switching (Sequence B)
Frame Reinstatement (Sequence C)
Mode Initialisation Procedure
Loss of Connection

Two Channels Communication

Capability
Frame and Multiframe
Frame and Multiframe Alignment Signal
Bits N1-N5
Alignment and Synchronisation
Bits L1-L3
E-bit,C1-C4
Terminal Equipment Alarm (TEA)
BAS
Basis Sequences and Procedures
Capability Exchange (Sequence A)
Mode Switching (Sequence B)
Mode Initialization Procedure

Valid Behaviour
Frame and Multiframe
BAS
Audio command values (000)
Video, loopback and other commands (010)
C&I related to simple multipoint conferences not using MLP (111) [17]-(001)
Basic Sequences and Procedures

                        Mode Switching (Sequence B)
                        Mode Forcing Procedure
                        Mode 0 forcing procedure
                Encryption Control Signal

        Invalid Behaviour
                Frame and Multiframe
                        Bits N1-N5
                        Alignment and Synchronisation
                        Bits L1-L3
                        E-bit, C1-C4
                        TEA
                Procedures
                        Capability Exchange (Sequence A)
                        Mode Initialization Procedure
                Loss of Connection

6.2   Test suite structure - combined version

ISDN_VP_IBS

Single Channel Communication (Service Channel (SC))

        Capability Tests (CA)
                Frame and Multiframe Structure and Alignment (Frame Alignment Signal (FAS))
                BAS Codes (BAS)
                Basic Sequences and Procedures (SEQ)
                        Capability Exchange (Sequence A) / Initialisation (SA)
                                Audio capabilities (100) (AUCAP)
                                Transfer-rate capabilities (100) (TRCAP)
                                Video capabilities (100) (VICAP)
                        Mode Switching (Sequence B) (SB)
                        Mode initialisation procedure (MI)

        Valid Behaviour Tests (VB)
                Frame and Multiframe Structure and Alignment (No testable test cases) (FAS)
                BAS Codes (BAS)
                        Transfer-rate capabilities (100) (TRCAP)
                        Video and MBE capabilities (101) (VICAP)
                        LSD/MLP capabilities (101) (DCAP)
                        Escape table values (111) (ESC)
                        Aggregate Capabilities (111) [15]-(100) (AGCAP1)
                        Aggregate Capabilities (111) [15]-(101) (AGCAP2)
                        Escape_16 Capabilities (111) [16]-(100) (E16CAP1)
                        Escape_16 Capabilities (111) [16]-(101) (E16CAP2)
                        Escape_16 Capabilities (111) [16]-(110) (E16CAP3)
                        Audio command values (000) (AUCMD)
                        Video, loopback and other commands (010) (VICMD)
                        Escape_16 Commands (111) [16]-(001) (E16CMD)
                        C&I related to video (111) [17]-(000) (VICI)
                        C&I related to audio (111) [17]-(000) (AUCI)
                        C&I related to simple multipoint conferences not using MLP (111) [17]-(001)
                        (MCCI)
                        Data-apps (111) [18]-(101) (DAPP)
                        NUM (111) [19] (NUM)
                        CHAR (111) [20] (CHAR)
                Basic Sequences and Procedures (SEQ)
                        Capability Exchange (Sequence A) (SA)
                        Mode Switching (Sequence B) (SB)
                        Frame Reinstatement (Sequence C) (SC)
                        Mode Forcing (MF)
                Encryption Control Signal (ECS)

Invalid Behaviour Tests (IB)
Frame and Multiframe Structure and Alignment (FAS)
Basic Sequences and Procedures (SEQ)
Capability Exchange (Sequence A) (SA)
Mode Switching (Sequence B) (SB)
Mode Initialisation (MI)

Two Channels Communication (TC)

Capability Tests (CA)
Frame and Multiframe Structure and Alignment (FAS)
BAS Codes (BAS)
Basis Sequences and Procedures (SEQ)
Capability Exchange (Sequence A) (SA)
Mode Switching (Sequence B) (SB)
Mode Initialization Procedure

Valid Behaviour Tests (VB)
Frame and Multiframe Structure and Alignment (FAS)
BAS Codes (BAS)
Audio command values (000) (AUCMD)
Video, loopback and other commands (010) (VICMD)
C&I related to simple multipoint conferences not using MLP (111) [17]-(001) (MCCI)
Basic Sequences and Procedures (SEQ)
Mode Switching (Sequence B) (SB)
Mode Initialisation (MI)
Mode Forcing (MF)
Encryption Control Signal (ECS)

Invalid Behaviour Tests (IB)
Frame and Multiframe Structure and Alignment (FAS)
Basic Sequences and Procedures (SEQ)
Capability Exchange (Sequence A) (SA)
Mode Initialisation (MI)
Loss of Connection (LOC)

6.3   Test suite structure - diagram
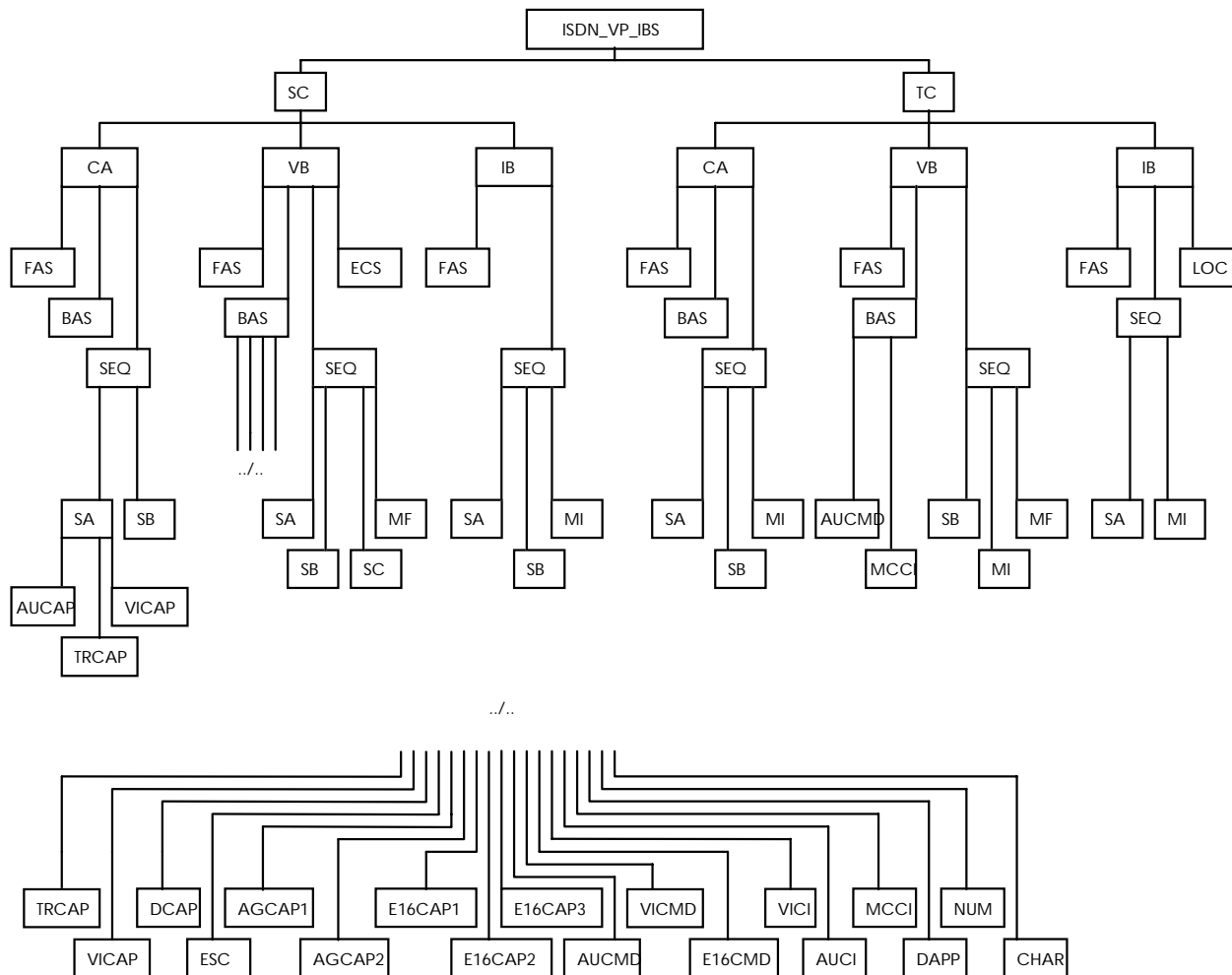
7   Test purposes for single channel communication

NOTE: For reasons of clarity, the test purposes refer to CCITT and ITU-T Recommendations
by their series letter and number only, thus:

- G.711 = CCITT Recommendation G.711 [5];
- G.722 = CCITT Recommendation G.722 [6];
- G.725 = CCITT Recommendation G.725 [7];
- G.728 = CCITT Recommendation G.728 [8];
- H.261 = ITU-T Recommendation H.261 [9];
- T.120 = ITU-T Recommendation T.120;
- V.14 = ITU-T Recommendation V.14.

7.1   Capability

7.1.1   Frame and multiframe

7.1.1.1   Frame and multiframe alignment signal

TP1-1-001: [ETS 300 144 [2] subclause 6.1 §2]
Verify that, the IUT sets bit 8 of bytes 2 to 8 at every first-third-fifth.... frame of 80 bytes to "0011011", i.e.
bits 2 to 8 of the service channel in each even frame, in the initial channel.

TP1-1-002: [ETS 300 144 [2] subclause 6.1 §2]
Verify that, the IUT sets bit 8 of the second byte of every second-fourth-sixth... 80 byte frame to "1", i.e. bit 2 of the service channel in each odd frame, in the initial channel.

TP1-1-003: [ETS 300 144 [2] subclause 6.2 §1 §2]
Verify that the IUT sets bit 8 of byte 1 of frames 1,3,5,7,9,11 of each group of 16 frames (numbered 0 to 15) where each frame is 80 bytes long, to "001011", i.e. bit 1 of the service channel in frames 1,3,5,7,9,11 in each multiframe of 16 frames, in the initial channel.

TP1-1-004: [ETS 300 144 [2] subclause 6.2 §3]
Verify that the IUT sets bit 8 of byte 1 of frame 15 of each group of 16 frames (numbered 0 to 15) where each frame is 80 bytes long, to "0", i.e. bit 1 in the service channel of frame 15 in each multiframe of 16 frames (numbered 0 to 15), in the initial channel.

7.1.1.2 Alignment

TP1-1-005: [ETS 300 144 [2] subclause 6.5.1]
Verify that, at the initiation of a call, when the IUT is searching for frame alignment, if the network provides byte timing, the IUT uses this as its receive byte timing.

TP1-1-006: [ETS 300 144 [2] subclause 5.1 §3]
Verify that, when the network provides byte timing, the IUT uses it in the transmission side.

TP1-1-007: [ETS 300 144 [2] subclause 5.1 §4]
Verify that the IUT searches for FAS in all received bit positions.

TP1-1-008: [ETS 300 144 [2] subclause 5.1 §4, 6.5 §1]
Verify that, when there are conflicts between received FAS position and the received network byte timing, the IUT takes its received byte timing from the FAS position.

TP1-1-009: [ETS 300 144 [2] subclause 6.3 §1 & §4]
Verify that, when the IUT detects in three successive frames the presence of the first correct seven bits of the FAW, followed by the eighth bit of the Frame Alignment Word (FAW), followed by, once again, the first correct seven bits of the FAW, the IUT considers that frame alignment has been gained.

TP1-1-010: [ETS 300 144 [2] subclause 6.1 §3]
Verify that the IUT, if it only needs to search for frame alignment, when it acquires frame alignment, sets to "0" bit 8 of the third byte at every second-fourth-sixth... 80 byte frame, i.e. bit 3 of the service channel in each odd frame.

SP001: [ETS 300 144 [2] subclause 6.4 §1]
Verify that the IUT, when it has no use for multiframe alignment on the incoming signal, transmits outgoing A=0 when frame alignment is recovered.

TP1-1-011D: [ETS 300 144 [2] subclause 6.4 §1]
Verify that, if the IUT supports 1 B-channel communication only, and does not search for multiframe alignment in the incoming signal, when the IUT receives multiframe structure from the remote terminal, when the IUT detects on the initial channel bits 2 to 8 of the SC of a frame (even frame) set to "0011011", followed by a frame (odd frame) which contains bit 2 of the SC set to "1" (the eighth bit of the FAW), followed by a frame (even frame) with, for a second time bits 2 to 8 of its SC set to "0011011", the IUT sets the A-bit of its following outgoing odd frames to "0" in the initial channel.

TP1-1-012: [ETS 300 144 [2] subclause 6.5.1 §1]
Verify that, as soon as the IUT has gained frame alignment for the first time, the IUT initialises the receive byte timing at the new bit position.

TP1-1-013: [ETS 300 144 [2] subclause 6.5.1 §1]
Verify that, after the IUT has gained frame alignment for the first time and does not loose frame alignment during the next 16 frames, the IUT validates the receive byte timing.

TP1-1-014: [ETS 300 144 [2] subclause 6.1 §3]
Verify that the IUT, when it receives frame and multiframe structure, sets to "0" bit 8 of the third byte at every second-fourth-sixth... 80 byte frame, i.e. bit 3 of the service channel in each odd frame.

7.1.1.3 Bits N1-N5

TP1-1-015: [ETS 300 144 [2] subclause 6.2 §4]
Verify that, if the IUT sends multiframe numbering, it sends bits N1, N2, N3, N4 in the bit position 1 of FAS of frames 0-2-4-6 of each 16 frame multiframe, with the Least Significant Bit (LSB) transmitted in frame 0 and the Most Significant Bit (MSB) in frame 6, where N1, N2, N3, N4 is a modulo 16 counter to number multiframes in the initial channel.

TP1-1-016: [ETS 300 144 [2] subclause 6.2 §4]
Verify that, if the IUT sends multiframe numbering, it uses bits N1, N2, N3, N4 as a modulo 16 counter to number multiframes in descending order, with the LSB transmitted in frame 0 and the MSB in frame 6, in the initial channel.

TP1-1-017: [ETS 300 144 [2] subclause 6.2 §7]
Verify that, if the IUT sends multiframe numbering, it sends "1" in bit 1 of FAS of frame 8 (N5) of each numbered multiframe in the initial channel for at least three consecutive multiframes.

TP1-1-018: [ETS 300 144 [2] subclause 6.2 §5,6]
Verify that, if the IUT supports 1B operation only, when the IUT acquires frame alignment, when the remote terminal also sends multiframe structure to the IUT with bits N1 to N4 operating as a multiframe counter in descending order, with bit N5 set to 1, the IUT retains frame alignment and maintains the outgoing A-bit at 0.

TP1-1-019: [ETS 300 144 [2] subclause 6.2 §7 & table 4c]
Verify that the IUT, if it sends unnumbered multiframes, sends "0" in bit 1 of FAS of frame 0-2-4-6-8 (N1-N5) of each unnumbered multiframe.

TP1-1-020: [ETS 300 144 [2] subclause 6.2 §5,6]
Verify that, if the IUT supports 1B operation only, when the IUT acquires frame alignment, when the remote terminal also sends multiframe structure to the IUT with bits N1 to N5 set to 0, i.e. bit 1 of the FAS in frames 0-2-4-6-8 in each 16 frame multiframe set to 0, the IUT retains frame alignment and maintains the outgoing A-bit at 0.

7.1.1.4 E_bit, C1-C4

TP1-1-021: [ETS 300 144 [2] subclause 6.1 §4, 9.2.1 §1]
Verify that, when the IUT does not use the Cyclic Redundancy Check 4-bit (CRC4) procedure, the IUT sets to "0" bit 8 of byte 4 at every second-fourth-sixth... 80 byte frame, i.e. bit 4 of the service channel in each odd frame, in the initial channel.

TP1-1-022: [ETS 300 144 [2] subclause 6.1 §4]
Verify that, when the IUT does not use the Cyclic Redundancy Check 4-bit (CRC4) procedure, the IUT sets to "1111" the bit 8 of bytes 5,6,7,8 at every second-fourth-sixth... 80 byte frame, i.e. bits 5,6,7,8 of the service channel in each odd frame, in the initial channel.

TP1-1-023: [ETS 300 144 [2] subclause 9.1 §1]
Verify that, when the IUT implements the CRC4 procedure, it computes the CRC4 bits C1, C2, C3 and C4 in initial B channel for each block or submultiframe made of two frames: one even frame followed by one odd frame.

TP1-1-024: [ETS 300 144 [2] subclause 9.1.1 §1]
Verify that, when the IUT implements the CRC4 procedure, it computes the C1 to C4 word located in a block J (generic block) as the remainder after multiplication by x^4 and then division (modulo 2) by the generator polynomial $x^4 + x + 1$, of the polynomial representation of block (J-1).

TP1-1-025: [ETS 300 144 [2] subclause 9.1.1 §2]
Verify that, when the IUT implements the CRC4 procedure, it takes the first bit in the block as the MSB to compute the CRC4 bits.

TP1-1-026: [ETS 300 144 [2] subclause 9.1.1 §2]
Verify that, when the IUT implements the CRC4 procedure, it defines the C1 bit as the MSB of the remainder.

TP1-1-027: [ETS 300 144 [2] subclause 9.1.1 §2]
Verify that, when the IUT implements the CRC4 procedure, it defines the C4 bit as the LSB of the remainder.

TP1-1-028: [ETS 300 144 [2] subclause 9.1.2 §1 a)]
Verify that, when the IUT implements the CRC4 encoding procedure, it initialises the Cyclic Redundancy Check (CRC) bits C1-C4 in the odd frame to "0".

TP1-1-029: [ETS 300 144 [2] subclause 9.1.2 §1 b)]
Verify that, when the IUT implements the CRC4 encoding procedure, after it has initialised C1-C4 bits to 0, it performs the CRC multiplication-division process on the block.

TP1-1-030: [ETS 300 144 [2] subclause 9.1.2 §1 c)]
Verify that, when the IUT implements the CRC4 encoding procedure, after it has performed the CRC multiplication-division process on the block, it stores the remainder resulting from this process in the CRC bit positions in the next odd frame.

TP1-1-031: [ETS 300 144 [2] subclause 9.1.2 §1 a)]
Verify that, when the IUT implements the CRC4 decoding procedure, after it has extracted and stored the CRC bits in the received odd frame in the initial channel and replaced them by zeroes, it performs the CRC multiplication-division process on the received block.

TP1-1-032: [ETS 300 144 [2] subclause 9.1.2 §1 b)]
Verify that, when the IUT implements the CRC4 decoding procedure, after the CRC multiplication-division process has been performed on the received block (with the CRC bits extracted and replaced by zeros), the IUT compares the remainder resulting from this process with the CRC bits received in the next odd frame.

TP1-1-033: [ETS 300 144 [2] subclause 9.1.2 §1 c)]
Verify that, when the IUT implements the CRC4 decoding procedure, after the CRC multiplication-division process has been performed on the received block (with the CRC bits extracted and replaced by zeros), when the IUT compares the remainder resulting from this process with the CRC bits received in the next odd frame, if the calculated remainder corresponds exactly to the CRC bits received, the IUT considers the checked block to be without error.

TP1-1-034: [ETS 300 144 [2] subclause 9.2.1 §1]
Verify that, when the IUT implements CRC4 decoding procedure, it sets the E-bit of a block J in the transmitting direction to "0" if bits C1-C4 detected in the most recently received block have been found to be without error.

SP003: [ETS 300 143 [1] subclause 5.4 §1]
Verify that the IUT accepts unoccupied bits, except those bit positions reserved for FAS and BAS filled with any combinations of bit values.

TP1-1-035D: [ETS 300 143 [1] subclause 5.4 §1]
Verify that the IUT, after the completion of the initialisation procedure and after receiving the command A-law, 0F (000)[18], accepts bytes 17 to 80 of the service channel filled with "0".

TP1-1-036D: [ETS 300 143 [1] subclause 5.4 §1]
Verify that the IUT, after the completion of the initialisation procedure and after receiving the command A-law, 0F (000)[18], accepts bytes 17 to 80 of the service channel filled with "1".

TP1-1-037D: [ETS 300 143 [1] subclause 5.4 §1]
Verify that the IUT, after the completion of the initialisation procedure and after receiving the command A-law, 0F (000)[18], accepts bytes 17 to 80 of the service channel filled with "01".

TP1-1-038: [ETS 300 144 [2] subclause 6.2 §11]
Verify that, when the IUT supports 2 B-channel operation, when the IUT can receive and transmit signals, the IUT sets the bit 1 (TEA) of the FAS to "0" in the service channel in outgoing frame number 14 in each multiframe in the initial channel.

7.1.2   BAS

TP1-1-039: [ETS 300 144 [2] subclause 8.1 §1]
Verify that bits 9 to 16 of the eighth sub channel (bit 8 of bytes 9 to 16) in each frame sent by the IUT contain BAS codes.

TP1-1-040: [ETS 300 144 [2] subclause 8.1 §2]
Verify that the 8 bit error correcting code sent by the IUT is identical to the result which would be obtained by performing the polynomial calculation described in ETS 300 144 [2] subclause 8.1.

TP1-1-041: [ETS 300 144 [2] subclause 8.1 §3]
Verify that the 8 bit BAS code sent by the IUT is sent in the first or even frame of each sub-multiframe.

TP1-1-042: [ETS 300 144 [2] subclause 8.1 §1,3]
Verify that for each BAS code sent by the IUT, an 8 bit error correcting code is sent in the second or odd frame of the sub-multiframe containing the BAS code to which it refers.

TP1-1-043: [ETS 300 144 [2] subclause 8.1 §3]
Verify that each BAS code and its corresponding error correcting code is sent by the IUT in the bit order given in table 6 of ETS 300 144 [2] subclause 8.1.

7.1.3   Basic sequences and procedures

7.1.3.1   Capability exchange (sequence A) / initialisation

TP1-1-044: [ETS 300 143 [1] subclause 7.1.1 a)]
Verify that, when the IUT is the called terminal, when the IUT has no indication as to the encoding law used, as soon as the physical connection of the initial B-channel is indicated by D-channel signalling, the IUT commences the initialisation procedure by transmitting in framed mode 0F A-law.

TP1-1-045: [ETS 300 143 [1] subclause 7.1.1 a)]
Verify that, when the IUT is the calling terminal, when the IUT has no indication as to the encoding law used, as soon as the physical connection of the initial B-channel is indicated by D-channel signalling, the IUT commences the initialisation procedure by transmitting in framed mode 0F A-law.

TP1-1-046: [ETS 300 143 [1] subclause 7.1.1 a)]
Verify that, when the IUT has no indication as to the encoding law used, as soon as the physical connection of the initial B-channel is indicated by D-channel signalling, if the IUT transmits any commands, the commands describe the current transmission mode as mode 0F, A-law.

TP1-1-047: [ETS 300 143 [1] subclause 7.1.1 b)]
Verify that, as soon as the physical connection of the initial B-channel is indicated by D-channel signalling, when the IUT commences the initialisation procedure by transmitting in framed mode 0F, and when the remote terminal transmits in the same framed mode, the IUT is in frame search and gains frame alignment, transmitting A-bit =0.

TP1-1-048: [ETS 300 143 [1] subclause 7.1.1 b)]
Verify that, when the IUT has no indication as to the encoding law used, as soon as the physical connection of the initial B-channel is indicated by D-channel signalling, when the IUT commences the initialisation procedure by transmitting in framed mode 0F A-law, the IUT's receiver is in audio decoding mode G.711 A-law.

TP1-1-049: [ETS 300 144 [2] subclause 10.1.9 §5]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the escape value Cap-mark (111)[24] as the first capability code in the set.

TP1-1-050: [ETS 300 144 [2] subclause 10.1.9 §5]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains only the escape value Cap-mark (111)[24] followed by the audio capability A-law (100)[1].

TP1-1-051: [ETS 300 143 [1] subclause 7.1.1 c)]
Verify that, as soon as the physical connection of the initial B-channel is indicated by D-channel signalling, when the IUT commences the initialisation procedure by transmitting in framed mode 0F, the IUT commences sequence A by transmitting its capability set.

TP1-1-052: [ETS 300 143 [1] subclause 5.1.9 §3]
Verify that the IUT, during a sequence A, transmits a capability set containing only capability BAS code values.

TP1-1-053: [ETS 300 143 [1] subclause 5.1.9 §7]
Verify that, during a sequence A, the IUT sends a capability set that contains a capability marker (111)[24] followed by at least one capability value.

TP1-1-054: [ETS 300 143 [1] subclause 5.1.9 §8, subclause 6.1.4 §2)]
Verify that the IUT, during a sequence A, always transmits the same capability set until the completion of this sequence A.

TP1-1-055: [ETS 300 143 [1] subclause 5.1.9 §8]
Verify that the IUT, during a sequence A, never transmits Neutral (100)[0] capability.

TP1-1-056: [ETS 300 143 [1] subclause 6.1.1 §3]
Verify that, during a sequence A at the start of a call, when the IUT is repeatedly sending its current capability set, and has met the following conditions: it receives frames from the remote terminal, and the incoming A-bit = 0, and it receives the capability marker (111)[24] followed by at least one of the capability codes (100) [1 to 31] or (101) [0 to 31], the IUT sends at least one further complete capability set followed by a capability marker followed by one of the commands (000) [0 to 31] or (001) [0 to 31] or (010) [0 to 31] or (011) [0 to 31].

TP1-1-057: [ETS 300 143 [1] subclause 7.1.1 d) §3]
Verify that, when the IUT commences mode initialisation, when frame alignment has been gained by the IUT and the incoming A-bit = 0, the IUT does not retransmit its own current capability set to the remote terminal for longer than 10 seconds.

TP1-1-058: [ETS 300 143 [1] subclause 6.1.3] [ETS 300 144 [2] subclause 6.4 §3]
Verify that, when the IUT initiates sequence A, and when the following conditions are met:

a)   outgoing transmission is framed;
b)   frame and multiframe alignment has been achieved;
c)   the IUT's complete capability set followed by a capability marker (111)[24] has been sent while A-bit received by the IUT is set to 0;
d)   a complete and valid capability set followed by capability marker (111)[24] has been received by the IUT from the remote terminal;
e)   the restricted capability is not included in capability set from the remote terminal;
f)   the 10 second timer T1 started by the IUT when it sent the first capability set has not expired, then sequence A is successfully completed with outcome A-I and normal transmission of commands describing the current transmission mode is taking place in both transmission directions.

TP1-1-059: [ETS 300 143 [1] subclause 7.1.1 d) §1]
Verify that, when the IUT commences the mode initialisation procedure and commences sequence A, and when sequence A has terminated successfully with outcome A-I, the IUT commences sequence B by sending a BAS command according to the capability set received from the remote terminal.

7.1.3.1.1   Audio capabilities(100)

TP1-1-060: [ETS 300 143 [1] subclause 5.1.1§1] [ETS 300 144 [2] subclause 10.1.5 §2,3]
Verify that the IUT, during sequence A, includes one of the capabilities G.711 A-law (100)[1] or G.711 µ-law (100)[2] in its transmitted capability set.

TP1-1-061: [ETS 300 143 [1] subclause 5.1.1 §2] [ETS 300 144 [2] subclause 10.1.5 §2,3]
Verify that, when the IUT does not wish to force the remote terminal to transmit in a particular encoding law, the IUT sends both G.711 A-law (100)[1] and G.711 µ-law (100)[2] capabilities during sequence A.

TP1-1-062: [ETS 300 144 [2] subclause 10.1.5 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts a capability set from the remote terminal that contains the audio capability A-law (100)[1].

TP1-1-063: [ETS 300 144 [2] subclause 10.1.5 §3]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts a capability set from the remote terminal that contains the audio capability µ-law (100)[2].

TP1-1-064: [ETS 300 144 [2] subclause 10.1.5 §4]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts a capability set from the remote terminal that contains the audio capability G.722-64 (100)[3].

TP1-1-065: [ETS 300 144 [2] subclause 10.1.5 §5]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts a capability set from the remote terminal that contains the audio capability G.722-48 (100)[4].

TP1-1-066: [ETS 300 144 [2] subclause 10.1.5 §6]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts a capability set from the remote terminal that contains the audio capability G.728 (100)[5].

TP1-1-067: [ETS 300 144 [2] subclause 10.1.5 §6]
Verify that, during a sequence A in an initialisation procedure, when the IUT supports G.728 audio mode, the IUT sends a capability set that contains the audio capability G.728 (100)[5].

7.1.3.1.2   Transfer-rate capabilities (100)

TP1-1-068: [ETS 300 144 [2] subclause 10.1.6 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the transfer rate capability 1B (100)[16].

TP1-1-069: [ETS 300 144 [2] subclause 10.1.6 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the transfer rate capability 2B (100)[17].

7.1.3.1.3   Video capabilities (100)

TP1-1-070: [ETS 300 144 [2] subclause 10.1.7 QCIF & MPI 1/29,97]
Verify that, during a sequence A, the IUT accepts a capability set containing the QCIF capability code (101)[20], followed by the MPI capability code 1/29,97 (101)[22].

TP1-1-071: [ETS 300 144 [2] subclause 10.1.7 QCIF & MPI 2/29,97]
Verify that, during a sequence A, the IUT accepts a capability set containing the QCIF capability code (101)[20], followed by the MPI capability code 2/29,97 (101)[23].

TP1-1-072: [ETS 300 144 [2] subclause 10.1.7 QCIF & MPI 3/29,97]
Verify that, during a sequence A, the IUT accepts a capability set containing the QCIF capability code (101)[20], followed by the MPI capability code 3/29,97 (101)[24].

TP1-1-073: [ETS 300 144 [2] subclause10.1.7 QCIF & MPI 4/29,97]
Verify that, during a sequence A, the IUT accepts a capability set containing the QCIF capability code (101)[20], followed by the MPI capability code 4/29,97 (101)[25].

TP1-1-074: [ETS 300 144 [2] subclause10.1.7 CIF & MPI 1/29,97]
Verify that, during a sequence A, the IUT accepts a capability set containing the Common Intermediate Format (CIF) capability code (101)[21], followed by two of the four MPI values, the first MPI value being 1/29,97 (101)[22].

TP1-1-075: [ETS 300 144 [2] subclause10.1.7 CIF & MPI 2/29,97]
Verify that, during a sequence A, the IUT accepts a capability set containing the CIF capability code (101)[21], followed by two of the four MPI values, the first MPI value being 2/29,97 (101)[23].

TP1-1-076: [ETS 300 144 [2] subclause10.1.7 CIF & MPI 3/29,97]
Verify that, during a sequence A, the IUT accepts a capability set containing the CIF capability code (101)[21], followed by two of the four MPI values, the first MPI value being 3/29,97 (101)[24].

TP1-1-077: [ETS 300 144 [2] subclause10.1.7 CIF & MPI 4/29,97]
Verify that, during a sequence A, the IUT accepts a capability set containing the CIF capability code (101)[21], followed by two of the four MPI values, the first MPI value being 4/29,97 (101)[25].

TP1-1-078: [ETS 300 144 [2] subclause 10.1.7 CIF & MPI 1/29,97]
Verify that, during a sequence A, the IUT accepts a capability set containing the CIF capability code (101)[21], followed by two of the four MPI values, the second MPI value being 1/29,97 (101)[22].

TP1-1-079: [ETS 300 144 [2] subclause10.1.7 CIF & MPI 2/29,97]
Verify that, during a sequence A, the IUT accepts a capability set containing the CIF capability code (101)[21], followed by two of the four MPI values, the second MPI value being 2/29,97 (101)[23].

TP1-1-080: [ETS 300 144 [2] subclause10.1.7 CIF & MPI 3/29,97]
Verify that, during a sequence A, the IUT accepts a capability set containing the CIF capability code (101)[21], followed by two of the four MPI values, the second MPI value being 3/29,97 (101)[24].

TP1-1-081: [ETS 300 144 [2] subclause10.1.7 CIF & MPI 4/29,97]
Verify that, during a sequence A, the IUT accepts a capability set containing the CIF capability code (101)[21], followed by two of the four MPI values, the second MPI value being 4/29,97 (101)[25].

TP1-1-082: [ETS 300 143 [1] subclause 5.1.2§2] [ETS 300 144 [2] subclause 10.1.7 QCIF]
Verify that IUT, when it supports only QCIF, during a sequence A in an initialisation procedure, sends its QCIF capability (101)[20] following by an MPI code that is one of the following values: 1/29,97 2/29,97 3/29,97 4/29,97 seconds, as declared in the PICS.

TP1-1-083: [ETS 300 143 [1] subclause 5.1.2 §2] [ETS 300 144 [2] subclause 10.1.7 CIF]
Verify that, if the IUT supports CIF, during a sequence A in an initialisation procedure, it sends its CIF (101)[21] capability followed by two MPI values from the following list: 1/29,97 2/29,97 3/29,97 4/29,97 seconds, the first corresponding to the QCIF mode, the second corresponding to the CIF mode as declared in the PICS.

7.1.3.2   Mode switching (sequence B)

TP1-1-084: [ETS 300 144 [2] subclause 10.1.2 §1]
Verify that, when the IUT operates in single channel communication, after it has sent the 64 command (001)[0] to the remote terminal, its outgoing transmission mode uses the initial channel only.

TP1-1-085: [ETS 300 144 [2] subclause 10.1.2 §1]
Verify that the IUT, after the completion of Sequence A, accepts the 64 command (001)[0] transmitted by the remote terminal signalling a single channel communication.

TP1-1-086: [ETS 300 144 [2] subclause 10.1.3 §1]
Verify that the IUT, after the completion of Sequence A, accepts the video-off command.

TP1-1-087: [ETS 300 143 [1] subclause 5.1.1§2 table 1]
Verify that, after an initialisation procedure during which the remote terminal sent no audio capabilities, the IUT sends G711 A-law,0F or µ-law,0F commands ((000)[18] or (000)[19]).

TP1-1-088: [ETS 300 144 [2] subclause 10.1.1.1 §5]
Verify that, when the IUT wishes to operate in the framed audio mode G.711 A-law at 56 kbit/s, after the completion of a sequence A, it sends the A-law, 0F command (000)[18] to the remote terminal.

TP1-1-089: [ETS 300 144 [2] subclause 10.1.1.1 §5; 10.1.5 §2]
Verify that the IUT, after the completion of a sequence A, accepts the command A-law, 0F (000)[18] from the remote terminal signalling the framed audio mode G.711 A-law at 56 kbit/s.

TP1-1-090: [ETS 300 143 [1] subclause 5.1.1§2 table 1]
Verify that, after an initialisation procedure during which the remote terminal sent only G711 A-law capability (100)[1], the IUT sends only G711 A-law commands ((000)[18] or (000)[4]).

TP1-1-091: [ETS 300 143 [1] subclause 5.1.1§2 table 1]
Verify that, after an initialisation procedure during which the remote terminal sent only G711 µ-law capability (100)[2], the IUT sends only G711 µ-law commands ((000)[5] or (000)[19]).

TP1-1-092: [ETS 300 144 [2] subclause 8.2.1 §1] [ETS 300 143 [1] subclause 5.2.4 §1, 6.2 §5]
Verify that, when the IUT receives a BAS command code and its corresponding error correcting code in one sub-multiframe, the IUT implements the indicated mode from the beginning of the subsequent sub-multiframe.

TP1-1-093: [ETS 300 144 [2] subclause 10.1.1.1 §5]
Verify that, when the IUT has sent the A-law, 0F command (000)[18] to the remote terminal, its outgoing data bit-stream in the initial channel contains framed audio encoded to G.711 A-law at 56 kbit/s.

TP1-1-094: [ETS 300 144 [2] subclause 10.1.1.1 §5; 10.1.5 §2]
Verify that, when the IUT has received the command A-law, 0F (000)[18] from the remote terminal signalling the framed audio mode G.711 A-law at 56 kbit/s, the IUT properly decodes the incoming data bit-stream in the initial channel.

SP002 [ETS 300 143 [1] subclause 5.2.4 §2]
Verify that the IUT, when it doesn't receive a specific BAS command, assumes that the default value is in force at this time.

TP1-1-095D: [ETS 300 143 [1] subclause 5.2.4 §2 :
Verify that the IUT, during an initialisation procedure, decodes A-law audio data without receiving the command A-law,0F (000)[18] beforehand.

TP1-1-096: [ETS 300 143 [1] subclause 6.2 §1 1)] [ETS 300 144 [2] subclause 10.1.1.1 §7]
Verify that the IUT can send the BAS command code G.711 µ-law (000)[19] in order to change the audio mode to G.711 µ-law 0F.

TP1-1-097: [ETS 300 143 [1] subclause 6.2 §1 1)] [ETS 300 144 [2] subclause 10.1.1.1 §7; 10.1.5 §3]
Verify that the IUT accepts the BAS command code G.711 µ-law 0F (000)[19] signalling a change of the audio mode to G.711 µ-law 0F.

TP1-1-098: [ETS 300 144 [2] subclause 10.1.1.1 §7; 10.1.5 §3]
Verify that, when the IUT supports the audio mode G.711 µ-law, after it has sent the µ-law, 0F command (000)[19], the IUT's outgoing data bit-stream in the initial channel contains audio frames encoded to G.711 µ-law at 56 kbit/s.

TP1-1-099: [ETS 300 144 [2] subclause 10.1.1.1 §7; 10.1.5 §3]
Verify that, when the IUT supports G.711 µ-law, when the IUT has received the µ-law, 0F command (000)[19] from the remote terminal, signalling the framed audio mode G.711 µ-law at 56 kbit/s, the IUT properly decodes the incoming data bit-stream.

TP1-1-100: [ETS 300 144 [2] subclause 10.1.1.1 §10]
Verify that, if the IUT supports the G.728 audio mode, when the IUT wishes to operate in the G.728 framed audio mode at 16 kbit/s, it sends the G.728 command (000)[29] to the remote terminal.

TP1-1-101: [ETS 300 144 [2] subclause 10.1.1.1 §10; 10.1.5 §6]
Verify that, if the IUT supports the G.728 audio mode, when the IUT has sent the G.728 capability (100)[29] during Sequence A, it accepts the G.728 command (000)[29] from the remote terminal signalling an audio mode of G.728 at 16 kbit/s.

TP1-1-102: [ETS 300 144 [2] subclause 10.1.1.1 §10]
Verify that, if the IUT supports the G.728 audio mode, when the IUT wishes to operate in the G.728 framed audio mode at 16 kbit/s, after it has sent the G.728 command (000)[29] to the remote terminal, its outgoing data bit-stream in the initial channel contains framed audio encoded to G.728 at 16 kbit/s.

TP1-1-103: [ETS 300 144 [2] subclause 10.1.1.1 §10; 10.1.5 §6]
Verify that, if the IUT supports the G.728 audio mode, when the IUT has sent the G.728 capability (100)[29] during Sequence A, after the IUT has received from the remote terminal the G.728 command (000)[29], the IUT properly decodes the incoming data bit-stream containing framed audio encoded to G.728 at 16 kbit/s in the initial channel.

TP1-1-104: [ETS 300 144 [2] subclause 10.1.3 §2]
Verify that, if the IUT supports video during a 1B communication, when the IUT wishes to transmit video, it sends the H.261 command (010)[1] to the remote terminal.

TP1-1-105: [ETS 300 144 [2] subclause 10.1.3 §2]
Verify that, if the IUT supports video during a 1B communication, when the IUT has sent the command H.261 (010)[1] to the remote terminal, its outgoing data bit-stream in the initial channel contains encoded video signals.

TP1-1-106: [ETS 300 143 [1] subclause 5.2.2 §1]
Verify that, when the IUT supports video on 1 B-channel, after sending the video-on command H.261 (010)[1], the outgoing video signal occupies all of the capacity in the initial channel that is not specifically allocated to other signals by other commands.

TP1-1-107: [ETS 300 144 [2] subclause 10.1.3 §2]
Verify that, if the IUT supports video, when the IUT has sent the CIF (101)[20] or QCIF (101)[21] capabilities and their relative MPI values (101)[22]-[24] during Sequence A, it accepts the H.261 command (010)[1] transmitted by the remote terminal.

TP1-1-108: [ETS 300 144 [2] subclause 10.1.3 §2; 10.1.7 QCIF]
Verify that, if the IUT supports video during a 1 B-channel communication, when the IUT sends a capability set during sequence A containing QCIF capability code (101)[21] followed by one MPI value, after the IUT has received the H.261 command (010)[1], the IUT decodes video received in the QCIF format having the corresponding Minimum Picture Interval.

TP1-1-109: [ETS 300 143 [1] subclause 5.1.8 §3]
Verify that the IUT, when it supports QCIF, after sending QCIF (101)[20] capability followed by 3/29,97 seconds (101)[24] or a lower MPI value, during a sequence A, accepts a picture encoded with a 4/29,97 seconds MPI value.

TP1-1-110: [ETS 300 144 [2] subclause 10.1.3 §2; 10.1.7 CIF] [ETS 300 143 [1] subclause 5.1.8 §3]
Verify that, if the IUT supports video during a 1 B-channel communication, when the IUT sends a capability set during sequence A containing CIF capability code (101)[21] followed by two MPI values, after the IUT has received the H.261 command (010)[1], the IUT decodes video received in the QCIF format having the corresponding first Minimum Picture Interval.

TP1-1-111: [ETS 300 144 [2] subclause 10.1.3 §2; 10.1.7 CIF]
Verify that, if the IUT supports video during a 1 B-channel communication, when the IUT sends a capability set during sequence A containing CIF capability code (101)[21] followed by two MPI values, after the IUT has received the H.261 command (010)[1], the IUT decodes video received in the CIF format having the corresponding second Minimum Picture Interval.

TP1-1-112: [ETS 300 143 [1] subclause 5.2.2 §3]
Verify that the IUT, when it supports video and has sent the CIF or QCIF capabilities in its capability set, accepts the video command H.261 (010)[1] even if the available capacity for video is zero or if the IUT cannot decode video at a low bit rate.

TP1-1-113: [ETS 300 143 [1] subclause 5.3 §1]
Verify that the IUT, when there is no other demand for use of the BAS position, cycles through all the currently valid BAS commands.

7.1.3.3 Mode initialization procedure

TP1-1-114: [ETS 300 143 [1] subclause 5.1.1]
Verify that, when the IUT is the called terminal, when the IUT has an indication that the encoding law used is μ-law, as soon as the physical connection of the initial B-channel is indicated by D-channel signalling, the IUT commences the initialisation procedure by transmitting in framed mode 0F μ-law.

TP1-1-115: [ETS 300 143 [1] subclause 5.1.1]
Verify that, when the IUT is the calling terminal, when the IUT has an indication that the encoding law used is μ-law, as soon as the physical connection of the initial B-channel is indicated by D-channel signalling, the IUT commences the initialisation procedure by transmitting in framed mode 0F μ-law.

TP1-1-116: [ETS 300 143 [1] subclause 5.1.1]
Verify that, when the IUT has an indication that the encoding law used is μ-law, as soon as the physical connection of the initial B-channel is indicated by D-channel signalling, if the IUT transmits any commands, the commands describe the current transmission mode as mode 0F μ-law.

TP1-1-117: [ETS 300 143 [1] subclause 7.1.1 b)]
Verify that, when the IUT has an indication that the encoding law used is μ-law, as soon as the physical connection of the initial B-channel is indicated by D-channel signalling, when the IUT commences the initialisation procedure by transmitting in framed mode 0F μ-law, the IUT's receiver is in audio decoding mode G.711 μ-law.

7.2 Valid behaviour

7.2.1 Frame and multiframe

TP1-2-001: [ETS 300 144 [2] subclause 11]
Verify that, when the IUT transmits audio according to G.711 at 64kbit/s unframed, it occupies the bit positions in the order given in table 17 of ETS 300 144 [2].

TP1-2-002: [ETS 300 144 [2] subclause 11]
Verify that, when the IUT receives audio according to G.711 at 64kbit/s unframed, it correctly decodes the audio received in the bit positions in the order given in table 17 of ETS 300 144 [2].

TP1-2-003: [ETS 300 144 [2] subclause 11]
Verify that, if the IUT supports G.728 audio, when the IUT transmits audio according to G.728 at 16kbit/s,and the corresponding command, it inserts audio into sub-channels 1 and 2, with each code word inserted in the order given in table 18 of ETS 300 144 [2].

TP1-2-004: [ETS 300 144 [2] subclause 11]
Verify that, if the IUT supports G.728 audio, when the IUT receives audio according to G.728 at 16kbit/s in sub-channels 1 and 2 of each frame and the corresponding command, it correctly decodes the audio in the bit positions in the order given in table 18 of ETS 300 144 [2].

7.2.2 BAS

TP1-2-005: [ETS 300 144 [2] subclause 8.2.2 §2]
Verify that, when the IUT sends a BAS extension code (111)[15-23], the IUT follows this code with an extension BAS code.

7.2.2.1 Transfer-rate capabilities (100)

TP1-2-006: [ETS 300 144 [2] subclause 10.1.6 §3]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the transfer rate capability 3B (100)[18].

TP1-2-007: [ETS 300 144 [2] subclause 10.1.6 §3]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the transfer rate capability 4B (100)[19].

TP1-2-008: [ETS 300 144 [2] subclause 10.1.6 §3]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the transfer rate capability 5B (100)[20].

TP1-2-009: [ETS 300 144 [2] subclause 10.1.6 §4]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the transfer rate capability 6B (100)[21].

TP1-2-010: [ETS 300 144 [2] subclause 10.1.6 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the transfer rate capability H0 (100)[24].

TP1-2-011: [ETS 300 144 [2] subclause 10.1.6 §5]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the transfer rate capability 2H0 (100)[25].

TP1-2-012: [ETS 300 144 [2] subclause 10.1.6 §6]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the transfer rate capability 3H0 (100)[26].

TP1-2-013: [ETS 300 144 [2] subclause 10.1.6 §6]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the transfer rate capability 4H0 (100)[27].

TP1-2-014: [ETS 300 144 [2] subclause 10.1.6 §7]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the transfer rate capability 5H0 (100)[28].

TP1-2-015: [ETS 300 144 [2] subclause 10.1.6 §8]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the transfer rate capability H11 (100)[30].

TP1-2-016: [ETS 300 144 [2] subclause 10.1.6 §8]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the transfer rate capability H12 (100)[31].

TP1-2-017: [ETS 300 144 [2] subclause 10.1.6 §10]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the capability 6B-H0-comp (100)[23].

TP1-2-018: [ETS 300 144 [2] subclause 10.1.6 §9]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the transfer rate capability 128 (100)[8].

TP1-2-019: [ETS 300 144 [2] subclause 10.1.6 §9]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the transfer rate capability 192 (100)[9].

TP1-2-020: [ETS 300 144 [2] subclause 10.1.6 §9]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the transfer rate capability 256 (100)[10].

TP1-2-021: [ETS 300 144 [2] subclause 10.1.6 §9]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the transfer rate capability 320 (100)[11].

TP1-2-022: [ETS 300 144 [2] subclause 10.1.6 §10]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the transfer rate capability 512 (100)[12].

TP1-2-023: [ETS 300 144 [2] subclause 10.1.6 §10]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the transfer rate capability 768 (100)[13].

TP1-2-024: [ETS 300 144 [2] subclause 10.1.6 §10]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the transfer rate capability 1152 (100)[15].

TP1-2-025: [ETS 300 144 [2] subclause 10.1.6 §10]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the transfer rate capability 1472 (100)[29].

TP1-2-026: [ETS 300 144 [2] subclause 10.1.6 §8]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the capability Null (100)[14].

TP1-2-027: [ETS 300 144 [2] subclause 10.1.6 §9]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the capability SM-comp (100)[7].

7.2.2.2   Video and Multiple Byte Extension (MBE) capabilities (101)

TP1-2-028: [ETS 300 144 [2] subclause 10.1.7 V-imp(R)]
Verify that, during sequence A, the IUT accepts a capability set from the remote terminal which contains
the capability code V-imp(R) (101)[26].

TP1-2-029: [ETS 300 144 [2] subclause 10.1.7 Video-ISO]
Verify that, during sequence A, the IUT accepts a capability set from the remote terminal which contains
the capability Video-ISO (101)[27].

TP1-2-030: [ETS 300 144 [2] subclause 10.1.7 MBE-cap]
Verify that, during sequence A, the IUT accepts a capability set from the remote terminal which includes
the capability MBE-cap (101)[31].

TP1-2-031: [ETS 300 144 [2] subclause 10.1.7 MBE-cap]
Verify that, if the IUT supports reception of MBE type BAS messages, during mode initialisation the IUT
includes in its transmitted capability set the capability code MBE-cap (101)[31].

TP1-2-032: [ETS 300 144 [2] subclause 10.1.7 Esc-CF(R)]
Verify that, during sequence A, the IUT accepts a capability set containing the capability code Esc-CF(R)
(101)[29].

7.2.2.3   Low Speed Data (LSD)/MLP capabilities (101)

TP1-2-033: [ETS 300 144 [2] subclause 10.1.8 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the capability LSD-300 (101)[1].

TP1-2-034: [ETS 300 144 [2] subclause 10.1.8 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the capability LSD-1200 (101)[2].

TP1-2-035: [ETS 300 144 [2] subclause 10.1.8 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the capability LSD-4800 (101)[3].

TP1-2-036: [ETS 300 144 [2] subclause 10.1.8 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the capability LSD-6400 (101)[4].

TP1-2-037: [ETS 300 144 [2] subclause 10.1.8 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the capability LSD-8000 (101)[5].

TP1-2-038: [ETS 300 144 [2] subclause 10.1.8 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the capability LSD-9600 (101)[6].

TP1-2-039: [ETS 300 144 [2] subclause 10.1.8 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the capability LSD-14400 (101)[7].

TP1-2-040: [ETS 300 144 [2] subclause 10.1.8 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the capability LSD-16k (101)[8].

TP1-2-041: [ETS 300 144 [2] subclause 10.1.8 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the capability LSD-24k (101)[9].

TP1-2-042: [ETS 300 144 [2] subclause 10.1.8 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the capability LSD-32k (101)[10].

TP1-2-043: [ETS 300 144 [2] subclause 10.1.8 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the capability LSD-40k (101)[11].

TP1-2-044: [ETS 300 144 [2] subclause 10.1.8 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the capability LSD-48k (101)[12].

TP1-2-045: [ETS 300 144 [2] subclause 10.1.8 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the capability LSD-56k (101)[13].

TP1-2-046: [ETS 300 144 [2] subclause 10.1.8 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the capability LSD-62,4k (101)[14].

TP1-2-047: [ETS 300 144 [2] subclause 10.1.8 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the capability LSD-64k (101)[15].

TP1-2-048: [ETS 300 144 [2] subclause 10.1.8 §3]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the capability Var-LSD (101)[0].

TP1-2-049: [ETS 300 144 [2] subclause 10.1.8 §4]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the MLP capability MLP-4k (101)[16].

TP1-2-050: [ETS 300 144 [2] subclause 10.1.8 §5]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the capability MLP-6,4 (101)[17].

TP1-2-051: [ETS 300 144 [2] subclause 10.1.8 §8]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the capability Var-MLP (101)[18].

TP1-2-052: [ETS 300 144 [2] subclause 10.1.8 §6]
Verify that, during a sequence A in the initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the capability MLP_Set1 (101)[19].

TP1-2-053: [ETS 300 144 [2] subclause 10.1.8 §7]
Verify that, during a sequence A in the initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the capability MLP_Set2 (101)[28].

7.2.2.4   Escape table values (111)

TP1-2-054: [ETS 300 144 [2] subclause 10.1.9 §6]
Verify that the IUT, when it supports MBE messages, when it sends the MBE-cap (101)[31] in its capability set, after the completion of the initialisation procedure, accepts the escape value Start-MBE (111)[25] followed by an MBE message, as declared in the PIXIT.

TP1-2-055: [ETS 300 144 [2] subclause 10.1.7 MBE-cap]
Verify that, when the IUT transmits a capability set during sequence A containing the capability code MBE-cap (101)[31], the IUT accepts a supported MBE message from the remote terminal.

TP1-2-056: [ETS 300 144 [2] subclause 10.1.9 §7]
Verify that, when the IUT supports MBE messages and when it supports non-CCITT capabilities, after the completion of the initialisation procedure during which it has sent the MBE-cap capability (101)[31], during a sequence A, the IUT accepts from the remote terminal a capability set that contains the escape value NS-cap (111)[30] followed by a non-CCITT capabilities message, as declared in the PIXIT.

7.2.2.5   Aggregate Capabilities (111)[15]- (100)

(ETS 300 144 [2] subclause 8.2.2 §2 and Table 12b; 8.2.1 §3) applies to all of the following tests.
TP1-2-057: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 7x64 aggregation capability (111)[15]-(100)[7], when it is not the first capability in a capability set.

TP1-2-058: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 8x64 aggregation capability (111)[15]-(100)[8], when it is not the first capability in a capability set.

TP1-2-059: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 9x64 aggregation capability (111)[15]-(100)[9], when it is not the first capability in a capability set.

TP1-2-060: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 10x64 aggregation capability (111)[15]-(100)[10], when it is not the first capability in a capability set.

TP1-2-061: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 11x64 aggregation capability (111)[15]-(100)[11], when it is not the first capability in a capability set.

TP1-2-062: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 12x64 aggregation capability (111)[15]-(100)[12], when it is not the first capability in a capability set.

TP1-2-063: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 13x64 aggregation capability (111)[15]-(100)[13], when it is not the first capability in a capability set.

TP1-2-064: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 14x64 aggregation capability (111)[15]-(100)[14], when it is not the first capability in a capability set.

TP1-2-065: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 15x64 aggregation capability (111)[15]-(100)[15], when it is not the first capability in a capability set.

TP1-2-066: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 16x64 aggregation capability (111)[15]-(100)[16], when it is not the first capability in a capability set.

TP1-2-067: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 17x64 aggregation capability (111)[15]-(100)[17], when it is not the first capability in a capability set.

TP1-2-068: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 18x64 aggregation capability (111)[15]-(100)[18], when it is not the first capability in a capability set.

TP1-2-069: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 19x64 aggregation capability (111)[15]-(100)[19], when it is not the first capability in a capability set.

TP1-2-070: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 20x64 aggregation capability (111)[15]-(100)[20], when it is not the first capability in a capability set.

TP1-2-071: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 21x64 aggregation capability (111)[15]-(100)[21], when it is not the first capability in a capability set.

TP1-2-072: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 22x64 aggregation capability (111)[15]-(100)[22], when it is not the first capability in a capability set.

TP1-2-073: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 23x64 aggregation capability (111)[15]-(100)[23], when it is not the first capability in a capability set.

TP1-2-074: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 24x64 aggregation capability (111)[15]-(100)[24], when it is not the first capability in a capability set.

7.2.2.6   Aggregate Capabilities (111)[15]- (101)

(ETS 300 144 [2] subclause 8.2.2 §2 and table 12b; 8.2.1 §3) applies to all of the following tests.

TP1-2-075: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 7*64 aggregation capability (111)[15]-(101)[7], when it is not the first capability in a capability set.

TP1-2-076: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 9*64 aggregation capability (111)[15]-(101)[9], when it is not the first capability in a capability set.

TP1-2-077: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 10*64 aggregation capability (111)[15]-(101)[10], when it is not the first capability in a capability set.

TP1-2-078: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 11*64 aggregation capability (111)[15]-(101)[11], when it is not the first capability in a capability set.

TP1-2-079: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 13*64 aggregation capability (111)[15]-(101)[13], when it is not the first capability in a capability set.

TP1-2-080: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 14*64 aggregation capability (111)[15]-(101)[14], when it is not the first capability in a capability set.

TP1-2-081: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 15*64 aggregation capability (111)[15]-(101)[15], when it is not the first capability in a capability set.

TP1-2-082: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 16*64 aggregation capability (111)[15]-(101)[16], when it is not the first capability in a capability set.

TP1-2-083: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 17*64 aggregation capability (111)[15]-(101)[17], when it is not the first capability in a capability set.

TP1-2-084: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 19*64 aggregation capability (111)[15]-(101)[19], when it is not the first capability in a capability set.

TP1-2-085: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 20*64 aggregation capability (111)[15]-(101)[20], when it is not the first capability in a capability set.

TP1-2-086: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 21*64 aggregation capability (111)[15]-(101)[21], when it is not the first capability in a capability set.

TP1-2-087: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 22*64 aggregation capability (111)[15]-(101)[22], when it is not the first capability in a capability set.

TP1-2-088: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 23*64 aggregation capability (111)[15]-(101)[23], when it is not the first capability in a capability set.

7.2.2.7   Escape_16 Capabilities (111)[16]- (100)

(ETS 300 144 [2] subclause 8.2.2 §2) [ETS 300 144 [2] subclause 10.1.9 §2; 8.2.1 §3] applies to all of the following tests.
TP1-2-089: [ETS 300 144 [2] subclause 10.2.1.4 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the ISO Au-1B capability (111)[16]-(100)[1], when it is not the first capability in a capability set.

TP1-2-090: [ETS 300 144 [2] subclause 10.2.1.4 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the ISO Au-2B capability (111)[16]-(100)[2], when it is not the first capability in a capability set.

TP1-2-091: [ETS 300 144 [2] subclause 10.2.1.4 §3]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the ISO Au-3B capability (111)[16]-(100)[3], when it is not the first capability in a capability set.

TP1-2-092: [ETS 300 144 [2] subclause 10.2.1.4 §4]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the ISO Au-4B capability (111)[16]-(100)[4], when it is not the first capability in a capability set.

TP1-2-093: [ETS 300 144 [2] subclause 10.2.1.4 §5]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the ISO Au-5B capability (111)[16]-(100)[5], when it is not the first capability in a capability set.

TP1-2-094: [ETS 300 144 [2] subclause 10.2.1.4 §6]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the ISO Au-6B capability (111)[16]-(100)[6], when it is not the first capability in a capability set.

TP1-2-095: [ETS 300 144 [2] subclause 10.2.1.4 §14]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the ISO CorrMode-1 capability (111)[16]-(100)[19], when it is not the first capability in a capability set.

TP1-2-096: [ETS 300 144 [2] subclause 10.2.1.4 §14]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the ISO CorrMode-2 capability (111)[16]-(100)[20], when it is not the first capability in a capability set.

TP1-2-097: [ETS 300 144 [2] subclause 10.2.1.4 §14]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the ISO CorrMode-3 capability (111)[16]-(100)[21], when it is not the first capability in a capability set.

TP1-2-098: [ETS 300 144 [2] subclause 10.2.1.4 §7]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the ISO AsynchMode capability (111)[16]-(100)[24], when it is not the first capability in a capability set.

TP1-2-099: [ETS 300 144 [2] subclause 10.2.1.4 §8]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the ISO Au-Layer-I capability (111)[16]-(100)[25], when it is not the first capability in a capability set.

TP1-2-100: [ETS 300 144 [2] subclause 10.2.1.4 §9]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the ISO Au-Layer-II capability (111)[16]-(100)[26], when it is not the first capability in a capability set.

TP1-2-101: [ETS 300 144 [2] subclause 10.2.1.4 §10]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the ISO Au-Layer-III capability (111)[16]-(100)[27], when it is not the first capability in a capability set.

TP1-2-102: [ETS 300 144 [2] subclause 10.2.1.4 §11]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the ISO Sample-32k capability (111)[16]-(100)[28], when it is not the first capability in a capability set.

TP1-2-103: [ETS 300 144 [2] subclause 10.2.1.4 §12]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the ISO Sample-44.1k capability (111)[16]-(100)[29], when it is not the first capability in a capability set.

TP1-2-104: [ETS 300 144 [2] subclause 10.2.1.4 §13]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the ISO Sample-48k capability (111)[16]-(100)[30], when it is not the first capability in a capability set.

7.2.2.8   Escape_16 Capabilities (111)[16]- (101)

(ETS 300 144 [2] subclause 8.2.2 §2) [ETS 300 144 [2] subclause 10.1.9 §2; 8.2.1 §3] applies to all of the following tests.
TP1-2-105: [ETS 300 144 [2] subclause10.2.1.1 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the High Speed Data (HSD)-64k capability (111)[16]-(101)[17], when it is not the first capability in a capability set.

TP1-2-106: [ETS 300 144 [2] subclause 10.2.1.1 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the HSD-128k capability (111)[16]-(101)[18], when it is not the first capability in a capability set.

TP1-2-107: [ETS 300 144 [2] subclause 10.2.1.1 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the HSD-192k capability (111)[16]-(101)[19], when it is not the first capability in a capability set.

TP1-2-108: [ETS 300 144 [2] subclause 10.2.1.1 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the HSD-256k capability (111)[16]-(101)[20], when it is not the first capability in a capability set.

TP1-2-109: [ETS 300 144 [2] subclause 10.2.1.1 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the HSD-320k capability (111)[16]-(101)[21], when it is not the first capability in a capability set.

TP1-2-110: [ETS 300 144 [2] subclause 10.2.1.1 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the HSD-512k capability (111)[16]-(101)[23], when it is not the first capability in a capability set.

TP1-2-112: [ETS 300 144 [2] subclause 10.2.1.1 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the HSD-768k capability (111)[16]-(101)[24], when it is not the first capability in a capability set.

TP1-2-113: [ETS 300 144 [2] subclause 10.2.1.1 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the HSD-1152k capability (111)[16]-(101)[25], when it is not the first capability in a capability set.

TP1-2-114: [ETS 300 144 [2] subclause 10.2.1.1 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the HSD-1536k capability (111)[16]-(101)[26], when it is not the first capability in a capability set.

TP1-2-115: [ETS 300 144 [2] subclause 10.2.1.1 §3]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the Var-HSD capability (111)[16]-(101)[1], when it is not the first capability in a capability set.

TP1-2-116: [ETS 300 144 [2] subclause 10.2.1.1 §4]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the H-MPL-62,4k capability (111)[16]-(101)[2], when it is not the first capability in a capability set.

TP1-2-117: [ETS 300 144 [2] subclause 10.2.1.1 §5]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the High speed Multi Layer Protocol (H-MLP)-192k capability (111)[16]-(101)[5], when it is not the first capability in a capability set.

TP1-2-120: [ETS 300 144 [2] subclause 10.2.1.1 §5]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the H-MLP-256k capability (111)[16]-(101)[6], when it is not the first capability in a capability set.

TP1-2-121: [ETS 300 144 [2] subclause 10.2.1.1 §5]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the H-MLP-320k capability (111)[16]-(101)[7], when it is not the first capability in a capability set.

TP1-2-122: [ETS 300 144 [2] subclause 10.2.1.1 §5]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the H-MLP-384k capability (111)[16]-(101)[8], when it is not the first capability in a capability set.

TP1-2-123: [ETS 300 144 [2] subclause 10.2.1.1 §6]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the Var-H-MLP capability (111)[16]-(101)[13], when it is not the first capability in a capability set.

TP1-2-124: [ETS 300 144 [2] subclause 10.2.1.1 §5]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the H-MLP-14.4k capability (111)[16]-(101)[12], when it is not the first capability in a capability set.

7.2.2.9   Escape_16 Capabilities (111)[16] - (110)

(ETS 300 144 [2] subclause 8.2.2 §2) [ETS 300 144 [2] subclause 10.1.9 §2; 8.2.1 §3] applies to all of the following tests.
TP1-2-125: [ETS 300 144 [2] subclause 10.2.1.1 §7]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the Multi Layer Protocol (MLP)-14.4k capability (111)[16]-(110)[0], when it is not the first capability in a capability set.

TP1-2-126: [ETS 300 144 [2] subclause 10.2.1.1 §7]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the MLP-22.4k capability (111)[16]-(110)[1], when it is not the first capability in a capability set.

TP1-2-127: [ETS 300 144 [2] subclause 10.2.1.1 §7]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the MLP-30.4k capability (111)[16]-(110)[2], when it is not the first capability in a capability set.

TP1-2-128: [ETS 300 144 [2] subclause 10.2.1.1 §7]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the MLP-38.4k capability (111)[16]-(110)[3], when it is not the first capability in a capability set.

TP1-2-129: [ETS 300 144 [2] subclause 10.2.1.1 §7]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the MLP-46.4k capability (111)[16]-(110)[4], when it is not the first capability in a capability set.

TP1-2-130: [ETS 300 144 [2] subclause 10.2.1.1 §7]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the MLP-62.4k capability (111)[16]-(110)[6], when it is not the first capability in a capability set.

TP1-2-131: [ETS 300 144 [2] subclause 10.2.1.1 §7]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the MLP-16k capability (111)[16]-(110)[8], when it is not the first capability in a capability set.

TP1-2-132: [ETS 300 144 [2] subclause 10.2.1.1 §7]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the MLP-24k capability (111)[16]-(110)[9], when it is not the first capability in a capability set.

TP1-2-133: [ETS 300 144 [2] subclause 10.2.1.1 §7]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the MLP-32k capability (111)[16]-(110)[10], when it is not the first capability in a capability set.

TP1-2-134: [ETS 300 144 [2] subclause 10.2.1.1 §7]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the MLP-40k capability (111)[16]-(110)[11], when it is not the first capability in a capability set.

TP1-2-135: [ETS 300 144 [2] subclause 10.2.1.1 §7]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the MLP-64k capability (111)[16]-(110)[14], when it is not the first capability in a capability set.

7.2.2.10 Audio command values (000)

TP1-2-136: [ETS 300 144 [2] subclause 10.1.1.1 §1]
Verify that the IUT, after the completion of sequence A, accepts the Neutral command (000)[0] transmitted by the remote terminal.

TP1-2-137: [ETS 300 144 [2] subclause 10.1.1.1 §1 Note 9]
Verify that, when the IUT receives the Neutral command (000)[0] from the remote terminal, it shuts off all the output of the initial channel demultiplexer except FAS, BAS and ECS (if relevant).

TP1-2-138: [ETS 300 144 [2] subclause 10.1.1.1 §1 Note 9]
Verify that, when the IUT receives from the remote terminal the Neutral command (000)[0], it mutes the audio.

TP1-2-139: [ETS 300 144 [2] subclause 10.1.1.1 §1 Note 9]
Verify that, when the IUT receives from the remote terminal the Neutral command (000)[0], it does not change the signals on the additional channel.

TP1-2-140: [ETS 300 144 [2] subclause 10.1.1.1 §2]
Verify that, after the completion of a sequence A, the IUT accepts the Au-off, U command (000)[7].

TP1-2-141: [ETS 300 144 [2] subclause 10.1.1.1 §2] [ETS 300 145 [3] 6.4.1 §3]
Verify that, after the completion of a sequence A, that the IUT can send Au-off, U command (000)[7].

TP1-2-142: [ETS 300 144 [2] subclause 10.1.1.1 §2] [ETS 300 145 [3] 6.4.1 §3]
Verify that, after the completion of a sequence A,, after the IUT has sent the Au-off, U command (000)[7], it no longer transmits audio signals and framing in the initial channel.

TP1-2-143: [ETS 300 144 [2] *subclause* 10.1.1.1 §3]
Verify that, after the completion of a sequence A, the IUT accepts the Au-off, F command (000)[31].

TP1-2-144 subclause [ETS 300 144 [2] subclause 10.1.1.1 §3]
Verify that, after the completion of a sequence A, when the IUT claims to be able to send the Au-off, F command (000)[31], it can send it.

TP1-2-145: [ETS 300 144 [2] subclause 10.1.1.1 §3]
Verify that, when the IUT supports video, after the completion of the mode initialisation procedure, after the IUT has received the H.261 (010)[1] command, when the IUT receives the Au-off, F command (000)[31], it decodes the video signal correctly in the 62.4 kbit/s remaining capacity on the initial channel.

TP1-2-146: [ETS 300 144 [2] subclause 10.1.1.1 §4]
Verify that, when the IUT wishes to operate in the audio mode G.711 A-law at 64 kbit/s unframed, after the completion of a sequence A, it sends the A-law, 0U command (000)[4] to the remote terminal.

TP1-2-147: [ETS 300 144 [2] subclause 10.1.1.1 §4; 10.1.5 §2]
Verify that, after the completion of sequence A, the IUT accepts the command A-law, 0U (000)[4] from the remote terminal.

TP1-2-148: [ETS 300 144 [2] subclause 10.1.1.1 §4]
Verify that, after the IUT has sent the A-law, 0U command (000)[4] to the remote terminal, the IUT's outgoing data bit-stream in the initial channel contains unframed audio encoded to G.711 A-law.

TP1-2-149: [ETS 300 144 [2] subclause 10.1.1.1 §4; 10.1.5 §2]
Verify that, when the IUT receives from the remote terminal the command A-law, 0U (000)[4] signalling an audio mode of G.711 A-law at 64 kbit/s unframed, the IUT properly decodes the incoming data bit-stream containing unframed audio encoded to G.711 A-law in the initial channel.

TP1-2-150: [ETS 300 144 [2] subclause 10.1.1.1 §6]
Verify that, when the IUT wishes to operate in the unframed audio mode G.711 μ-law at 64 kbit/s, after the completion of sequence A, it sends the μ-law, 0U command (000)[5] to the remote terminal.

TP1-2-151: [ETS 300 144 [2] subclause 10.1.1.1 §6; 10.1.5 §3]
Verify that the IUT, after the completion of sequence A, accepts the command μ-law, 0U command (000)[5] from the remote terminal signalling the unframed audio mode G.711 μ-law at 64 kbit/s.

TP1-2-152: [ETS 300 144 [2] subclause 10.1.1.1 §6]
Verify that, after the IUT has sent the μ-law, 0U command (000)[5] to the remote terminal, the IUT's outgoing data bit-stream in the initial channel contains unframed audio encoded to G.711 μ-law.

TP1-2-153: [ETS 300 144 [2] subclause 10.1.1.1 §6; 10.1.5 §3]
Verify that, when the IUT has received from the remote terminal the command μ-law, 0U (000)[5] signalling the unframed audio mode G.711 μ-law at 64 kbit/s, the IUT properly decodes the incoming data bit-stream in the initial channel.

TP1-2-154: [ETS 300 144 [2] subclause 10.1.1.1 §9]
Verify that, when the IUT wishes to operate in the framed audio mode G.711 A-law at 48kbit/s, after the completion of a sequence A, it sends the A-law, F6 command (000)[20] to the remote terminal.

TP1-2-155: [ETS 300 144 [2] subclause 10.1.1.1 §9; 10.1.5 §2]
Verify that the IUT, after the completion of a sequence A, accepts the command A-law, F6 (000)[20] from the remote terminal signalling the framed audio mode G.711 A-law at 48kbit/s.

TP1-2-156: [ETS 300 144 [2] subclause 10.1.1.1 §9]
Verify that, when the IUT has sent the A-law, F6 command (000)[20] to the remote terminal, its outgoing data bit-stream in the initial channel contains framed audio encoded to G.711 A-law at 48kbit/s.

TP1-2-157: [ETS 300 144 [2] subclause 10.1.1.1 §9; 10.1.5 §2]
Verify that, when the IUT has received the command A-law, F6 (000)[20] from the remote terminal signalling the framed audio mode G.711 A-law at 48kbit/s, the IUT properly decodes the incoming data bit-stream in the initial channel.

TP1-2-158: [ETS 300 144 [2] subclause 10.1.1.1 §10]
Verify that, when the IUT wishes to operate in the framed audio mode G.711 μ-law at 48kbit/s, after the completion of a sequence A, it sends the μ-law, F6 command (000)[21] to the remote terminal.

TP1-2-159: [ETS 300 144 [2] subclause 10.1.1.1 §10; 10.1.5 §3]
Verify that the IUT, after the completion of a sequence A, accepts the command μ-law, F6 (000)[21] from the remote terminal signalling the framed audio mode G.711 μ-law at 48kbit/s.

TP1-2-160: [ETS 300 144 [2] subclause 10.1.1.1 §10]
Verify that, when the IUT has sent the μ-law, F6 command (000)[21] to the remote terminal, its outgoing data bit-stream in the initial channel contains framed audio encoded to G.711 μ-law at 48kbit/s.

TP1-2-161: [ETS 300 144 [2] subclause 10.1.1.1 §10; 10.1.5 §2]
Verify that, when the IUT has received the command μ-law, F6 (000)[21] from the remote terminal signalling the framed audio mode G.711 μ-law at 48kbit/s, the IUT properly decodes the incoming data bit-stream in the initial channel.

7.2.2.11   Video, loopback and other commands (010)

TP1-2-162: [ETS 300 144 [2] subclause 10.1.3 §1]
Verify that, when the IUT supports video, when video communication has been established between the IUT and the remote terminal but when the IUT wishes to switch off video, the IUT sends the Video-off command (010)[0] in order to inform the remote terminal that the video signal is no longer transmitted.

TP1-2-163: [ETS 300 144 [2] subclause 10.1.3 §1]
Verify that, when the IUT supports video, when a video communication has been established between the IUT and the remote terminal, the IUT accepts the Video-off command (010)[0] from the remote terminal.

TP1-2-164: [ETS 300 144 [2] subclause 10.1.3 §1]
Verify that, when the IUT supports video, when a video communication has been established between the IUT and the remote terminal, after the IUT has sent the Video-off command (010)[0], its outgoing data bit-stream in both channels does not contain encoded video signals.

TP1-2-165: [ETS 300 144 [2] subclause 10.1.3 §1]
Verify that, when the IUT supports video, when a video communication has been established between the IUT and the remote terminal, after the IUT has received the Video-off command (010)[0] but video is still being transmitted by the remote terminal, the IUT no longer decodes the video received.

TP1-2-166: [ETS 300 144 [2] subclause 10.1.3 §6]
Verify that, when the IUT supports video and claims to be able to send the Video Command "Freeze-Picture request" (VCF) command (010)[16], during a video communication, the IUT can send it.

TP1-2-167: [ETS 300 144 [2] subclause 10.1.3 §6]
Verify that, when the IUT supports video, during a video communication, the IUT accepts the VCF (010)[16] transmitted by the remote terminal.

TP1-2-168: [ETS 300 144 [2] subclause 10.1.3 §6]
Verify that, when the IUT supports video, during a video communication, when the IUT has received the VCF (010)[16], the IUT video decoder completes the updating of the current video frame and then displays the frozen picture until it receives the freeze-picture-release signal embedded in the video.

TP1-2-169: [ETS 300 144 [2] subclause 10.1.3 §6]
Verify that, when the IUT supports video, during a video communication, when the IUT has received the VCF (010)[16], after the IUT video decoder completes the updating of the current video frame, if it does not receive the freeze-picture-release signal, it displays the frozen picture until a timer of 6 seconds expires.

TP1-2-170: [ETS 300 144 [2] subclause 10.1.3 §6]
Verify that, when the IUT supports video, during a video communication, when the IUT receives the VCF (010)[16] every three seconds but does not receive the frozen-picture-release signal, after the IUT video decoder completes the updating of the current video frame, it continues to display the frozen picture until 6 seconds after receiving the last VCF command.

TP1-2-171: [ETS 300 144 [2] subclause 10.1.3 §7]
Verify that, when the IUT supports video, during a video communication, the IUT accepts the Video-Command "Fast-Update request" (VCU) command (010)[17].

TP1-2-172: [ETS 300 144 [2] subclause 10.1.3 §6]
Verify that, when the IUT supports video and claims to be able to send the VCU command (010)[17], during a video communication, the IUT can send it.

TP1-2-173: [ETS 300 144 [2] subclause 10.1.3 §7]
Verify that, when the IUT supports video, during a video communication, when the IUT has received the VCU (010)[17], the IUT video encoder enters the fast-update mode.

TP1-2-174: [ETS 300 144 [2] subclause 10.1.3 §10]
Verify that when the IUT supports Audio Loop operation, it accepts the Loopback Command "Audio Loop Request" (LCA) (010)[18].

TP1-2-175: [ETS 300 144 [2] subclause 10.1.3 §10]
Verify that, when the IUT supports Audio Loop operation and receives the LCA (010)[18] from the remote terminal, it connects the output of the audio decoder to the input of the audio encoder.

TP1-2-176: [ETS 300 144 [2] subclause 10.1.3 §11 & 10.2.2 §10]
Verify that, when the IUT supports video and video loop operation, during a video communication, the IUT accepts the Loopback Command "Video Loop Request" (LCV) (010)[19].

TP1-2-177: [ETS 300 144 [2] subclause 10.1.3 §11 & 10.2.2 §10]
Verify that, when the IUT supports Video and video loop operation, when the IUT receives the LCV (010)[19] from the remote terminal, it connects the output of the video decoder to the input of the video encoder.

TP1-2-178: [ETS 300 144 [2] subclause 10.1.3 §10]
Verify that, when the IUT is a maintenance terminal, it can send the Loopback Command "Digital Loop Request" (LCD) (010)[20].

TP1-2-179: [ETS 300 144 [2] subclause 10.1.3 §10]
Verify that, when the IUT is a maintenance terminal, it can send the Loopback Command "Loop Off Request" (LCO) (010)[21].

TP1-2-180: [ETS 300 144 [2] subclause 10.1.3 §10 & 10.2.2 §10]
Verify that IUT accepts the LCD command (010)[20] transmitted by the remote terminal.

TP1-2-181: [ETS 300 144 [2] subclause 10.1.3 §11 & 10.2.2 §10]
Verify that IUT accepts the LCO command (010)[21].

TP1-2-182: [ETS 300 144 [2] subclause 10.1.3 §10 & 10.2.2 §10]
Verify that, when the IUT has received the LCD command (010)[20], the IUT connects the output of the receiver demultiplexer to the input of the transmitter multiplexer on the initial channel.

TP1-2-183: [ETS 300 144 [2] subclause 10.1.3 §11 & 10.2.2 §10]
Verify that, when the IUT has received the LCO command (010)[21], the IUT disconnects all loops.

7.2.2.12   Escape_16 Commands (111)[16]- (001)

(ETS 300 144 [2] subclause 8.2.2 §2) [ETS 300 144 [2] subclause 10.1.9 §2] applies to all of the following tests.
TP1-2-184: [ETS 300 144 [2] subclause 10.2.1.3 §1]
Verify that the IUT accepts from the remote terminal the ISO Au-off command (111)[16]-(001)[0].

7.2.2.13   Control and Indication (C&I) related to video (111)[17]- (000)

(ETS 300 144 [2] subclause 8.2.2 §2) [ETS 300 144 [2] subclause 10.1.8 §1] applies to all of the following tests.
TP1-2-185: [ETS 300 144 [2] subclause 10.2.2.1 §1]
Verify that, when the IUT supports video, when it is able to cut the camera signal without closing the video channel, the IUT sends to the remote terminal the Video Indicate Suppressed (VIS) indication (111)[17]-(000)[16], to indicate that the content of the video channel does not represent a normal camera image.

TP1-2-186: [ETS 300 144 [2] subclause 10.2.2.1 §2]
Verify that, when the IUT supports video, when it has cut the camera signal without closing the video channel and sent the VIS command (111)[17]-(000)[16], when it re-instates the camera signal the IUT sends the Video Indicate Active (VIA) indication (111)[17]-(000)[17] to indicate that the video source has been restored.

TP1-2-187: [ETS 300 144 [2] subclause 10.2.2.1 §1]
Verify that, when the IUT supports video, the IUT accepts the VIS indication (111)[17]-(000)[16] from the remote terminal.

TP1-2-188: [ETS 300 144 [2] subclause 10.2.2.1 §2]
Verify that, when the IUT supports video, after the IUT has received the VIS indication (111)[17]-(000)[16], it accepts the VIA indication (111)[17]-(000)[17].

TP1-2-189: [ETS 300 144 [2] subclause 10.2.2.1 §2]
Verify that, when the IUT supports video with multiple video sources, the IUT sends to the remote terminal the VIA indication (111)[17]-(000)[17] to indicate that the video source is " video No. 1".

TP1-2-190: [ETS 300 144 [2] subclause 10.2.2.1 §2]
Verify that, when the IUT supports video with multiple video sources, when the IUT sends the VIA indication (111)[17]-(000)[17], it transmits video from the source identified as " video No. 1".

TP1-2-191: [ETS 300 144 [2] subclause 10.2.2.1 §3]
Verify that, when the IUT supports video with multiple video sources, when it switches video sources to the second source, the IUT sends to the remote terminal the Video Indicate Active (VIA2) indication (111)[17]-(000)[18] to indicate that the video source is " video No. 2".

TP1-2-192: [ETS 300 144 [2] subclause 10.2.2.1 §3]
Verify that, when the IUT supports video, it accepts the VIA2 indication (111)[17]-(000)[18].

TP1-2-193: [ETS 300 144 [2] subclause 10.2.2.1 §3]
Verify that, when the IUT supports video with multiple video sources, after it has sent the VIA2 indication (111)[17]-(000)[18], it transmits video from the source identified as " video No. 2".

TP1-2-194: [ETS 300 144 [2] subclause 10.2.2.1 §4]
Verify that, when the IUT supports video with multiple video sources, when it switches video sources to the third source, the IUT sends to the remote terminal the Video Indicate Active (VIA3) indication (111)[17]-(000)[19] to indicate that the video source is " video No. 3".

TP1-2-195: [ETS 300 144 [2] subclause 10.2.2.1 §4]
Verify that, when the IUT supports video, it accepts the VIA3 indication (111)[17]-(000)[19].

TP1-2-196: [ETS 300 144 [2] subclause 10.2.2.1 §4]
Verify that, when the IUT supports video with multiple video sources, after it has sent the VIA3 indication (111)[17]-(000)[19], it transmits video from the source identified as " video No. 3".

TP1-2-197: [ETS 300 144 [2] subclause 10.2.2.1 §5]
Verify that, when the IUT supports video but does not send video until it receives a video signal from the remote terminal, it transmits the Video Indicate Ready-to-Activate (VIR) indication (111)[17]-(000)[31] when it is ready to receive and transmit video.

TP1-2-198: [ETS 300 144 [2] subclause 10.2.2.1 §5]
Verify that, when the IUT supports video, it accepts the VIR indication (111)[17]-(000)[31] from the remote terminal.

TP1-2-199: [ETS 300 144 [2] subclause 10.2.2.1 §5]
Verify that, when the IUT supports video but does not send video until it receives a video signal from the remote terminal, after it has transmitted the VIR indication (111)[17]-(000)[31] and received video signal it sends H261 (010)[1] command.

7.2.2.14   C&I related to audio (111)[17]- (000)

[ETS 300 144 [2] subclause 8.2.2 §2] [ETS 300 144 [2] subclause 10.1.9 §2] applies to all of the following tests.
TP1-2-200: [ETS 300 144 [2] subclause 10.2.2.2 §1]
Verify that, when the IUT is able to mute the audio without closing the audio channel, it sends to the remote terminal the Audio Indicate Muted (AIM) indication (111)[17]-(000)[2] to indicate that the content of the audio channel does not represent a normal audio signal.

TP1-2-201: [ETS 300 144 [2] subclause 10.2.2.2 §2]
Verify that, when the IUT is able to mute the audio without closing the audio channel, after the IUT has sent to the remote terminal the AIM (111)[17]-(000)[2] indication, the IUT sends to the remote terminal the Audio Indicate Active (AIA) indication(111)[17]-(000)[3] to indicate that the audio is no longer muted.

TP1-2-202: [ETS 300 144 [2] subclause 10.2.2.2 §1]
Verify that the IUT accepts the AIM command (111)[17]-(000)[2].

TP1-2-203: [ETS 300 144 [2] subclause 10.2.2.2 §2]
Verify that, when the IUT has received the AIM (111)[17]-(000)[2] indication, it accepts the AIA indication (111)[17]-(000)[3].

7.2.2.15   C&I related to simple multipoint conferences not using MLP(111)[17]- (001)

[ETS 300 144 [2] subclause 8.2.2 §2] [ETS 300 144 [2] subclause 10.1.9 §2] applies to all of the following tests.

TP1-2-204: [ETS 300 144 [2] subclause 10.2.2.3 §3]
Verify that the IUT accepts the Multipoint Command Conference (MCC) command (111)[17]-(001)[0].

SP004: [ETS 300 144 [2] subclause 10.2.2.3 §3]
Verify that, after the IUT has received the MCC command (111)[17]-(001)[0], it makes its outgoing audio rate equal to its incoming audio rate.

TP1-2-205D: [ETS 300 144 [2] subclause 10.2.2.3 §3]
Verify that, if the IUT is transmitting in an audio mode other than G.728 or G.722m3 when the remote terminal is transmitting in G.728 or G.722m3 mode, depending on the terminal's declared capabilities, when the IUT receives the MCC command (111)[17]-(001)[0], it sets its outgoing audio mode to G.728 or G.722m3, matching the incoming audio transfer rate.

TP1-2-206: [ETS 300 144 [2] subclause 10.2.2.3 §3]
Verify that, after the IUT in a multipoint communication has received the MCC command (111)[17]-(001)[0], the IUT accepts the Cancel Multipoint Command Conference (Cancel-MCC) command (111)[17]-(001)[1].

TP1-2-207: [ETS 300 144 [2] subclause 10.2.2.3 §1]
Verify that, when the IUT supports video and claims to be able to send the MCV command, during a multipoint video communication, it sends the Multipoint Command Visualisation-Forcing (MCV) command (111)[17]-(001)[16] in order to force the Multipoint Conference Unit (MCU) to broadcast its video signal.

TP1-2-208: [ETS 300 144 [2] Table 11 page 39]
Verify that, when the IUT supports video and claims to be able to send the MCV command and the Cancel-MCV command, after the IUT has sent the MCV command (111)[17]-(001)[16], it sends the Cancel-MCV command (111)[17]-(001)[17] when it no longer requires the MCU to broadcast its video signal.

TP1-2-209: [ETS 300 144 [2] subclause 10.2.2.3 §2]
Verify that, when the IUT supports video and claims to be able to send the MCV command,, during a multipoint video communication, after it has sent the MCV command (111)[17]-(001)[16], it accepts the Multipoint Indication Visualisation (MIV) indication (111)[17]-(001)[18].

TP1-2-210: [ETS 300 144 [2] Table 11 page 39]
Verify that, when the IUT supports video and claims to be able to send the MCV command, during a multipoint video communication, after it has sent the MCV command (111)[17]-(001)[16], and has received the MIV indication it accepts the cancel-MIV indication (111)[17]-(001)[19].

TP1-2-211: [ETS 300 144 [2] subclause 10.2.2.3 §5]
Verify that the IUT accepts the Multipoint Indication Zero-communication (MIZ) indication (111)[17]-(001)[2].

TP1-2-212: [ETS 300 144 [2] Table 11 page 39]
Verify that, after the IUT has received the MIZ indication (111)[17]-(001)[2], it accepts the Cancel-MIZ indication (111)[17]-(001)[3].

TP1-2-213: [ETS 300 144 [2] subclause 10.2.2.3 §6]
Verify that the IUT accepts the Multipoint Indication Secondary-status (MIS) indication (111)[17]-(001)[4].

TP1-2-214: [ETS 300 144 [2] Table 11 page 39]
Verify that, after the IUT received the MIS indication (111)[17]-(001)[4], it accepts the Cancel-MIS indication (111)[17]-(001)[5].

7.2.2.16   Data-apps (111)[18]-(101)

TP1-2-215: [ETS 300 144 [2] subclause 10.2.3.1 §13; 8.2.1 §3]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the escape value Data-apps (111)[18] followed by V.120_HSD capability (101)[21], when it is not the first capability in a capability set.

[ETS 300 144 [2] subclause 8.2.2 §2] [ETS 300 144 [2] subclause 10.1.9 §4] applies to all of the following tests.
TP1-2-216: [ETS 300 144 [2] subclause 10.2.3.1 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the escape value Data-apps (111)[18] followed by the (R) ISO-SP baseline on LSD capability (101)[0], when it is not the first capability in a capability set.

TP1-2-217: [ETS 300 144 [2] subclause 10.2.3.1 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the escape value Data-apps (111)[18] followed by the (R) ISO-SP baseline on HSD capability (101)[1], when it is not the first capability in a capability set.

TP1-2-218: [ETS 300 144 [2] subclause 10.2.3.1 §3]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the escape value Data-apps (111)[18] followed by the (R) ISO-SP spatial capability (101)[2], when it is not the first capability in a capability set.

TP1-2-219: [ETS 300 144 [2] subclause 10.2.3.1 §4]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the escape value Data-apps (111)[18] followed by the (R) ISO-SP progressive capability (101)[3], when it is not the first capability in a capability set.

TP1-2-220: [ETS 300 144 [2] subclause 10.2.3.1 §5]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the escape value Data-apps (111)[18] followed by the (R) ISO-SP arithmetic capability (101)[4], when it is not the first capability in a capability set.

TP1-2-221: [ETS 300 144 [2] subclause 10.2.3.1 §6]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the escape value Data-apps (111)[18] followed by Still image capability (101)[9], when it is not the first capability in a capability set.

TP1-2-222: [ETS 300 144 [2] subclause 10.2.3.1 §7]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the escape value Data-apps (111)[18] followed by Graphics cursor capability (101)[10], when it is not the first capability in a capability set.

TP1-2-223: [ETS 300 144 [2] subclause 10.2.3.1 §8]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the escape value Data-apps (111)[18] followed by (R) Group 3 Facsimile capability (101)[16], when it is not the first capability in a capability set.

TP1-2-224: [ETS 300 144 [2] subclause 10.2.3.1 §9]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the escape value Data-apps (111)[18] followed by (R) Group 4 Facsimile capability (101)[17], when it is not the first capability in a capability set.

TP1-2-225: [ETS 300 144 [2] subclause 10.2.3.1 §12]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the escape value Data-apps (111)[18] followed by V.120_LSD capability (101)[20], when it is not the first capability in a capability set.

TP1-2-226: [ETS 300 144 [2] subclause 10.2.3.1 §15]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the escape value Data apps (111)[18] followed by Nil_Data capability (101)[29], along with one or more data capability codes, when it is not the first capability in a capability set.

TP1-2-227: [ETS 300 144 [2] subclause 10.2.3.1 §10]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the escape value Data apps (111)[18] followed by V.14_LSD capability (101)[22], when it is not the first capability in a capability set.

TP1-2-228: [ETS 300 144 [2] subclause 10.2.3.1 §11]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the escape value Data apps (111)[18] followed by V.14_HSD capability (101)[23], when it is not the first capability in a capability set.

TP1-2-229: [ETS 300 144 [2] subclause 10.2.3.1 §14]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the escape value Data apps (111)[18] followed by T.120-cap capability (101)[28], when it is not the first capability in a capability set.

7.2.2.17   NUM (111)[19]

TP1-2-230: [ETS 300 144 [2] subclause 10.2.4]
Verify that, when the IUT does not support reception of an Single Byte Extension (SBE) command or indication which is followed by an SBE number reached by (111)[19], when it receives such an SBE command or indication, followed by the escape code (111)[19] followed by an 8-bit binary number, it ignores all four BAS codes.

[ETS 300 144 [2] subclause 8.2.2 §2] [ETS 300 144 [2] subclause 10.1.9 §2] applies to all of the following tests.
TP1-2-231 :(ETS 300 144 [2] subclause 10.2.4)
Verify that, when the IUT supports reception of an SBE command or indication which is followed by one or more SBE numbers reached by (111)[19], it accepts this command and the corresponding escape codes and numbers.

TP1-2-232: [ETS 300 144 [2] subclause 10.2.4]
Verify that, when the IUT supports transmission of an SBE command or indication which is followed by one or more SBE numbers, it sends the SBE command or indication over two sub-multiframes, followed by (111)[19], followed by an 8-bit binary number in the following BAS position, with the escape code (111)[19] and a following number repeated as necessary.

7.2.2.18   CHAR (111)[20]

TP1-2-233: [ETS 300 144 [2] subclause 10.2.5]
Verify that, when the IUT does not support reception of an SBE command or indication which is followed by an SBE character reached by (111)[20], when it receives such an SBE command or indication, followed by the escape code (111)[20], followed by an IA5 character, it ignores all four BAS codes.

[ETS 300 144 [2] subclause 8.2.2 §2] [ETS 300 144 [2] subclause 10.1.9 §2] applies to all of the following tests.
TP1-2-234: (ETS 300 144 [2] subclause 10.2.5)
Verify that, when the IUT supports reception of an SBE command or indication which is followed by one or more SBE characters reached by (111)[20], it accepts this command or indication and the corresponding escape codes and characters.

TP1-2-235: [ETS 300 144 [2] subclause 10.2.5]
Verify that, when the IUT supports transmission of an SBE command or indication which is followed by one or more SBE characters, it sends the SBE command or indication over two sub-multiframes, followed by (111)[20], followed by an IA5 character in the following BAS position, with the escape code (111)[20] and a following character repeated as necessary.

7.2.3 Basic sequences and procedures

7.2.3.1 Capability exchange (sequence A)

SP038: [ETS 300 143 [1] subclause 5.1.9 §4 table 2]
Verify that the IUT, during a sequence A, sends capabilities that can be simultaneously valid.

TP1-2-236D: [ETS 300 143 [1] subclause 5.1.9 §4 table 2]
Verify that the IUT, during a sequence A, does not send in the same capability set repeated values excepting MPI values.

TP1-2-237D: [ETS 300 143 [1] subclause 5.1.9 §4 table 2]
Verify that the IUT, during a sequence A, does not send in the same capability set QCIF capability (101)(20) and CIF capability (101)(21).

TP1-2-238D: [ETS 300 143 [1] subclause 5.1.9 §4 table 2]
Verify that the IUT, during a sequence A, does not send in the same capability set more than one value of capability 1B, 2B, 3B, 4B, 5B, 6B (100) [16-21].

TP1-2-239D: [ETS 300 143 [1] subclause 5.1.9 §4 table 2]
Verify that the IUT, during a sequence A, does not send in the same capability set more than one value of capability 1H0, 2H0, 3H0, 4H0, 5H0 (100) [24-28].

TP1-2-240: [ETS 300 144 [2] subclause 8.2.1 §2] [ETS 300 143 [1] subclause 6.1.1 §3]
Verify that, when sequence A has been completed at the start of a communication, the IUT does not send BAS commands which lie outside the range of the BAS capability codes sent by the remote terminal.

TP1-2-241: [ETS 300 144 [2] subclause 8.2.1 §3]
Verify that, when the IUT sends the capability marker (111)[24], the IUT does not send any escape values following it, only normal BAS command or capability codes.

TP1-2-242: [ETS 300 143 [1] subclause 6.1.2 (b)]
Verify that, when the remote terminal initiates sequence A during a call, and when the IUT first detects an incoming capability marker (111)[24], and the IUT is receiving A-bit = 0, and the next BAS code is a capability other than neutral (100)[0], the IUT transmits a single capability set followed by a capability marker (111)[24] and at least one of the commands (000) [0 to 31] or (001) [0 to 31] or (010) [0 to 31] or (011) [0 to 31].

TP1-2-243: [ETS 300 143 [1] subclause 6.1.4 §1]
Verify that, following mode initialisation, after T1 has expired, when both the IUT and the remote terminal have switched to their normal mode of operation, when the remote terminal initiates sequence A to inform the IUT of a changed capability set, the IUT responds correctly by sending its current capability set.

TP1-2-244: [ETS 300 143 [1] subclause 6.1.4 §1]
Verify that, at any time during a call, the IUT is capable of initiating sequence A to inform the remote terminal of a changed capability set.

TP1-2-245: [ETS 300 143 [1] subclause 6.1.4 §2]
Verify that, when the IUT wishes to send two different capability sets, the first capability set is completed, thus completing sequence A with outcome A-1, it then sends at least one of the commands (000) [0 to 31], or (001) [0 to 31], or (010) [0 to 31] or (011) [0 to 31] and then initiates sequence A with the changed capability set.

TP1-2-246: [ETS 300 143 [1] subclause 7.6 §3]
Verify that, if the IUT supports MBE messages, and when the IUT wishes to transmit a message in MBE format, the IUT waits until it has received from the remote terminal the MBE capability code (101)[31] in the remote terminal's capability set during a sequence A before sending the MBE message to the remote terminal in a new sequence A with a changed capability set.

TP1-2-247: [ETS 300 143 [1] subclause 7.6 §3]
Verify that, if the IUT supports MBE messages, and when the remote terminal does not send an MBE capability code (101)[31] in its capability set, the IUT never sends any MBE message in the initial or any subsequent capability exchange sequence A.

TP1-2-248: [ETS 300 143 [1] subclause 6.1.1 §6]
Verify that, during a sequence A, when the IUT has started timer T1 for 10 seconds, and when it has started to send commands after sending its capability set, and when timer T1 has not yet expired, when it receives from the remote terminal a second or more capability sets, the IUT does not respond by sending its own capability set again.

TP1-2-249: [ETS 300 143 [1] subclause 6.1.2 (a), 5.1.7 §2 §3, 5.1.9 §10] [ETS 300 144 [2] subclause 10.1.5§1]
Verify that, when the remote terminal initiates sequence A during a call, sending the Neutral capability set, when the IUT first detects an incoming capability marker (111)[24] and the next BAS code it receives is neutral (100)[0] capability followed by an other incoming capability marker (111)[24], the IUT ignores the neutral (100)[0] capability BAS code and does not transmit its capability set in response.

> NOTE: Neutral (100)[0] capability is under review and this requirement may be removed in the next revision of ETS 300 143 [1].

TP1-2-250: [ETS 300 143 [1] subclause 7.5.6 §2]
Verify that, if the IUT sends in its capability set the Nil_Data capability (111)[18]-(101)[29], it also includes in its capability set the MLP-6.4k capability code, (101)[17].

7.2.3.2 Mode switching (sequence B)

SP005: [ETS 300 143 [1] subclause 5.2.4 §1]
Verify that, after the completion of the initialisation procedure, the IUT supports a different set of BAS commands for each transmission direction.

TP1-2-251D: [ETS 300 143 [1] subclause 5.2.4 §1]
Verify that, when the IUT supports video, after the completion of the initialisation procedure, after both terminals had switched on video, the IUT accepts the command video-off (010)[0] from the remote terminal.

SP006: [ETS 300 144 [2] subclause 8.2.1 §1] [ETS 300 143 [1] subclause 5.2.4 §1]
Verify that, when the IUT receives a BAS command code from the remote terminal, this command remains in force and the IUT implements the indicated mode until the command is countermanded by the remote terminal.

TP1-2-252D: [ETS 300 143 [1] subclause 5.2.4 §1:
Verify that, when the IUT supports video, after the completion of the initialisation procedure during which it sent a video capability and the reception of the video command H.261 (010)[1], the IUT receives video until it receives the command video-off (010)[0].

TP1-2-253: [ETS 300 144 [2] subclause 8.2.1 §1]
Verify that, when the IUT sends a BAS command code, this command remains in force and the IUT implements the indicated mode until the command is countermanded by the IUT.

SP007:[ETS 300 143 [1] subclause 5.2.4 §1]
Verify that the IUT, after the completion of the initialisation procedure, accepts commands in any suitable order.

TP1-2-254D: [ETS 300 143 [1] subclause 5.2.4 §1]
Verify that, when the IUT supports video, after the completion of the initialisation procedure, the IUT accepts the following list of commands in the given order: [A-law,0F (000)[18]; H.261 (010)[1]; video-off (010)[0]].

TP1-2-255D: [ETS 300 143 [1] subclause 5.2.4 §1]
Verify that, when the IUT supports video, after the completion of the initialisation procedure, the IUT accepts the following list of commands in the given order: (H.261 (010)[1]; A-law,0F (000)[18]; video-off (010)[0]).

TP1-2-256: [ETS 300 143 [1] subclause 6.2 *§2*]
Verify that, if the IUT is able to perform mode switching, it can do so anytime after the initialisation procedure between the IUT and the remote terminal has been completed.

TP1-2-257: [ETS 300 143 [1] subclause 6.2 *§2*]
Verify that, the IUT accepts from the remote terminal consecutive mode switches after the initialisation procedure between the IUT and the remote terminal has been completed.

SP008: [ETS 300 143 [1] subclause 5.2.4 §1]
Verify that the IUT, after the completion of the initialisation procedure, accepts repeated commands.

TP1-2-258D: [ETS 300 143 [1] subclause 5.2.4 §1]
Verify that after the completion of the initialisation procedure, the IUT accepts the following list of commands: (A-law,0F (000)[18]); (1B (001)[0]); H261 (010)[1] repeated, followed by (A-law,0F (000)[18]) repeated 10 times, followed by (1B (001)[0]; A-law,0F (000)[18]; H261 (010)[1]) repeated.

TP1-2-259: [ETS 300 143 [1] subclause 5.2.4 §3]
Verify that the IUT does not send commands that affect the same bits of the channel.

SP009: [ETS 300 143 [1] subclause 5.2.1 §1]
Verify that the IUT accepts the remote terminal expanding its audio capacity into vacant bit positions.

TP1-2-260D: [ETS 300 143 [1] subclause 5.2.1 §1]
Verify that, when the IUT supports G728, after the completion of the initialisation procedure without video, the IUT accepts the audio command G.728 (000)[29] and then the audio command A-law,0F (000)[18].

TP1-2-261: [ETS 300 143 [1] subclause 5.2.1 §1]
Verify that the IUT accepts the remote terminal reducing its audio capacity within the bit position currently occupied.

SP010 [ETS 300 143 [1] subclause 5.2.1 §1]
Verify that the IUT accepts the remote terminal expanding its audio capacity into video bit positions.

TP1-2-262D: [ETS 300 143 [1] subclause 5.2.1 §1]
Verify that, when the IUT supports G728 and video, after the completion of the initialisation procedure for 1B channel, the IUT accepts the audio command G.728 (000)[29] then the video command H.261 (010)[1] and then the audio command A-law,0F (000)[18].

TP1-2-263: [ETS 300 143 [1] 6.2 §1 2, §5]
Verify that, when the IUT performs the mode switching by sending appropriate BAS command codes, each is effective from the beginning of the frame following the sub-multiframe in which it is transmitted, i.e. from the beginning of the next submultiframe.

TP1-2-264: [ETS 300 143 [1] subclause 7.5.6 §3]
Verify that, when the IUT declares the Nil_Data capability (111)[18]-(101)[29] in its capability set along with one or more data capabilities during a sequence A in Mode Initialisation, when the MCU sends the MCC command (111)[17]-(001)[0] and later sends a data on command corresponding to the capabilities sent by the IUT, the IUT responds by sending the same data on command.

TP1-2-265: [ETS 300 143 [1] subclause 7.5.6 §3]
Verify that, when the IUT declares the Nil_Data capability (111)[18]-(101)[29] in its capability set along with one or more data capabilities during a sequence A in Mode Initialisation, when the MCU sends the MCC command (111)[17]-(001)[0] and later sends a data on command corresponding to the capabilities sent by the IUT, when the IUT responds by sending the same data on command, it transmits only Ones in the bit positions corresponding to the data channel command.

7.2.3.3 Frame reinstatement (sequence C)

TP1-2-266: [ETS 300 143 [1] subclause 6.3.2 §1]
Verify that, when the IUT is receiving in an unframed mode from the remote terminal and wishes to receive in a framed mode, and is currently transmitting to the remote terminal in a framed mode, the IUT initiates sequence A by sending its capability set.

TP1-2-267: [ETS 300 143 [1] subclause 6.3.2 §2]
Verify that, when the IUT is receiving in an unframed mode from the remote terminal and wishes to receive in a framed mode, and the IUT initiates sequence A by sending its capability set, sequence C is completed successfully when the IUT is receiving in framed mode with received A-bit = 0.

TP1-2-268: [ETS 300 143 [1] subclause 6.3.2 §2]
Verify that, when the IUT is receiving in an unframed mode from the remote terminal and wishes to receive in a framed mode, and the IUT initiates sequence A by sending its capability set, sequence C and then sequence A is completed successfully and normal transmission of commands describing the current mode of operation takes place in both directions.

TP1-2-269: [ETS 300 143 [1] subclause 7.2.2]
Verify that in the case where the IUT wishes to perform dynamic mode switching from an unframed mode to another mode, it implements the frame reinstatement procedure (sequence C) and the mode switching according to sequence B.

TP1-2-270: [ETS 300 143 [1] subclause 6.1.1 §1]
Verify that, when the IUT is transmitting in unframed mode and wishes to initiate sequence A, it re-instates framing using sequence C and then initiates sequence A by sending its current capability set.

TP1-2-271: [ETS300 143 [1] subclause 6.3.1 §1]
Verify that, when the IUT initiates frame reinstatement sequence C, it inserts FAS and BAS into the first 16 bits of the service channel.

TP1-2-272: [ETS300 143 [1] subclause 6.3.1 §2]
Verify that, when the IUT initiates frame reinstatement sequence C, when the incoming signal is framed and when the incoming A-bit is set to 0, sequence C is considered successful with outcome FR-I.

TP1-2-273: [ETS 300 143 [1] subclause 6.3.2 §1, 6.1.2 §2]
Verify that, when the IUT is transmitting in an unframed mode, and when the IUT detects that the remote terminal has reinstated framing and that sequence A has been initiated by the remote terminal when it receives the capability marker (111)[24], the IUT switches to transmission in a framed mode.

TP1-2-274: [ETS 300 143 [1] subclause 6.3.2 §2]
Verify that, when the IUT is transmitting in an unframed mode, and when the IUT detects that the remote terminal has reinstated framing and that sequence A has been initiated by the remote terminal when it receives the capability marker (111)[24], and when it switches to transmission in a framed mode, sequence C is completed successfully when the IUT responds to sequence A by transmitting A-bit = 0.

TP1-2-275: [ETS 300 143 [1] subclause 6.3.2 §2]
Verify that, when the IUT is transmitting in an unframed mode, and when the IUT detects that sequence A has been initiated by the remote terminal when it receives the capability marker (111)[24], sequence C and then sequence A is completed successfully and normal transmission of commands describing the current mode of operation takes place in both directions.

7.2.3.4 Mode forcing procedure

TP1-2-276: [ETS 300 143 [1] subclause 6.2 *§3*]
Verify that, if the IUT receives from the remote terminal a changed capability set with the outcome that the current mode transmitted by the IUT is no longer receivable/decodable, the IUT shall switch as soon as possible to a mode that can be received and decoded by the remote terminal.

SP012 [ETS 300 143 [1] subclause 7.3 §5]
Verify that, when the remote terminal implements a mode forcing procedure in order to reduce the transmitted by the IUT audio mode to G.711 µ-law from any other audio mode, the IUT sends commands to switch its outgoing mode to the mode desired according to the received capability set.

TP1-2-277D: [ETS 300 143 [1] subclause 7.3 §5]
Verify that, when the current audio mode transmitted by the IUT is a mode other than G.711 µ-law 0F, on receipt from the remote terminal of a capability set in which the only audio capability code is µ-law (100)[2], the IUT sends the command µ-law, 0F (000)[19].

TP1-2-278D: [ETS 300 143 [1] subclause 7.3 §5]
Verify that, when the current audio mode transmitted by the IUT is a mode other than G.711 µ-law 0F, on receipt from the remote terminal of a capability set in which the only audio capability is µ-law (100)[2], the IUT sends its capability set, completing sequence A.

SP011: [ETS 300 143 [1] subclause 7.3 §5]
Verify that, when the IUT wishes to perform mode forcing in order to change the received audio mode to G.711 µ-law from any other audio mode, it sends the command to reduce the current audio mode to the mode wanted and starts a new sequence A containing the reduced audio capability.

TP1-2-279D: [ETS 300 143 [1] subclause 7.3 §5]
Verify that, when the IUT wishes to perform mode switching in order to change the received audio mode to G.711 µ-law, it sends the command µ-law, 0F (000)[19].

TP1-2-280D: [ETS 300 143 [1] subclause 7.3 §5]
Verify that, when the IUT wishes to perform a mode forcing procedure in order to change the received audio mode to G.711 µ-law, it sends a new capability set in which the only audio capability code is µ-law (100)[2].

TP1-2-281: [ETS 300 143 [1] subclause 7.3.1]
Verify that, if CIF video format is supported by the IUT, if the IUT supports video communication on 1 B-channel, when CIF video format is being transmitted by the remote terminal, when the IUT wishes to perform mode forcing to QCIF mode, it starts a mode forcing procedure in order to change the video mode from CIF to QCIF by sending a new sequence A containing a reduced capability set with QCIF capability code and an MPI value but without a CIF capability code.

TP1-2-282: [ETS 300 143 [1] subclause 7.3.1]
Verify that, if the IUT supports the CIF video format, if the IUT supports video communication on 1 B-channel, when it is transmitting in CIF format, on receipt from the remote terminal of a reduced capability set which contains the QCIF capability (101)[20] and its accompanying MPI code as the only video capabilities, the IUT sends its capability set, completing sequence A.

TP1-2-283: [ETS 300 143 [1] subclause 7.3.1]
Verify that, if the IUT supports the CIF video format, if the IUT supports video communication on 1 B-channel, when it is transmitting in CIF format, on receipt from the remote terminal of a reduced capability set which contains the QCIF capability (101)[20] and its accompanying MPI code as the only video capabilities, the IUT changes its video transmission mode to QCIF.

TP1-2-284: [ETS 300 143 [1] subclause 7.3.1]
Verify that, if the IUT supports video communication on 1 B-channel, if an MPI value of less than 4/29,97 seconds is supported by the IUT, when an MPI value of less than 4/29,97 seconds is being used by both terminals, when the IUT wishes to perform mode forcing to an MPI value of 4/29,97 seconds, it starts a mode forcing procedure in order to change the MPI value by sending a new sequence A containing 4/29,97 seconds (101)[25] as the only MPI value used by both CIF and QCIF.

TP1-2-285: [ETS 300 143 [1] subclause 7.3.1]
Verify that, if the IUT supports video communication on 1 B-channel, if the IUT supports an MPI value of less than 4/29,97 seconds, when it is transmitting with an MPI value of less than 4/29,97 seconds, on receipt from the remote terminal of a reduced capability set which contains the MPI value 4/29,97 seconds (101)[25] as the only MPI value for both CIF and QCIF, the IUT sends its capability set, completing sequence A.

TP1-2-286: [ETS 300 143 [1] subclause 7.3.1]
Verify that, if the IUT supports video communication on 1 B-channel, if the IUT supports an MPI value of less than 4/29,97 seconds, when it is transmitting with an MPI value of less than 4/29,97 seconds, on receipt from the remote terminal of a reduced capability set which contains the MPI value 4/29,97 seconds (101)[25] as the only MPI value for both CIF and QCIF, the IUT changes its transmission MPI value to 4/29,97 seconds.

7.2.3.5   Mode 0 forcing procedure

TP1-2-287: [ETS 300 143 [1] subclause 7.3.2]
Verify that, during a single channel communication in mode a1, when the IUT wishes to perform a mode 0 forcing procedure in order to restrict the received mode to audio mode G.711 A-law only, it sends the command A-law 0F (000)[18] to reduce the current mode to the mode wanted.

TP1-2-288: [ETS 300 143 [1] subclause 7.3.2]
Verify that, during a single channel communication in mode a1, when the IUT wishes to perform a mode 0 forcing procedure in order to restrict the received mode to audio mode G.711 A-law only, when video is being transmitted, it sends the command video off (010)[0] to reduce the current mode to the mode wanted.

TP1-2-289: [ETS 300 143 [1] subclause 7.3.2]
Verify that, during a single channel communication in mode a1, if the IUT wishes to perform a mode 0 forcing procedure in order to restrict the received mode to audio mode G.711 A-law only, after it has reduced the transmission mode to audio only, G.711 A-law, it sends a capability set containing only the audio capability, A-law (100)[1], and optionally the 1B capability (100)[16].

TP1-2-290: [ETS 300 143 [1] subclause 7.3.2]
Verify that, during a single channel communication in mode a0, when the IUT wishes to perform a mode 0 forcing procedure in order to restrict the received mode to audio mode G.711 A-law only, it sends the command A-law 0F (000)[18] to reduce the current mode to the mode wanted.

TP1-2-291: [ETS 300 143 [1] subclause 7.3.2]
Verify that, during a single channel communication in mode a0, when the IUT wishes to perform a mode 0 forcing procedure in order to restrict the received mode to audio mode G.711 A-law only, when video is being transmitted, it sends the command video off (010)[0] to reduce the current mode to the mode wanted.

TP1-2-292: [ETS 300 143 [1] subclause 7.3.2]
Verify that, during a single channel communication in mode a0, if the IUT wishes to perform a mode 0 forcing procedure in order to restrict the received mode to audio mode G.711 A-law only, after it has reduced the transmission mode to audio only, G.711 A-law, it sends a capability set containing only the audio capability, A-law (100)[1], and optionally the 1B capability (100)[16].

TP1-2-293: [ETS 300 143 [1] subclause 7.3.2]
Verify that, during a single channel communication in mode a1, on receipt from the remote terminal of the commands A-law 0F (000)[18] and video off (010)[0], if video was on, and of a capability set containing only the audio capability A-law (100)[1], the IUT sends the command A-law 0F (000)[18] to switch its outgoing mode to the mode desired by the forcing terminal.

TP1-2-294: [ETS 300 143 [1] subclause 7.3.2]
Verify that, during a single channel communication, in mode a1 when video was on, on receipt from the remote terminal of the commands A-law 0F (000)[18] and video off (010)[0], and of a capability set containing only the audio capability A-law (100)[1], the IUT sends the command video off (010)[0] to switch its outgoing mode to the mode desired by the forcing terminal.

TP1-2-295: [ETS 300 143 [1] subclause 7.3.2]
Verify that, during a single channel communication in mode a1, on receipt from the remote terminal of the command A-law 0F (000)[18] and of a capability set containing only the audio capability A-law (100)[1], the IUT sends its capability set, thus completing sequence A.

TP1-2-296: [ETS 300 143 [1] subclause 7.3.2]
Verify that, during a single channel communication in mode a0, on receipt from the remote terminal of the commands A-law 0F (000)[18] and video off (010)[0], if video was on, and of a capability set containing only the audio capability A-law (100)[1], the IUT sends the command A-law 0F (000)[18] to switch its outgoing mode to the mode desired by the forcing terminal.

TP1-2-297: [ETS 300 143 [1] subclause 7.3.2]
Verify that, during a single channel communication, in mode a0 when video was on, on receipt from the remote terminal of the commands A-law 0F (000)[18] and video off (010)[0], and of a capability set containing only the audio capability A-law (100)[1], the IUT sends the command video off (010)[0] to switch its outgoing mode to the mode desired by the forcing terminal.

TP1-2-298: [ETS 300 143 [1] subclause 7.3.2]
Verify that, during a single channel communication in mode a0, on receipt from the remote terminal of the command A-law 0F (000)[18] and of a capability set containing only the audio capability A-law (100)[1], the IUT sends its capability set, thus completing sequence A.

7.2.4   Encryption Control Signal (ECS)

TP1-2-299: [ETS 300 144 [2] subclause 10.1.3 §9]
Verify that the IUT accepts the Encryp-off command (010)[7].

TP1-2-300: [ETS 300 144 [2] subclause 10.1.7 Encryp]
Verify that, during sequence A, the IUT accepts a capability set containing the capability code Encryp (101)[30].

TP1-2-301: [ETS 300 143 [1] subclause 7.4 §1] [ETS 300 144 [2] subclause 10.1.7 Encryp)]
Verify that, during the sequence A of an initialisation procedure, if the IUT supports ECS, the IUT transmits the ECS capability code (101)[30] in its capability set.

TP1-2-302: [ETS 300 144 [2] 10.1.3 §8] [ETS 300 143 [1] subclause 7.4 §2]
Verify that, when the IUT supports ECS channel operation, when it wishes to open the ECS channel, it sends the Encryp-on command (010)[6].

TP1-2-303: [ETS 300 143 [1] subclause 7.4 §3] [ETS 300 144 [2] 10.1.3 §8]
Verify that, if the IUT supports ECS, when the ECS capability (101)[30] has been sent by both terminals during mode initialisation, when the ECS channel has been turned on by the IUT, when later in the call the IUT wishes to switch off the ECS channel, the IUT sends the ECS channel OFF BAS command (010)[7].

TP1-2-304: [ETS 300 143 [1] subclause 7.4 §2] [ETS 300 144 [2] 10.1.3 §8 ,10.1.7 Encryp]
Verify that, if the IUT supports ECS, when the ECS capability code (101)[30] is sent by the IUT during mode initialisation, the IUT accepts an ECS channel ON command (010)[6] from the remote terminal.

TP1-2-305: [ETS 300 143 [1] subclause 7.4 §3] [ETS 300 144 [2] 10.1.3 §9]
Verify that, if the IUT supports ECS, when the ECS capability (101)[30] has been sent by both terminals during mode initialisation, when the ECS channel has been turned on by the remote terminal, when later in the call the remote terminal sends the ECS channel OFF command (010)[7], the IUT accepts this and no longer decrypts received signals.

TP1-2-306: [ETS 300 143 [1] subclause 7.4 §2]
Verify that, if the IUT supports ECS, when the ECS capability code (101)[30] is sent by both the IUT and the remote terminal during mode initialisation, when the IUT sends the ECS channel ON command (010)[6], from the next multiframe it opens the ECS channel.

TP1-2-307: [ETS 300 144 [2] subclause 10.1.3 §8]
Verify that, when the IUT supports encryption, after it has sent the Encryp-on command (010)[16], it encrypts all the bits of its outgoing initial channel except bits 1 to 24 of the Service Channel (SC).

TP1-2-308: [ETS 300 144 [2] subclause 10.1.3 §9]
Verify that, when the IUT supports encryption, when encryption had been turned on by the IUT, when it transmits the Encryp-off command (010)[7], it no longer transmits encrypted signals.

TP1-2-309: [ETS 300 143 [1] subclause 7.4 §1]
Verify that, during the sequence A of an initialisation procedure, if the IUT supports ECS capability, when the remote terminal does not transmit the ECS capability code (101)[30] in its capability set, the IUT does not attempt to activate the ECS channel by sending the command ECS On (010)[6].

TP1-2-310: [ETS 300 143 [1] subclause 7.4 §1, 5.1.6 §2]
Verify that, if the IUT supports ECS, when the ECS capability is sent both by the IUT and by the remote terminal on mode initialisation, when the IUT sends the ECS channel ON command (010)[6] to open the ECS channel, when the remote terminal later in the call initiates sequence A with a capability set omitting the ECS capability code (101)[30], the IUT continues to keep the ECS channel open, includes ECS channel ON among the commands it sends after sequence A is completed and does not send ECS channel OFF command (010)[7].

7.3   Invalid behaviour

7.3.1   Frame and multiframe

7.3.1.1   Alignment

TP1-3-001: [ETS 300 144 [2] subclause 6.1 §3]
Verify that the IUT, when it looses frame alignment, sets to "1" bit 8 of the third byte at every second-fourth-sixth... 80 byte frame, i.e. bit 3 of the service channel in each odd frame.

SP014: [ETS 300 143 [1] subclause 8.1 §1, 8.2.1 §2, 7.2 §1]
Verify that, after completion of the initial procedure, on receipt of three consecutive incoming A bits equal to 1, the IUT implements an R0 recovery procedure.

TP1-3-002D: [ETS 300 143 [1] subclause 8.1 §1, 8.2.1 §2, 7.2 §1]
Verify that, after completion of the initial procedure, on receipt of three consecutive incoming A bits equal to 1, the IUT initiates a sequence A.

TP1-3-003D: [ETS 300 143 [1] subclause 8.1 §1, 8.2.1 §2, 7.2 §1]
Verify that, after the IUT has unsuccessfully initiated a sequence A on receiving an incoming A=1 on I-channel, when R1 is the following procedure in this case, the IUT initiates mode-0 forcing.

TP1-3-004D: [ETS 300 143 [1] subclause 8.1 §1, 8.1 §2, 8.1 §3, 8.2.1 §2]
Verify that, after the IUT has unsuccessfully initiated a sequence A on receiving an incoming A=1 on I-channel, when R1 is the following procedure in this case, after it has initiated an unsuccessful mode-0 forcing, when the IUT is the calling terminal, the IUT drops the faulty connection.

TP1-3-005D: [ETS 300 143 [1] subclause 8.1 §1, 8.2.1 §2]
Verify that, after the IUT has unsuccessfully initiated a sequence A on receiving an incoming A=1 on I-channel, when R2 is the following procedure in this case and the IUT is the calling terminal, the IUT drops the faulty connection.

SP016 [ETS 300 144 [2] subclause 6.3 §1 & §4]
Verify that, when the IUT detects in three successive frames the presence of the first correct seven bits of the FAW, followed by the eighth bit of the FAW, followed by, once again, the first correct seven bits of the FAW, the IUT considers that frame alignment has been gained.

TP1-3-006D: [ETS 300 144 [2] subclause 6.3 §1 & §4]
Verify that, when the IUT never receives, on the initial channel, the first correct seven bits of the FAW in bits 2 to 8 of the SC of a frame, the IUT sets the A-bit of its following outgoing odd frames to "1" on the initial channel.

TP1-3-007D: [ETS 300 144 [2] subclause 6.3 §1 & §4]
Verify that, when the IUT detects, on the initial channel, the first correct seven bits of the FAW in bits 2 to 8 of the SC of a frame (even frame) but followed by a frame (odd frame) which contains bit 2 of the SC set to "0" (erroneous eighth bit of the FAW), the IUT sets A-bit of its following outgoing odd frames to "1" in the initial channel.

SP017[ETS 300 144 [2] subclause 6.3 §2 & §4]
Verify that, after the IUT has gained frame alignment at least one time, when it detects three consecutive erroneous FAW the IUT considers frame alignment as lost.

TP1-3-008D: [ETS 300 144 [2] subclause 6.3 §2 & §4]
Verify that, after the completion of the initialisation procedure, when the IUT receives three times on the initial channel, from the remote terminal, an even frame with bits 2 to 8 of the SC set to "0000000" followed by an odd frame that contains the bit 2 of the SC set to "1" (the eighth bit of the FAW), the IUT sets the A-bit of its following outgoing odd frames to "1" in the initial channel.

TP1-3-009D: [ETS 300 144 [2] subclause 6.3 §2 & §4]
Verify that, after the completion of the initialisation procedure, when the IUT receives twice on the initial channel, from the remote terminal, an even frame with bits 2 to 8 of the SC set to "0000000" followed by an odd frame which contains bit 2 of the SC set to "1" (the eighth bit of the FAW) and then receives an even frame with bits 2 to 8 of the SC set to "0011011" followed by an odd frame which contains bit 2 of the SC set to "1" (the eighth bit of the FAW), the IUT still sets the A-bit of its following outgoing odd frames to "0" in the initial channel.

TP1-3-010: [ETS 300 143 [1] subclause 8.4.1 §2]
Verify that, if there is no switch to unframed mode beforehand and FAW is no longer detected in the initial channel, the IUT starts timer T3 and searches for framing in the receive direction for a period of 1 second (T3).

TP1-3-011: [ETS 300 143 [1] subclause 8.4.1 §2]
Verify that, if there is no switch to unframed mode beforehand and FAW is no longer detected in the initial channel, the IUT does not change the outgoing mode of transmission during a period of 1 second (T3).

TP1-3-012: [ETS 300 143 [1] subclause 8.4.1 §2-a)]
Verify that, if there is no switch to unframed mode beforehand and FAW is no longer detected in the initial channel, if the IUT recovers framing before timer T3 (1 second) expires, the IUT resumes operation in a normal way.

TP1-3-013: [*ETS 300 143 [1] subclause 8.4.1 §2]*
Verify that, if there is no mode switch to unframed mode beforehand and FAW is no longer detected in the initial channel, the IUT discards unintelligible information.

SP011 [ETS 300 143 [1] subclause 8.4.1 §2-b)]
Verify that, if there is no switch to unframed mode beforehand and FAW is no longer detected in the initial channel, if the IUT does not recover framing before T3 (1 second) expires, the IUT implements an R0 recovery procedure.

TP1-3-014D: [ETS 300 143 [1] subclause 8.1 §1, 8.4.1b)]
Verify that, if there is no switch to unframed mode beforehand and FAW is no longer detected in the initial channel, if the IUT does not recover framing before T3 (1 second) expires, the IUT initiates a sequence A.

TP1-3-015D: [ETS 300 143 [1] subclause 8.1 §1, 8.4.1b)]
Verify that, if there is no switch to unframed mode beforehand and FAW is no longer detected in the initial channel, if the IUT has not recovered framing before T3 (1 second) expires, after the IUT has unsuccessfully initiated a sequence A, when R1 is the following procedure in this case, the IUT initiates mode-0 forcing.

TP1-3-016D: [ETS 300 143 [1] subclause 8.1 §1, 8.1 §2, 8.1 §3, 8.4.1b)]
Verify that, if there is no switch to unframed mode beforehand and FAW is no longer detected in the initial channel, if the IUT has not recovered framing before T3 (1 second) expires, after the IUT has unsuccessfully initiated a sequence A, when R1 is the following procedure in this case, after it has unsuccessfully initiated a mode-0 forcing, when the IUT is the calling terminal, the IUT drops the faulty connection.

TP1-3-017D: [ETS 300 143 [1] subclause 8.1 §1, 8.4.1b)]
Verify that, if there is no switch to unframed mode beforehand and FAW is no longer detected in the initial channel, if the IUT has not recovered framing before T3 (1 second) expires, after the IUT has unsuccessfully initiated a sequence A, when R2 is the following procedure in this case and the IUT is the calling terminal, the IUT drops the faulty connection.

TP1-3-018: [ETS 300 144 [2] subclause 6.3 §3 & §4]
Verify that, after the IUT has lost frame alignment, when it detects in the initial channel the first correct seven bits of the FAW in bits 2 to 8 of the SC of a frame (even frame), followed by a frame (odd frame) which contains bit 2 of the SC set to "1" (the eighth bit of the FAW), followed by a frame (even frame) with, for a second time, the first correct seven bits of the FAW in bits 2 to 8 of its SC, the IUT considers that frame alignment has been regained and resets the A-bit of its following outgoing odd frames to "0" in the initial channel.

TP1-3-019: [ETS 300 144 [2] subclause 6.5.1 §1]
Verify that, when the IUT has gained frame alignment for the first time and then looses it within the next 16 frames, when it re-acquires frame alignment, the IUT reinitialises the receive byte timing.

TP1-3-020: [ETS 300 144 [2] subclause 6.5.2 §a)]
Verify that, after the IUT has gained frame alignment, when it looses frame alignment, the IUT changes the receive byte timing only when frame alignment is recovered.

TP1-3-021: [ETS 300 144 [2] subclause 6.5.2 §c)]
Verify that, after the IUT has gained frame alignment, when the IUT switches from a frame mode to an unframed mode, the IUT still uses the same receive byte timing.

TP1-3-022: [ETS 300 144 [2] subclause 6.5.2 §d)]
Verify that, when the IUT has gained frame alignment again at a new position, after it has lost it, when it does not loose frame alignment again during the next 16 frames, the IUT validates the receive byte timing.

TP1-3-023: [ETS 300 144 [2] subclause 6.5.2 §d)]
Verify that, after the IUT has gained frame alignment again at a new position, after it has lost it, when it looses frame alignment during the next 16 frames, the IUT reinitialises the received byte timing with the old bit position.

TP1-3-024: [ETS 300 144 [2] subclause 6.5.3 §1]
Verify that, when the IUT is searching for the FAS, if the IUT implements the sequential method, when the IUT looses frame alignment after it has gained it, the IUT starts searching for the FAS from the previously validated bit position.

TP1-3-025: [ETS 300 144 [2] subclause 6.5.3 §1]
Verify that, when the IUT is searching for the FAS, if the IUT implements the parallel method, when a frame alignment is lost after been gained, the IUT starts searching for the FAS from the bit position next to the previously validated one.

7.3.1.2 E_bit, C1-C4

TP1-3-026: [ETS 300 144 [2] subclause 9.2.1 §1]
Verify that, if the IUT implements CRC4 decoding procedure, when the CRC bits C1-C4 detected in the most recently received block have been found to be in error (at least one bit in error), it sets the E-bit of a block J in the transmitting direction to "1".

TP1-3-027: ([ETS 300 144 [2] subclause 9.2.2 §2]
Verify that, when the IUT provides incorrect frame alignment monitoring in the receiving side, when it counts 89 blocks or more with CRC errors, it reinitiates a search for frame alignment.

7.3.2   BAS

TP1-3-028: [ETS 300 144 [2] subclause 8.1 §4]
Verify that, when frame alignment has been gained, when the remote terminal sends a sub-multiframe that contains a FAW with more than two errors and a capability marker followed by a sub-multiframe containing a capability code, the IUT ignores this capability marker code and does not start a sequence A.

TP1-3-029: [ETS 300 144 [2] subclause 8.1 §4]
Verify that, when frame alignment has been gained, when the remote terminal correctly sends a capability marker followed by a capability code, but when at the same time the remote terminal makes a total of 2 bit errors in the FAW in both (not each) frames in the sub-multiframe containing the capability marker, the IUT recognises the capability marker and starts a sequence A.

7.3.3   Basic sequences and procedures

7.3.3.1   Capability exchange (sequence A)

TP1-3-030: [ETS 300 143 [1] subclause 7.1.1 d) §1, 5.1.1]
Verify that, when the IUT commences the mode initialisation procedure, when it is receiving in audio mode A-law and detects an incoming audio signal encoded to µ-law, it switches its audio decode mode to µ-law.

TP1-3-031: [ETS 300 143 [1] subclause 6.1.3 §2]
Verify that, when the IUT initiates sequence A, when the remote terminal does not send framing, and when timer T1 of 10 seconds, started when the IUT first transmitted its capability set, has expired, the sequence A fails with outcome A-II and the IUT switches its transmission and reception modes to unframed mode OU .

TP1-3-032: [ETS 300 143 [1] subclause 6.1.3 §2]
Verify that, when the IUT initiates sequence A, when the remote terminal sends correct multiframe structure but with A-bit set to 1, and when timer T1 of 10 seconds, started when the IUT first transmitted its capability set, has expired, the sequence A fails with outcome A-III and the IUT restarts sequence A by sending its capability set again.

TP1-3-033: [ETS 300 143 [1] subclause 6.1.1 §2, §7]
Verify that, when the IUT initiates sequence A, it does not stop repetitive transmission of its current capability set when it receives an incoming capability set with incoming A-bit set to 1, until timer T1 expires, at which point, if it restarts sequence A, it sends at least one command before doing so.

TP1-3-034: [ETS 300 143 [1] subclause 6.1.1 (d), 6.1.2 (c)]
Verify that, during sequence A, when the IUT has received the capability marker and one capability code from the remote terminal with A-bit set to 0, but when it receives the A-bit set to 1 while sending its capability set, the IUT continues sending capability sets until one capability set is sent with incoming A-bit = 0.

TP1-3-035: [ETS300 143 [1] subclause 6.1.2 (d)]
Verify that, when the remote terminal initiates sequence A after T1 expires, and when the IUT first detects an incoming capability marker (111)[24], and the next BAS code is a command, the IUT does not respond by transmitting its capability set.

TP1-3-036: [ETS 300 143 [1] subclause 5.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, if the remote terminal sends the capability Null (100)[14] twice in its capability set, after the timer T1 expires, the IUT does not restart sequence A but continues with normal operation.

TP1-3-037: [ETS 300 143 [1] subclause 6.1.1 §4] [ETS 300 143 [1] subclause 6.1 §2] [ETS 300 143 [1] subclause 7.1.1 §6]
Verify that, during a sequence A, when the IUT is sending commands following sending of its current capability set, but when it has not yet received a complete capability set from the remote terminal before T1 expires, the IUT sends only commands which do not change the current mode of transmission.

7.3.3.2 Mode switching (sequence B)

SP018 [ETS 300 143 [1] subclause 8.3 *§2 a)*]
Verify that, if the IUT, after a successful sequence A detects an incoming BAS command from the remote terminal and it is not known what it means, it is ignored by the IUT which does the following:

- a timer T3 is started (value 1 second). During this time incoming information is discarded if unintelligible;
- if the mismatch is removed (acceptable command(s) received before the timer expires), the normal operation is resumed;
- if the mismatch is not removed before the timer expires: R0.

TP1-3-038D: [ETS 300 143 [1] subclause 8.3 *§2 a)*]
Verify that, after a successful mode initialisation procedure, when the IUT detects an unknown command (000)[1] from the remote terminal, it starts a timer T3 (value 1 second) and returns to normal operation on receipt of valid commands without the unknown command.

TP1-3-039D: [ETS 300 143 [1] subclause 8.3 *§2 a)*]
Verify that, after a successful mode initialisation, during repeated detection from the remote terminal of an unknown command (000)[1], when timer T3 (value 1 second) has expired without receiving a valid command, then the IUT initiates a sequence A and clears the mode mismatch when the remote terminal responds correctly.

TP1-3-040D: [ETS 300 143 [1] subclause 8.1 §1, 8.3a)]
Verify that, after a successful mode initialisation, during repeated detection from the remote terminal of an unknown command (000)[1], when timer T3 (value 1 second) has expired without receiving a valid command, after the IUT has unsuccessfully initiated a sequence A, when R1 is the following procedure in this case, the IUT initiates mode-0 forcing and clears the mode mismatch when the remote terminal responds correctly.

TP1-3-041D: [ETS 300 143 [1] subclause 8.1 §1, 8.1 §2, 8.1 §3, 8.3a)]
Verify that, after a successful mode initialisation, during repeated detection from the remote terminal of an unknown command (000)[1] when timer T3 (value 1 second) has expired without receiving a valid command, after the IUT has unsuccessfully initiated a sequence A, when R1 is the following procedure in this case, after it has unsuccessfully initiated a mode-0 forcing, when the IUT is the calling terminal, the IUT drops the faulty connection.

TP1-3-042D: [ETS 300 143 [1] subclause 8.1 §1, 8.3a)]
Verify that, after a successful mode initialisation, during repeated detection from the remote terminal of an unknown command (000)[1], when timer T3 (value 1 second) has expired without receiving a valid command, after the IUT has unsuccessfully initiated a sequence A, when R2 is the following procedure in this case and the IUT is the calling terminal, the IUT drops the faulty connection.

SP019 [ETS 300 143 [1] subclause 5.2.4 §5]
Verify that the IUT implements a mismatch procedure on receipt of unrecognised or unacceptable BAS command, if it is not cancelled within one second.

TP1-3-043D: [ETS 300 143 [1] subclause 5.2.4 §5]
Verify that the IUT implements a mismatch procedure on receipt of the command 2*64 (001)[1] without receiving a valid command before T3 (value 1 second) expires and initiates a Sequence A, when one B channel only is established.

TP1-3-044D: [ETS 300 143 [1] subclause 5.2.4 §5]
Verify that the IUT implements a mismatch procedure on receipt of the command 6B (001[5] without receiving a valid command before T3 (value 1 second) expires and initiates a Sequence A.

TP1-3-045D: [ETS 300 143 [1] subclause 5.2.4 §5, 7.4 §2]
Verify that the IUT, when it does not support Encryp, implements a mismatch procedure on receipt of the command Encryp-on (010)[6] without receiving a valid command before T3 (value 1 second) expires and initiates a Sequence A.

TP1-3-046D: [ETS 300 143 [1] subclause 8.3 *§2 a)*]
Verify that, if the IUT, after a successful sequence A, detects from the remote terminal a capability code (100) or (101), instead of a command, this code is ignored.

SP020 [ETS300 143 [1] subclause 8.3 §2 b)]
Verify that, after a successful sequence A, if the IUT detects from the remote terminal one or more incoming information signals the content of which do not agree with the BAS commands currently in force, the IUT continues decoding if possible and carries out procedure R0.

TP1-3-047D: [ETS300 143 [1] subclause 8.3 §2 b)]
Verify that, after a successful mode initialisation, if the IUT receives from the remote terminal the µ-law command (000)[19] but the A/µ-law detector indicates A-law, the IUT tries to continue decoding incoming information if possible.

TP1-3-048D: [ETS 300 143 [1] subclause 8.1 §1, 8.3b)]
Verify that, after a successful mode initialisation, if the IUT receives from the remote terminal the µ-law command (000)[19] but the A/µ-law detector indicates A-law, the IUT initiates a sequence A.

TP1-3-049D: [ETS 300 143 [1] subclause 8.1 §1,8.3b)]
Verify that, after a successful mode initialisation, if the IUT has received from the remote terminal the µ-law command (000)[19] but the A/µ-law detector indicates A-law, after the IUT has unsuccessfully initiated a sequence A, when R1 is the following procedure in this case, the IUT initiates mode-0 forcing.

TP1-3-050D: [ETS 300 143 [1] subclause 8.1 §, 8.1 §2, 8.1 §3, 8.3b)]
Verify that, after a successful mode initialisation, if the IUT has received from the remote terminal the µ-law command (000)[19] but the A/µ-law detector indicates A-law, after the IUT has unsuccessfully initiated a sequence A, when R1 is the following procedure in this case, after it has unsuccessfully initiated a mode-0 forcing, when the IUT is the calling terminal, the IUT drops the faulty connection.

TP1-3-051D: [ETS 300 143 [1] subclause 8.1 §1, 8.1 §2, 8.1 §3, 8.3b)]
Verify that, after a successful mode initialisation, if the IUT has received from the remote terminal the µ-law command (000)[19] but the A/µ-law detector indicates A-law, after the IUT has unsuccessfully initiated a sequence A, when R1 is the following procedure in this case, after it has unsuccessfully initiated a mode-0 forcing, when the IUT is the called terminal, the IUT waits for the remote terminal to disconnect.

TP1-3-052D: [ETS 300 143 [1] subclause 8.1 §1, 8.3b)]
Verify that, after a successful mode initialisation, if the IUT has received from the remote terminal the µ-law command (000)[19] but the A/µ-law detector indicates A-law, after the IUT has unsuccessfully initiated a sequence A, when R2 is the following procedure in this case and the IUT is the calling terminal, the IUT drops the faulty connection.

TP1-3-053D: [ETS 300 143 [1] subclause 8.1 §1,: 8.3b)]
Verify that, after a successful mode initialisation, if the IUT has received from the remote terminal the µ-law command (000)[19] but the A/µ-law detector indicates A-law, after the IUT has unsuccessfully initiated a sequence A, when R2 is the following procedure in this case and the IUT is the called terminal, the IUT waits for the remote terminal to disconnect.

7.3.3.4   Mode initialisation procedure

SP021: [ETS 300 143 [1] subclause 7.1.1 d) §2]
Verify that, when the IUT commences mode initialisation, and when the remote terminal does not send framing to the IUT, producing outcome A-II to sequence A, the IUT switches its transmission and reception modes to unframed mode OU.

TP1-3-054D: [ETS 300 143 [1] subclause 7.1.1 d) §2]
Verify that, when the IUT commences mode initialisation, and when the remote terminal does not send framing to the IUT, producing outcome A-II to sequence A, the IUT switches its transmission mode to unframed mode OU, sending command OU(A) (000)[4] or OU(µ) (000)[5] once in the final submultiframe.

SP022: [ETS 300 143 [1] subclause 7.1.1 d) §2]
Verify that, when the IUT commences mode initialisation, and when the remote terminal does not send framing to the IUT, producing outcome A-II to sequence A, and when the IUT switches its transmission mode to mode OU, the IUT's receiver remains in frame search throughout the call.

TP1-3-055D: [ETS 300 143 [1] subclause 7.1.1 d) §2]
Verify that, when the IUT commences mode initialisation, and when the remote terminal does not send framing to the IUT, producing outcome A-II to sequence A, and when the IUT switches its transmission mode to mode OU, when the remote terminal reinstates framing later in the call and initiates capability exchange sequence A, the IUT responds by reinstating framing, achieving frame synchronisation, setting A-bit = 0 and sending its own current capability set.

TP1-3-056: [ETS 300 143 [1] 7.1.1 d) §2]
Verify that, if the IUT implements the A-law/μ-law decoder according to G.725, when the IUT commences mode initialisation, and when the remote terminal does not send framing to the IUT, producing outcome A-II to sequence A, and when the IUT switches its transmission mode to mode OU, the IUT detects the received encoding law and decodes it correctly.

8 Test purposes for two channels communication

> NOTE: For reasons of clarity the test purposes refer to CCITT and ITU-T Recommendations by their series letter and number only, thus:
>
> - G.711 = CCITT Recommendation G.711 [5];
> - G.722 = CCITT Recommendation G.722 [6];
> - G.725 = CCITT Recommendation G.725 [7];
> - G.728 = CCITT Recommendation G.728 [8];
> - H.261 = ITU-T Recommendation H.261 [9];
> - T.120 = ITU-T Recommendation T.120;
> - V.14 = ITU-T Recommendation V.14.

8.1 Capability

8.1.1 Frame and multiframe

8.1.1.1 Frame and multiframe alignment signal

TP2-1-001: [ETS 300 144 [2] subclause 6.1 §2]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, the IUT sets bits 8 of bytes 2 to 8 at every first-third-fifth.. frame of 80 bytes to "0011011", i.e. bits 2 to 8 of the service channel in each even frame, in the additional channel.

TP2-1-002: [ETS 300 144 [2] subclause 6.1 §2]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, the IUT sets bit 8 of the second byte of every second-fourth-sixth... 80 byte frame to "1", i.e. bit 2 of the service channel in each odd frame, in the additional channel.

TP2-1-003: [ETS 300 144 [2] subclause 6.2 §1 §2]
Verify that, during a 2B channel communication, the IUT sets bit 8 of byte 1 of frames 1,3,5,7,9,11 in each group of 16 frames (numbered 0-15) where each frame is 80 bytes long to "001011", i.e. bit 1 of the service channel in frames 1,3,5,7,9,11 in each multiframe of 16 frames, in the additional channel.

TP2-1-004: [ETS 300 144 [2] subclause 6.2 §3]
Verify that, during a 2B channel communication, the IUT sets bit 8 of byte 1 of frame 15 of each group of 16 frames (numbered 0-15) where each frame is 80 bytes long, to "0", i.e. bit 1 of the service channel in frame 15 in each multiframe of 16 frames (numbered 0-15), in the additional channel.

8.1.1.2   Bits N1-N5

SP023: [ETS 300 144 [2] subclause 6.2 §6]
Verify that, when it supports 2 B-channel operation, during a 2B channel connection, the IUT sends numbered multiframes in the initial channel.

TP2-1-005D: [ETS 300 144 [2] subclause 6.2 §4]
Verify that, when the IUT supports 2 B-channel operation, during a 2B connection, it sends bits N1, N2, N3, N4 in the bit position 1 of the FAS of frames 0-2-4-6 in each 16 frame multiframe, with the LSB transmitted in frame 0 and the MSB in frame 6, where N1, N2, N3, N4 is a modulo 16 counter to number multiframes in the initial channel.

TP2-1-006D: [ETS 300 144 [2] subclause 6.2 §4, 7.1]
Verify that, when the IUT supports 2 B-channel operation, during a 2B connection, it uses bits N1, N2, N3, N4 as a modulo 16 counter to number multiframes in descending order, with the LSB transmitted in frame 0 and the MSB in frame 6, in the initial channel.

TP2-1-007D: [ETS 300 144 [2] subclause 6.2 §7]
Verify that, when the IUT supports 2 B-channel operation, during a 2B connection, it sends "1" in bit 1 of FAS of frame 8 (N5) of each numbered multiframe in the initial channel.

SP024: [ETS 300 144 [2] subclause 6.2 §6]
Verify that, when it supports 2 B-channel operation, during a 2B channel connection, the IUT sends numbered multiframes in the additional channel.

TP2-1-008D: [ETS 300 144 [2] subclause 6.2 §4]
Verify that, when the IUT supports 2 B-channel operation, during a 2B connection, it sends bits N1, N2, N3, N4 in the bit position 1 of the FAS in frames 0-2-4-6 of each 16 frame multiframe, with the LSB transmitted in frame 0 and the MSB in frame 6, where N1, N2, N3, N4 is a modulo 16 counter to number multiframes in the additional channel.

TP2-1-009D: [ETS 300 144 [2] subclause 6.2 §4] (ETS 300 144 [2] subclause 7.1)
Verify that, when the IUT supports 2 B-channel operation, during a 2B connection, it uses bits N1, N2, N3, N4 as a modulo 16 counter to number multiframes in descending order, with the LSB transmitted in frame 0 and the MSB in frame 6, in the additional channel.

TP2-1-010D: [ETS 300 144 [2] subclause 6.2 §7]
Verify that, when the IUT supports 2 B-channel operation, during a 2B connection, it sends "1" in bit 1 of FAS of frame 8 (N5) of each numbered multiframe in the additional channel.

8.1.1.3   Alignment and synchronisation

TP2-1-011: [ETS 300 144 [2] subclause 6.1 §3, 7.1 §3] [ETS 300 143 [1] subclause 5.1.3 §1]
Verify that, when the IUT supports 2 B-channel operation, when the initial and the additional B-channels have been established, when multiframe alignment and synchronisation between both channels has been gained, the IUT sets to "0" bit 8 of the third byte at every second-fourth-sixth... 80 byte frame, i.e. bit 3 of the service channel in each odd frame on both channels.

TP2-1-012: [ETS 300 144 [2] subclause 6.4 §2]
Verify that, when the IUT supports 2 B-channel operation, when the IUT detects the multiframe alignment signal in 16 consecutive frames in the initial channel, the IUT sets the A-bit of its following outgoing odd frames to "0" in the initial channel.

TP2-1-013: [ETS 300 144 [2] subclause 6.4 §2]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, when the IUT detects the multiframe alignment signal in 16 consecutive frames in the additional channel and synchronises with the initial channel, the IUT sets the A-bit of its following outgoing odd frames to "0" in the additional channel.

8.1.1.4 Bits L1-L3

TP2-1-014: [ETS 300 144 [2] subclause 6.2 §8 & table 4b, 7.1 §4] [ETS300 143 [1] subclause 7.1.2 §2]
Verify that, when the IUT supports 2 B-channel operation, during a 2B channel communication, it sends the channel number "100" in bit 1 of the FAS in frames 10-12-13 (L1-L2-L3) in the initial channel, with L1 being the LSB and L3 the MSB.

TP2-1-015: [ETS 300 144 [2] subclause 6.2 §8 & table 4b, 7.1 §4] [ETS300 143 [1] subclause 7.1.2 §2]
Verify that, when the IUT supports 2 B-channel operation, during a 2B channel communication, it sends the channel number "010" in bit 1 of the FAS in frames 10-12-13 (L1-L2-L3) in the additional channel, with L1 being the LSB and L3 the MSB.

8.1.1.5 E-bit,C1-C4

TP2-1-016: [ETS 300 144 [2] subclause 6.1 §4]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, when the IUT does not use the Cyclic Redundancy Check 4-bit (CRC4) procedure, the IUT sets to "0" bit 8 of byte 4 at every second-fourth-sixth... 80 byte frame, i.e. bit 4 of the service channel in each odd frame, in the additional channel.

TP2-1-017: [ETS 300 144 [2] subclause 6.1 §4]
Verify that, when the IUT supports 2 B-channel operation, during a 2B channel communication, when the IUT does not use the Cyclic Redundancy Check 4-bit (CRC4) procedure, the IUT sets to "1111" bit 8 of bytes 5,6,7,8 at every second-fourth-sixth... 80 byte frame, i.e. bits 5,6,7,8 of the service channel in each odd frame, in the additional channel.

TP2-1-018: [ETS 300 144 [2] subclause 9.1 §1]
Verify that, when the IUT implements the CRC4 procedure, it computes the CRC4 bits C1, C2, C3 and C4 in the additional B channel for each block or submultiframe made of two frames: one even frame followed by one odd frame.

TP2-1-019: [ETS 300 144 [2] subclause 9.1.1 §1]
Verify that, when the IUT implements the CRC4 procedure, it computes the C1 to C4 word located in a block J (generic block) as the remainder after multiplication by x^4 and then division (modulo 2) by the generator polynomial $x^4 + x +1$, of the polynomial representation of block (J-1).

TP2-1-020: [ETS 300 144 [2] subclause 9.1.1 §2]
Verify that, when the IUT implements the CRC4 procedure, it takes the first bit in the block as the Most Significant Bit (MSB) to compute the CRC4 bits.

TP2-1-021: [ETS 300 144 [2] subclause 9.1.1 §2]
Verify that, when the IUT implements the CRC4 procedure, it defines the C1 bit as the MSB of the remainder.

TP2-1-022: [ETS 300 144 [2] subclause 9.1.1 §2]
Verify that, when the IUT implements the CRC4 procedure, it defines the C4 bit as the LSB of the remainder.

TP2-1-023: [ETS 300 144 [2] subclause 9.1.2 §1 a)]
Verify that, when the IUT implements the CRC4 encoding procedure, it initialises the CRC bits C1-C4 in the odd frame to "0".

TP2-1-024: [ETS 300 144 [2] subclause 9.1.2 §1 b)]
Verify that, when the IUT implements the CRC4 encoding procedure, after it has initialised C1-C4 bits to 0, it performs the CRC multiplication-division process on the block.

TP2-1-025: [ETS 300 144 [2] subclause 9.1.2 §1 c)]
Verify that, when the IUT implements the CRC4 encoding procedure, after it has performed the CRC multiplication-division process on the block, it stores the remainder resulting from this process in the CRC bit positions in the next odd frame.

TP2-1-026: [ETS 300 144 [2] subclause 9.1.2 §1 a)]
Verify that, when the IUT implements the CRC4 decoding procedure, after it has extracted and stored the CRC bits in the additional B channel in the received odd frame and replaced them by zeroes, it performs the CRC multiplication-division process on the received block.

TP2-1-027: [ETS 300 144 [2] subclause 9.1.2 §1 b)]
Verify that, when the IUT implements the CRC4 decoding procedure, after the CRC multiplication-division process has been performed on the received block (with the CRC bits extracted and replaced by zeros), the IUT compares the remainder resulting from this process with the CRC bits received in the next odd frame.

TP2-1-028: [ETS 300 144 [2] subclause 9.1.2 §1 c)]
Verify that, when the IUT implements the CRC4 decoding procedure, after the CRC multiplication-division process has been performed on the received block (with the CRC bits extracted and replaced by zeros), when the IUT compares the remainder resulting from this process with the CRC bits received in the next odd frame, if the calculated remainder corresponds exactly to the CRC bits received, the IUT considers the checked block to be without error.

TP2-1-029: [ETS 300 144 [2] subclause 9.2.1 §1]
Verify that, when the IUT implements CRC4 decoding procedure, it sets the E-bit of a block J in the transmitting direction to "0" if bits C1-C4 detected in the most recently received block have been found to be without error.

8.1.1.6 TEA

TP2-1-030: [ETS 300 144 [2] subclause 6.2 §11]
Verify that, when the IUT supports 2 B-channel operation, during a 2B channel communication, when the IUT can receive and transmit signals, the IUT sets the bit 1 (TEA) of the FAS to "0" in the service channel in outgoing frame number 14 in each multiframe in the additional channel.

8.1.2 BAS

Transfer-rate command values (001)
TP2-1-031: [ETS 300 144 [2] subclause 7.1 §4,10.1.2 §12] [ETS300 143 [1] subclause 7.1.2 §2]
Verify that, when the IUT supports 2 B-channel operation, when the initial and the additional B channels have been established, when multiframe alignment and synchronisation between both B-channels have been gained, the IUT transmits channel no.2 BAS command (001) [18] in BAS position on the additional channel.

TP2-1-032: [ETS 300 144 [2] subclause 7.1 §4]
Verify that, when the IUT supports 2 B-channel operation, when the initial and the additional B channels have been established, when multiframe alignment and synchronisation between both B-channels have been gained, while the initial channel is not lost, the IUT does not transmit any channel numbering identification among BAS commands on the initial channel.

TP2-1-033: [ETS 300 144 [2] subclause 10.1.2 §12]
Verify that, if the IUT supports 2 B-channel operation, when the IUT has sent the 2B capability (100)[17] during Sequence A, when the additional channel has been established, with FAS and BAS being transmitted in both directions, the IUT accepts the Channel No. 2. command (001)[18] transmitted by the remote terminal the on the additional channel.

8.1.3 Basis sequences and procedures

8.1.3.1 Capability exchange (sequence A)

TP2-1-034: [ETS 300 144 [2] subclause 6.4 §3]
Verify that the IUT, when it supports 2 B-channel operation, when it has set the A-bit of its outgoing odd frames to "0" in the initial channel after gaining multiframe alignment, is able to respond to and complete a capability exchange sequence A on the initial channel.

TP2-1-035: [ETS 300 144 [2] subclause 10.1.6 §2] [ETS 300 143 [1] subclause 5.1.9 §4 table 2]
Verify that, during a sequence A in an initialisation procedure, when the IUT supports only 1B and 2B
transfer rates, the IUT sends a capability set that contains the transfer rate capability 2B (100)[17] as its
only transfer rate capability.

TP2-1-036: [ETS 300 144 [2] subclause 10.1.5 §5]
Verify that the IUT, when it supports G.722-48 audio mode, can send the audio capability G.722-48
(100)[4] in its capability set.

8.1.3.2   Mode switching (sequence B)

TP2-1-037: [ETS 300 144 [2] subclause 10.1.2 §1]
Verify that, during a 2B communication, when the IUT receives from the remote terminal the 64 command
(001)[0] signalling a single channel communication, it only decodes data received on the initial channel.

TP2-1-038: [ETS 300 143 [1] subclause 6.2 §1 2)] [ETS 300 144 [2] subclause 10.1.2 §2, 10.1.6 §2, 7.1]
Verify that, if the IUT supports 2B channel operation, after the completion of sequence A during which it
has sent the 2B transfer rate capability (100)[17], the IUT accepts the BAS command code 2*64 (001)[1]
transmitted by the remote terminal signalling the expansion of communication onto the additional channel.

TP2-1-039: [ETS 300 143 [1] subclause 6.2 §1 3)] [ETS 300 144 [2] subclause 10.1.2 §2, 7.1]
Verify that, if the IUT supports 2B channel operation, when the additional channel is established and
synchronised with the initial channel, the IUT sends the BAS command code 2*64 (001)[1] in order to
expand communication onto the additional channel.

TP2-1-040: [ETS 300 144 [2] subclause 10.1.2 §2]
Verify that, if the IUT supports 2 B-channel operation, when the IUT has sent the 2B capability (100)[17]
*during Sequence A and received from the remote terminal the 2*64 command (001)[1] signalling a two*
channel communication, it properly decodes the incoming data bit-streams of the initial and the additional
channels according to the other commands.

TP2-1-041: [ETS 300 143 [1] subclause 6.2 §1 1)] [ETS 300 144 [2] subclause 10.1.1.1 §9]
Verify that, when the IUT is in a framed audio mode other than G.722 m2, if the IUT is able to perform
mode switching to G.722 56kbit/s audio mode, it can send the BAS command code G.722 m2 (000)[24] in
order to change the audio mode to G.722 m2.

TP2-1-042: [ETS 300 144 [2] subclause 10.1.1.1 §9; 10.1.5 §5]
Verify that, when the IUT supports G722 at 56kbit/s, when the IUT has sent the G.722-48 capability
(100)[4] during Sequence A, it accepts the G.722, m2 command (000)[24] from the remote terminal
signalling the 7 kHz G.722 audio mode at 56 kbit/s.

TP2-1-043: [ETS 300 144 [2] subclause 10.1.1.1 §9]
Verify that, when the IUT supports G722 at 56kbit/s, when the IUT wishes to operate in the 7 kHz G.722
framed audio mode at 56 kbit/s, after it has sent the G.722, m2 command (000)[24] to the remote terminal,
its outgoing data bit-stream in the initial channel contains framed audio encoded to G.722 at 56 kbit/s.

TP2-1-044: [ETS 300 144 [2] subclause 10.1.1.1 §9; 10.1.5 §5]
Verify that, when the IUT supports G722 at 56kbit/s, when the IUT has sent the G.722-48 capability
(100)[4] during Sequence A, when it has received the G.722, m2 command (000)[24] from the remote
terminal, the IUT properly decodes the incoming data bit-stream containing framed audio encoded to
G.722 at 56 kbit/s in the initial channel.

TP2-1-045: [ETS 300 143 [1] subclause 6.2 §1 1)]
Verify that, when the IUT is in a framed audio mode other than G.722 m3, if the IUT is able to perform
mode switching to G.722 48kbit/s audio mode, it can send the BAS command code G.722 m3 (000)[25] in
order to change the audio mode to G.722 m3.

TP2-1-046: [ETS 300 144 [2] subclause 10.1.1.1 §10; 10.1.5 §5]
Verify that, when the IUT supports G722 at 48kbit/s, when the IUT has sent the G.722-48 capability
(100)[4] during Sequence A, it accepts the G.722, m3 command (000)[25] from the remote terminal
signalling the audio mode G.722 at 48 kbit/s.

TP2-1-047: [ETS 300 144 [2] subclause 10.1.1.1 §10]
Verify that, if the IUT supports the G.722 audio mode at 48kbit/s, when the IUT wishes to operate in the 7 kHz G.722 framed audio mode at 48 kbit/s, after it has sent the G.722, m3 command (000)[25] to the remote terminal, its outgoing data bit-stream in the initial channel contains framed audio encoded to G.722 at 48 kbit/s.

TP2-1-048: [ETS 300 144 [2] subclause 10.1.1.1 §10; 10.1.5 §5]
Verify that, if the IUT supports the G.722 audio mode at 48kbit/s, when the IUT has sent the G.722-48 capability (100)[4] during Sequence A, after it has received from the remote terminal the G.722, m3 command (000)[25], the IUT properly decodes the incoming data bit-stream containing framed audio encoded to G.722 at 48 kbit/s in the initial channel.

TP2-1-049: [ETS 300 144 [2] subclause 10.1.3 §2]
Verify that, if the IUT supports video and 2 B-channel operation, when the IUT has sent the command H.261 (010)[1] to the remote terminal during a 2 B-channel communication, its outgoing data bit-stream in the additional channel contains encoded video signals.

TP2-1-050: [ETS 300 144 [2] subclause 10.1.3 §2]
Verify that, if the IUT supports video and 2 B-channel operation, during a 2 B-channel communication, after the IUT has received the H.261 command (010)[1], it decodes the incoming video signals on the additional channel.

TP2-1-051: [ETS 300 144 [2] subclause 10.1.7 QCIF]
Verify that, when the IUT sends a capability set during sequence A containing QCIF capability code (101)[20] followed by one MPI value, the IUT can decode video received in the QCIF format having the corresponding Minimum Picture Interval.

TP2-1-052: [ETS 300 144 [2] subclause 10.1.3 §2; 10.1.7 CIF]
Verify that, when the IUT sends a capability set during sequence A containing CIF capability code (101)[21] followed by two MPI values, after the IUT has received the H.261 command (010)[1], the IUT decodes video received in the QCIF format having the corresponding first Minimum Picture Interval.

TP2-1-053: [ETS 300 144 [2] subclause 10.1.3 §2; 10.1.7 CIF]
Verify that, when the IUT sends a capability set during sequence A containing CIF capability code (101)[21] followed by two MPI values, after the IUT has received the H.261 command (010)[1], the IUT decodes video received in the CIF format having the corresponding second Minimum Picture Interval.

TP2-1-054: [ETS 300 143 [1] subclause 6.2 §1 1)]
Verify that, when the IUT supports mode b3, it performs a mode switching in order to obtain this mode by sending the following commands: G.728 (000)[29], 2*64 (001)[1] and H.261 (010)[1].

TP2-1-055: [ETS 300 143 [1] subclause 6.2 §1 1)]
Verify that, when the IUT supports mode b2, it performs a mode switching in order to obtain this mode by sending the following commands: G.722-m2 (000)[24] or G.722-m3 (000)[25], 2*64 (001)[1] and H.261 (010)[1].

TP2-1-056: [ETS 300 143 [1] subclause 6.2 §1 1)]
Verify that, when the IUT supports mode b1, it performs a mode switching in order to obtain this mode by sending the following commands: G.711 A-law 0F (000)[18] or G.711 µ-law 0F (000)[19], 2*64 (001)[1] and H.261 (010)[1].

TP2-1-057: [ETS 300 143 [1] subclause 6.2 §1 2)]
Verify that, if the IUT supports 2B channel operation, after 2B communication has been established, the IUT accepts the BAS command code 64 (001)[0] transmitted by the remote terminal signalling the end of communication on the additional channel.

8.1.3.3 Mode initialization procedure

TP2-1-058: [ETS 300 144 [2] subclause 10.1.2 §2, 7.1] [ETS 300 143 [1] subclause 5.2.2 §1]
Verify that, if the IUT supports 2 B-channel operation, when it is sending video, when the IUT wishes to operate in two channel mode, after multiframe alignment and synchronisation have been achieved, after it has sent the 2*64 command (001)[1] to the remote terminal, it expands its transmission mode to occupy the additional channel and all unallocated space in the initial channel.

TP2-1-059: [ETS 300 144 [2] subclause 10.1.6 §1] [ETS300 143 [1] subclause 7.1.2 §1]
Verify that the IUT, when it supports 2 B-channel operation, when it initiates the call, when it receives the transfer rate capability 1B (100)[16] in the capability set from the remote terminal, it does not initiate a second call.

TP2-1-060: [ETS300 143 [1] subclause 7.1.2 §1]
Verify that, if the IUT has 2B (100)[17] channel transfer rate capability and sends this capability to the remote terminal during mode initialisation, when the remote terminal has also sent 2B (100)[17] channel transfer rate capability to the IUT during mode initialisation, when the IUT is the calling terminal, the IUT establishes the second connection.

TP2-1-061: [ETS300 143 [1] subclause 7.1.2 §1]
Verify that, if the IUT has 2B (100)[17] transfer rate capability and sends this capability to the remote terminal during mode initialisation, when the remote terminal has also sent 2B (100)[17] transfer rate capability to the IUT during mode initialisation, when the remote terminal is the calling terminal but does not attempt to establish the second connection, the IUT does not establish the second connection.

TP2-1-062: [ETS300 143 [1] subclause 7.1.2 §1]
Verify that, if the IUT has 2B (100)[17] transfer rate capability and sends this capability to the remote terminal during mode initialisation, when the remote terminal has also sent 2B (100)[17] transfer rate capability to the IUT during mode initialisation, when the remote terminal is the calling terminal, the IUT accepts establishment of the second connection by the remote terminal.

TP2-1-063: [ETS300 143 [1] subclause 7.1.2 §3]
Verify that, if the IUT has two channel capability, when the remote terminal is the calling terminal, when the second connection has been established by the remote terminal, when multiframe alignment and synchronisation has been achieved and both terminals are transmitting A-bit = 0, when the remote terminal has numbered the additional channel using FAS and BAS channel numbering, the IUT uses the same numbering.

8.2 Valid behaviour

8.2.1 Frame and multiframe

TP2-2-001: [ETS 300 143 [1] subclause 7.1.2 §4]
Verify that the IUT can manage a delay in the additional channel multiframe numbering and set its outgoing A-bit to "0" in the additional channel considering the 2B channels as synchronised.

SP003: [ETS 300 143 [1] subclause 5.4 §1]:
Verify that the IUT accepts unoccuied bits, except those bit positions reserved for FAS and BAS filled with any combinations of bit values.

TP2-2-002D: [ETS 300 143 [1] subclause 5.4 §1]
Verify that the IUT, when it supports 2 B-channel operation, after the additional channel has been established and synchronised, before the transfer rate command for the second channel has been sent by the remote terminal, accepts unoccupied bits on the additional channel filled with "0", except those bits containing FAS and BAS.

TP2-2-003: [ETS 300 144 [2] subclause 11]
Verify that, if the IUT supports G.722 audio at 64kbit/s, when the IUT transmits audio according to G.722 at 64kbit/s unframed, it occupies the bit positions in the order given in table 17 of ETS 300 144 [2].

TP2-2-004: [ETS 300 144 [2] subclause 11]
Verify that, if the IUT supports G.722 audio at 64kbit/s, when the IUT receives audio according to G.722 at 64kbit/s unframed, it correctly decodes the audio received in the bit positions in the order given in table 17 of ETS 300 144 [2].

TP2-2-005: [ETS 300 144 [2] subclause 11]
Verify that, if the IUT supports G.722 audio at 56kbit/s, when the IUT transmits audio according to G.722 at 56kbit/s framed and the corresponding command, it occupies the bit positions in the order given in table 17 of ETS 300 144 [2].

TP2-2-006: [ETS 300 144 [2] subclause 11]
Verify that, if the IUT supports G.722 audio at 56kbit/s, when the IUT receives audio according to G.722 at 56kbit/s framed and the corresponding command, it correctly decodes the audio received in the bit positions in the order given in table 17 of ETS 300 144 [2].

TP2-2-007: [ETS 300 144 [2] subclause 11]
Verify that, if the IUT supports G.722 audio at 48kbit/s, when the IUT transmits audio according to G.722 at 48kbit/s framed and the corresponding command, it occupies the bit positions in the order given in table 17 of ETS 300 144 [2].

TP2-2-008: [ETS 300 144 [2] subclause 11]
Verify that, if the IUT supports G.722 audio at 48kbit/s, when the IUT receives audio according to G.722 at 48kbit/s framed and the corresponding command, it correctly decodes the audio received in the bit positions in the order given in table 17 of ETS 300 144 [2].

TP2-2-009:[[ETS 300 144 [2] subclause 11]
Verify that, if the IUT supports G.722 audio at 48kbit/s and 2B channel operation, when two channel communication is established, with video and G.722 audio at 48kbit/s being transmitted by the IUT, with the corresponding commands, the IUT inserts audio and video in the two channels in the bit positions and in the bit order given in table 19 of ETS 300 144 [2].

TP2-2-010: [ETS 300 144 [2] subclause 11]
Verify that, if the IUT supports G.722 audio at 48kbit/s and 2B channel operation, when two channel communication is established, with video and G.722 audio at 48kbit/s being transmitted by the remote terminal, with the corresponding commands, the IUT correctly decodes the audio and video which it extracts from the two channels in the bit positions and bit order given in table 19 of ETS 300 144 [2].

8.2.2   BAS

8.2.2.1   Audio command value (000)

TP2-2-011: [ETS 300 144 [2] subclause 10.1.1.1 §8]
Verify that, when the IUT supports G.722 at 64kbit/s, when the IUT wishes to operate in the 7 kHz audio G.722 unframed mode at 64 kbit/s, after it has sent the G.722 m1 command (000)[6], its outgoing data bitstream in the initial channel contains unframed audio encoded to G.722.

TP2-2-012: [ETS 300 144 [2] subclause 10.1.1.1 §8; 10.1.5 §4,5]
Verify that, when the IUT supports G.722, when the IUT has sent the G.722-64 capability (100)[3] or the G.722-48 capability (100)[4] during sequence A, when it has received the G.722, m1 command (000)[6] from the remote terminal signalling the 7 kHz audio mode G.722 at 64 kbit/s unframed, the IUT properly decodes the incoming data bit-stream.

TP2-2-013: [ETS 300 144 [2] subclause 10.1.6 §9]
Verify that, if the IUT is intended to interwork with a channel aggregator unit according to H.244, it sends the SM-comp capability (100)[7] in its capability set.

TP2-2-014: [ETS 300 143 [1] subclause 6.1 §3] [ETS 300 144 [2] subclause 10.1.1.1 §1] [ETS 300 144 [2] subclause 10.1.6 §9]
Verify that, if the IUT is intended to interwork with a channel aggregator unit according to H.244, when the IUT has sent the SM-comp capability (100)[7] in its capability set, when the IUT receives the command Capex (000)[1], it immediately initiates sequence A, if it is not already in sequence A.

TP2-2-015: [ETS 300 143 [1] subclause 6.1 §3]
Verify that, if the IUT is intended to interwork with a channel aggregator unit according to H.244, when the IUT has sent the SM-comp capability (100)[7] in its capability set, when the IUT receives the command Capex (000)[1] during a sequence A, it ensures that at least one complete capability set is transmitted after receiving the command Capex.

8.2.2.2   Video, loopback and other commands (010)

TP2-2-016: [ETS 300 144 [2] subclause 10.1.3 §10 & 10.2.2 §10]
Verify that, when the IUT supports 2 B-channels, during a 2 B-channel communication, after it has received the "Digital Loop Request" (LCD) command (010)[20], the IUT connects the output of the receiver demultiplexer to the input of the transmitter multiplexer on the additional channel.

8.2.2.3   C&I related to simple multipoint conferences not using MLP(111)[17] - (001)

TP2-2-017: [ETS 300 144 [2] subclause 8.2.2 §2]
Verify that, when audio and video communication is established on both initial and additional channels, when the IUT receives the BAS extension code (111)[17] followed by the escape value (001)[0], the IUT interprets this as the MCC command and not as the 1B transfer rate command, and matches its transmitted audio and video transfer rates to the received transfer rates, without reducing communication to 1B channel.

SP004: [ETS 300 144 [2] subclause 10.2.2.3 §3]
Verify that, after the IUT has received the MCC command (111)[17]-(001)[0], it makes its outgoing transfer rate equal to its incoming transfer rate.

TP2-2-018D: [ETS 300 144 [2] subclause 10.2.2.3 §3] [ETS 300 143 [1] subclause 6.2.2]
Verify that, if two B-channels are established, and the additional channel is synchronised with the initial channel, with the IUT transmitting using 2B transfer rate but with the remote terminal transmitting using 1B transfer rate, when the remote terminal sends the Multipoint Command Conference (MCC) command (111)[17]-(001)[0], the IUT reduces its outgoing transfer rate to 1B.

TP2-2-019D: [ETS 300 143 [1] subclause 6.2.2]
Verify that, when the IUT supports G.722 or G.728, when the IUT is transmitting in G.711 mode but the remote terminal is transmitting in G.722m3 or G.728, when the IUT detects the incoming BAS commands Multipoint Command Conference (MCC) (111)[17]-(001)[0] it switches the outgoing audio mode to G.722m3 or G.728, identical to the incoming rate.

TP2-2-020D: [ETS 300 143 [1] subclause 6.2.2]
Verify that, if the IUT supports an audio rate other than 56kbit/s, when the IUT has previously received the BAS command Multipoint Command Conference (MCC) (111)[17]-(001)[0] and is transmitting and receiving in Mode G.722m3 or G.728, when it receives an audio mode command to switch to a 56kbit/s rate, the IUT switches the outgoing audio rate to match the incoming rate.

TP2-2-021: [ETS 300 143 [1] subclause 6.2.2]
Verify that when the IUT is in multipoint conference, after it has received the BAS command MCC (111)[17]-(001)[0], it maintains its outgoing transmission mode identical to the incoming mode throughout the remainder of the call until receipt of cancel-MCC command (111)[17]-(001)[1].

8.2.3   Basic sequences and procedures

8.2.3.1   Mode switching (sequence B)

SP010: [ETS 300 143 [1] subclause 5.2.1 §1]
Verify that the IUT, accepts that the remote terminal expands its audio capacity into video bit positions.

TP2-2-022D: [ETS 300 143 [1] subclause 5.2.1 §1]
Verify that, when the IUT supports G722-48 and video, after the completion of the initialisation procedure for 2B channel operation, the IUT accepts the audio command G722,m3 (000)[25] then the video command H.261 (010)[1] and then the audio command A-law,0F (000)[18].

TP2-2-023: [ETS 300 143 [1] subclause 6.2 §1 1)]
Verify that, when the IUT is in audio mode G.722 56kbit/s, if the IUT is able to perform mode switching to G.722 48kbit/s audio mode, it sends the BAS command code G.722-m3 (000)[25] in order to change the audio mode from G.722 56kbit/s to G.722 48kbit/s.

TP2-2-024: [ETS 300 143 [1] subclause 6.2 §1 1)]
Verify that, when the IUT is in audio mode G.722 48kbit/s, if the IUT is able to perform mode switching to G.722 56kbit/s audio mode, it sends the BAS command code G.722-m2 (000)[24] in order to change the audio mode from G.722 48kbit/s to G.722 56kbit/s.

TP2-2-025: [ETS 300 143 [1] subclause 6.2 §1 1)]
Verify that if G.722 audio mode is supported by the IUT, when the remote terminal is transmitting in G.722 56kbit/s, the IUT accepts the BAS command code G.722 m3 (000)[25] signalling a change of the audio mode from G.722 m2 to G.722 m3.

TP2-2-026: [ETS 300 143 [1] subclause 6.2 §1 1)]
Verify that if G.722 audio mode is supported by the IUT, when the remote terminal is transmitting in G.722 48kbit/s, the IUT accepts the BAS command code G.722 m2 (000)[24] signalling a change of the audio mode from G.722 m3 to G.722 m2.

8.2.3.2 Mode initialisation procedure

TP2-2-027: [ETS300 143 [1] subclause 7.1.2 §1, ETS 300 144 [2] 10.1.6 §2]
Verify that, if the IUT has 2B (100)[17] channel transfer rate capability and sends this capability to the remote terminal during mode initialisation, when the remote terminal has sent 6B (100)[21] channel transfer rate capability to the IUT during mode initialisation, when the IUT is the calling terminal, the IUT establishes the second connection.

8.2.3.3 Mode forcing procedure

TP2-2-028: [ETS 300 143 [1] subclause 7.3.1]
Verify that, when the IUT supports G.722 audio mode, when the IUT wishes to perform mode forcing, when the current audio received mode is G.722, it starts a mode forcing procedure in order to reduce the audio mode from G.722 to G.711 µ-law by sending the command µ-law, 0F (000)[19].

TP2-2-029: [ETS 300 143 [1] subclause 7.3.1]
Verify that, when the IUT supports G.722 audio mode, when the IUT wishes to perform mode forcing, when the current audio received mode is G.722, after it starts a mode forcing procedure in order to reduce the audio mode from G.722 to G.711 µ-law by sending the command µ-law, 0F (000)[19], it sends a new capability set in which the only audio capability is G.711 µ-law (100)[2].

TP2-2-030: [ETS 300 143 [1] subclause 7.3.1]
Verify that, when the current audio transmitted mode by the IUT is G.722, on receipt from the remote terminal of the command µ-law, 0F (000)[19] and a capability set in which the only audio capability is µ-law (100)[2] capability, the IUT sends the command µ-law, 0F (000)[19].

TP2-2-031: [ETS 300 143 [1] subclause 7.3.1]
Verify that, when the current audio transmitted mode by the IUT is G.722, on receipt from the remote terminal of the command µ-law, 0F (000)[19] and a capability set in which the only audio capability is µ-law (100)[2], the IUT sends its capability set, completing sequence A.

TP2-2-032: [ETS 300 143 [1] subclause 7.3.1]
Verify that, if the IUT supports two channel communications, during a video communication, when it wishes to perform a mode forcing in order to turn video off, it sends the command Video-Off (101)[0].

TP2-2-033: [ETS 300 143 [1] subclause 7.3.1]
Verify that, if the IUT supports two channel communications, during a video communication, if a mode forcing procedure has already been started by the IUT in order to turn video off by sending the command video-off (101)[0], the IUT sends its capability set without any video capabilities.

TP2-2-034: [ETS 300 143 [1] subclause 7.3.1]
Verify that, if the IUT supports two channel communications, during a video communication, on receipt from the remote terminal of the command video-off (101)[0] and of a capability set which does not contain any video capabilities, the IUT sends the command video-off (101)[0] to switch off its video transmission.

TP2-2-035: [ETS 300 143 [1] subclause 7.3.1]
Verify that, if the IUT supports two channel communications, during a video communication, on receipt from the remote terminal of the command video-off (101)[0] and of a capability set which does not contain any video capabilities, the IUT sends its capability set.

TP2-2-036: [ETS 300 143 [1] subclause 7.3.1]
Verify that, if the IUT supports two channel communications, if CIF video format is supported by the tester, when CIF video format is being transmitted by both terminals, when the IUT wishes to perform mode forcing to QCIF mode, it starts a mode forcing procedure in order to change the video mode from CIF to QCIF by sending a new sequence A containing a reduced capability set with QCIF capability code and an MPI value but without a CIF capability code.

TP2-2-037: [ETS 300 143 [1] subclause 7.3.1]
Verify that, if the IUT supports two channel communications, if the IUT supports the CIF video format, when it is transmitting in CIF format, on receipt from the remote terminal of a reduced capability set which contains the QCIF capability (101)[20] and its accompanying MPI code as the only video capabilities, the IUT sends its capability set, completing sequence A.

TP2-2-038: [ETS 300 143 [1] 7.3.1]
Verify that, if the IUT supports the CIF video format, when it is transmitting in CIF format, on receipt from the remote terminal of a reduced capability set which contains the QCIF capability (101)[20] and its accompanying MPI code as the only video capabilities, the IUT changes its video transmission mode to QCIF.

TP2-2-039: [ETS 300 143 [1] subclause 7.3.1]
Verify that, if an MPI value of less than 4/29,97 seconds is supported by the IUT, when an MPI value of less than 4/29,97 seconds is being used by both terminals, when the IUT wishes to perform mode forcing to an MPI value of 4/29,97 seconds, it starts a mode forcing procedure in order to change the MPI value by sending a new sequence A containing 4/29,97 seconds (101)[25] as the only MPI value used by both CIF and QCIF.

SP026: [ETS 300 143 [1] subclause 7.3.1]
Verify that, if the IUT supports an MPI value of less than 4/29,97 seconds, when it is transmitting with an MPI value of less than 4/29,97 seconds, when it detects an incoming mode forcing procedure has been activated by the remote terminal in order to increase the MPI value to 4/29,97 seconds, the IUT sends its capability set and changes its video transmission mode.

TP2-2-040D: [ETS 300 143 [1] subclause 7.3.1]
Verify that, if the IUT supports an MPI value of less than 4/29,97 seconds, when it is transmitting with an MPI value of less than 4/29,97 seconds, on receipt from the remote terminal of a reduced capability set which contains the MPI value 4/29,97 seconds (101)[25] as the only MPI value for both CIF and QCIF, the IUT sends its capability set, completing sequence A.

TP2-2-041D: [ETS 300 143 [1] subclause 7.3.1]
Verify that, if the IUT supports an MPI value of less than 4/29,97 seconds, when it is transmitting with an MPI value of less than 4/29,97 seconds, on receipt from the remote terminal of a reduced capability set which contains the MPI value 4/29,97 seconds (101)[25] as the only MPI value for both CIF and QCIF, the IUT changes its transmission MPI value to 4/29,97 seconds.

8.2.3.4   Mode 0 forcing procedure

TP2-2-042: [ETS 300 143 [1] subclause 7.3.2]
Verify that, if the IUT supports two channel communication, during a 2B channel video communication, when the IUT wishes to perform a mode 0 forcing procedure in order to restrict its received mode to only audio mode G.711 A-law on 1B channel, it sends the command A-law 0F (000)[18] to reduce the current mode to the mode wanted.

TP2-2-043: [ETS 300 143 [1] subclause 7.3.2]
Verify that, if the IUT supports two channel communication, during a 2B channel video communication, when the IUT wishes to perform a mode 0 forcing procedure in order to restrict its received mode to only audio mode G.711 A-law on 1B channel, it sends the command 64 (001)[0] to reduce the current mode to the mode wanted.

TP2-2-044: [ETS 300 143 [1] subclause 7.3.2]
Verify that, if the IUT supports two channel communication, during a 2B channel video communication, when video is switched on, when the IUT wishes to perform a mode 0 forcing procedure in order to restrict its received mode to only audio mode G.711 A-law on 1B channel, it sends the command video off (010)[0] to reduce the current mode to the mode wanted.

TP2-2-045: [ETS 300 143 [1] subclause 7.3.2]
Verify that, if the IUT supports two channel communication, during a 2B channel video communication, when the IUT wishes to perform a mode 0 forcing procedure in order to restrict its received mode to only audio mode G.711 A-law on 1B channel, after it sends the commands A-law 0F (000)[18] 64 (001)[0] and video off (010)[0], it starts a new sequence A by sending the reduced capabilities which contain only the 1B transfer rate capability (100)[16] and the A-law capability (100)[1].

TP2-2-046: [ETS 300 143 [1] subclause 7.3.2]
Verify that, when the IUT supports two channel communication, during a 2B video communication, on receipt from the remote terminal of the command A-law 0F (000)[18], video off (010)[0] and 64 (001)[0] and a capability set which contains only A-law (100)[1] for audio and 1B (100)[16] for transfer rate, the IUT sends the command A-law 0F (000)[18] in order to switch its outgoing mode to the mode desired by the forcing terminal.

TP2-2-047: [ETS 300 143 [1] subclause 7.3.2]
Verify that, when the IUT supports two channel communication, during a 2B video communication, on receipt from the remote terminal of the command A-law 0F (000)[18], video off (010)[0] and 64 (001)[0] and a capability set which contains only A-law (100)[1] for audio and 1B (100)[16] for transfer rate, the IUT sends the command 64 (001)[0] in order to switch its outgoing mode to the mode desired by the forcing terminal.

TP2-2-048: [ETS 300 143 [1] subclause 7.3.2]
Verify that, when the IUT supports two channel communication, during a 2B video communication, when video is switched on, on receipt from the remote terminal of the command A-law 0F (000)[18], video off (010)[0] and 64 (001)[0] and a capability set which contains only A-law (100)[1] for audio and 1B (100)[16] for transfer rate, the IUT sends the command video off (010)[0] in order to switch its outgoing mode to the mode desired by the forcing terminal.

TP2-2-049: [ETS 300 143 [1] subclause 7.3.2]
Verify that, when the IUT supports two channel communication, during a 2B video communication, on receipt from the remote terminal of the commands A-law 0F (000)[18], video off (010)[0] and 64 (001)[0] and a capability set which contains only A-law (100)[1] for audio and 1B (100)[16] for transfer rate, the IUT sends its capability set, thus completing sequence A.

8.2.4   Encryption Control Signal (ECS)

TP2-2-050 :(300 144 [2] subclause 10.1.3 §8)
Verify that, when the IUT supports encryption and 2 B-channel operation, during a 2 B-channel communication, after it has sent the Encryp-on command (010)[6], it encrypts to all the bits of its outgoing additional channel except the FAS and BAS positions in the Service Channel (SC).

8.3   Invalid behaviour

8.3.1   Frame and multiframe

8.3.1.1   Bits N1-N5

SP027 [ETS 300 144 [2] subclause 6.2 §9]
Verify that, when the IUT supports 2 B-channel operation, when the IUT receives three wrong numbered multiframes, the IUT does not consider numbering for multiframes valid any more.

TP2-3-001D: [ETS 300 144 [2] subclause 6.2 §5]
Verify that, when the IUT supports 2 B-channel operation, during a 2B connection, after it has gained multiframe alignment and synchronisation between both B-channels, if it receives the same number (15 for example) in bits N1 to N4 on the initial channel for more than three multiframes, and bit N5 is set to "1", it sets the A-bit in the additional channel to "1".

TP2-3-002D: [ETS 300 144 [2] subclause 6.2 §5]
Verify that, when the IUT supports 2 B-channel operation, during a 2B connection, after it has gained multiframe alignment and synchronisation between both B-channels, if it receives the same number (15 for example) in bits N1 to N4 on the additional channel in more than three multiframes, and bit N5 is set to "1", it sets the A-bit in the additional channel to "1".

8.3.1.2   Alignment and synchronisation

TP2-3-003: [ETS 300 143 [1] subclause 8.2.2 §1-1)]
Verify that, when the IUT supports 2 B-channel operation, after completion of mode initialisation for both channels, on receipt of three consecutive incoming A bits equal to 1 in the additional channel, the IUT clears the channel if incoming A bit does not go to zero before the timer T2 (10 seconds) expires.

TP2-3-004: [ETS 300 143 [1] subclause 8.4.3 §2]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, if there is no switch beforehand to an unframed mode or to a mode not using the additional channel, if the FAW is no longer detected in the additional channel but is still detected in the initial channel, the IUT discards unintelligible information.

TP2-3-005: [ETS 300 143 [1] subclause 8.4.3 §2]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, if there is no switch beforehand to an unframed mode or to a mode not using the additional channel, if the FAW is no longer detected in the additional channel but is still detected in the initial channel, the IUT discards information on other channels that have become meaningless by the previous discard of unintelligible information.

TP2-3-006: [ETS 300 143 [1] subclause 8.4.3 §2]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, if there is no switch beforehand to an unframed mode or to a mode not using the additional channel, if the FAW is no longer detected in the additional channel but is still detected in the initial channel, the IUT starts timer T3 and searches for framing in the receive direction for a period of 1 second.

TP2-3-007: [ETS 300 143 [1] subclause 8.4.3 §2]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, if there is no switch beforehand to an unframed mode or to a mode not using the additional channel, if the FAW is no longer detected in the additional channel but is still detected in the initial channel, the IUT does not change the outgoing mode of transmission during a period of 1 second (T3).

SP033: [ETS 300 143 [1] subclause 8.4.3 §2]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, if there is no switch beforehand to an unframed mode or to a mode not using the additional channel, if the FAW is no longer detected in the additional channel but is still detected in the initial channel, if the IUT does not recover framing before T3 (1 second) expires, the IUT implements an R2 recovery procedure.

TP2-3-008D: [ETS 300 143 [1] subclause 8.4.3 §2]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, if there is no switch beforehand to an unframed mode or to a mode not using the additional channel, if the FAW is no longer detected in the additional channel but is still detected in the initial channel, if the IUT does not recover framing before T3 (1 second) expires, when the IUT is the calling terminal, it drops the faulty connection.

SP017: [ETS 300 144 [2] subclause 6.3 §2 & §4]
Verify that, after the IUT has gained frame alignment at least one time, when it detects three consecutive erroneous FAW the IUT considers frame alignment as lost.

TP2-3-009D: [ETS 300 144 [2] subclause 6.3 §2 & §4]
Verify that, when the IUT supports 2 B-channel operation, after the connection of the additional channel, after it has gained multiframe alignment and synchronisation between both B-channels, when it detects three times on the additional channel an even frame with the first correct seven bits of the FAW in bits 2 to 8 of the SC followed by an odd frame that contains bit 2 of the SC set to "0" (the eighth bit of the FAW), the IUT sets the A-bit of its following outgoing odd frames to "1" on the additional channel.

TP2-3-010D: [ETS 300 144 [2] subclause 6.3 §2 & §4]
Verify that, when the IUT supports 2 B-channel operation, after the connection of the additional channel, after it has gained multiframe alignment and synchronisation between both B-channels, when it receives three times on the additional channel, from the remote terminal, an even frame with bits 2 to 8 of the SC set to "0000000" followed by an odd frame that contains bit 2 of the SC set to "1" (the eighth bit of the FAW), the IUT sets the A-bit of its following outgoing odd frames to "1" in the additional channel.

TP2-3-011D: [ETS 300 144 [2] subclause 6.3 §2 & §4]
Verify that, when the IUT supports 2 B-channel operation, after the connection of the additional channel, after it has gained multiframe alignment and synchronisation between both B-channels, when it receives twice on the additional channel, from the remote terminal, an even frame with bits 2 to 8 of the SC set to "0000000" followed by an odd frame which contains bit 2 of the SC set to "1" (the eighth bit of the FAW) and then receives an even frame with bits 2 to 8 of the SC set to "0011011" followed by an odd frame which contains bit 2 of the SC set to "1" (the eighth bit of the FAW), the IUT still sets the A-bit of its following outgoing odd frames to "0" in the additional channel.

SP036: [ETS 300 144 [2] subclause 6.4 §4]
Verify that the IUT, if it supports 2 B-channel operation, during a 2 B-channel communication, after it has gained multiframe alignment, when it receives three erroneous consecutive multiframe alignment signals, sets the A-bit of its outgoing odd frames to "1".

TP2-3-012D: [ETS 300 144 [2] subclause 6.4 §4]
Verify that the IUT, when it supports 2 B-channel operation, during a 2 B-channel communication, after it has set the A-bit of its outgoing odd frames to "0" in the initial channel, when it receives on the initial channel three consecutive multiframes with the multiframe alignment signal bits set to "000000", sets the A-bit of its following outgoing odd frames to "1" on both channels.

TP2-3-013D: [ETS 300 144 [2] subclause 6.4 §4, 7.1 §3]
Verify that the IUT, when it supports 2 B-channel operation, during a 2 B-channel communication, after it has set the A-bit of its outgoing odd frames to "0" in the additional channel, when it receives on the additional channel three consecutive multiframes with the multiframe alignment signal bits set to "000000", sets the A-bit of its following outgoing odd frames to "1" in the additional channel.

TP2-3-014: [ETS 300 144 [2] subclause 6.4 §4]
Verify that, after the IUT has gained and then lost multiframe alignment, when it receives the multiframe alignment signal "001011" on the initial channel, the IUT resets the A-bit of its following outgoing odd frames to "0" in the initial channel.

SP029: [ETS 300 143 [1] subclause 8.4.2 §2-b)]
Verify that, when the IUT supports 2 B-channel operation and is the calling terminal, during a 2 B-channel communication, if multiframe alignment has been lost without losing frame alignment and information signal is carried by more than one channel, when in this case the IUT supports recovery action R2, the IUT implements R2 recovery procedure.

TP2-3-015D: [ETS 300 143 [1] subclause 8.4.2 §2-b)]
Verify that, when the IUT supports 2 B-channel operation and video and the IUT is the calling terminal, when a 2B connection has been established and video is switched on, if multiframe alignment has been lost on the initial channel without losing frame alignment, when in this case the IUT supports recovery action R2, the IUT drops the faulty connection.

SP030: [ETS 300 143 [1] subclause 8.4.2 §2-b)]
Verify that, when the IUT supports 2 B-channel operation and is the calling terminal, during a 2 B-channel communication, if multiframe alignment has been lost without losing frame alignment and the information signal is carried by more than one channel, when in this case the IUT supports recovery action R3, the IUT implements R3 recovery procedure.

TP2-3-016D: [ETS 300 143 [1] subclause 8.1 §4, 8.4.2b)]
Verify that, when the IUT supports 2 B-channel operation and video and the IUT is the calling terminal, when a 2B connection has been established and video is switched on, if multiframe alignment has been lost on the initial channel without losing frame alignment, when in this case the IUT supports recovery action R3, the IUT disconnects the video decoder.

TP2-3-017D: [ETS 300 143 [1] subclause 8.1 §4,8.4.2b)]
Verify that, when the IUT supports 2 B-channel operation and video and the IUT is the calling terminal, when a 2B connection has been established and video is switched on, if multiframe alignment has been lost on the initial channel without losing frame alignment, when in this case the IUT supports recovery action R3, after the IUT has disconnected the video decoder, the IUT connects it again on recovered of the multiframe alignment and synchronisation.

SP031: [ETS 300 143 [1] subclause 8.4.2 §2-b)]
Verify that, when the IUT supports 2 B-channel operation and is the called terminal, during a 2 B-channel communication, if multiframe alignment has been lost without losing frame alignment and information signal is carried by more than one channel, the IUT implements R3 recovery procedure.

TP2-3-018D: [ETS 300 143 [1] subclause 8.4.2 §2-b)]
Verify that, when the IUT supports 2 B-channel operation and video and the IUT is the called terminal, when a 2B connection has been established and video is switched on, if multiframe alignment has been lost on the initial channel without losing frame alignment, the IUT disconnects the video decoder.

TP2-3-019D: [ETS 300 143 [1] subclause 8.4.2 §2-b)]
Verify that, when the IUT supports 2 B-channel operation and video and the IUT is the called terminal, when a 2B connection has been established and video is switched on, if multiframe alignment has been lost on the initial channel without losing frame alignment, after the IUT has disconnected the video decoder, the IUT connects it again on recovered of the multiframe alignment and synchronisation.

TP2-3-020: [ETS 300 143 [1] subclause 8.4.4 §2]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, if there is loss of multiframe alignment without loss of frame alignment in the additional channel, the IUT discards unintelligible information.

TP2-3-021: [ETS 300 143 [1] subclause 8.4.4 §2]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, if there is loss of multiframe alignment without loss of frame alignment in the additional channel, the IUT discards information on other channels that have become meaningless by the previous discarding of unintelligible information.

TP2-3-022: [ETS 300 143 [1] subclause 8.4.4 §2]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, if there is loss of multiframe alignment without loss of frame alignment in the additional channel, the IUT starts timer T3 and searches for multiframe alignment in the receive direction during a period of 1 second.

TP2-3-023: [ETS 300 143 [1] subclause 8.4.4 §2]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, if there is loss of multiframe alignment without loss of frame alignment in the additional channel, the IUT does not change the outgoing mode of transmission during a period of 1 second.

TP2-3-024: [ETS 300 143 [1] subclause 8.4.4 §2]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, if there is loss of multiframe alignment without loss of frame alignment in the additional channel, if the IUT recovers multiframe alignment before T3 (1 second) expires, the IUT resumes the operation in a normal way.

TP2-3-025: [ETS 300 144 [2] 7.1 §3]
Verify that, when the IUT supports 2 B-channel operation, when the initial and the additional B-channels have been established, when the IUT has acquired multiframe alignment and synchronisation on both channels, when the remote terminal then transmits frame but not multiframe structure on the additional channel, the IUT transmits A-bit set to "0" in the initial channel and A-bit set to "1" in the additional channel.

TP2-3-026: [ETS 300 144 [2] subclause 6.4 §4]
Verify that, if the IUT supports 2B channel operation, when the IUT has gained multiframe alignment and synchronisation between channels, but then loses multiframe alignment in the additional channel, when it has regained multiframe alignment and synchronisation, the IUT resets the A-bit of its following outgoing odd frames in the additional channel to "0".

TP2-3-027: [ETS 300 143 [1] subclause 8.4.4 §2]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, if there is loss of multiframe alignment without loss of frame alignment in the additional channel, if the IUT does not recover multiframe alignment before T3 (1 second) expires, the IUT implements an R2 recovery procedure.

SP036: [ETS 300 144 [2] subclause 6.4 §4]
Verify that the IUT, if it supports 2 B-channel operation, during a 2 B-channel communication, after it has gained multiframe alignment, when it receives three erroneous consecutive multiframe alignment signals, sets the A-bit of its outgoing odd frames to "1".

TP2-3-028D: [ETS 300 144 [2] subclause 6.4 §4]
Verify that the IUT, when it supports 2 B-channel operation, during a 2 B-channel communication, after it has set the A-bit of its outgoing odd frames to "0" on the initial channel, when it receives in the initial channel two consecutive multiframes with the multiframe alignment signal bits set to "000000" and then a multiframe with the multiframe alignment signal bits set to "001011", the IUT maintains the A-bit of its following outgoing odd frames to "0" on the initial channel.

TP2-3-029D: [ETS 300 144 [2] subclause 6.4 §4]
Verify that the IUT, when it supports 2 B-channel operation, during a 2 B-channel communication, after it has set the A-bit of its outgoing odd frames to "0" on the additional channel, when it receives in the additional channel two consecutive multiframes with the multiframe alignment signal bits set to "000000" and then a multiframe with the multiframe alignment signal bits set to "001011", the IUT maintains the A-bit of its following outgoing odd frames to "0" on the additional channel.

8.3.1.3   Bits L1-L3

TP2-3-030: [ETS 300 144 [2] subclause 6.2 §9]
Verify that, when it supports 2 B-channel operation, when it receives in the initial channel three multiframes with no consistent channel numbering, the IUT does not consider the number of the channel specified in FAS as valid anymore.

TP2-3-031: [ETS 300 144 [2] subclause 6.2 §9]
Verify that, when it supports 2 B-channel operation, when it receives in the additional channel three multiframes with no consistent channel numbering, the IUT does not consider the number of the channel specified in FAS as valid anymore.

8.3.1.4   E-bit, C1-C4

TP2-3-032: [ETS 300 144 [2] subclause 9.2.1 §1]
Verify that, if the IUT implements CRC4 decoding procedure, when the CRC bits C1-C4 detected in the most recently received block have been found to be in error (at least one bit in error) in the initial channel, it sets the E-bit of a block J in the transmitting direction to "1".

TP2-3-033: [ETS 300 144 [2] subclause 7.1 §3]
Verify that, when the IUT supports 2 B-channel operation and E-bit operation, when the initial and the additional B channels have been established, when multiframe alignment and synchronisation between both B-channels have been gained, when the remote terminal transmits an incorrect CRC4 code on the additional channel, the IUT transmits the E bit set to "1" in the next sub-multiframe transmitted on the additional channel.

TP2-3-034: [ETS 300 144 [2] subclause 7.1 §3]
Verify that, when the IUT supports 2 B-channel operation and E-bit operation, when the initial and the additional B channels have been established, when multiframe alignment and synchronisation between both B-channels have been gained, when the remote terminal transmits an incorrect CRC4 code on the additional channel but transmits a correct CRC4 code on the initial channel, the IUT maintains the E-bit set to "0" in the next sub-multiframe transmitted on the initial channel.

TP2-3-035: [ETS 300 144 [2] subclause 7.1 §3]
Verify that, when the IUT supports 2 B-channel and E-bit operation, when the initial and the additional B channels have been established, when multiframe alignment and synchronisation between both B-channels have been gained, when the remote terminal transmits an incorrect CRC4 code on the initial channel but transmits a correct CRC4 code on the additional channel, the IUT maintains the E-bit set to "0" in the next sub-multiframe transmitted on the additional channel.

TP2-3-036: [ETS 300 144 [2] subclause 9.2.2 §2]
Verify that, when the IUT provides incorrect frame alignment monitoring in the receiving side in the initial channel, when it counts 89 blocks or more with CRC errors, it reinitiates a search for frame alignment.

TP2-3-037: [ETS 300 144 [2] subclause 9.2.2 §2]
Verify that, when the IUT provides incorrect frame alignment monitoring in the receiving side in the additional channel, when it counts 89 blocks or more with CRC errors, it reinitiates a search for frame alignment.

8.3.1.5 TEA

TP2-3-038: [ETS 300 143 [1] subclause 8.6 §2)]
Verify that, when the IUT supports 2 B-channel operation, on receipt of a TEA = 1, the IUT does not perform any mode switch until TEA returns to 0.

TP2-3-039: [ETS 300 144 [2] subclause 6.2 §10]
Verify that, when the IUT supports 2 B-channel operation, the IUT accepts that bit 1 of the FAS is set to "1" (TEA) in the incoming frame number 14 of each multiframe in the initial channel.

TP2-3-040: [ETS 300 144 [2] subclause 6.2 §10]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, the IUT accepts that the bit 1 of the FAS is set to "1" (TEA) in incoming frame number 14 of each multiframe in the additional channel.

TP2-3-041: *[ETS 300 144 [2] subclause 6.2 §10]*
Verify that, when the IUT supports 2 B-channel operation and implements the terminal Equipment Alarm, during a 2B channel communication, when the IUT has an internal equipment fault such that it cannot receive and act on the incoming signal or cannot transmit, the IUT sets bit 1 of the FAS to "1" in the transmitted frame number 14 of each multiframe in the initial channel.

TP2-3-042: [ETS 300 144 [2] subclause 6.2 §10]
Verify that, when the IUT supports 2 B-channel operation and implements the terminal Equipment Alarm, during a 2B channel communication, when the IUT has an internal equipment fault such that it cannot transmit user information in the form previously transmitted or cannot receive user information, the IUT sets bit 1 of the FAS to "1" in the transmitted frame number 14 of each multiframe in the additional channel.

8.3.2 Basic sequences and Procedures

8.3.2.1 Capability exchange (sequence A)

TP2-3-043: [ETS 300 143 [1] subclause 6.1.3 §2] :
Verify that, when the IUT initiates sequence A, when the IUT has 2B channel capability, when the remote terminal sends frame but not multiframe structure on the initial channel, and when timer T1 of 10 seconds, started when the IUT first transmitted its capability set, has expired, the sequence A fails with outcome A-II and the IUT switches its transmission and reception modes to unframed mode OU.

8.3.2.2 Mode initialisation procedure

TP2-3-044: [ETS300 143 [1] subclause 7.1.2 §1]
Verify that, if the IUT has two channel capability, when the IUT is the calling terminal, when the IUT has established the second connection, when timer T2 was started for 10 seconds when FAS and BAS were first transmitted by the IUT on the additional channel, on expiry of timer T2 without receiving A-bit = 0 on the additional channel, the IUT initiates a R2 fault recovery procedure, by dropping the additional connection and re-establishing it.

8.3.3   Loss of connection

TP2-3-045: [ETS 300 143 [1] subclause 8.1 §6-1), 8.5.2 §2-a]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, if the only additional channel connection has been lost, when in this case the IUT uses an R5 recovery procedure, the IUT sends audio in current mode or in mode OF.

TP2-3-046: [ETS 300 143 [1] subclause 8.1 §6-1), 8.5.2 §2-a]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, if the only additional channel connection has been lost, when in this case the IUT uses an R5 recovery procedure, when the IUT sends audio in current mode or in mode OF, it sends the transfer rate command 64 (001)[0] before any other command.

TP2-3-047: [ETS 300 143 [1] subclause 8.1 §6-2), 8.5.2 §2-a]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, if the only additional channel connection has been lost, when in this case the IUT uses an R5 recovery procedure, after it has sent the transfer rate command 64 (001)[0] and none or any other relevant commands, the IUT starts a sequence A including the same transfer rate capabilities as before the channel loss.

TP2-3-048: [ETS 300 143 [1] subclause 8.5.4 §1) & 8.1 §5]
Verify that, when the IUT supports 2 B-channel operation, during a 2 b-channel communication, if the initial channel has been lost, when in this case the IUT implements an R4 recovery procedure, the IUT renumbers the additional channel.

TP2-3-049: [ETS 300 143 [1] subclause 8.5.4 §1) & 8.1 §5]
Verify that, when the IUT supports 2 B-channel operation, during a 2 b-channel communication, if the initial channel has been lost, when in this case the IUT implements an R4 recovery procedure, when the IUT has renumbered the additional channel, it expands the communication on to the additional channels when incoming A-bit is set to "0".

TP2-3-050: [ETS 300 143 [1] subclause 8.5.4 §1) & 8.1 §5]
Verify that, when the IUT supports 2 B-channel operation, during a 2 b-channel communication, if the initial channel has been lost, when in this case the IUT implements an R4 recovery procedure, after the IUT has renumbered the additional channel and expanded the communication on to the additional channel when incoming A-bit was set to "0", after it has reinstated FAS and BAS to make the new channel number known to the remote terminal, it repeats the command Loss-i.c. (001)[17] on the new initial channel whenever the other BAS commands are repeated.

TP2-3-051: [ETS 300 143 [1] subclause 8.5.4 §1) & 8.1 §5]
Verify that, when the IUT supports 2 B-channel operation, during a 2 b-channel communication initiated by the IUT, if the initial channel has been lost, when in this case the IUT implements an R4 recovery procedure, after the IUT has renumbered the additional channel and expanded the communication on to the additional channel when incoming A-bit was set to "0", after it has reinstated FAS and BAS to make the new channel number known to the remote terminal ,after it has repeated the command Loss-i.c. (001)[17] on the new initial channel whenever the other BAS commands are repeated, the IUT clears the lost channel.

TP2-3-052: [ETS 300 143 [1] subclause 8.5.4 §1) & 8.1 §5]
Verify that, when the IUT supports 2 B-channel operation, during a 2 b-channel communication, if the initial channel has been lost, when in this case the IUT implements an R4 recovery procedure, after the IUT has renumbered the additional channel and expanded the communication on to the additional channel when incoming A-bit was set to "0", it reinstates FAS and BAS to make the new channel number known to the remote terminal.

9   Combined test purposes for single channel communication

> NOTE: For reasons of clarity the test purposes refer to CCITT and ITU-T Recommendations by their series letter and number only, thus:
>
> - G.711 = CCITT Recommendation G.711 [5];
> - G.722 = CCITT Recommendation G.722 [6];
> - G.725 = CCITT Recommendation G.725 [7];
> - G.728 = CCITT Recommendation G.728 [8];
> - H.261 = ITU-T Recommendation H.261 [9];
> - T.120 = ITU-T Recommendation T.120;
> - V.14 = ITU-T Recommendation V.14.

9.1   Capability

9.1.1   Frame and multiframe

CTP1-1-001: TP1-1-001, TP1-1-002
TP1-1-001: [ETS 300 144 [2] subclause 6.1 §2]
Verify that, the IUT sets bits 8 of bytes 2 to 8 at every first-third-fifth.... frame of 80 bytes to "0011011", i.e. bits 2 to 8 of the service channel in each even frame, in the initial channel.
TP1-1-002: [ETS 300 144 [2] subclause 6.1 §2]
Verify that, the IUT sets bit 8 of the second byte of every second-fourth-sixth... 80 byte frame to "1", i.e. bit 2 of the service channel in each odd frame, in the initial channel.

TP1-1-003: [ETS 300 144 [2] subclause 6.2 §1 §2]
Verify that the IUT sets bit 8 of byte 1 of frames 1,3,5,7,9,11 of each group of 16 frames (numbered 0-15) where each frame is 80 bytes long, to "001011", i.e. bit 1 of the service channel in frames 1,3,5,7,9,11 in each multiframe of 16 frames, in the initial channel.

TP1-1-004: [ETS 300 144 [2] subclause 6.2 §3]
Verify that the IUT sets bit 8 of byte 1 of frame 15 of each group of 16 frames (numbered 0-15) where each frame is 80 bytes long, to "0", i.e. bit 1 in the service channel of frame 15 in each multiframe of 16 frames (numbered 0-15), in the initial channel.

TP1-1-005: [ETS 300 144 [2] subclause 6.5.1)]
Verify that, at the initiation of a call, when the IUT is searching for frame alignment, if the network provides byte timing, the IUT uses this as its receive byte timing.

TP1-1-006: [ETS 300 144 [2] subclause 5.1 §3]
Verify that, when the network provides byte timing, the IUT uses it in the transmission side.

TP1-1-007: [ETS 300 144 [2] 5.1 §4]
Verify that the IUT searches for FAS in all received bit positions.

TP1-1-008: [ETS 300 144 [2] subclause 5.1 §4, 6.5 §1]
Verify that, when there are conflicts between received FAS position and the received network byte timing, the IUT takes its received byte timing from the FAS position.

CTP1-1-009: TP1-1-009, TP1-1-011D, TP1-1-010
TP1-1-009: [ETS 300 144 [2] subclause 6.3 §1 & §4]
Verify that, when the IUT detects in three successive frames the presence of the first correct seven bits of the FAW, followed by the eighth bit of the FAW, followed by, once again, the first correct seven bits of the FAW, the IUT considers that frame alignment has been gained.
TP1-1-010: [ETS 300 144 [2] subclause 6.1 §3]
Verify that the IUT, if it only needs to search for frame alignment, when it acquires frame alignment, sets to "0" bit 8 of the third byte at every second-fourth-sixth... 80 byte frame, i.e. bit 3 of the service channel in each odd frame.
SP001: [ETS 300 144 [2] subclause 6.4 §1]
Verify that the IUT, when it has no use for multiframe alignment on the incoming signal, transmits outgoing A=0 when frame alignment is recovered.
TP1-1-011D: [ETS 300 144 [2] subclause 6.4 §1]
Verify that, if the IUT supports 1 B-channel communication only, and does not search for multiframe alignment in the incoming signal, when the IUT receives multiframe structure from the remote terminal, when the IUT detects on the initial channel bits 2 to 8 of the SC of a frame (even frame) set to "0011011", followed by a frame (odd frame) which contains bit 2 of the SC set to "1" (the eighth bit of the FAW), followed by a frame (even frame) with, for a second time bits 2 to 8 of its SC set to "0011011", the IUT sets the A-bit of its following outgoing odd frames to "0" in the initial channel.

TP1-1-012: [ETS 300 144 [2] subclause 6.5.1 §1]
Verify that, as soon as the IUT has gained frame alignment for the first time, the IUT initialises the receive byte timing at the new bit position.

TP1-1-013: [ETS 300 144 [2] subclause 6.5.1 §1]
Verify that, after the IUT has gained frame alignment for the first time and does not loose frame alignment during the next 16 frames, the IUT validates the receive byte timing.

TP1-1-014: [ETS 300 144 [2] subclause 6.1 §3]
Verify that the IUT, when it receives frame and multiframe structure, sets to "0" bit 8 of the third byte at every second-fourth-sixth... 80 byte frame, i.e. bit 3 of the service channel in each odd frame.

CTP1-1-015: TP1-1-0017, TP1-1-016, TP1-1-017.
TP1-1-015: [ETS 300 144 [2] subclause 6.2 §4]
Verify that, if the IUT sends multiframe numbering, it sends bits N1, N2, N3, N4 in the bit position 1 of FAS of frames 0-2-4-6 of each 16 frame multiframe, with the LSB transmitted in frame 0 and the MSB in frame 6, where N1, N2, N3, N4 is a modulo 16 counter to number multiframes in the initial channel.
TP1-1-016: [ETS 300 144 [2] subclause 6.2 §4]
Verify that, if the IUT sends multiframe numbering, it uses bits N1, N2, N3, N4 as a modulo 16 counter to number multiframes in descending order, with the LSB transmitted in frame 0 and the MSB in frame 6, in the initial channel.
TP1-1-017: [ETS 300 144 [2] subclause 6.2 §7]
Verify that, if the IUT sends multiframe numbering, it sends "1" in bit 1 of FAS of frame 8 (N5) of each numbered multiframe in the initial channel for at least three consecutive multiframes.

TP1-1-018: [ETS 300 144 [2] subclause 6.2 §5,6]
Verify that, if the IUT supports 1B operation only, when the IUT acquires frame alignment, when the remote terminal also sends multiframe structure to the IUT with bits N1 to N4 operating as a multiframe counter in descending order, with bit N5 set to 1, the IUT retains frame alignment and maintains the outgoing A-bit at 0.

TP1-1-019: [ETS 300 144 [2] subclause 6.2 §7 & table 4c]
Verify that the IUT, if it sends unnumbered multiframes, sends "0" in bit 1 of FAS of frame 0-2-4-6-8 (N1-N5) of each unnumbered multiframe.

TP1-1-020: [ETS 300 144 [2] subclause 6.2 §5,6]
Verify that, if the IUT supports 1B operation only, when the IUT acquires frame alignment, when the remote terminal also sends multiframe structure to the IUT with bits N1 to N5 set to 0, i.e. bit 1 of the FAS in frames 0-2-4-6-8 in each 16 frame multiframe set to 0, the IUT retains frame alignment and maintains the outgoing A-bit at 0.

CTP1-1-021: TP1-1-021, TP1-1-022
TP1-1-021: [ETS 300 144 [2] subclauses 6.1 §4, 9.2.1 §1]
Verify that, when the IUT does not use the Cyclic Redundancy Check 4-bit (CRC4) procedure, the IUT sets to "0" bit 8 of byte 4 at every second-fourth-sixth... 80 byte frame, i.e. bit 4 of the service channel in each odd frame, in the initial channel.
TP1-1-022: [ETS 300 144 [2] subclause 6.1 §4]
Verify that, when the IUT does not use the Cyclic Redundancy Check 4-bit (CRC4) procedure, the IUT sets to "1111" the bit 8 of bytes 5,6,7,8 at every second-fourth-sixth... 80 byte frame, i.e. bits 5,6,7,8 of the service channel in each odd frame, in the initial channel.

CTP1-1-023: TP1-1-023, TP1-1-024, TP1-1-025, TP1-1-026, TP1-1-027, TP1-1-028, TP1-1-029, TP1-1-030
TP1-1-023: [ETS 300 144 [2] subclause 9.1 §1]
Verify that, when the IUT implements the CRC4 procedure, it computes the CRC4 bits C1, C2, C3 and C4 in initial B channel for each block or submultiframe made of two frames: one even frame followed by one odd frame.
TP1-1-024: [ETS 300 144 [2] subclause 9.1.1 §1]
Verify that, when the IUT implements the CRC4 procedure, it computes the C1 to C4 word located in a block J (generic block) as the remainder after multiplication by x^4 and then division (modulo 2) by the generator polynomial $x^4 + x + 1$, of the polynomial representation of block (J-1).
TP1-1-025: [ETS 300 144 [2] subclause 9.1.1 §2]
Verify that, when the IUT implements the CRC4 procedure, it takes the first bit in the block as the Most Significant Bit (MSB) to compute the CRC4 bits.
TP1-1-026: [ETS 300 144 [2] subclause 9.1.1 §2]
Verify that, when the IUT implements the CRC4 procedure, it defines the C1 bit as the MSB of the remainder.
TP1-1-027: [ETS 300 144 [2] subclause 9.1.1 §2]
Verify that, when the IUT implements the CRC4 procedure, it defines the C4 bit as the LSB of the remainder.
TP1-1-028: [ETS 300 144 [2] subclause 9.1.2 §1 a)]
Verify that, when the IUT implements the CRC4 encoding procedure, it initialises the CRC bits C1-C4 in the odd frame to "0".
TP1-1-029: [ETS 300 144 [2] subclause 9.1.2 §1 b)]
Verify that, when the IUT implements the CRC4 encoding procedure, after it has initialised C1-C4 bits to 0, it performs the CRC multiplication-division process on the block.
TP1-1-030: [ETS 300 144 [2] subclause 9.1.2 §1 c)]
Verify that, when the IUT implements the CRC4 encoding procedure, after it has performed the CRC multiplication-division process on the block, it stores the remainder resulting from this process in the CRC bit positions in the next odd frame.

CTP1-1-031: TP1-1-031, TP1-1-032, TP1-1-033, TP1-1-034
TP1-1-031: [ETS 300 144 [2] subclause 9.1.2 §1 a)]
Verify that, when the IUT implements the CRC4 decoding procedure, after it has extracted and stored the CRC bits in the received odd frame in the initial channel and replaced them by zeroes, it performs the CRC multiplication-division process on the received block.
TP1-1-032: [ETS 300 144 [2] subclause 9.1.2 §1 b)]
Verify that, when the IUT implements the CRC4 decoding procedure, after the CRC multiplication-division process has been performed on the received block (with the CRC bits extracted and replaced by zeros), the IUT compares the remainder resulting from this process with the CRC bits received in the next odd frame.
TP1-1-033: [ETS 300 144 [2] subclause 9.1.2 §1 c)]
Verify that, when the IUT implements the CRC4 decoding procedure, after the CRC multiplication-division process has been performed on the received block (with the CRC bits extracted and replaced by zeros), when the IUT compares the remainder resulting from this process with the CRC bits received in the next odd frame, if the calculated remainder corresponds exactly to the CRC bits received, the IUT considers the checked block to be without error.
TP1-1-034: [ETS 300 144 [2] subclause 9.2.1 §1]
Verify that, when the IUT implements CRC4 decoding procedure, it sets the E-bit of a block J in the transmitting direction to "0" if bits C1-C4 detected in the most recently received block have been found to be without error.

SP003: [ETS 300 143 [1] subclause 5.4 §1]
Verify that the IUT accepts unoccupied bits, except those bit positions reserved for FAS and BAS filled with any combinations of bit values.

TP1-1-035D: [ETS 300 143 [1] subclause 5.4 §1]
Verify that the IUT, after the completion of the initialisation procedure and after receiving the command A-law,0F (000)[18], accepts bytes 17 to 80 of the service channel filled with "0".

TP1-1-036D: [ETS 300 143 [1] subclause 5.4 §1]
Verify that the IUT, after the completion of the initialisation procedure and after receiving the command A-law,0F (000)[18], accepts bytes 17 to 80 of the service channel filled with "1".

TP1-1-037D: [ETS 300 143 [1] subclause 5.4 §1]
Verify that the IUT, after the completion of the initialisation procedure and after receiving the command A-law,0F (000)[18], accepts bytes 17 to 80 of the service channel filled with "01".

TP1-1-038: [ETS 300 144 [2] subclause 6.2 §11]
Verify that, when the IUT supports 2 B-channel operation, when the IUT can receive and transmit signals, the IUT sets the bit 1 (TEA) of the FAS to "0" in the service channel in outgoing frame number 14 in each multiframe in the initial channel.

9.1.2 BAS

TP1-1-039: [ETS 300 144 [2] subclause 8.1 §1]
Verify that bits 9 to 16 of the eighth sub channel (bit 8 of bytes 9 to 16) in each frame sent by the IUT contain BAS codes.

CTP1-1-040: TP1-1-040, TP1-1-041, TP1-1-042, TP1-1-043
TP1-1-040: [ETS 300 144 [2] subclause 8.1 §2]
Verify that the 8 bit error correcting code sent by the IUT is identical to the result which would be obtained by performing the polynomial calculation described in ETS 300 144 [2] subclause 8.1
TP1-1-041: [ETS 300 144 [2] subclause 8.1 §3]
Verify that the 8 bit BAS code sent by the IUT is sent in the first or even frame of each sub-multiframe.
TP1-1-042: [ETS 300 144 [2] subclause 8.1 §1,3]
Verify that for each BAS code sent by the IUT, an 8 bit error correcting code is sent in the second or odd frame of the sub-multiframe containing the BAS code to which it refers.
TP1-1-043: [ETS 300 144 [2] subclause 8.1 §3]
Verify that each BAS code and its corresponding error correcting code is sent by the IUT in the bit order given in Table 6 of ETS 300 144 [2] subclause 8.1.

9.1.3 Basic sequences and procedures

9.1.3.1 Capability exchange (sequence A)/initialisation

9.1.3.1.1 Audio capabilities (100)

TP1-1-044: [ETS 300 143 [1] subclause 7.1.1 a)]
Verify that, when the IUT is the called terminal, when the IUT has no indication as to the encoding law used, as soon as the physical connection of the initial B-channel is indicated by D-channel signalling, the IUT commences the initialisation procedure by transmitting in framed mode 0F A-law.

TP1-1-045: [ETS 300 143 [1] subclause 7.1.1 a)]
Verify that, when the IUT is the calling terminal, when the IUT has no indication as to the encoding law used, as soon as the physical connection of the initial B-channel is indicated by D-channel signalling, the IUT commences the initialisation procedure by transmitting in framed mode 0F A-law.

TP1-1-048: [ETS 300 143 [1] subclause 7.1.1 b)]
Verify that, when the IUT has no indication as to the encoding law used, as soon as the physical connection of the initial B-channel is indicated by D-channel signalling, when the IUT commences the initialisation procedure by transmitting in framed mode 0F A-law, the IUT's receiver is in audio decoding mode G.711 A-law.

CTP1-1-058: TP1-1-046, TP1-1-047, TP1-1-049, TP1-1-050, TP1-1-051, TP1-1-052, TP1-1-054, TP1-1-055, TP1-1-056, TP1-1-057, TP1-1-058, TP1-1-059.

TP1-1-046: [ETS 300 143 [1] subclause 7.1.1 a)]
Verify that, when the IUT has no indication as to the encoding law used, as soon as the physical connection of the initial B-channel is indicated by D-channel signalling, if the IUT transmits any commands, the commands describe the current transmission mode as mode 0F A-law.

TP1-1-047: [ETS 300 143 [1] subclause 7.1.1 b)]
Verify that, as soon as the physical connection of the initial B-channel is indicated by D-channel signalling, when the IUT commences the initialisation procedure by transmitting in framed mode 0F, and when the remote terminal transmits in the same framed mode, the IUT is in frame search and gains frame alignment, transmitting A-bit =0.

TP1-1-049: [ETS 300 144 [2] subclause 10.1.9 §5]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the escape value Cap-mark (111)[24] as the first capability code in the set.

TP1-1-050: [ETS 300 144 [2] subclause 10.1.9 §5]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains only the escape value Cap-mark (111)[24] followed by the audio capability A-law (100)[1].

TP1-1-051: [ETS 300 143 [1] subclause 7.1.1 c)]
Verify that, as soon as the physical connection of the initial B-channel is indicated by D-channel signalling, when the IUT commences the initialisation procedure by transmitting in framed mode 0F, the IUT commences sequence A by transmitting its capability set.

TP1-1-052: [ETS 300 143 [1] subclause 5.1.9 §3]
Verify that the IUT, during a sequence A, transmits a capability set containing only capability BAS code values.

TP1-1-054: [ETS 300 143 [1] subclause 5.1.9 §8, 6.1.4 §2)]
Verify that the IUT, during a sequence A, always transmits the same capability set until the completion of this sequence A.

TP1-1-055: [ETS 300 143 [1] subclause 5.1.9 §8]
Verify that the IUT, during a sequence A, never transmits Neutral (100)[0] capability.

TP1-1-056: [ETS 300 143 [1] subclause 6.1.1 §3]
Verify that, during a sequence A at the start of a call, when the IUT is repeatedly sending its current capability set, and has met the following conditions: it receives frames from the remote terminal, and the incoming A-bit = 0, and it receives the capability marker (111)[24] followed by at least one of the capability codes (100) [1 to 31] or (101) [0 to 31], the IUT sends at least one further complete capability set followed by a capability marker followed by one of the commands (000) [0 to 31] or (001) [0 to 31] or (010) [0 to 31] or (011) [0 to 31].

TP1-1-057: [ETS 300 143 [1] subclause 7.1.1 d) §3]
Verify that, when the IUT commences mode initialisation, when frame alignment has been gained by the IUT and the incoming A-bit = 0, the IUT does not retransmit its own current capability set to the remote terminal for longer than 10 seconds.

TP1-1-058: [ETS 300 143 [1] subclause 6.1.3] [ETS 300 144 [2] subclause 6.4 §3]
Verify that, when the IUT initiates sequence A, and when the following conditions are met: a) outgoing transmission is framed; b) frame and multiframe alignment has been achieved; c) the IUT's complete capability set followed by a capability marker (111)[24] has been sent while A-bit received by the IUT is set to 0; d) a complete and valid capability set followed by capability marker (111)[24] has been received by the IUT from the remote terminal; e) the restricted capability is not included in capability set from the remote terminal; f) the 10 second timer T1 started by the IUT when it sent the first capability set has not expired, then sequence A is successfully completed with outcome A-I and normal transmission of commands describing the current transmission mode is taking place in both transmission directions.

TP1-1-059: [ETS 300 143 [1] subclause 7.1.1 d) §1]
Verify that, when the IUT commences the mode initialisation procedure and commences sequence A, and when sequence A has terminated successfully with outcome A-I, the IUT commences sequence B by sending a BAS command according to the capability set received from the remote terminal.

CTP1-1-061: TP1-1-053, TP1-1-060, TP1-1-061.

TP1-1-053: [ETS 300 143 [1] subclause 5.1.9 §7]
Verify that, during a sequence A, the IUT sends a capability set that contains a capability marker (111)[24] followed by at least one capability value.

TP1-1-060: [ETS 300 143 [1] subclause 5.1.1§1] [ETS 300 144 [2] subclause 10.1.5 §2,3]
Verify that the IUT, during sequence A, includes one of the capabilities G711A-law (100)[1] or G711µ-law (100)[2] in its transmitted capability set.

TP1-1-061: [ETS 300 143 [1] subclause 5.1.1 §2] [ETS 300 144 [2] subclause 10.1.5 §2,3]
Verify that, when the IUT does not wish to force the remote terminal to transmit in a particular encoding law, the IUT sends both G711A-law (100)[1] and G711μ-law (100)[2] capabilities during sequence A.

CTP1-1-063: TP1-1-062, TP1-1-063.
TP1-1-062: [ETS 300 144 [2] subclause 10.1.5 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts a capability set from the remote terminal that contains the audio capability A-law (100)[1].
TP1-1-063: [ETS 300 144 [2] subclause 10.1.5 §3]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts a capability set from the remote terminal that contains the audio capability μ-law (100)[2].

TP1-1-064: [ETS 300 144 [2] subclause 10.1.5 §4]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts a capability set from the remote terminal that contains the audio capability G.722-64 (100)[3].

TP1-1-065: [ETS 300 144 [2] subclause 10.1.5 §5]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts a capability set from the remote terminal that contains the audio capability G.722-48 (100)[4].

CTP1-1-066: TP1-1-066, TP1-1-067.
TP1-1-066: [ETS 300 144 [2] subclause 10.1.5 §6]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts a capability set from the remote terminal that contains the audio capability G.728 (100)[5].
TP1-1-067: [ETS 300 144 [2] subclause 10.1.5 §6]
Verify that, during a sequence A in an initialisation procedure, when the IUT supports G.728 audio mode, the IUT sends a capability set that contains the audio capability G.728 (100)[5].

9.1.3.1.2.   Transfer-rate capabilities (100)

TP1-1-068: [ETS 300 144 [2] subclause 10.1.6 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the transfer rate capability 1B (100)[16].

TP1-1-069: [ETS 300 144 [2] subclause 10.1.6 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the transfer rate capability 2B (100)[17].

9.1.3.1.3.   Video capabilities (100)

CTP1-1-070: TP1-1-070, TP1-1-082.
TP1-1-070: [ETS 300 144 [2] subclause 10.1.7 QCIF & MPI 1/29,97]
Verify that, during a sequence A, the IUT accepts a capability set containing the QCIF capability code (101)[20], followed by the MPI capability code 1/29,97 (101)[22].
TP1-1-082: [ETS 300 143 [1] subclause 5.1.2§2] [ETS 300 144 [2] subclause 10.1.7 QCIF]
Verify that IUT, when it supports only QCIF, during a sequence A in an initialisation procedure, sends its QCIF capability (101)[20] following by an MPI code that is one of the following values: 1/29,97 2/29,97 3/29,97 4/29,97 seconds, as declared in the PICS.

TP1-1-071: [ETS 300 144 [2] subclause 10.1.7 QCIF & MPI 2/29,97]
Verify that, during a sequence A, the IUT accepts a capability set containing the QCIF capability code (101)[20], followed by the MPI capability code 2/29,97 (101)[23].

TP1-1-072: [ETS 300 144 [2] subclause 10.1.7 QCIF & MPI 3/29,97]
Verify that, during a sequence A, the IUT accepts a capability set containing the QCIF capability code (101)[20], followed by the MPI capability code 3/29,97 (101)[24].

TP1-1-073: [ETS 300 144 [2] subclause 10.1.7 QCIF & MPI 4/29,97]
Verify that, during a sequence A, the IUT accepts a capability set containing the QCIF capability code (101)[20], followed by the MPI capability code 4/29,97 (101)[25].

CTP1-1-074: TP1-1-074, TP1-1-083.
TP1-1-074: [ETS 300 144 [2] subclause 10.1.7 CIF & MPI 1/29,97]
Verify that, during a sequence A, the IUT accepts a capability set containing the CIF capability code (101)[21], followed by two of the four MPI values, the first MPI value being 1/29,97 (101)[22].
TP1-1-083: [ETS 300 143 [1] subclause 5.1.2 §2] [ETS 300 144 [2] subclause 10.1.7 CIF]
Verify that, if the IUT supports CIF, during a sequence A in an initialisation procedure, it sends its CIF (101)[21] capability followed by two MPI values from the following list: 1/29,97 2/29,97 3/29,97 4/29,97 seconds, the first corresponding to the QCIF mode, the second corresponding to the CIF mode as declared in the PICS.

TP1-1-075: [ETS 300 144 [2] subclause10.1.7 CIF & MPI 2/29,97]
Verify that, during a sequence A, the IUT accepts a capability set containing the CIF capability code (101)[21], followed by two of the four MPI values, the first MPI value being 2/29,97 (101)[23].

TP1-1-076: [ETS 300 144 [2] subclause10.1.7 CIF & MPI 3/29,97]
Verify that, during a sequence A, the IUT accepts a capability set containing the CIF capability code (101)[21], followed by two of the four MPI values, the first MPI value being 3/29,97 (101)[24].

TP1-1-077: [ETS 300 144 [2] subclause10.1.7 CIF & MPI 4/29,97]
Verify that, during a sequence A, the IUT accepts a capability set containing the CIF capability code (101)[21], followed by two of the four MPI values, the first MPI value being 4/29,97 (101)[25].

TP1-1-078: [ETS 300 144 [2] subclause10.1.7 CIF & MPI 1/29,97]
Verify that, during a sequence A, the IUT accepts a capability set containing the CIF capability code (101)[21], followed by two of the four MPI values, the second MPI value being 1/29,97 (101)[22].

TP1-1-079: [ETS 300 144 [2] subclause10.1.7 CIF & MPI 2/29,97]
Verify that, during a sequence A, the IUT accepts a capability set containing the CIF capability code (101)[21], followed by two of the four MPI values, the second MPI value being 2/29,97 (101)[23].

TP1-1-080: [ETS 300 144 [2] subclause10.1.7 CIF & MPI 3/29,97]
Verify that, during a sequence A, the IUT accepts a capability set containing the CIF capability code (101)[21], followed by two of the four MPI values, the second MPI value being 3/29,97 (101)[24].

TP1-1-081: [ETS 300 144 [2] subclause10.1.7 CIF & MPI 4/29,97]
Verify that, during a sequence A, the IUT accepts a capability set containing the CIF capability code (101)[21], followed by two of the four MPI values, the second MPI value being 4/29,97 (101)[25].

9.1.3.2. Mode switching (sequence B)

TP1-1-084: [ETS 300 144 [2] subclause10.1.2 §1]
Verify that, when the IUT operates in single channel communication, after it has sent the 64 command (001)[0] to the remote terminal, its outgoing transmission mode uses the initial channel only.

TP1-1-085: [ETS 300 144 [2] subclause10.1.2 §1]
Verify that the IUT, after the completion of Sequence A, accepts the 64 command (001)[0] transmitted by the remote terminal signalling a single channel communication.

TP1-1-086: [ETS 300 144 [2] subclause10.1.3 §1]
Verify that the IUT, after the completion of Sequence A, accepts the video-off command.

TP1-1-087: [ETS 300 143 [1] subclause 5.1.1§2 table 1]
Verify that, after an initialisation procedure during which the remote terminal sent no audio capabilities, the IUT sends G711 A-law,0F or µ-law,0F commands ((000)[18] or (000)[19]).

CTP1-1-088: TP1-1-088, TP1-1-089.
TP1-1-088: [ETS 300 144 [2] subclause10.1.1.1 §5]
Verify that, when the IUT wishes to operate in the framed audio mode G.711 A-law at 56 kbit/s, after the completion of a sequence A, it sends the A-law, 0F command (000)[18] to the remote terminal.
TP1-1-089: [ETS 300 144 [2] subclause10.1.1.1 §5; 10.1.5 §2]
Verify that the IUT, after the completion of a sequence A, accepts the command A-law, 0F (000)[18] from the remote terminal signalling the framed audio mode G.711 A-law at 56 kbit/s.

TP1-1-090: [ETS 300 143 [1] subclause 5.1.1§2 table 1]
Verify that, after an initialisation procedure during which the remote terminal sent only G711 A-law capability (100)[1], the IUT sends only G711 A-law commands ((000)[18] or (000)[4]).

TP1-1-091: [ETS 300 143 [1] subclause 5.1.1§2 table 1]
Verify that, after an initialisation procedure during which the remote terminal sent only G711 μ-law capability (100)[2], the IUT sends only G711 μ-law commands ((000)[5] or (000)[19]).

TP1-1-092: [ETS 300 144 [2] subclause 8.2.1 §1] [ETS 300 143 [1] subclause 5.2.4 §1, 6.2 §5]
Verify that, when the IUT receives a BAS command code and its corresponding error correcting code in one sub-multiframe, the IUT implements the indicated mode from the beginning of the subsequent sub-multiframe.

TP1-1-093: [ETS 300 144 [2] subclause 10.1.1.1 §5]
Verify that, when the IUT has sent the A-law, 0F command (000)[18] to the remote terminal, its outgoing data bit-stream in the initial channel contains framed audio encoded to G.711 A-law at 56 kbit/s.

TP1-1-094: [ETS 300 144 [2] subclause 10.1.1.1 §5; 10.1.5 §2]
Verify that, when the IUT has received the command A-law, 0F (000)[18] from the remote terminal signalling the framed audio mode G.711 A-law at 56 kbit/s, the IUT properly decodes the incoming data bit-stream in the initial channel.

SP002: [ETS 300 143 [1] subclause 5.2.4 §2]
Verify that the IUT, when it does not receive a specific BAS command, assumes that the default value is in force at this time.

TP1-1-095D: [ETS 300 143 [1] subclause 5.2.4 §2 :
Verify that the IUT, during an initialisation procedure, decodes A-law audio data without receiving the command A-law,0F (000)[18] beforehand.

CTP1-1-096: TP1-1-096, TP1-1-097.
TP1-1-096: [ETS 300 143 [1] subclause 6.2 §1 1)] [ETS 300 144 [2] subclause 10.1.1.1 §7]
Verify that the IUT can send the BAS command code G.711 μ-law (000)[19] in order to change the audio mode to G.711 μ-law 0F.
TP1-1-097: [ETS 300 143 [1] subclause 6.2 §1 1)] [ETS 300 144 [2] subclause 10.1.1.1 §7; 10.1.5 §3]
Verify that the IUT accepts the BAS command code G.711 μ-law 0F (000)[19] signalling a change of the audio mode to G.711 μ-law 0F.

TP1-1-098: [ETS 300 144 [2] subclause 10.1.1.1 §7; 10.1.5 §3]
Verify that, when the IUT supports the audio mode G.711 μ-law, after it has sent the μ-law, 0F command (000)[19], the IUT's outgoing data bit-stream in the initial channel contains audio frames encoded to G.711 μ-law at 56 kbit/s.

TP1-1-099: [ETS 300 144 [2] subclause 10.1.1.1 §7; 10.1.5 §3]
Verify that, when the IUT supports G.711 μ-law, when the IUT has received the μ-law, 0F command (000)[19] from the remote terminal, signalling the framed audio mode G.711 μ-law at 56 kbit/s, the IUT properly decodes the incoming data bit-stream.

CTP1-1-100 :TP1-1-100, TP1-1-101.
TP1-1-100: [ETS 300 144 [2] subclause 10.1.1.1 §10]
Verify that, if the IUT supports the G.728 audio mode, when the IUT wishes to operate in the G.728 framed audio mode at 16 kbit/s, it sends the G.728 command (000)[29] to the remote terminal.
TP1-1-101: [ETS 300 144 [2] subclauses 10.1.1.1 §10; 10.1.5 §6]
Verify that, if the IUT supports the G.728 audio mode, when the IUT has sent the G.728 capability (100)[29] during Sequence A, it accepts the G.728 command (000)[29] from the remote terminal signalling an audio mode of G.728 at 16 kbit/s.

TP1-1-102: [ETS 300 144 [2] subclause 10.1.1.1 §10]
Verify that, if the IUT supports the G.728 audio mode, when the IUT wishes to operate in the G.728 framed audio mode at 16 kbit/s, after it has sent the G.728 command (000)[29] to the remote terminal, its outgoing data bit-stream in the initial channel contains framed audio encoded to G.728 at 16 kbit/s.

TP1-1-103: [ETS 300 144 [2] subclause 10.1.1.1 §10; 10.1.5 §6]
Verify that, if the IUT supports the G.728 audio mode, when the IUT has sent the G.728 capability
(100)[29] during Sequence A, after the IUT has received from the remote terminal the G.728 command
(000)[29], the IUT properly decodes the incoming data bit-stream containing framed audio encoded to
G.728 at 16 kbit/s in the initial channel.

CTP1-1-104: TP1-1-104, TP1-1-107
TP1-1-104: [ETS 300 144 [2] subclause 10.1.3 §2]
Verify that, if the IUT supports video during a 1B communication, when the IUT wishes to transmit video, it
sends the H.261 command (010)[1] to the remote terminal.
TP1-1-107: [ETS 300 144 [2] subclause 10.1.3 §2]
Verify that, if the IUT supports video, when the IUT has sent the CIF (101)[20] or QCIF (101)[21]
capabilities and their relative MPI values (101)[22]-[24] during Sequence A, it accepts the H.261 command
(010)[1] transmitted by the remote terminal.

TP1-1-105: [ETS 300 144 [2] subclause 10.1.3 §2]
Verify that, if the IUT supports video during a 1B communication, when the IUT has sent the command
H.261 (010)[1] to the remote terminal, its outgoing data bit-stream in the initial channel contains encoded
video signals.

TP1-1-106: [ETS 300 143 [1] subclause 5.2.2 §1]
Verify that, when the IUT supports video on 1 B-channel, after sending the video-on command H.261
(010)[1], the outgoing video signal occupies all of the capacity in the initial channel that is not specifically
allocated to other signals by other commands.

TP1-1-108: [ETS 300 144 [2] subclause 10.1.3 §2; 10.1.7 QCIF]
Verify that, if the IUT supports video during a 1 B-channel communication, when the IUT sends a
capability set during sequence A containing QCIF capability code (101)[21] followed by one MPI value,
after the IUT has received the H.261 command (010)[1], the IUT decodes video received in the QCIF
format having the corresponding Minimum Picture Interval.

TP1-1-109: [ETS 300 143 [1] subclause 5.1.8 §3]
Verify that the IUT, when it supports QCIF, after sending QCIF (101)[20] capability followed by 3/29,97
seconds (101)[24] or a lower MPI value, during a sequence A, accepts a picture encoded with a 4/29,97
seconds MPI value.

TP1-1-110: [ETS 300 144 [2] subclause 10.1.3 §2; 10.1.7 CIF] [ETS 300 143 [1] subclause 5.1.8 §3]
Verify that, if the IUT supports video during a 1 B-channel communication, when the IUT sends a
capability set during sequence A containing CIF capability code (101)[21] followed by two MPI values,
after the IUT has received the H.261 command (010)[1], the IUT decodes video received in the QCIF
format having the corresponding first Minimum Picture Interval.

TP1-1-111: [ETS 300 144 [2] subclause 10.1.3 §2; 10.1.7 CIF]
Verify that, if the IUT supports video during a 1 B-channel communication, when the IUT sends a
capability set during sequence A containing CIF capability code (101)[21] followed by two MPI values,
after the IUT has received the H.261 command (010)[1], the IUT decodes video received in the CIF format
having the corresponding second Minimum Picture Interval.

CTP1-1-112: TP1-1-112, TP1-1-113.
TP1-1-112: [ETS 300 143 [1] subclause 5.2.2 §3]
Verify that the IUT, when it supports video and has sent the CIF or QCIF capabilities in its capability set,
accepts the video command H.261 (010)[1] even if the available capacity for video is zero or if the IUT
cannot decode video at a low bit rate.
TP1-1-113: [ETS 300 143 [1] subclause 5.3 §1]
Verify that the IUT, when there is no other demand for use of the BAS position, cycles through all the
currently valid BAS commands.

9.1.3.3. Mode initialization procedure

TP1-1-114: [ETS 300 143 [1] subclause 5.1.1]
Verify that, when the IUT is the called terminal, when the IUT has an indication that the encoding law used is µ-law, as soon as the physical connection of the initial B-channel is indicated by D-channel signalling, the IUT commences the initialisation procedure by transmitting in framed mode 0F µ-law.

TP1-1-115: [ETS 300 143 [1] subclause 5.1.1]
Verify that, when the IUT is the calling terminal, when the IUT has an indication that the encoding law used is µ-law, as soon as the physical connection of the initial B-channel is indicated by D-channel signalling, the IUT commences the initialisation procedure by transmitting in framed mode 0F µ-law.

TP1-1-116: [ETS 300 143 [1] subclause 5.1.1]
Verify that, when the IUT has an indication that the encoding law used is µ-law, as soon as the physical connection of the initial B-channel is indicated by D-channel signalling, if the IUT transmits any commands, the commands describe the current transmission mode as mode 0F µ-law.

TP1-1-117: [ETS 300 143 [1] subclause 7.1.1 b)]
Verify that, when the IUT has an indication that the encoding law used is µ-law, as soon as the physical connection of the initial B-channel is indicated by D-channel signalling, when the IUT commences the initialisation procedure by transmitting in framed mode 0F µ-law, the IUT's receiver is in audio decoding mode G.711 µ-law.

9.2 Valid behaviour

9.2.1 Frame and multiframe

TP1-2-001: [ETS 300 144 [2] subclause 11]
Verify that, when the IUT transmits audio according to G.711 at 64kbit/s unframed, it occupies the bit positions in the order given in table 17 of ETS 300 144 [2].

TP1-2-002: [ETS 300 144 [2] subclause 11]
Verify that, when the IUT receives audio according to G.711 at 64kbit/s unframed, it correctly decodes the audio received in the bit positions in the order given in table 17 of ETS 300 144 [2].

TP1-2-003: [ETS 300 144 [2] subclause 11]
Verify that, if the IUT supports G.728 audio, when the IUT transmits audio according to G.728 at 16kbit/s,and the corresponding command, it inserts audio into sub-channels 1 and 2, with each code word inserted in the order given in table 18 of ETS 300 144 [2].

TP1-2-004: [ETS 300 144 [2] subclause 11]
Verify that, if the IUT supports G.728 audio, when the IUT receives audio according to G.728 at 16kbit/s in sub-channels 1 and 2 of each frame and the corresponding command, it correctly decodes the audio in the bit positions in the order given in table 18 of ETS 300 144 [2].

9.2.2 BAS

TP1-2-005: [ETS 300 144 [2] subclause 8.2.2 §2]
Verify that, when the IUT sends a BAS extension code (111)[15-23], the IUT follows this code with an extension BAS code.

9.2.2.1 Transfer-rate capabilities (100)

TP1-2-006: [ETS 300 144 [2] subclause 10.1.6 §3]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the transfer rate capability 3B (100)[18].

TP1-2-007: [ETS 300 144 [2] subclause 10.1.6 §3]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the transfer rate capability 4B (100)[19].

TP1-2-008: [ETS 300 144 [2] subclause 10.1.6 §3]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the transfer rate capability 5B (100)[20].

TP1-2-009: [ETS 300 144 [2] subclause 10.1.6 §4]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the transfer rate capability 6B (100)[21].

TP1-2-010: [ETS 300 144 [2] subclause 10.1.6 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the transfer rate capability H0 (100)[24].

TP1-2-011: [ETS 300 144 [2] subclause 10.1.6 §5]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the transfer rate capability 2H0 (100)[25].

TP1-2-012: [ETS 300 144 [2] subclause 10.1.6 §6]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the transfer rate capability 3H0 (100)[26].

TP1-2-013: [ETS 300 144 [2] subclause 10.1.6 §6]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the transfer rate capability 4H0 (100)[27].

TP1-2-014: [ETS 300 144 [2] subclause 10.1.6 §7]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the transfer rate capability 5H0 (100)[28].

TP1-2-015: [ETS 300 144 [2] subclause 10.1.6 §8]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the transfer rate capability H11 (100)[30].

TP1-2-016: [ETS 300 144 [2] subclause 10.1.6 §8]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the transfer rate capability H12 (100)[31].

TP1-2-017: [ETS 300 144 [2] subclause 10.1.6 §10]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the capability 6B-H0-comp (100)[23].

TP1-2-018: [ETS 300 144 [2] subclause 10.1.6 §9]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the transfer rate capability 128 (100)[8].

TP1-2-019: [ETS 300 144 [2] subclause 10.1.6 §9]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the transfer rate capability 192 (100)[9].

TP1-2-020: [ETS 300 144 [2] subclause 10.1.6 §9]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the transfer rate capability 256 (100)[10].

TP1-2-021: [ETS 300 144 [2] subclause 10.1.6 §9]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the transfer rate capability 320 (100)[11].

TP1-2-022: [ETS 300 144 [2] subclause 10.1.6 §10]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the transfer rate capability 512 (100)[12].

TP1-2-023: [ETS 300 144 [2] subclause 10.1.6 §10]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the transfer rate capability 768 (100)[13].

TP1-2-024: [ETS 300 144 [2] subclause 10.1.6 §10]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the transfer rate capability 1 152 (100)[15].

TP1-2-025: [ETS 300 144 [2] subclause 10.1.6 §10]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the transfer rate capability 1 472 (100)[29].

TP1-2-026: [ETS 300 144 [2] subclause 10.1.6 §8]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the capability Null (100)[14].

TP1-2-027: [ETS 300 144 [2] subclause 10.1.6 §9]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the capability SM-comp (100)[7].

9.2.2.2 Video and MBE capabilities (101)

TP1-2-028: [ETS 300 144 [2] subclause 10.1.7 V-imp(R)]
Verify that, during sequence A, the IUT accepts a capability set from the remote terminal which contains the capability code V-imp(R) (101)[26].

TP1-2-029: [ETS 300 144 [2] subclause 10.1.7 Video-ISO]
Verify that, during sequence A, the IUT accepts a capability set from the remote terminal which contains the capability Video-ISO (101)[27].

TP1-2-030: [ETS 300 144 [2] subclause 10.1.7 MBE-cap]
Verify that, during sequence A, the IUT accepts a capability set from the remote terminal which includes the capability MBE-cap (101)[31].

TP1-2-031: [ETS 300 144 [2] subclause 10.1.7 MBE-cap]
Verify that, if the IUT supports reception of MBE type BAS messages, during mode initialisation the IUT includes in its transmitted capability set the capability code MBE-cap (101)[31].

TP1-2-032: [ETS 300 144 [2] subclause 10.1.7 Esc-CF(R)]
Verify that, during sequence A, the IUT accepts a capability set containing the capability code Esc-CF(R) (101)[29].

9.2.2.3 LSD/MLP capabilities (101)

TP1-2-033: [ETS 300 144 [2] subclause 10.1.8 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the capability LSD-300 (101)[1].

TP1-2-034: [ETS 300 144 [2] subclause 10.1.8 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the capability LSD-1200 (101)[2].

TP1-2-035: [ETS 300 144 [2] subclause 10.1.8 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the capability LSD-4800 (101)[3].

TP1-2-036: [ETS 300 144 [2] subclause 10.1.8 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the capability LSD-6400 (101)[4].

TP1-2-037: [ETS 300 144 [2] subclause 10.1.8 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the capability LSD-8000 (101)[5].

TP1-2-038: [ETS 300 144 [2] subclause 10.1.8 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the capability LSD-9600 (101)[6].

TP1-2-039: [ETS 300 144 [2] subclause 10.1.8 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the capability LSD-14400 (101)[7].

TP1-2-040: [ETS 300 144 [2] subclause 10.1.8 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the capability LSD-16k (101)[8].

TP1-2-041: [ETS 300 144 [2] subclause 10.1.8 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the capability LSD-24k (101)[9].

TP1-2-042: [ETS 300 144 [2] subclause 10.1.8 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the capability LSD-32k (101)[10].

TP1-2-043: [ETS 300 144 [2] subclause 10.1.8 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the capability LSD-40k (101)[11].

TP1-2-044: [ETS 300 144 [2] subclause 10.1.8 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the capability LSD-48k (101)[12].

TP1-2-045: [ETS 300 144 [2] subclause 10.1.8 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the capability LSD-56k (101)[13].

TP1-2-046: [ETS 300 144 [2] subclause 10.1.8 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the capability LSD-62,4k (101)[14].

TP1-2-047: [ETS 300 144 [2] subclause 10.1.8 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the capability LSD-64k (101)[15].

TP1-2-048: [ETS 300 144 [2] subclause 10.1.8 §3]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the capability Var-LSD (101)[0].

TP1-2-049: [ETS 300 144 [2] subclause 10.1.8 §4]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the MLP capability MLP-4k (101)[16].

TP1-2-050: [ETS 300 144 [2] subclause 10.1.8 §5]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the capability MLP-6,4 (101)[17].

TP1-2-051: [ETS 300 144 [2] subclause 10.1.8 §8]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a
capability set that contains the capability Var-MLP (101)[18].

TP1-2-052: [ETS 300 144 [2] subclause 10.1.8 §6]
Verify that, during a sequence A in the initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the capability MLP_Set1 (101)[19].

TP1-2-053: [ETS 300 144 [2] subclause 10.1.8 §7]
Verify that, during a sequence A in the initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the capability MLP_Set2 (101)[28].

9.2.2.4 Escape table values (111)

CTP1-2-054: TP1-2-054, TP1-2-055
TP1-2-054: [ETS 300 144 [2] subclause 10.1.9 §6]
Verify that the IUT, when it supports MBE messages, when it sends the MBE-cap (101)[31] in its capability set, after the completion of the initialisation procedure, accepts the escape value Start-MBE (111)[25] followed by an MBE message, as declared in the PIXIT.
TP1-2-055: [ETS 300 144 [2] subclause 10.1.7 MBE-cap]
Verify that, when the IUT transmits a capability set during sequence A containing the capability code MBE-cap (101)[31], the IUT accepts a supported MBE message from the remote terminal.

TP1-2-056: [ETS 300 144 [2] subclause 10.1.9 §7]
Verify that, when the IUT supports MBE messages and when it supports non-CCITT capabilities, after the completion of the initialisation procedure during which it has sent the MBE-cap capability (101)[31], during a sequence A, the IUT accepts from the remote terminal a capability set that contains the escape value NS-cap (111)[30] followed by a non-CCITT capabilities message, as declared in the PIXIT.

9.2.2.5 Aggregate Capabilities (111)[15]- (100)

(ETS 300 144 [2] subclauses 8.2.1 §3; 8.2.2 §2 and table 12b) applies to all of the following tests.
TP1-2-057: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 7x64 aggregation capability (111)[15]-(100)[7], when it is not the first capability in a capability set.

TP1-2-058: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 8x64 aggregation capability (111)[15]-(100)[8], when it is not the first capability in a capability set.

TP1-2-059: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 9x64 aggregation capability (111)[15]-(100)[9], when it is not the first capability in a capability set.

TP1-2-060: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 10x64 aggregation capability (111)[15]-(100)[10], when it is not the first capability in a capability set.

TP1-2-061: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 11x64 aggregation capability (111)[15]-(100)[11], when it is not the first capability in a capability set.

TP1-2-062: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 12x64 aggregation capability (111)[15]-(100)[12], when it is not the first capability in a capability set.

TP1-2-063: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 13x64 aggregation capability (111)[15]-(100)[13], when it is not the first capability in a capability set.

TP1-2-064: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 14x64 aggregation capability (111)[15]-(100)[14], when it is not the first capability in a capability set.

TP1-2-065: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 15x64 aggregation capability (111)[15]-(100)[15], when it is not the first capability in a capability set.

TP1-2-066: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 16x64 aggregation capability (111)[15]-(100)[16], when it is not the first capability in a capability set.

TP1-2-067: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 17x64 aggregation capability (111)[15]-(100)[17], when it is not the first capability in a capability set.

TP1-2-068: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 18x64 aggregation capability (111)[15]-(100)[18], when it is not the first capability in a capability set.

TP1-2-069: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 19x64 aggregation capability (111)[15]-(100)[19], when it is not the first capability in a capability set.

TP1-2-070: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 20x64 aggregation capability (111)[15]-(100)[20], when it is not the first capability in a capability set.

TP1-2-071: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 21x64 aggregation capability (111)[15]-(100)[21], when it is not the first capability in a capability set.

TP1-2-072: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 22x64 aggregation capability (111)[15]-(100)[22], when it is not the first capability in a capability set.

TP1-2-073: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 23x64 aggregation capability (111)[15]-(100)[23], when it is not the first capability in a capability set.

TP1-2-074: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 24x64 aggregation capability (111)[15]-(100)[24], when it is not the first capability in a capability set.

9.2.2.6   Aggregate Capabilities (111)[15]- (101)

(ETS 300 144 [2] subclauses 8.2.1 §3; 8.2.2 §2 and table 12b) applies to all of the following tests.
TP1-2-075: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 7*64 aggregation capability (111)[15]-(101)[7], when it is not the first capability in a capability set.

TP1-2-076: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 9*64 aggregation capability (111)[15]-(101)[9], when it is not the first capability in a capability set.

TP1-2-077: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 10*64 aggregation capability (111)[15]-(101)[10], when it is not the first capability in a capability set.

TP1-2-078: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 11*64 aggregation capability (111)[15]-(101)[11], when it is not the first capability in a capability set.

TP1-2-079: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 13*64 aggregation capability (111)[15]-(101)[13], when it is not the first capability in a capability set.

TP1-2-080: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 14*64 aggregation capability (111)[15]-(101)[14], when it is not the first capability in a capability set.

TP1-2-081: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 15*64 aggregation capability (111)[15]-(101)[15], when it is not the first capability in a capability set.

TP1-2-082: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 16*64 aggregation capability (111)[15]-(101)[16], when it is not the first capability in a capability set.

TP1-2-083: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 17*64 aggregation capability (111)[15]-(101)[17], when it is not the first capability in a capability set.

TP1-2-084: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 19*64 aggregation capability (111)[15]-(101)[19], when it is not the first capability in a capability set.

TP1-2-085: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 20*64 aggregation capability (111)[15]-(101)[20], when it is not the first capability in a capability set.

TP1-2-086: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 21*64 aggregation capability (111)[15]-(101)[21], when it is not the first capability in a capability set.

TP1-2-087: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 22*64 aggregation capability (111)[15]-(101)[22], when it is not the first capability in a capability set.

TP1-2-088: [ETS 300 144 [2] subclause 10.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the 23*64 aggregation capability (111)[15]-(101)[23], when it is not the first capability in a capability set**.**

9.2.2.7   Escape_16 Capabilities (111)[16]- (100)

(ETS 300 144 [2] subclause 8.2.2 §2) [ETS 300 144 [2] subclauses 10.1.9 §2; 8.2.1 §3] applies to all of the following tests.
TP1-2-089: [ETS 300 144 [2] 10.2.1.4 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the ISO Au-1B capability (111)[16]-(100)[1], when it is not the first capability in a capability set.

TP1-2-090: [ETS 300 144 [2] subclause 10.2.1.4 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the ISO Au-2B capability (111)[16]-(100)[2], when it is not the first capability in a capability set.

TP1-2-091: [ETS 300 144 [2] subclause 10.2.1.4 §3]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the ISO Au-3B capability (111)[16]-(100)[3], when it is not the first capability in a capability set.

TP1-2-092: [ETS 300 144 [2] subclause 10.2.1.4 §4]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the ISO Au-4B capability (111)[16]-(100)[4], when it is not the first capability in a capability set.

TP1-2-093: [ETS 300 144 [2] subclause 10.2.1.4 §5]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the ISO Au-5B capability (111)[16]-(100)[5], when it is not the first capability in a capability set.

TP1-2-094: [ETS 300 144 [2] subclause 10.2.1.4 §6]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the ISO Au-6B capability (111)[16]-(100)[6], when it is not the first capability in a capability set.

TP1-2-095: [ETS 300 144 [2] subclause 10.2.1.4 §14]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the ISO CorrMode-1 capability (111)[16]-(100)[19], when it is not the first capability in a capability set.

TP1-2-096: [ETS 300 144 [2] subclause 10.2.1.4 §14]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the ISO CorrMode-2 capability (111)[16]-(100)[20], when it is not the first capability in a capability set.

TP1-2-097: [ETS 300 144 [2] subclause 10.2.1.4 §14]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the ISO CorrMode-3 capability (111)[16]-(100)[21], when it is not the first capability in a capability set.

TP1-2-098: [ETS 300 144 [2] subclause 10.2.1.4 §7]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the ISO AsynchMode capability (111)[16]-(100)[24], when it is not the first capability in a capability set.

TP1-2-099: [ETS 300 144 [2] subclause 10.2.1.4 §8]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the ISO Au-Layer-I capability (111)[16]-(100)[25], when it is not the first capability in a capability set.

TP1-2-100: [ETS 300 144 [2] subclause 10.2.1.4 §9]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the ISO Au-Layer-II capability (111)[16]-(100)[26], when it is not the first capability in a capability set.

TP1-2-101: [ETS 300 144 [2] subclause 10.2.1.4 §10]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the ISO Au-Layer-III capability (111)[16]-(100)[27], when it is not the first capability in a capability set.

TP1-2-102: [ETS 300 144 [2] subclause 10.2.1.4 §11]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the ISO Sample-32k capability (111)[16]-(100)[28], when it is not the first capability in a capability set.

TP1-2-103: [ETS 300 144 [2] subclause 10.2.1.4 §12]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the ISO Sample-44.1k capability (111)[16]-(100)[29], when it is not the first capability in a capability set.

TP1-2-104: [ETS 300 144 [2] subclause 10.2.1.4 §13]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the ISO Sample-48k capability (111)[16]-(100)[30], when it is not the first capability in a capability set.

9.2.2.8   Escape_16 Capabilities (111)[16]- (101)

(ETS 300 144 [2] subclause 8.2.2 §2) [ETS 300 144 [2] subclause 10.1.9 §2; 8.2.1 §3] applies to all of the following tests.
TP1-2-105: [ETS 300 144 [2] subclause 10.2.1.1 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the HSD-64k capability (111)[16]-(101)[17], when it is not the first capability in a capability set.

TP1-2-106: [ETS 300 144 [2] subclause 10.2.1.1 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the HSD-128k capability (111)[16]-(101)[18], when it is not the first capability in a capability set.

TP1-2-107: [ETS 300 144 [2] subclause 10.2.1.1 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the HSD-192k capability (111)[16]-(101)[19], when it is not the first capability in a capability set.

TP1-2-108: [ETS 300 144 [2] subclause 10.2.1.1 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the HSD-256k capability (111)[16]-(101)[20], when it is not the first capability in a capability set.

TP1-2-109: [ETS 300 144 [2] subclause 10.2.1.1 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the HSD-320k capability (111)[16]-(101)[21], when it is not the first capability in a capability set.

TP1-2-110: [ETS 300 144 [2] subclause 10.2.1.1 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the HSD-384k capability (111)[16]-(101)[22], when it is not the first capability in a capability set.

TP1-2-111: [ETS 300 144 [2] subclause 10.2.1.1 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the HSD-512k capability (111)[16]-(101)[23], when it is not the first capability in a capability set.

TP1-2-112: [ETS 300 144 [2] subclause 10.2.1.1 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the HSD-768k capability (111)[16]-(101)[24], when it is not the first capability in a capability set.

TP1-2-113: [ETS 300 144 [2] subclause 10.2.1.1 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the HSD-1152k capability (111)[16]-(101)[25], when it is not the first capability in a capability set.

TP1-2-114: [ETS 300 144 [2] subclause 10.2.1.1 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the HSD-1536k capability (111)[16]-(101)[26], when it is not the first capability in a capability set.

TP1-2-115: [ETS 300 144 [2] subclause 10.2.1.1 §3]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the Var-HSD capability (111)[16]-(101)[1], when it is not the first capability in a capability set.

TP1-2-116: [ETS 300 144 [2] subclause 10.2.1.1 §4]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the H-MPL-62,4k capability (111)[16]-(101)[2], when it is not the first capability in a capability set.

TP1-2-117: [ETS 300 144 [2] subclause 10.2.1.1 §5]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the-H-MLP-64k capability (111)[16]-(101)[3], when it is not the first capability in a capability set.

TP1-2-118: [ETS 300 144 [2] subclause 10.2.1.1 §5]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the H-MLP-128k capability (111)[16]-(101)[4], when it is not the first capability in a capability set.

TP1-2-119: [ETS 300 144 [2] subclause 10.2.1.1 §5]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the H-MLP-192k capability (111)[16]-(101)[5], when it is not the first capability in a capability set.

TP1-2-120: [ETS 300 144 [2] subclause 10.2.1.1 §5]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the H-MLP-256k capability (111)[16]-(101)[6], when it is not the first capability in a capability set.

TP1-2-121: [ETS 300 144 [2] subclause 10.2.1.1 §5]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the H-MLP-320k capability (111)[16]-(101)[7], when it is not the first capability in a capability set.

TP1-2-122: [ETS 300 144 [2] subclause 10.2.1.1 §5]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the H-MLP-384k capability (111)[16]-(101)[8], when it is not the first capability in a capability set.

TP1-2-123: [ETS 300 144 [2] subclause 10.2.1.1 §6]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the Var-H-MLP capability (111)[16]-(101)[13], when it is not the first capability in a capability set.

TP1-2-124: [ETS 300 144 [2] subclause 10.2.1.1 §5]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the H-MLP-14.4k capability (111)[16]-(101)[12], when it is not the first capability in a capability set.

9.2.2.9 Escape_16 Capabilities (111)[16]- (110)

(ETS 300 144 [2] subclause 8.2.2 §2) [ETS 300 144 [2] subclause 10.1.9 §2; 8.2.1 §3] applies to all of the following tests.
TP1-2-125: [ETS 300 144 [2] subclause 10.2.1.1 §7]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the MLP-14.4k capability (111)[16]-(110)[0], when it is not the first capability in a capability set.

TP1-2-126: [ETS 300 144 [2] subclause 10.2.1.1 §7]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the MLP-22.4k capability (111)[16]-(110)[1], when it is not the first capability in a capability set.

TP1-2-127: [ETS 300 144 [2] subclause 10.2.1.1 §7]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the MLP-30.4k capability (111)[16]-(110)[2], when it is not the first capability in a capability set.

TP1-2-128: [ETS 300 144 [2] subclause 10.2.1.1 §7]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the MLP-38.4k capability (111)[16]-(110)[3], when it is not the first capability in a capability set.

TP1-2-129: [ETS 300 144 [2] subclause 10.2.1.1 §7]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the MLP-46.4k capability (111)[16]-(110)[4], when it is not the first capability in a capability set.

TP1-2-130: [ETS 300 144 [2] subclause 10.2.1.1 §7]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the MLP-62.4k capability (111)[16]-(110)[6], when it is not the first capability in a capability set.

TP1-2-131: [ETS 300 144 [2] subclause 10.2.1.1 §7]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the MLP-16k capability (111)[16]-(110)[8], when it is not the first capability in a capability set.

TP1-2-132: [ETS 300 144 [2] subclause 10.2.1.1 §7]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the MLP-24k capability (111)[16]-(110)[9], when it is not the first capability in a capability set.

TP1-2-133: [ETS 300 144 [2] subclause 10.2.1.1 §7]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the MLP-32k capability (111)[16]-(110)[10], when it is not the first capability in a capability set.

TP1-2-134: [ETS 300 144 [2] subclause 10.2.1.1 §7]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the MLP-40k capability (111)[16]-(110)[11], when it is not the first capability in a capability set.

TP1-2-135: [ETS 300 144 [2] subclause 10.2.1.1 §7]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set containing the MLP-64k capability (111)[16]-(110)[14], when it is not the first capability in a capability set.

9.2.2.10 Audio command values (000)

TP1-2-136: [ETS 300 144 [2] subclause 10.1.1.1 §1]
Verify that the IUT, after the completion of sequence A, accepts the Neutral command (000)[0] transmitted by the remote terminal.

TP1-2-137: [ETS 300 144 [2] subclause 10.1.1.1 §1 Note 9]
Verify that, when the IUT receives the Neutral command (000)[0] from the remote terminal, it shuts off all the output of the initial channel demultiplexer except FAS, BAS and ECS (if relevant).

TP1-2-138: [ETS 300 144 [2] subclause 10.1.1.1 §1 Note 9]
Verify that, when the IUT receives from the remote terminal the Neutral command (000)[0], it mutes the audio.

TP1-2-139: [ETS 300 144 [2] subclause 10.1.1.1 §1 Note 9]
Verify that, when the IUT receives from the remote terminal the Neutral command (000)[0], it does not change the signals on the additional channel.

TP1-2-140: [ETS 300 144 [2] subclause 10.1.1.1 §2]
Verify that, after the completion of a sequence A, the IUT accepts the Au-off, U command (000)[7].

TP1-2-141: [ETS 300 144 [2] subclause 10.1.1.1 §2] [ETS 300 145 [3] subclause 6.4.1 §3]
Verify that, after the completion of a sequence A, that the IUT can send the Au-off, U command (000)[7].

TP1-2-142: [ETS 300 144 [2] subclause 10.1.1.1 §2] [ETS 300 145 [3] subclause 6.4.1 §3]
Verify that, after the completion of a sequence A,, after the IUT has sent the Au-off, U command (000)[7], it no longer transmits audio signals and framing in the initial channel.

CTP1-2-144, TP1-2-143, TP1-2-144
TP1-2-143: [ETS 300 144 [2] subclause 10.1.1.1 §3]
Verify that, after the completion of a sequence A, when the IUT claims to be able to send the Au-off, F command (000)[31], it can send it.
TP1-2-144 [ETS 300 144 [2] subclause 10.1.1.1 §3]
Verify that, after the completion of a sequence A, the IUT accepts the Au-off, F command (000)[31]

TP1-2-145: [ETS 300 144 [2] subclause 10.1.1.1 §3]
Verify that, when the IUT supports video, after the completion of the mode initialisation procedure, after the IUT has received the H.261 (010)[1] command, when the IUT receives the Au-off, F command (000)[31], it decodes the video signal correctly in the 62.4 kbit/s remaining capacity on the initial channel.

TP1-2-146: [ETS 300 144 [2] subclause 10.1.1.1 §4]
Verify that, when the IUT wishes to operate in the audio mode G.711 A-law at 64 kbit/s unframed, after the completion of a sequence A, it sends the A-law, 0U command (000)[4] to the remote terminal.

TP1-2-147: [ETS 300 144 [2] subclause 10.1.1.1 §4; 10.1.5 §2]
Verify that, after the completion of sequence A, the IUT accepts the command A-law, 0U (000)[4] from the remote terminal.

TP1-2-148: [ETS 300 144 [2] subclause 10.1.1.1 §4]
Verify that, after the IUT has sent the A-law, 0U command (000)[4] to the remote terminal, the IUT's outgoing data bit-stream in the initial channel contains unframed audio encoded to G.711 A-law

TP1-2-149: [ETS 300 144 [2] subclause 10.1.1.1 §4; 10.1.5 §2]
Verify that, when the IUT receives from the remote terminal the command A-law, 0U (000)[4] signalling an audio mode of G.711 A-law at 64 kbit/s unframed, the IUT properly decodes the incoming data bit-stream containing unframed audio encoded to G.711 A-law in the initial channel.

TP1-2-150: [ETS 300 144 [2] subclause 10.1.1.1 §6]
Verify that, when the IUT wishes to operate in the unframed audio mode G.711 µ-law at 64 kbit/s, after the completion of sequence A, it sends the µ-law, 0U command (000)[5] to the remote terminal.

TP1-2-151: [ETS 300 144 [2] subclause 10.1.1.1 §6; 10.1.5 §3]
Verify that the IUT, after the completion of sequence A, accepts the command µ-law, 0U command (000)[5] from the remote terminal signalling the unframed audio mode G.711 µ-law at 64 kbit/s.

TP1-2-152: [ETS 300 144 [2] subclause 10.1.1.1 §6]
Verify that, after the IUT has sent the µ-law, 0U command (000)[5] to the remote terminal, the IUT's outgoing data bit-stream in the initial channel contains unframed audio encoded to G.711 µ-law.

TP1-2-153: [ETS 300 144 [2] subclause 10.1.1.1 §6; 10.1.5 §3]
Verify that, when the IUT has received from the remote terminal the command µ-law, 0U (000)[5] signalling the unframed audio mode G.711 µ-law at 64 kbit/s, the IUT properly decodes the incoming data bit-stream in the initial channel.

CTP1-2-154: TP1-2-154, TP1-2-155.
TP1-2-154: [ETS 300 144 [2] subclause 10.1.1.1 §9]
Verify that, when the IUT wishes to operate in the framed audio mode G.711 A-law at 48kbit/s, after the completion of a sequence A, it sends the A-law, F6 command (000)[20] to the remote terminal.
TP1-2-155: [ETS 300 144 [2] subclause 10.1.1.1 §9; 10.1.5 §2]
Verify that the IUT, after the completion of a sequence A, accepts the command A-law, F6 (000)[20] from the remote terminal signalling the framed audio mode G.711 A-law at 48kbit/s.

TP1-2-156: [ETS 300 144 [2] subclause 10.1.1.1 §9]
Verify that, when the IUT has sent the A-law, F6 command (000)[20] to the remote terminal, its outgoing data bit-stream in the initial channel contains framed audio encoded to G.711 A-law at 48kbit/s.

TP1-2-157: [ETS 300 144 [2] subclause 10.1.1.1 §9; 10.1.5 §2]
Verify that, when the IUT has received the command A-law, F6 (000)[20] from the remote terminal signalling the framed audio mode G.711 A-law at 48kbit/s, the IUT properly decodes the incoming data bit-stream in the initial channel.

CTP1-2-158: TP1-2-158, TP1-2-159.
TP1-2-158: [ETS 300 144 [2] subclause 10.1.1.1 §10]
Verify that, when the IUT wishes to operate in the framed audio mode G.711 µ-law at 48kbit/s, after the completion of a sequence A, it sends the µ-law, F6 command (000)[21] to the remote terminal.
TP1-2-159: [ETS 300 144 [2] subclause 10.1.1.1 §10; 10.1.5 §3]
Verify that the IUT, after the completion of a sequence A, accepts the command µ-law, F6 (000)[21] from the remote terminal signalling the framed audio mode G.711 µ-law at 48kbit/s.

TP1-2-160: [ETS 300 144 [2] subclause 10.1.1.1 §10]
Verify that, when the IUT has sent the µ-law, F6 command (000)[21] to the remote terminal, its outgoing data bit-stream in the initial channel contains framed audio encoded to G.711 µ-law at 48kbit/s.

TP1-2-161: [ETS 300 144 [2] subclause 10.1.1.1 §10; 10.1.5 §2]
Verify that, when the IUT has received the command µ-law, F6 (000)[21] from the remote terminal signalling the framed audio mode G.711 µ-law at 48kbit/s, the IUT properly decodes the incoming data bit-stream in the initial channel.

9.2.2.11 Video, loopback and other commands (010)

CTP1-2-162: TP1-2-162, TP1-2-163.
TP1-2-162: [ETS 300 144 [2] subclause 10.1.3 §1]
Verify that, when the IUT supports video, when video communication has been established between the IUT and the remote terminal but when the IUT wishes to switch off video, the IUT sends the Video-off command (010)[0] in order to inform the remote terminal that the video signal is no longer transmitted.
TP1-2-163: [ETS 300 144 [2] subclause 10.1.3 §1]
Verify that, when the IUT supports video, when a video communication has been established between the IUT and the remote terminal, the IUT accepts the Video-off command (010)[0] from the remote terminal.

TP1-2-164: [ETS 300 144 [2] subclause 10.1.3 §1]
Verify that, when the IUT supports video, when a video communication has been established between the IUT and the remote terminal, after the IUT has sent the Video-off command (010)[0], its outgoing data bit-stream in both channels does not contain encoded video signals.

TP1-2-165: [ETS 300 144 [2] subclause 10.1.3 §1]
Verify that, when the IUT supports video, when a video communication has been established between the IUT and the remote terminal, after the IUT has received the Video-off command (010)[0] but video is still being transmitted by the remote terminal, the IUT no longer decodes the video received.

CTP1-2-166: TP1-2-166, TP1-2-167.
TP1-2-166: [ETS 300 144 [2] subclause 10.1.3 §6]
Verify that, when the IUT supports video and claims to be able to send the "Freeze-Picture request" (VCF) command (010)[16], during a video communication, the IUT can send it.
TP1-2-167: [ETS 300 144 [2] subclause 10.1.3 §6]
Verify that, when the IUT supports video, during a video communication, the IUT accepts the Video command "Freeze-Picture request" (VCF) (010)[16] transmitted by the remote terminal.

TP1-2-168: [ETS 300 144 [2] subclause 10.1.3 §6]
Verify that, when the IUT supports video, during a video communication, when the IUT has received the Video command "Freeze-Picture request" (VCF) (010)[16], the IUT video decoder completes the updating of the current video frame and then displays the frozen picture until it receives the freeze-picture-release signal embedded in the video.

TP1-2-169: [ETS 300 144 [2] subclause 10.1.3 §6]
Verify that, when the IUT supports video, during a video communication, when the IUT has received the Video command "Freeze-Picture request" (VCF) (010)[16], after the IUT video decoder completes the updating of the current video frame, if it does not receive the freeze-picture-release signal, it displays the frozen picture until a timer of 6 seconds expires.

TP1-2-170: [ETS 300 144 [2] subclause 10.1.3 §6]
Verify that, when the IUT supports video, during a video communication, when the IUT receives the Video command "Freeze-Picture request" (VCF) (010)[16] every three seconds but does not receive the frozen-picture-release signal, after the IUT video decoder completes the updating of the current video frame, it continues to display the frozen picture until 6 seconds after receiving the last VCF command.

CTP1-2-171: TP1-2-171, TP1-2-172.
TP1-2-171: [ETS 300 144 [2] subclause 10.1.3 §7]
Verify that, when the IUT supports video, during a video communication, the IUT accepts the Video-Command "Fast-Update request" (VCU) command (010)[17].
TP1-2-172: [ETS 300 144 [2] subclause 10.1.3 §6]
Verify that, when the IUT supports video and claims to be able to send the "Fast-Update request" (VCU) command (010)[17], during a video communication, the IUT can send it.

TP1-2-173: [ETS 300 144 [2] subclause 10.1.3 §7]
Verify that, when the IUT supports video, during a video communication, when the IUT has received the Video command "Fast-Update request" (VCU) (010)[17], the IUT video encoder enters the fast-update mode.

TP1-2-174: [ETS 300 144 [2] subclause 10.1.3 §10]
Verify that the IUT when the IUT supports Audio Loop operation, it accepts "Audio Loop Request" (LCA) command (010)[18].

TP1-2-175: [ETS 300 144 [2] subclause 10.1.3 §10]
Verify that, when the IUT supports Audio Loop operation and receives the Loopback Command "Audio Loop Request" (LCA) (010)[18] from the remote terminal, it connects the output of the audio decoder to the input of the audio encoder.

TP1-2-176: [ETS 300 144 [2] subclause 10.1.3 §11 & 10.2.2 §10]
Verify that, when the IUT supports video and video loop operation, during a video communication, the IUT accepts the Loopback Command "Video Loop Request" (LCV) (010)[19].

TP1-2-177: [ETS 300 144 [2] subclause 10.1.3 §11 & 10.2.2 §10]
Verify that, when the IUT supports Video and video loop operation, when the IUT receives the Loopback Command "Video Loop Request" (LCV) (010)[19] from the remote terminal, it connects the output of the video decoder to the input of the video encoder.

CTP1-2-178: TP1-2-178, TP1-2-179
TP1-2-178: [ETS 300 144 [2] subclause 10.1.3 §10]
Verify that, when the IUT is a maintenance terminal, it can send the "Digital Loop Request" (LCD) command (010)[20].
TP1-2-179: [ETS 300 144 [2] subclause 10.1.3 §10]
Verify that, when the IUT is a maintenance terminal, it can send the "Loop Off Request" (LCO) command (010)[21].

CTP1-2-180: TP1-2-180, TP1-2-181
TP1-2-180: [ETS 300 144 [2] subclauses 10.1.3 §10 & 10.2.2 §10]
Verify that the IUT accepts the "Digital Loop Request" (LCD) command (010)[20] transmitted by the remote terminal.
TP1-2-181: [ETS 300 144 [2] subclauses 10.1.3 §11 & 10.2.2 §10]
Verify that the IUT accepts the "Loop Off Request" (LCO) command (010)[21].

TP1-2-182: [ETS 300 144 [2] subclauses 10.1.3 §10 & 10.2.2 §10]
Verify that, when the IUT has received the "Digital Loop Request" (LCD) command (010)[20], the IUT connects the output of the receiver demultiplexer to the input of the transmitter multiplexer on the initial channel.

TP1-2-183: [ETS 300 144 [2] subclausse 10.1.3 §11 & 10.2.2 §10]
Verify that, when the IUT has received the "Loop Off Request" (LCO) command (010)[21], the IUT disconnects all loops.

9.2.2.12 Escape_16 Commands (111)[16]- (001)

(ETS 300 144 [2] subclause 8.2.2 §2) [ETS 300 144 [2] subclause 10.1.9 §2] applies to all of the following tests.
TP1-2-184: [ETS 300 144 [2] subclause 10.2.1.3 §1]
Verify that the IUT accepts from the remote terminal the ISO Au-off command (111)[16]-(001)[0].

9.2.2.13 C&I related to video (111)[17]- (000)

(ETS 300 144 [2] subclause 8.2.2 §2) [ETS 300 144 [2] subclause 10.1.8 §1] applies to all of the following tests.

CTP1-2-185: TP1-2-185, TP1-2-186.
TP1-2-185: [ETS 300 144 [2] subclause 10.2.2.1 §1]
Verify that, when the IUT supports video, when it is able to cut the camera signal without closing the video channel, the IUT sends to the remote terminal the Video Indicate Suppressed (VIS) indication (111)[17]-(000)[16], to indicate that the content of the video channel does not represent a normal camera image.

TP1-2-186: [ETS 300 144 [2] subclause 10.2.2.1 §2]
Verify that, when the IUT supports video, when it has cut the camera signal without closing the video channel and sent the VIS command (111)[17]-(000)[16], when it re-instates the camera signal the IUT sends the Video Indicate Active (VIA) indication (111)[17]-(000)[17] to indicate that the video source has been restored.

CTP1-2-187: TP1-2-187, TP1-2-188.
TP1-2-187: [ETS 300 144 [2] subclause 10.2.2.1 §1]
Verify that, when the IUT supports video, the IUT accepts the Video Indicate Suppressed (VIS) indication (111)[17]-(000)[16] from the remote terminal.
TP1-2-188: [ETS 300 144 [2] subclause 10.2.2.1 §2]
Verify that, when the IUT supports video, after the IUT has received the VIS indication (111)[17]-(000)[16], it accepts the Video Indicate Active (VIA) indication (111)[17]-(000)[17].

TP1-2-189: [ETS 300 144 [2] subclause 10.2.2.1 §2]
Verify that, when the IUT supports video with multiple video sources, the IUT sends to the remote terminal the VIA indication (111)[17]-(000)[17] to indicate that the video source is " video No. 1".

TP1-2-190: [ETS 300 144 [2] subclause 10.2.2.1 §2]
Verify that, when the IUT supports video with multiple video sources, when the IUT sends the VIA indication (111)[17]-(000)[17], it transmits video from the source identified as " video No. 1".

CTP1-2-191: TP1-2-191, TP1-2-192.
TP1-2-191: [ETS 300 144 [2] subclause 10.2.2.1 §3]
Verify that, when the IUT supports video with multiple video sources, when it switches video sources to the second source, the IUT sends to the remote terminal the VIA2 indication (111)[17]-(000)[18] to indicate that the video source is " video No. 2".
TP1-2-192: [ETS 300 144 [2] subclause 10.2.2.1 §3]
Verify that, when the IUT supports video, it accepts the VIA2 indication (111)[17]-(000)[18].

TP1-2-193: [ETS 300 144 [2] subclause 10.2.2.1 §3]
Verify that, when the IUT supports video with multiple video sources, after it has sent the Video Indicate Active (VIA2) indication (111)[17]-(000)[18], it transmits video from the source identified as "video No. 2".

CTP1-2-194: TP1-2-194, TP1-2-195.
TP1-2-194: [ETS 300 144 [2] subclause 10.2.2.1 §4]
Verify that, when the IUT supports video with multiple video sources, when it switches video sources to the third source, the IUT sends to the remote terminal the VIA3 indication (111)[17]-(000)[19] to indicate that the video source is " video No. 3".
TP1-2-195: [ETS 300 144 [2] 10.2.2.1 §4]
Verify that, when the IUT supports video, it accepts the VIA3 indication (111)[17]-(000)[19].

TP1-2-196: [ETS 300 144 [2] subclause 10.2.2.1 §4]
Verify that, when the IUT supports video with multiple video sources, after it has sent the Video Indicate Active (VIA3) indication (111)[17]-(000)[19], it transmits video from the source identified as " video No. 3".

CTP1-2-197: TP1-2-197, TP1-2-198.
TP1-2-197: [ETS 300 144 [2] subclause 10.2.2.1 §5]
Verify that, when the IUT supports video but does not send video until it receives a video signal from the remote terminal, it transmits the Video Indicate Ready-to-Activate indication (VIR) (111)[17]-(000)[31] when it is ready to receive and transmit video.
TP1-2-198: [ETS 300 144 [2] subclause 10.2.2.1 §5]
Verify that, when the IUT supports video, it accepts the VIR indication (111)[17]-(000)[31] from the remote terminal.

TP1-2-199: [ETS 300 144 [2] subclause 10.2.2.1 §5]
Verify that, when the IUT supports video but does not send video until it receives a video signal from the remote terminal, after it has transmitted the VIR indication (111)[17]-(000)[31] and received video signal it sends H261 (010)[1] command.

9.2.2.14 C&I related to audio (111)[17]- (000)

[ETS 300 144 [2] subclause 8.2.2 §2] [ETS 300 144 [2] subclause 10.1.9 §2] applies to all of the following tests.

CTP1-2-200: TP1-2-200, TP1-2-201.
TP1-2-200: [ETS 300 144 [2] subclause 10.2.2.2 §1]
Verify that, when the IUT is able to mute the audio without closing the audio channel, it sends to the remote terminal the Audio Indicate Muted (AIM) indication (111)[17]-(000)[2] to indicate that the content of the audio channel does not represent a normal audio signal.
TP1-2-201: [ETS 300 144 [2] subclause 10.2.2.2 §2]
Verify that, when the IUT is able to mute the audio without closing the audio channel, after the IUT has sent to the remote terminal the AIM (111)[17]-(000)[2] indication, the IUT sends to the remote terminal the Audio Indicate Active (AIA) indication(111)[17]-(000)[3] to indicate that the audio is no longer muted.

CTP1-2-202: TP1-2-202, TP1-2-203.
TP1-2-202: [ETS 300 144 [2] subclause 10.2.2.2 §1]
Verify that the IUT accepts the Audio Indicate Muted (AIM) command (111)[17]-(000)[2].
TP1-2-203: [ETS 300 144 [2] subclause 10.2.2.2 §2]
Verify that, when the IUT has received the Audio Indicate Muted (AIM) (111)[17]-(000)[2] indication, it accepts the Audio Indicate Active (AIA)) indication (111)[17]-(000)[3].

9.2.2.15 C&I related to simple multipoint conferences not using MLP(111)[17]- (001)

[ETS 300 144 [2] 8.2.2 §2] [ETS 300 144 [2] subclause 10.1.9 §2] applies to all of the following tests.

CTP1-2-205: TP1-2-204, TP1-2-205D, TP1-2-206.
TP1-2-204: [ETS 300 144 [2] subclause 10.2.2.3 §3]
Verify that the IUT accepts the Multipoint Command Conference (MCC) command (111)[17]-(001)[0].
SP004: [ETS 300 144 [2] subclause 10.2.2.3 §3]
Verify that, after the IUT has received the Multipoint Command Conference (MCC) command (111)[17]-(001)[0], it makes its outgoing audio rate equal to its incoming audio rate.
TP1-2-205D: [ETS 300 144 [2] subclause 10.2.2.3 §3]
Verify that, if the IUT is transmitting in an audio mode other than G.728 or G.722m3 when the remote terminal is transmitting in G.728 or G.722m3 mode, depending on the terminal's declared capabilities, when the IUT receives the Multipoint Command Conference (MCC) command (111)[17]-(001)[0], it sets its outgoing audio mode to G.728 or G.722m3, matching the incoming audio transfer rate.
TP1-2-206: [ETS 300 144 [2] subclause 10.2.2.3 §3]
Verify that, after the IUT in a multipoint communication has received the MCC command (111)[17]-(001)[0], the IUT accepts the Cancel Multipoint Command Conference (Cancel-MCC) command (111)[17]-(001)[1].

CTP1-2-207: TP1-2-207, TP1-2-208.
TP1-2-207: [ETS 300 144 [2] subclause 10.2.2.3 §1]
Verify that, when the IUT supports video and claims to be able to send the MCV command, during a multipoint video communication, it sends the Multipoint Command Visualisation-Forcing (MCV) command (111)[17]-(001)[16] in order to force the MCU to broadcast its video signal.
TP1-2-208: [ETS 300 144 [2] table 11 page 39]
Verify that, when the IUT supports video and claims to be able to send the MCV command and the Cancel-MCV command, after the IUT has sent the MCV command (111)[17]-(001)[16], it sends the Cancel-MCV command (111)[17]-(001)[17] when it no longer requires the MCU to broadcast its video signal.

CTP1-2-209: TP1-2-209, TP1-2-210.
TP1-2-209: [ETS 300 144 [2] subclause 10.2.2.3 §2]
Verify that, when the IUT supports video and claims to be able to send the MCV command, during a multipoint video communication, after it has sent the MCV command (111)[17]-(001)[16], it accepts the MIV indication (111)[17]-(001)[18].
TP1-2-210: [ETS 300 144 [2] table 11]
Verify that, when the IUT supports video and claims to be able to send the MCV command, during a multipoint video communication, after it has sent the MCV command (111)[17]-(001)[16], and, after it has received the MIV indication it accepts the cancel-MIV indication (111)[17]-(001)[19].

CTP1-2-211: TP1-2-211, TP1-2-212.
TP1-2-211: [ETS 300 144 [2] subclause 10.2.2.3 §5]
Verify that the IUT accepts the Multipoint Indication Zero-communication (MIZ) indication (111)[17]-(001)[2].
TP1-2-212: [ETS 300 144 [2] table 11]
Verify that, after the IUT has received the MIZ indication (111)[17]-(001)[2], it accepts the Cancel-MIZ indication (111)[17]-(001)[3].

CTP1-2-213 :TP1-2-213, TP1-2-214.
TP1-2-213: [ETS 300 144 [2] subclause 10.2.2.3 §6]
Verify that the IUT accepts the Multipoint Indication Secondary-status (MIS) indication (111)[17]-(001)[4].
TP1-2-214: [ETS 300 144 [2] table 11]
Verify that, after the IUT received the MIS indication (111)[17]-(001)[4], it accepts the Cancel-MIS indication (111)[17]-(001)[5].

9.2.2.16   Data-apps (111)[18]-(101)

TP1-2-215: [ETS 300 144 [2] subclause 10.2.3.1 §13; 8.2.1 §3]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the escape value Data-apps (111)[18] followed by V.120_HSD capability (101)[21], when it is not the first capability in a capability set.

[ETS 300 144 [2] subclause 8.2.2 §2] [ETS 300 144 [2] subclause 10.1.9 §4] applies to all of the following tests.
TP1-2-216: [ETS 300 144 [2] subclause 10.2.3.1 §1]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the escape value Data-apps (111)[18] followed by the (R) ISO-SP baseline on LSD capability (101)[0], when it is not the first capability in a capability set.

TP1-2-217: [ETS 300 144 [2] subclause 10.2.3.1 §2]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the escape value Data-apps (111)[18] followed by the (R) ISO-SP baseline on HSD capability (101)[1], when it is not the first capability in a capability set.

TP1-2-218: [ETS 300 144 [2] subclause 10.2.3.1 §3]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the escape value Data-apps (111)[18] followed by the (R) ISO-SP spatial capability (101)[2], when it is not the first capability in a capability set.

TP1-2-219: [ETS 300 144 [2] subclause 10.2.3.1 §4]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the escape value Data-apps (111)[18] followed by the (R) ISO-SP progressive capability (101)[3], when it is not the first capability in a capability set.

TP1-2-220: [ETS 300 144 [2] subclause 10.2.3.1 §5]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the escape value Data-apps (111)[18] followed by the (R) ISO-SP arithmetic capability (101)[4], when it is not the first capability in a capability set.

TP1-2-221: [ETS 300 144 [2] subclause 10.2.3.1 §6]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the escape value Data-apps (111)[18] followed by Still image capability (101)[9], when it is not the first capability in a capability set.

TP1-2-222: [ETS 300 144 [2] subclause 10.2.3.1 §7]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the escape value Data-apps (111)[18] followed by Graphics cursor capability (101)[10], when it is not the first capability in a capability set.

TP1-2-223: [ETS 300 144 [2] subclause 10.2.3.1 §8]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the escape value Data-apps (111)[18] followed by (R) Group 3 Facsimile capability (101)[16], when it is not the first capability in a capability set.

TP1-2-224: [ETS 300 144 [2] subclause 10.2.3.1 §9]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the escape value Data-apps (111)[18] followed by (R) Group 4 Facsimile capability (101)[17], when it is not the first capability in a capability set.

TP1-2-225: [ETS 300 144 [2] subclause 10.2.3.1 §10]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the escape value Data-apps (111)[18] followed by V.120_LSD capability (101)[20], when it is not the first capability in a capability set.

TP1-2-226: [ETS 300 144 [2] subclause 10.2.3.1 §15]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the escape value Data apps (111)[18] followed by Nil_Data capability (101)[29], along with one or more data capability codes, when it is not the first capability in a capability set.

TP1-2-227: [ETS 300 144 [2] subclause 10.2.3.1 §10]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the escape value Data apps (111)[18] followed by V.14_LSD capability (101)[22], when it is not the first capability in a capability set.

TP1-2-228: [ETS 300 144 [2] subclause 10.2.3.1 §11]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the escape value Data apps (111)[18] followed by V.14_HSD capability (101)[23], when it is not the first capability in a capability set.

TP1-2-229: [ETS 300 144 [2] subclause 10.2.3.1 §14]
Verify that, during a sequence A in an initialisation procedure, the IUT accepts from the remote terminal a capability set that contains the escape value Data apps (111)[18] followed by T.120-cap capability (101)[28], when it is not the first capability in a capability set.

9.2.2.17   NUM (111)[19]

[ETS 300 144 [2] subclause 8.2.2 §2] [ETS 300 144 [2] subclause 10.1.9 §2] applies to all of the following tests.

CTP1-2-230: TP-1-2-161, TP1-2-231
TP1-2-230: [ETS 300 144 [2] subclause 10.2.4]
Verify that, when the IUT does not support reception of an SBE command or indication which is followed by an SBE number reached by (111)[19], when it receives such an SBE command or indication, followed by the escape code (111)[19] followed by an 8-bit binary number, it ignores all four BAS codes.
[ETS 300 144 [2] subclause 8.2.2 §2] [ETS 300 144 [2] subclause 10.1.9 §2] applies to all of the following tests.
TP1-2-231 :(ETS 300 144 [2] subclause 10.2.4)
Verify that, when the IUT supports reception of an SBE command or indication which is followed by one or more SBE numbers reached by (111)[19], it accepts this command and the corresponding escape codes and numbers.

TP1-2-232: [ETS 300 144 [2] subclause 10.2.4]
Verify that, when the IUT supports transmission of an SBE command or indication which is followed by one or more SBE numbers, it sends the SBE command or indication over two sub-multiframes, followed by (111)[19], followed by an 8-bit binary number in the following BAS position, with the escape code (111)[19] and a following number repeated as necessary.

9.2.2.18   CHAR (111)[20]

[ETS 300 144 [2] subclause 8.2.2 §2] [ETS 300 144 [2] subclause 10.1.9 §2] applies to all of the following tests.

CTP1-2-233: TP1-2-233, TP1-2-234
TP1-2-233: [ETS 300 144 [2] subclause 10.2.5]
Verify that, when the IUT does not support reception of an SBE command or indication which is followed by an SBE character reached by (111)[20], when it receives such an SBE command or indication, followed by the escape code (111)[20], followed by an IA5 character, it ignores all four BAS codes.

TP1-2-234 :(ETS 300 144 [2] subclause 10.2.5)
Verify that, when the IUT supports reception of an SBE command or indication which is followed by one or more SBE characters reached by (111)[20], it accepts this command or indication and the corresponding escape codes and characters.

TP1-2-235: [ETS 300 144 [2] subclause 10.2.5]
Verify that, when the IUT supports transmission of an SBE command or indication which is followed by one or more SBE characters, it sends the SBE command or indication over two sub-multiframes, followed by (111)[20], followed by an IA5 character in the following BAS position, with the escape code (111)[20] and a following character repeated as necessary.

9.2.3 Basic sequences and procedures

9.2.3.1 Capability exchange (sequence A)

CTP1-2-240: TP1-2-240, TP1-2-241, TP1-2-236D, TP1-2-237D, TP1-2-238D, TP1-2-239D.
TP1-2-240: [ETS 300 144 [2] subclause 8.2.1 §2] [ETS 300 143 [1] subclause 6.1.1 §3]
Verify that, when sequence A has been completed at the start of a communication, the IUT does not send BAS commands which lie outside the range of the BAS capability codes sent by the remote terminal.
TP1-2-241: [ETS 300 144 [2] subclause 8.2.1 §3]
Verify that, when the IUT sends the capability marker (111)[24], the IUT does not send any escape values following it, only normal BAS command or capability codes.
SP038: [ETS 300 143 [1] subclause 5.1.9 §4 table 2]
Verify that the IUT, during a sequence A, sends capabilities that can be simultaneously valid.
TP1-2-236D: [ETS 300 143 [1] subclause 5.1.9 §4 table 2]
Verify that the IUT, during a sequence A, does not send in the same capability set repeated values excepted MPI values.
TP1-2-237D: [ETS 300 143 [1] subclause 5.1.9 §4 table 2]
Verify that the IUT, during a sequence A, does not send in the same capability set QCIF capability (101)(20) and CIF capability (101)(21).
TP1-2-238D: [ETS 300 143 [1] subclause 5.1.9 §4 table 2]
Verify that the IUT, during a sequence A, does not send in the same capability set more than one value of capability 1B, 2B, 3B, 4B, 5B, 6B (100) [16-21].
TP1-2-239D: [ETS 300 143 [1] subclause 5.1.9 §4 table 2]
Verify that the IUT, during a sequence A, does not send in the same capability set more than one value of capability 1H0, 2H0, 3H0, 4H0, 5H0 (100) [24-28].

CTP1-2-242: TP1-2-242, TP1-2-243.
TP1-2-242: [ETS 300 143 [1] subclause 6.1.2 (b)]
Verify that, when the remote terminal initiates sequence A during a call, and when the IUT first detects an incoming capability marker (111)[24], and the IUT is receiving A-bit = 0, and the next BAS code is a capability other than neutral (100)[0], the IUT transmits a single capability set followed by a capability marker (111)[24] and at least one of the commands (000) [0 to 31] or (001) [0 to 31] or (010) [0 to 31] or (011) [0 to 31].
TP1-2-243: [ETS 300 143 [1] subclause 6.1.4 §1]
Verify that, following mode initialisation, after T1 has expired, when both the IUT and the remote terminal have switched to their normal mode of operation, when the remote terminal initiates sequence A to inform the IUT of a changed capability set, the IUT responds correctly by sending its current capability set.

CTP1-2-245: TP1-2-244, TP1-2-245.
TP1-2-244: [ETS 300 143 [1] subclause 6.1.4 §1]
Verify that, at any time during a call, the IUT is capable of initiating sequence A to inform the remote terminal of a changed capability set.
TP1-2-245: [ETS 300 143 [1] subclause 6.1.4 §2]
Verify that, when the IUT wishes to send two different capability sets, the first capability set is completed, thus completing sequence A with outcome A-1, it then sends at least one of the commands (000) [0 to 31], or (001) [0 to 31], or (010) [0 to 31] or (011) [0 to 31] and then initiates sequence A with the changed capability set.

TP1-2-246: [ETS 300 143 [1] subclause 7.6 §3]
Verify that, if the IUT supports MBE messages, and when the IUT wishes to transmit a message in MBE format, the IUT waits until it has received from the remote terminal the MBE capability code (101)[31] in the remote terminal's capability set during a sequence A before sending the MBE message to the remote terminal in a new sequence A with a changed capability set.

TP1-2-247: [ETS 300 143 [1] subclause 7.6 §3]
Verify that, if the IUT supports MBE messages, and when the remote terminal does not send an MBE capability code (101)[31] in its capability set, the IUT never sends any MBE message in the initial or any subsequent capability exchange sequence A.

TP1-2-248: [ETS 300 143 [1] subclause 6.1.1 §6]
Verify that, during a sequence A, when the IUT has started timer T1 for 10 seconds, and when it has started to send commands after sending its capability set, and when timer T1 has not yet expired, when it receives from the remote terminal a second or more capability sets, the IUT does not respond by sending its own capability set again.

TP1-2-249: [ETS 300 143 [1] subclause 6.1.2 (a), 5.1.7 §2 §3, 5.1.9 §10] [ETS 300 144 [2] subclause 10.1.5 §1]
Verify that, when the remote terminal initiates sequence A during a call, sending the Neutral capability set, when the IUT first detects an incoming capability marker (111)[24] and the next BAS code it receives is neutral (100)[0] capability followed by an other incoming capability marker (111)[24], the IUT ignores the neutral (100)[0] capability BAS code and does not transmit its capability set in response.

> NOTE: neutral (100)[0] capability is under review and this requirement may be removed in the next revision of ETS 300 143 [1].

TP1-2-250: [ETS 300 143 [1] subclause 7.5.6 §2]
Verify that, if the IUT sends in its capability set the Nil_Data capability (111)[18]-(101)[29], it also includes in its capability set the MLP-6.4k capability code, (101)[17].

9.2.3.2 Mode switching (sequence B)

SP005: [ETS 300 143 [1] subclause 5.2.4 §1]
Verify that, after the completion of the initialisation procedure, the IUT supports a different set of BAS commands for each transmission direction.

TP1-2-251D: [ETS 300 143 [1] subclause 5.2.4 §1]
Verify that, when the IUT supports video, after the completion of the initialisation procedure, after both terminals had switched on video, the IUT accepts the command video-off (010)[0] from the remote terminal.

SP006: [ETS 300 144 [2] subclause 8.2.1 §1] [ETS 300 143 [1] subclause 5.2.4 §1]
Verify that, when the IUT receives a BAS command code from the remote terminal, this command remains in force and the IUT implements the indicated mode until the command is countermanded by the remote terminal.

TP1-2-252D: [ETS 300 143 [1] subclause 5.2.4 §1:
Verify that, when the IUT supports video, after the completion of the initialisation procedure during which it sent a video capability and the reception of the video command H.261 (010)[1], the IUT receives video until it receives the command video-off (010)[0].

TP1-2-253: [ETS 300 144 [2] subclause 8.2.1 §1]
Verify that, when the IUT sends a BAS command code, this command remains in force and the IUT implements the indicated mode until the command is countermanded by the IUT.

CTP1-2-254: TP1-2-254, TP1-2-256.
SP007:[ETS 300 143 [1] subclause 5.2.4 §1]
Verify that the IUT, after the completion of the initialisation procedure, accepts commands in any suitable order.

TP1-2-254D: [ETS 300 143 [1] subclause 5.2.4 §1]
Verify that, when the IUT supports video, after the completion of the initialisation procedure, the IUT accepts the following list of commands in the given order: [A-law,0F (000)[18]; H.261 (010)[1]; video-off (010)[0]].

TP1-2-256: [ETS 300 143 [1] subclause 6.2 *§2*]
Verify that, if the IUT is able to perform mode switching, it can do so anytime after the initialisation procedure between the IUT and the remote terminal has been completed.

CTP1-2-255: TP1-2-255, TP1-2-257.
SP007:[ETS 300 143 [1] subclause 5.2.4 §1]
Verify that the IUT, after the completion of the initialisation procedure, accepts commands in any suitable order.

TP1-2-255D: [ETS 300 143 [1] subclause 5.2.4 §1]
Verify that, when the IUT supports video, after the completion of the initialisation procedure, the IUT accepts the following list of commands in the given order: [H.261 (010)[1]; A-law,0F (000)[18]; video-off (010)[0]].

TP1-2-257: [ETS 300 143 [1] subclause 6.2 *§2*]
Verify that, the IUT accepts from the remote terminal consecutive mode switches after the initialisation procedure between the IUT and the remote terminal has been completed.

SP008: [ETS 300 143 [1] subclause 5.2.4 §1]
Verify that the IUT, after the completion of the initialisation procedure, accepts repeated commands.

TP1-2-258D: [ETS 300 143 [1] subclause 5.2.4 §1]
Verify that after the completion of the initialisation procedure, the IUT accepts the following list of commands: A-law,0F (000)[18]]; [1B (001)[0]; H261 (010)[1] repeated, followed by [A-law,0F (000)[18]] repeated 10 times, followed by [1B (001)[0]; A-law,0F (000)[18]; H261 (010)[1]] repeated.

TP1-2-259: [ETS 300 143 [1] subclause 5.2.4 §3]
Verify that the IUT does not send commands that affect the same bits of the channel.

CTP1-2-260: TP1-2-260, TP1-2-261.
SP009: [ETS 300 143 [1] subclause 5.2.1 §1]
Verify that the IUT accepts the remote terminal expanding its audio capacity into vacant bit positions.

TP1-2-260D: [ETS 300 143 [1] subclause 5.2.1 §1]
Verify that, when the IUT supports G728, after the completion of the initialisation procedure without video, the IUT accepts the audio command G.728 (000)[29] and then the audio command A-law,0F (000)[18].

TP1-2-261: [ETS 300 143 [1] subclause 5.2.1 §1]
Verify that the IUT accepts the remote terminal reducing its audio capacity within the bit position currently occupied.

SP010 [ETS 300 143 [1] subclause 5.2.1 §1]
Verify that the IUT accepts the remote terminal expanding its audio capacity into video bit positions.

TP1-2-262D: [ETS 300 143 [1] subclause 5.2.1 §1]
Verify that, when the IUT supports G728 and video, after the completion of the initialisation procedure for 1B channel, the IUT accepts the audio command G.728 (000)[29] then the video command H.261 (010)[1] and then the audio command A-law,0F (000)[18].

TP1-2-263: [ETS 300 143 [1] subclause 6.2 §1 2, §5]
Verify that, when the IUT performs the mode switching by sending appropriates BAS command codes, each is effective from the beginning of the frame following the sub-multiframe in which it is transmitted, i.e. from the beginning of the next submultiframe.

TP1-2-264: [ETS 300 143 [1] subclause 7.5.6 §3]
Verify that, when the IUT declares the Nil_Data capability (111)[18]-(101)[29] in its capability set along with one or more data capabilities during a sequence A in Mode Initialisation, when the MCU sends the MCC command (111)[17]-(001)[0] and later sends a data on command corresponding to the capabilities sent by the IUT, the IUT responds by sending the same data on command.

TP1-2-265: [ETS 300 143 [1] subclause 7.5.6 §3]
Verify that, when the IUT declares the Nil_Data capability (111)[18]-(101)[29] in its capability set along with one or more data capabilities during a sequence A in Mode Initialisation, when the MCU sends the MCC command (111)[17]-(001)[0] and later sends a data on command corresponding to the capabilities sent by the IUT, when the IUT responds by sending the same data on command, it transmits only Ones in the bit positions corresponding to the data channel command.

9.2.3.3 Frame reinstatement (sequence C)

CTP1-2-266: TP1-2-266, TP1-2-267, TP1-2-268.
TP1-2-266: [ETS 300 143 [1] subclause 6.3.2 §1]
Verify that, when the IUT is receiving in an unframed mode from the remote terminal and wishes to receive in a framed mode, and is currently transmitting to the remote terminal in a framed mode, the IUT initiates sequence A by sending its capability set.
TP1-2-267: [ETS 300 143 [1] subclause 6.3.2 §2]
Verify that, when the IUT is receiving in an unframed mode from the remote terminal and wishes to receive in a framed mode, and the IUT initiates sequence A by sending its capability set, sequence C is completed successfully when the IUT is receiving in framed mode with received A-bit = 0.
TP1-2-268: [ETS 300 143 [1] subclause 6.3.2 §2]
Verify that, when the IUT is receiving in an unframed mode from the remote terminal and wishes to receive in a framed mode, and the IUT initiates sequence A by sending its capability set, sequence C and then sequence A is completed successfully and normal transmission of commands describing the current mode of operation takes place in both directions.

TP1-2-269: [ETS 300 143 [1] subclause 7.2.2]
Verify that in case the IUT wishing to make a dynamic mode switching from an unframed mode to another mode it implements the frame reinstatement procedure (sequence C) and the mode switching according to sequence B.

CTP1-2-273: TP1-2-270, TP1-2-271, TP1-2-272, TP1-2-273, TP1-2-274, TP1-2-275.
TP1-2-270: [ETS 300 143 [1] subclause 6.1.1 §1]
Verify that, when the IUT is transmitting in unframed mode and wishes to initiate sequence A, it re-instates framing using sequence C and then initiates sequence A by sending its current capability set.
TP1-2-271: [ETS300 143 [1] subclause 6.3.1 §1]
Verify that, when the IUT initiates frame reinstatement sequence C, it inserts FAS and BAS into the first 16 bits of the service channel.
TP1-2-272: [ETS300 143 [1] subclause 6.3.1 §2]
Verify that, when the IUT initiates frame reinstatement sequence C, when the incoming signal is framed and when the incoming A-bit is set to 0, sequence C is considered successful with outcome FR-I.
TP1-2-273: [ETS 300 143 [1] subclause 6.3.2 §1, 6.1.2 §2]
Verify that, when the IUT is transmitting in an unframed mode, and when the IUT detects that the remote terminal has reinstated framing and that sequence A has been initiated by the remote terminal when it receives the capability marker (111)[24], the IUT switches to transmission in a framed mode.
TP1-2-274: [ETS 300 143 [1] subclause 6.3.2 §2]
Verify that, when the IUT is transmitting in an unframed mode, and when the IUT detects that the remote terminal has reinstated framing and that sequence A has been initiated by the remote terminal when it receives the capability marker (111)[24], and when it switches to transmission in a framed mode, sequence C is completed successfully when the IUT responds to sequence A by transmitting A-bit = 0.
TP1-2-275: [ETS 300 143 [1] subclause 6.3.2 §2]
Verify that, when the IUT is transmitting in an unframed mode, and when the IUT detects that sequence A has been initiated by the remote terminal when it receives the capability marker (111)[24], sequence C and then sequence A is completed successfully and normal transmission of commands describing the current mode of operation takes place in both directions.

9.2.3.4 Mode forcing procedure

CTP1-2-276: TP1-2-276, TP1-2-277D, TP1-2-278D.
TP1-2-276: [ETS 300 143 [1] subclause 6.2 *§3*]
Verify that, if the IUT receives from the remote terminal a changed capability set with the outcome that the current mode transmitted by the IUT is no longer receivable/decodable, the IUT shall switch as soon as possible to a mode that can be received and decoded by the remote terminal.

SP012 [ETS 300 143 [1] subclause 7.3 §5]
Verify that, when the remote terminal implements a mode forcing procedure in order to reduce the audio mode transmitted by the IUT to G.711 μ-law from any other audio mode, the IUT sends commands to switch its outgoing mode to the mode desired according to the received capability set.
TP1-2-277D: [ETS 300 143 [1] subclause 7.3 §5]
Verify that, when the current audio mode transmitted by the IUT is a mode other than G.711 μ-law 0F, on receipt from the remote terminal of a capability set in which the only audio capability code is μ-law (100)[2], the IUT sends the command μ-law, 0F (000)[19].
TP1-2-278D: [ETS 300 143 [1] subclause 7.3 §5]
Verify that, when the current audio mode transmitted by the IUT is a mode other than G.711 μ-law 0F, on receipt from the remote terminal of a capability set in which the only audio capability is μ-law (100)[2], the IUT sends its capability set, completing sequence A.

CTP1-2-279 :TP1-2-279D, TP1-2-280D.
SP011: [ETS 300 143 [1] subclause 7.3 §5]
Verify that, when the IUT wishes to perform mode forcing in order to change the received audio mode to G.711 μ-law from any other audio mode, it sends the command to reduce the current audio mode to the mode wanted and starts a new sequence A containing the reduced audio capability.
TP1-2-279D: [ETS 300 143 [1] subclause 7.3 §5]
Verify that, when the IUT wishes to perform mode switching in order to change the received audio mode to G.711 μ-law, it sends the command μ-law, 0F (000)[19].
TP1-2-280D: [ETS 300 143 [1] subclause 7.3 §5]
Verify that, when the IUT wishes to perform a mode forcing procedure in order to change the received audio mode to G.711 μ-law, it sends a new capability set in which the only audio capability code is μ-law (100)[2].

TP1-2-281: [ETS 300 143 [1] subclause 7.3.1]
Verify that, if CIF video format is supported by the IUT, if the IUT supports video communication on 1 B-channel, when CIF video format is being transmitted by the remote terminal, when the IUT wishes to perform mode forcing to QCIF mode, it starts a mode forcing procedure in order to change the video mode from CIF to QCIF by sending a new sequence A containing a reduced capability set with QCIF capability code and an MPI value but without a CIF capability code.

TP1-2-282: [ETS 300 143 [1] subclause 7.3.1]
Verify that, if the IUT supports the CIF video format, if the IUT supports video communication on 1 B-channel, when it is transmitting in CIF format, on receipt from the remote terminal of a reduced capability set which contains the QCIF capability (101)[20] and its accompanying MPI code as the only video capabilities, the IUT sends its capability set, completing sequence A.

TP1-2-283: [ETS 300 143 [1] subclause 7.3.1]
Verify that, if the IUT supports the CIF video format, if the IUT supports video communication on 1 B-channel, when it is transmitting in CIF format, on receipt from the remote terminal of a reduced capability set which contains the QCIF capability (101)[20] and its accompanying MPI code as the only video capabilities, the IUT changes its video transmission mode to QCIF.

TP1-2-284: [ETS 300 143 [1] subclause 7.3.1]
Verify that, if the IUT supports video communication on 1 B-channel, if an MPI value of less than 4/29,97 seconds is supported by the IUT, when an MPI value of less than 4/29,97 seconds is being used by both terminals, when the IUT wishes to perform mode forcing to an MPI value of 4/29,97 seconds, it starts a mode forcing procedure in order to change the MPI value by sending a new sequence A containing 4/29,97 seconds (101)[25] as the only MPI value used by both CIF and QCIF.

TP1-2-285: [ETS 300 143 [1] subclause 7.3.1]
Verify that, if the IUT supports video communication on 1 B-channel, if the IUT supports an MPI value of less than 4/29,97 seconds, when it is transmitting with an MPI value of less than 4/29,97 seconds, on receipt from the remote terminal of a reduced capability set which contains the MPI value 4/29,97 seconds (101)[25] as the only MPI value for both CIF and QCIF, the IUT sends its capability set, completing sequence A.

TP1-2-286: [ETS 300 143 [1] 7.3.1]
Verify that, if the IUT supports video communication on 1 B-channel, if the IUT supports an MPI value of less than 4/29,97 seconds, when it is transmitting with an MPI value of less than 4/29,97 seconds, on receipt from the remote terminal of a reduced capability set which contains the MPI value 4/29,97 seconds (101)[25] as the only MPI value for both CIF and QCIF, the IUT changes its transmission MPI value to 4/29,97 seconds.

CTP1-2-288: TP1-2-287, TP1-2-288, TP1-2-289.
TP1-2-287: [ETS 300 143 [1] subclause 7.3.2]
Verify that, during a single channel communication in mode a1, when the IUT wishes to perform a mode 0 forcing procedure in order to restrict the received mode to audio mode G.711 A-law only, it sends the command A-law 0F (000)[18] to reduce the current mode to the mode wanted.
TP1-2-288: [ETS 300 143 [1] subclause 7.3.2]
Verify that, during a single channel communication in mode a1 when the IUT wishes to perform a mode 0 forcing procedure in order to restrict the received mode to audio mode G.711 A-law only, when video is being transmitted, it sends the command video off (010)[0] to reduce the current mode to the mode wanted.
TP1-2-289: [ETS 300 143 [1] subclause 7.3.2]
Verify that, during a single channel communication in mode a1, if the IUT wishes to perform a mode 0 forcing procedure in order to restrict the received mode to audio mode G.711 A-law only, after it has reduced the transmission mode to audio only, G.711 A-law, it sends a capability set containing only the audio capability, A-law (100)[1], and optionally the 1B capability (100)[16].

CTP1-2-291: TP1-2-290, TP1-2-291, TP1-2-292.
TP1-2-290: [ETS 300 143 [1] subclause 7.3.2]
Verify that, during a single channel communication in mode a0, when the IUT wishes to perform a mode 0 forcing procedure in order to restrict the received mode to audio mode G.711 A-law only, it sends the command A-law 0F (000)[18] to reduce the current mode to the mode wanted.
TP1-2-291: [ETS 300 143 [1] subclause 7.3.2]
Verify that, during a single channel communication in mode a0, when the IUT wishes to perform a mode 0 forcing procedure in order to restrict the received mode to audio mode G.711 A-law only, when video is being transmitted, it sends the command video off (010)[0] to reduce the current mode to the mode wanted.
TP1-2-292: [ETS 300 143 [1] subclause 7.3.2]
Verify that, during a single channel communication in mode a0, if the IUT wishes to perform a mode 0 forcing procedure in order to restrict the received mode to audio mode G.711 A-law only, after it has reduced the transmission mode to audio only, G.711 A-law, it sends a capability set containing only the audio capability, A-law (100)[1], and optionally the 1B capability (100)[16].

CTP1-2-294: TP1-2-293, TP1-2-294, TP1-2-295.
TP1-2-293: [ETS 300 143 [1] subclause 7.3.2]
Verify that, during a single channel communication in mode a1, on receipt from the remote terminal of the commands A-law 0F (000)[18] and video off (010)[0], if video was on, and of a capability set containing only the audio capability A-law (100)[1], the IUT sends the command A-law 0F (000)[18] to switch its outgoing mode to the mode desired by the forcing terminal.
TP1-2-294: [ETS 300 143 [1] subclause 7.3.2]
Verify that, during a single channel communication, in mode a1 when video was on, on receipt from the remote terminal of the commands A-law 0F (000)[18] and video off (010)[0], and of a capability set containing only the audio capability A-law (100)[1], the IUT sends the command video off (010)[0] to switch its outgoing mode to the mode desired by the forcing terminal.
TP1-2-295: [ETS 300 143 [1] subclause 7.3.2]
Verify that, during a single channel communication in mode a1, on receipt from the remote terminal of the command A-law 0F (000)[18] and of a capability set containing only the audio capability A-law (100)[1], the IUT sends its capability set, thus completing sequence A.

CTP1-2-297: TP1-2-296, TP1-2-297, TP1-2-298.
TP1-2-296: [ETS 300 143 [1] subclause 7.3.2]
Verify that, during a single channel communication in mode a0, on receipt from the remote terminal of the commands A-law 0F (000)[18] and video off (010)[0], if video was on, and of a capability set containing only the audio capability A-law (100)[1], the IUT sends the command A-law 0F (000)[18] to switch its outgoing mode to the mode desired by the forcing terminal.
TP1-2-297: [ETS 300 143 [1] subclause 7.3.2]
Verify that, during a single channel communication in mode a0, when video was on, on receipt from the remote terminal of the commands A-law 0F (000)[18] and video off (010)[0], and of a capability set containing only the audio capability A-law (100)[1], the IUT sends the command video off (010)[0] to switch its outgoing mode to the mode desired by the forcing terminal.
TP1-2-298: [ETS 300 143 [1] subclause 7.3.2]
Verify that, during a single channel communication in mode a0, on receipt from the remote terminal of the command A-law 0F (000)[18] and of a capability set containing only the audio capability A-law (100)[1], the IUT sends its capability set, thus completing sequence A.

9.2.4 Encryption Control Signal (ECS)

TP1-2-299: [ETS 300 144 [2] subclause 10.1.3 §9]
Verify that the IUT accepts the Encryp-off command (010)[7].

CTP1-2-302: TP1-2-300, TP1-2-301, TP1-2-302, TP1-2-303.
TP1-2-300: [ETS 300 144 [2] subclause 10.1.7]
Verify that, during sequence A, the IUT accepts a capability set containing the capability code Encryp (101)[30].
TP1-2-301: [ETS 300 143 [1] subclause 7.4 §1] [ETS 300 144 [2] subclause 10.1.7)]
Verify that, during the sequence A of an initialisation procedure, if the IUT supports ECS, the IUT transmits the ECS capability code (101)[30] in its capability set.
TP1-2-302: [ETS 300 144 [2] subclause 10.1.3 §8] [ETS 300 143 [1] subclause 7.4 §2]
Verify that, when the IUT supports ECS channel operation, when it wishes to open the ECS channel, it sends the Encryp-on command (010)[6].
TP1-2-303: [ETS 300 143 [1] subclause 7.4 §3] [ETS 300 144 [2] subclause 10.1.3 §8]
Verify that, if the IUT supports ECS, when the ECS capability (101)[30] has been sent by both terminals during mode initialisation, when the ECS channel has been turned on by the IUT, when later in the call the IUT wishes to switch off the ECS channel, the IUT sends the ECS channel OFF BAS command (010)[7].

CTP1-2-304: TP1-2-304, TP1-2-305
TP1-2-304: [ETS 300 143 [1] subclause 7.4 §2] [ETS 300 144 [2] subclause 10.1.3 §8 ,10.1.7]
Verify that, if the IUT supports ECS, when the ECS capability code (101)[30] is sent by the IUT during mode initialisation, the IUT accepts an ECS channel ON command (010)[6] from the remote terminal.
TP1-2-305: [ETS 300 143 [1] subclause 7.4 §3] [ETS 300 144 [2] subclause 10.1.3 §9]
Verify that, if the IUT supports ECS, when the ECS capability (101)[30] has been sent by both terminals during mode initialisation, when the ECS channel has been turned on by the remote terminal, when later in the call the remote terminal sends the ECS channel OFF command (010)[7], the IUT accepts this and no longer decrypts received signals.

TP1-2-306: [ETS 300 143 [1] subclause 7.4 §2]
Verify that, if the IUT supports ECS, when the ECS capability code (101)[30] is sent by both the IUT and the remote terminal during mode initialisation, when the IUT sends the ECS channel ON command (010)[6], from the next multiframe it opens the ECS channel.

TP1-2-307: [ETS 300 144 [2] subclause 10.1.3 §8]
Verify that, when the IUT supports encryption, after it has sent the Encryp-on command (010)[16], it encrypts all the bits of its outgoing initial channel except bits 1 to 24 of the Service Channel (SC).

TP1-2-308: [ETS 300 144 [2] subclause 10.1.3 §9]
Verify that, when the IUT supports encryption, when encryption had been turned on by the IUT, when it transmits the Encryp-off command (010)[7], it no longer transmits encrypted signals.

TP1-2-309: [ETS 300 143 [1] subclause 7.4 §1]
Verify that, during the sequence A of an initialisation procedure, if the IUT supports ECS capability, when the remote terminal does not transmit the ECS capability code (101)[30] in its capability set, the IUT does not attempt to activate the ECS channel by sending the command ECS On (010)[6].

TP1-2-310: [ETS 300 143 [1] subclause 7.4 §1, 5.1.6 §2]
Verify that, if the IUT supports ECS, when the ECS capability is sent both by the IUT and by the remote terminal on mode initialisation, when the IUT sends the ECS channel ON command (010)[6] to open the ECS channel, when the remote terminal later in the call initiates sequence A with a capability set omitting the ECS capability code (101)[30], the IUT continues to keep the ECS channel open, includes ECS channel ON among the commands it sends after sequence A is completed and does not send ECS channel OFF command (010)[7].

9.3 Invalid behaviour

9.3.1 Frame and multiframe

TP1-3-001: [ETS 300 144 [2] subclause 6.1 §3]
Verify that the IUT, when it looses frame alignment, sets to "1" bit 8 of the third byte at every second-fourth-sixth... 80 byte frame, i.e. bit 3 of the service channel in each odd frame.

SP014: [ETS 300 143 [1] subclause 8.1 §1, 8.2.1 §2, 7.2 §1]
Verify that, after completion of the initial procedure, on receipt of three consecutive incoming A bits equal to 1, the IUT implements an R0 recovery procedure.

TP1-3-002D: [ETS 300 143 [1] subclause 8.1 §1, 8.2.1 §2, 7.2 §1]
Verify that, after completion of the initial procedure, on receipt of three consecutive incoming A bits equal to 1, the IUT initiates a sequence A.

TP1-3-003D: [ETS 300 143 [1] subclause 8.1 §1, 8.2.1 §2, 7.2 §1]
Verify that, after the IUT has unsuccessfully initiated a sequence A on receiving an incoming A=1 on I-channel, when R1 is the following procedure in this case, the IUT initiates mode-0 forcing.

CTP1-3-004: TP1-3-004D, TP1-3-005D.
TP1-3-004D: [ETS 300 143 [1] subclause 8.1 §1, 8.1 §2,: 8.1 §3, 8.2.1 §2]
Verify that, after the IUT has unsuccessfully initiated a sequence A on receiving an incoming A=1 on I-channel, when R1 is the following procedure in this case, after it has initiated an unsuccessful mode-0 forcing, when the IUT is the calling terminal, the IUT drops the faulty connection.
TP1-3-005D: [ETS 300 143 [1] subclause 8.1 §1, 8.2.1 §2]
Verify that, after the IUT has unsuccessfully initiated a sequence A on receiving an incoming A=1 on I-channel, when R2 is the following procedure in this case and the IUT is the calling terminal, the IUT drops the faulty connection.

SP026 [ETS 300 144 [2] subclause 6.3 §1 & §4]
Verify that, when the IUT detects in three successive frames the presence of the first correct seven bits of the FAW, followed by the eighth bit of the FAW, followed by, once again, the first correct seven bits of the FAW, the IUT considers that frame alignment has been gained.

TP1-3-006D: [ETS 300 144 [2] subclause 6.3 §1 & §4]
Verify that, when the IUT never receives, on the initial channel, the first correct seven bits of the FAW in bits 2 to 8 of the SC of a frame, the IUT sets the A-bit of its following outgoing odd frames to "1" on the initial channel.

TP1-3-007D: [ETS 300 144 [2] subclause 6.3 §1 & §4]
Verify that, when the IUT detects, on the initial channel, the first correct seven bits of the FAW in bits 2 to 8 of the SC of a frame (even frame) but followed by a frame (odd frame) which contains bit 2 of the SC set to "0" (erroneous eighth bit of the FAW), the IUT sets A-bit of its following outgoing odd frames to "1" in the initial channel.

SP017: [ETS 300 144 [2] subclause 6.3 §2 &§4]
Verify that, after the IUT has gained frame alignment at least one time, when it detects three consecutive erroneous FAW the IUT considers frame alignment as lost.

TP1-3-009D: [ETS 300 144 [2] subclause 6.3 §2 & §4]
Verify that, after the completion of the initialisation procedure, when the IUT receives twice on the initial channel, from the remote terminal, an even frame with bits 2 to 8 of the SC set to "0000000" followed by an odd frame which contains bit 2 of the SC set to "1" (the eighth bit of the FAW) and then receives an even frame with bits 2 to 8 of the SC set to "0011011" followed by an odd frame which contains bit 2 of the SC set to "1" (the eighth bit of the FAW), the IUT still sets the A-bit of its following outgoing odd frames to "0" in the initial channel.

CTP1-3-012:TP1-3-008, TP1-3-010, TP1-3-011, TP1-3-012.
SP017[ETS 300 144 [2] subclause 6.3 §2 & §4]
Verify that, after the IUT has gained frame alignment at least one time, when it detects three consecutive erroneous FAW the IUT considers frame alignment as lost.
TP1-3-008D: [ETS 300 144 [2] subclause 6.3 §2 & §4]
Verify that, after the completion of the initialisation procedure, when the IUT receives three times on the initial channel, from the remote terminal, an even frame with bits 2 to 8 of the SC set to "0000000" followed by an odd frame that contains the bit 2 of the SC set to "1" (the eighth bit of the FAW), the IUT sets the A-bit of its following outgoing odd frames to "1" in the initial channel.
TP1-3-010: [ETS 300 143 [1] subclause 8.4.1 §2]
Verify that, if there is no switch to unframed mode beforehand and FAW is no longer detected in the initial channel, the IUT starts timer T3 and searches for framing in the receive direction for a period of 1 second (T3).
TP1-3-011: [ETS 300 143 [1] subclause 8.4.1 §2]
Verify that, if there is no switch to unframed mode beforehand and FAW is no longer detected in the initial channel, the IUT does not change the outgoing mode of transmission during a period of 1 second (T3).
TP1-3-012: [ETS 300 143 [1] subclause 8.4.1 §2-a)]
Verify that, if there is no switch to unframed mode beforehand and FAW is no longer detected in the initial channel, if the IUT recovers framing before timer T3 (1 second) expires, the IUT resumes operation in a normal way.

TP1-3-013: [ETS 300 143 [1] subclause 8.4.1 §2]
Verify that, if there is no mode switch to unframed mode beforehand and FAW is no longer detected in the initial channel, the IUT discards unintelligible information.

SP012 [ETS 300 143 [1] subclause 8.4.1 §2-b)]
Verify that, if there is no switch to unframed mode beforehand and FAW is no longer detected in the initial channel, if the IUT does not recover framing before T3 (1 second) expires, the IUT implements an R0 recovery procedure.

TP1-3-014D: [ETS 300 143 [1] subclause 8.1 §1, 8.4.1b)]
Verify that, if there is no switch to unframed mode beforehand and FAW is no longer detected in the initial channel, if the IUT does not recover framing before T3 (1 second) expires, the IUT initiates a sequence A.

TP1-3-015D: [ETS 300 143 [1] subclause 8.1 §1, 8.4.1b)]
Verify that, if there is no switch to unframed mode beforehand and FAW is no longer detected in the initial channel, if the IUT has not recovered framing before T3 (1 second) expires, after the IUT has unsuccessfully initiated a sequence A, when R1 is the following procedure in this case, the IUT initiates mode-0 forcing.

CTP1-3-016: TP1-3-016D, TP1-3-017D.
TP1-3-016D: [ETS 300 143 [1] subclause 8.1 §1, 8.1 §2, 8.1 §3, 8.4.1b)]
Verify that, if there is no switch to unframed mode beforehand and FAW is no longer detected in the initial channel, if the IUT has not recovered framing before T3 (1 second) expires, after the IUT has unsuccessfully initiated a sequence A, when R1 is the following procedure in this case, after it has unsuccessfully initiated a mode-0 forcing, when the IUT is the calling terminal, the IUT drops the faulty connection.
TP1-3-017D: [ETS 300 143 [1] subclause 8.1 §1, 8.4.1b)]
Verify that, if there is no switch to unframed mode beforehand and FAW is no longer detected in the initial channel, if the IUT has not recovered framing before T3 (1 second) expires, after the IUT has unsuccessfully initiated a sequence A, when R2 is the following procedure in this case and the IUT is the calling terminal, the IUT drops the faulty connection.

TP1-3-018: [ETS 300 144 [2] subclause 6.3 §3 & §4]
Verify that, after the IUT has lost frame alignment, when it detects in the initial channel the first correct seven bits of the FAW in bits 2 to 8 of the SC of a frame (even frame), followed by a frame (odd frame) which contains bit 2 of the Service Channel set to "1" (the eighth bit of the FAW), followed by a frame (even frame) with, for a second time, the first correct seven bits of the FAW in bits 2 to 8 of its SC, the IUT considers that frame alignment has been regained and resets the A-bit of its following outgoing odd frames to "0" in the initial channel.

TP1-3-019: [ETS 300 144 [2] subclause 6.5.1 §1]
Verify that, when the IUT has gained frame alignment for the first time and then looses it within the next 16 frames, when it re-acquires frame alignment, the IUT reinitialises the receive byte timing.

TP1-3-020: [ETS 300 144 [2] subclause 6.5.2 §a)]
Verify that, after the IUT has gained frame alignment, when it looses frame alignment, the IUT changes the receive byte timing only when frame alignment is recovered.

TP1-3-021: [ETS 300 144 [2] subclause 6.5.2 §c)]
Verify that, after the IUT has gained frame alignment, when the IUT switches from a frame mode to an unframed mode, the IUT still uses the same receive byte timing.

TP1-3-022: [ETS 300 144 [2] subclause 6.5.2 §d)]
Verify that, when the IUT has gained frame alignment again at a new position, after it has lost it, when it does not loose frame alignment again during the next 16 frames, the IUT validates the receive byte timing.

TP1-3-023: [ETS 300 144 [2] subclause 6.5.2 §d)]
Verify that, after the IUT has gained frame alignment again at a new position, after it has lost it, when it looses frame alignment during the next 16 frames, the IUT reinitialises the received byte timing with the old bit position.

TP1-3-024: [ETS 300 144 [2] subclause 6.5.3 §1]
Verify that, when the IUT is searching for Frame Alignment Signal, if the IUT implements the sequential method, when the IUT looses frame alignment after it has gained it, the IUT starts searching for FAS from the previously validated bit position.

TP1-3-025: [ETS 300 144 [2] subclause 6.5.3 §1]
Verify that, when the IUT is searching for Frame Alignment Signal, if the IUT implements the parallel method, when a frame alignment is lost after been gained, the IUT starts searching for FAS from the bit position next to the previously validated one.

TP1-3-026: [ETS 300 144 [2] subclause 9.2.1 §1]
Verify that, if the IUT implements CRC4 decoding procedure, when the CRC bits C1-C4 detected in the most recently received block have been found to be in error (at least one bit in error), it sets the E-bit of a block J in the transmitting direction to "1".

TP1-3-027 :([ETS 300 144 [2] subclause 9.2.2 §2]
Verify that, when the IUT provides incorrect frame alignment monitoring in the receiving side, when it counts 89 blocks or more with CRC errors, it reinitiates a search for frame alignment.

TP1-3-028: [ETS 300 144 [2] subclause 8.1 §4]
Verify that, when frame alignment has been gained, when the remote terminal sends a sub-multiframe that contains a FAW with more than two errors and a capability marker followed by a sub-multiframe containing a capability code, the IUT ignores this capability marker code and does not starts a sequence A.

TP1-3-029: [ETS 300 144 [2] subclause 8.1 §4]
Verify that, when frame alignment has been gained, when the remote terminal correctly sends a capability marker followed by a capability code, but when at the same time the remote terminal makes a total of 2 bit errors in the FAW in both (not each) frames in the sub-multiframe containing the capability marker, the IUT recognises the capability marker and starts a sequence A.

9.3.2 Basic sequences and procedures

9.3.2.1 Capability exchange (sequence A)

TP1-3-030: [ETS 300 143 [1] subclause 7.1.1 d) §1, 5.1.1]
Verify that, when the IUT commences the mode initialisation procedure, when it is receiving in audio mode A-law and detects an incoming audio signal encoded to µ-law, it switches its audio decode mode to µ-law.

TP1-3-031: [ETS 300 143 [1] subclause 6.1.3 §2]
Verify that, when the IUT initiates sequence A, when the remote terminal does not send framing, and when timer T1 of 10 seconds, started when the IUT first transmitted its capability set, has expired, the sequence A fails with outcome A-II and the IUT switches its transmission and reception modes to unframed mode OU.

CTP1-3-032: TP1-3-032, TP1-3-033.
TP1-3-032: [ETS 300 143 [1] subclause 6.1.3 §2]
Verify that, when the IUT initiates sequence A, when the remote terminal sends correct multiframe structure but with A-bit set to 1, and when timer T1 of 10 seconds, started when the IUT first transmitted its capability set, has expired, the sequence A fails with outcome A-III and the IUT restarts sequence A by sending its capability set again.
TP1-3-033: [ETS 300 143 [1] subclause 6.1.1 §2, §7]
Verify that, when the IUT initiates sequence A, it does not stop repetitive transmission of its current capability set when it receives an incoming capability set with incoming A-bit set to 1, until timer T1 expires, at which point, if it restarts sequence A, it sends at least one command before doing so.

TP1-3-034: [ETS 300 143 [1] subclause 6.1.1 (d), 6.1.2 (c)]
Verify that, during sequence A, when the IUT has received the capability marker and one capability code from the remote terminal with A-bit set to 0, but when it receives the A-bit set to 1 while sending its capability set, the IUT continues sending capability sets until one capability set is sent with incoming A-bit = 0.

TP1-3-035: [ETS300 143 [1] subclause 6.1.2 (d)]
Verify that, when the remote terminal initiates sequence A after T1 expires, and when the IUT first detects an incoming capability marker (111)[24], and the next BAS code is a command, the IUT does not respond by transmitting its capability set.

TP1-3-036: [ETS 300 143 [1] subclause 5.1.9 §1]
Verify that, during a sequence A in an initialisation procedure, if the remote terminal sends the capability Null (100)[14] twice in its capability set, after the timer T1 expires, the IUT does not restart sequence A but continues with normal operation.

TP1-3-037: [ETS 300 143 [1] subclause 6.1.1 §4] [ETS 300 143 [1] subclause 6.1 §2] [ETS 300 143 [1] subclause 7.1.1 §6]
Verify that, during a sequence A, when the IUT is sending commands following sending of its current capability set, but when it has not yet received a complete capability set from the remote terminal before T1 expires, the IUT sends only commands which do not change the current mode of transmission.

9.3.2.2 Mode switching (sequence B)

SP018 [ETS 300 143 [1] subclause 8.3 §2 a)]
Verify that, if the IUT, after a successful sequence A detects an incoming BAS command from the remote terminal and it is not known what it means, it is ignored by the IUT which does the following:

- a timer T3 is started (value 1 second). During this time incoming information is discarded if unintelligible;

- if the mismatch is removed (acceptable command(s) received before the timer expires), the normal operation is resumed;

- if the mismatch is not removed before the timer expires: R0.

TP1-3-038D: [ETS 300 143 [1] subclause 8.3 §2 a)]
Verify that, after a successful mode initialisation procedure, when the IUT detects an unknown command (000)[1] from the remote terminal, it starts a timer T3 (value 1 second) and returns to normal operation on receipt of valid commands without the unknown command.

TP1-3-039D: [ETS 300 143 [1] subclause 8.3 §2 a)]
Verify that, after a successful mode initialisation, during repeated detection from the remote terminal of an unknown command (000)[1], when timer T3 (value 1 second) has expired without receiving a valid command, then the IUT initiates a sequence A and clears the mode mismatch when the remote terminal responds correctly.

TP1-3-040D: [ETS 300 143 [1] subclause 8.1 §1, 8.3a)]
Verify that, after a successful mode initialisation, during repeated detection from the remote terminal of an unknown command (000)[1], when timer T3 (value 1 second) has expired without receiving a valid command, after the IUT has unsuccessfully initiated a sequence A, when R1 is the following procedure in this case, the IUT initiates mode-0 forcing and clears the mode mismatch when the remote terminal responds correctly.

CTP1-3-041: TP1-3-041D, TP1-3-042D.
TP1-3-041D: [ETS 300 143 [1] subclause 8.1 §1, 8.1 §2, 8.1 §3, 8.3a)]
Verify that, after a successful mode initialisation, during repeated detection from the remote terminal of an unknown command (000)[1] when timer T3 (value 1 second) has expired without receiving a valid command, after the IUT has unsuccessfully initiated a sequence A, when R1 is the following procedure in this case, after it has unsuccessfully initiated a mode-0 forcing, when the IUT is the calling terminal, the IUT drops the faulty connection.
TP1-3-042D: [ETS 300 143 [1] subclause 8.1 §1, 8.3a)]
Verify that, after a successful mode initialisation, during repeated detection from the remote terminal of an unknown command (000)[1], when timer T3 (value 1 second) has expired without receiving a valid command, after the IUT has unsuccessfully initiated a sequence A, when R2 is the following procedure in this case and the IUT is the calling terminal, the IUT drops the faulty connection.

SP019 [ETS 300 143 [1] subclause 5.2.4 §5]
Verify that the IUT implements a mismatch procedure on receipt of unrecognised or unacceptable BAS command, if it is not cancelled within one second.

TP1-3-043D: [ETS 300 143 [1] subclause 5.2.4 §5]
Verify that the IUT implements a mismatch procedure on receipt of the command 2*64 (001)[1] without receiving a valid command before T3 (value 1 second) expires and initiates a Sequence A, when one B channel only is established.

TP1-3-044D: [ETS 300 143 [1] subclause 5.2.4 §5]
Verify that the IUT implements a mismatch procedure on receipt of the command 6B (001)[5] without receiving a valid command before T3 (value 1 second) expires and initiates a Sequence A.

TP1-3-045D: [ETS 300 143 [1] subclause 5.2.4 §5, 7.4 §2]
Verify that the IUT, when it does not support Encryp, implements a mismatch procedure on receipt of the command Encryp-on (010)[6] without receiving a valid command before T3 (value 1 second) expires and initiates a Sequence A.

TP1-3-046D: [ETS 300 143 [1] subclause 8.3 §2 a)]
Verify that, if the IUT, after a successful sequence A, detects from the remote terminal a capability code (100) or (101), instead of a command, this code is ignored.

SP020 [ETS300 143 [1] subclause 8.3 §2 b)]
Verify that, after a successful sequence A, if the IUT detects from the remote terminal one or more incoming information signals the content of which do not agree with the BAS commands currently in force, the IUT continues decoding if possible and carries out procedure R0.

TP1-3-047D: [ETS300 143 [1] subclause 8.3 §2 b)]
Verify that, after a successful mode initialisation, if the IUT receives from the remote terminal the μ-law command (000)[19] but the A/μ-law detector indicates A-law, the IUT tries to continue decoding incoming information if possible.

TP1-3-048D: [ETS 300 143 [1] subclause 8.1 §1, 8.3b)]
Verify that, after a successful mode initialisation, if the IUT receives from the remote terminal the μ-law command (000)[19] but the A/μ-law detector indicates A-law, the IUT initiates a sequence A.

TP1-3-049D: [ETS 300 143 [1] subclause 8.1 §1,8.3b)]
Verify that, after a successful mode initialisation, if the IUT has received from the remote terminal the μ-law command (000)[19] but the A/μ-law detector indicates A-law, after the IUT has unsuccessfully initiated a sequence A, when R1 is the following procedure in this case, the IUT initiates mode-0 forcing.

TP1-3-050D: [ETS 300 143 [1] subclause 8.1 §, 8.1 §2, 8.1 §3, 8.3b)]
Verify that, after a successful mode initialisation, if the IUT has received from the remote terminal the μ-law command (000)[19] but the A/μ-law detector indicates A-law, after the IUT has unsuccessfully initiated a sequence A, when R1 is the following procedure in this case, after it has unsuccessfully initiated a mode-0 forcing, when the IUT is the calling terminal, the IUT drops the faulty connection.

TP1-3-051D: [ETS 300 143 [1] subclause 8.1 §1, 8.1 §2, 8.1 §3, 8.3b)]
Verify that, after a successful mode initialisation, if the IUT has received from the remote terminal the μ-law command (000)[19] but the A/μ-law detector indicates A-law, after the IUT has unsuccessfully initiated a sequence A, when R1 is the following procedure in this case, after it has unsuccessfully initiated a mode-0 forcing, when the IUT is the called terminal, the IUT waits for the remote terminal to disconnect.

TP1-3-052D: [ETS 300 143 [1] subclause 8.1 §1, 8.3b)]
Verify that, after a successful mode initialisation, if the IUT has received from the remote terminal the μ-law command (000)[19] but the A/μ-law detector indicates A-law, after the IUT has unsuccessfully initiated a sequence A, when R2 is the following procedure in this case and the IUT is the calling terminal, the IUT drops the faulty connection.

TP1-3-053D: [ETS 300 143 [1] subclause 8.1 §1, 8.3b)]
Verify that, after a successful mode initialisation, if the IUT has received from the remote terminal the μ-law command (000)[19] but the A/μ-law detector indicates A-law, after the IUT has unsuccessfully initiated a sequence A, when R2 is the following procedure in this case and the IUT is the called terminal, the IUT waits for the remote terminal to disconnect.

9.3.2.3   Mode initialisation

CTP1-3-055: TP1-3-054D, TP1-3-055D.
SP021 [ETS 300 143 [1] subclause 7.1.1 d) §2]
Verify that, when the IUT commences mode initialisation, and when the remote terminal does not send framing to the IUT, producing outcome A-II to sequence A, the IUT switches its transmission and reception modes to unframed mode OU.
TP1-3-054D: [ETS 300 143 [1] subclause 7.1.1 d) §2]
Verify that, when the IUT commences mode initialisation, and when the remote terminal does not send framing to the IUT, producing outcome A-II to sequence A, the IUT switches its transmission mode to unframed mode OU, sending command OU(A) (000)[4] or OU(μ) (000)[5] once in the final submultiframe.
SP022 [ETS 300 143 [1] subclause 7.1.1 d) §2]
Verify that, when the IUT commences mode initialisation, and when the remote terminal does not send framing to the IUT, producing outcome A-II to sequence A, and when the IUT switches its transmission mode to mode OU, the IUT's receiver remains in frame search throughout the call.
TP1-3-055D: [ETS 300 143 [1] subclause 7.1.1 d) §2]
Verify that, when the IUT commences mode initialisation, and when the remote terminal does not send framing to the IUT, producing outcome A-II to sequence A, and when the IUT switches its transmission mode to mode OU, when the remote terminal reinstates framing later in the call and initiates capability exchange sequence A, the IUT responds by reinstating framing, achieving frame synchronisation, setting A-bit = 0 and sending its own current capability set.

TP1-3-056: [ETS 300 143 [1] subclause 7.1.1 d) §2]
Verify that, if the IUT implements the A-law/μ-law decoder according to G.725, when the IUT commences mode initialisation, and when the remote terminal does not send framing to the IUT, producing outcome A-II to sequence A, and when the IUT switches its transmission mode to mode OU, the IUT detects the received encoding law and decodes it correctly.

10 Combined test purposes for two channels communication

NOTE: For reasons of clarity the test purposes refer to CCITT and ITU-T Recommendations by their series letter and number only, thus:

- G.711 = CCITT Recommendation G.711 [5];
- G.722 = CCITT Recommendation G.722 [6];
- G.725 = CCITT Recommendation G.725 [7];
- G.728 = CCITT Recommendation G.728 [8];
- H.261 = ITU-T Recommendation H.261 [9];
- T.120 = ITU-T Recommendation T.120;
- V.14 = ITU-T Recommendation V.14.

10.1 Capability

10.1.1 Frame and multiframe

CTP2-1-002: TP2-1-001, TP2-1-002
TP2-1-001: [ETS 300 144 [2] subclause 6.1 §2]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, the IUT sets bits 8 of bytes 2 to 8 at every first-third-fifth..... frame of 80 bytes to "0011011", i.e. bits 2 to 8 of the service channel in each even frame, in the additional channel.
TP2-1-002: [ETS 300 144 [2] subclause 6.1 §2]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, the IUT sets bit 8 of the second byte of every second-fourth-sixth... 80 byte frame to "1", i.e. bit 2 of the service channel in each odd frame, in the additional channel.

TP2-1-003: [ETS 300 144 [2] subclause 6.2 §1 §2]
Verify that, during a 2B channel communication, the IUT sets bit 8 of byte 1 of frames 1,3,5,7,9,11 in each group of 16 frames (numbered 0-15) where each frame is 80 bytes long to "001011", i.e. bit 1 of the service channel in frames 1,3,5,7,9,11 in each multiframe of 16 frames, in the additional channel.

TP2-1-004: [ETS 300 144 [2] subclause 6.2 §3]
Verify that, during a 2B channel communication, the IUT sets bit 8 of byte 1 of frame 15 of each group of 16 frames (numbered 0-15) where each frame is 80 bytes long, to "0", i.e. bit 1 of the service channel in frame 15 in each multiframe of 16 frames (numbered 0-15), in the additional channel.

CTP2-1-005: TP2-1-005D, TP2-1-006D, TP2-1-007D.
SP023: [ETS 300 144 [2] subclause 6.2 §6]
Verify that, when it supports 2 B-channel operation, during a 2B channel connection, the IUT sends numbered multiframes in the initial channel.
TP2-1-005D: [ETS 300 144 [2] subclause 6.2 §4]
Verify that, when the IUT supports 2 B-channel operation, during a 2B connection, it sends bits N1, N2, N3, N4 in the bit position 1 of the FAS of frames 0-2-4-6 in each 16 frame multiframe, with the LSB transmitted in frame 0 and the MSB in frame 6, where N1, N2, N3, N4 is a modulo 16 counter to number multiframes in the initial channel.
TP2-1-006D: [ETS 300 144 [2] subclause 6.2 §4, 7.1]
Verify that, when the IUT supports 2 B-channel operation, during a 2B connection, it uses bits N1, N2, N3, N4 as a modulo 16 counter to number multiframes in descending order, with the LSB transmitted in frame 0 and the MSB in frame 6, in the initial channel.
TP2-1-007D: [ETS 300 144 [2] subclause 6.2 §7]
Verify that, when the IUT supports 2 B-channel operation, during a 2B connection, it sends "1" in bit 1 of FAS of frame 8 (N5) of each numbered multiframe in the initial channel.

CTP2-1-008: TP2-1-008D, TP2-1-009D, TP2-1-010D.
SP024: [ETS 300 144 [2] subclause 6.2 §6]
Verify that, when it supports 2 B-channel operation, during a 2B channel connection, the IUT sends numbered multiframes in the additional channel.
TP2-1-008D: [ETS 300 144 [2] subclause 6.2 §4]
Verify that, when the IUT supports 2 B-channel operation, during a 2B connection, it sends bits N1, N2, N3, N4 in the bit position 1 of the FAS in frames 0-2-4-6 of each 16 frame multiframe, with the LSB transmitted in frame 0 and the MSB in frame 6, where N1, N2, N3, N4 is a modulo 16 counter to number multiframes in the additional channel.

TP2-1-009D: [ETS 300 144 [2] subclause 6.2 §4] (ETS 300 144 [2] 7.1)
Verify that, when the IUT supports 2 B-channel operation, during a 2B connection, it uses bits N1, N2, N3, N4 as a modulo 16 counter to number multiframes in descending order, with the LSB transmitted in frame 0 and the MSB in frame 6, in the additional channel.
TP2-1-010D: [ETS 300 144 [2] subclause 6.2 §7]
Verify that, when the IUT supports 2 B-channel operation, during a 2B connection, it sends "1" in bit 1 of FAS of frame 8 (N5) of each numbered multiframe in the additional channel.

CTP2-1-011: TP2-1-011, TP2-1-012, TP2-1-013.
TP2-1-011: [ETS 300 144 [2] subclause 6.1 §3, 7.1 §3] [ETS 300 143 [1] subclause 5.1.3 §1]
Verify that, when the IUT supports 2 B-channel operation, when the initial and the additional B-channels have been established, when multiframe alignment and synchronisation between both channels has been gained, the IUT sets to "0" bit 8 of the third byte at every second-fourth-sixth... 80 byte frame, i.e. bit 3 of the service channel in each odd frame on both channels.
TP2-1-012: [ETS 300 144 [2] subclause 6.4 §2]
Verify that, when the IUT supports 2 B-channel operation, when the IUT detects the multiframe alignment signal in 16 consecutive frames in the initial channel, the IUT sets the A-bit of its following outgoing odd frames to "0" in the initial channel.
TP2-1-013: [ETS 300 144 [2] subclause 6.4 §2]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, when the IUT detects the multiframe alignment signal in 16 consecutive frames in the additional channel and synchronises with the initial channel, the IUT sets the A-bit of its following outgoing odd frames to "0" in the additional channel.

CTP2-1-014: TP2-1-014, TP2-1-015.
TP2-1-014: [ETS 300 144 [2] subclause 6.2 §8 & table 4b, 7.1 §4] [ETS300 143 [1] subclause 7.1.2 §2]
Verify that, when the IUT supports 2 B-channel operation, during a 2B channel communication, it sends the channel number "100" in bit 1 of the FAS in frames 10-12-13 (L1-L2-L3) in the initial channel, with L1 being the LSB and L3 the MSB.
TP2-1-015: [ETS 300 144 [2] subclause 6.2 §8 & table 4b, 7.1 §4] [ETS300 143 [1] subclause 7.1.2 §2]
Verify that, when the IUT supports 2 B-channel operation, during a 2B channel communication, it sends the channel number "010" in bit 1 of the FAS in frames 10-12-13 (L1-L2-L3) in the additional channel, with L1 being the LSB and L3 the MSB.

CTP2-1-016: TP2-1-016, TP2-1-017.
TP2-1-016: [ETS 300 144 [2] subclause 6.1 §4]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, when the IUT does not use the Cyclic Redundancy Check 4-bit (CRC4) procedure, the IUT sets to "0" bit 8 of byte 4 at every second-fourth-sixth... 80 byte frame, i.e. bit 4 of the service channel in each odd frame, in the additional channel.
TP2-1-017: [ETS 300 144 [2] subclause 6.1 §4]
Verify that, when the IUT supports 2 B-channel operation, during a 2B channel communication, when the IUT does not use the Cyclic Redundancy Check 4-bit (CRC4) procedure, the IUT sets to "1111" bit 8 of bytes 5,6,7,8 at every second-fourth-sixth... 80 byte frame, i.e. bits 5,6,7,8 of the service channel in each odd frame, in the additional channel.

CTP2-1-018: TP2-1-018, TP2-1-019, TP2-1-020, TP2-1-021, TP2-1-022, TP2-1-023, TP2-1-024, TP2-1-025.
TP2-1-018: [ETS 300 144 [2] subclause 9.1 §1]
Verify that, when the IUT implements the CRC4 procedure, it computes the CRC4 bits C1, C2, C3 and C4 in the additional B channel for each block or submultiframe made of two frames: one even frame followed by one odd frame.
TP2-1-019: [ETS 300 144 [2] subclause 9.1.1 §1]
Verify that, when the IUT implements the CRC4 procedure, it computes the C1 to C4 word located in a block J (generic block) as the remainder after multiplication by x^4 and then division (modulo 2) by the generator polynomial $x^4 + x + 1$, of the polynomial representation of block (J-1).
TP2-1-020: [ETS 300 144 [2] subclause 9.1.1 §2]
Verify that, when the IUT implements the CRC4 procedure, it takes the first bit in the block as the Most Significant Bit (MSB) to compute the CRC4 bits.
TP2-1-021: [ETS 300 144 [2] subclause 9.1.1 §2]
Verify that, when the IUT implements the CRC4 procedure, it defines the C1 bit as the MSB of the remainder.

TP2-1-022: [ETS 300 144 [2] subclause 9.1.1 §2]
Verify that, when the IUT implements the CRC4 procedure, it defines the C4 bit as the LSB of the remainder.
TP2-1-023: [ETS 300 144 [2] subclause 9.1.2 §1 a)]
Verify that, when the IUT implements the CRC4 encoding procedure, it initialises the CRC bits C1-C4 in the odd frame to "0".
TP2-1-024: [ETS 300 144 [2] subclause 9.1.2 §1 b)]
Verify that, when the IUT implements the CRC4 encoding procedure, after it has initialised C1-C4 bits to 0, it performs the CRC multiplication-division process on the block.
TP2-1-025: [ETS 300 144 [2] subclause 9.1.2 §1 c)]
Verify that, when the IUT implements the CRC4 encoding procedure, after it has performed the CRC multiplication-division process on the block, it stores the remainder resulting from this process in the CRC bit positions in the next odd frame.

CTP2-1-026: TP2-1-026, TP2-1-027, TP2-1-028, TP2-1-029.
TP2-1-026: [ETS 300 144 [2] subclause 9.1.2 §1 a)]
Verify that, when the IUT implements the CRC4 decoding procedure, after it has extracted and stored the CRC bits in the additional B channel in the received odd frame and replaced them by zeroes, it performs the CRC multiplication-division process on the received block.
TP2-1-027: [ETS 300 144 [2] subclause 9.1.2 §1 b)]
Verify that, when the IUT implements the CRC4 decoding procedure, after the CRC multiplication-division process has been performed on the received block (with the CRC bits extracted and replaced by zeros), the IUT compares the remainder resulting from this process with the CRC bits received in the next odd frame.
TP2-1-028: [ETS 300 144 [2] subclause 9.1.2 §1 c)]
Verify that, when the IUT implements the CRC4 decoding procedure, after the CRC multiplication-division process has been performed on the received block (with the CRC bits extracted and replaced by zeros), when the IUT compares the remainder resulting from this process with the CRC bits received in the next odd frame, if the calculated remainder corresponds exactly to the CRC bits received, the IUT considers the checked block to be without error.
TP2-1-029: [ETS 300 144 [2] subclause 9.2.1 §1]
Verify that, when the IUT implements CRC4 decoding procedure, it sets the E-bit of a block J in the transmitting direction to "0" if bits C1-C4 detected in the most recently received block have been found to be without error.

TP2-1-030: [ETS 300 144 [2] subclause 6.2 §11]
Verify that, when the IUT supports 2 B-channel operation, during a 2B channel communication, when the IUT can receive and transmit signals, the IUT sets the bit 1 (TEA) of the FAS to "0" in the service channel in outgoing frame number 14 in each multiframe in the additional channel.

10.1.2   BAS

Transfer-rate command values (001)
CTP2-1-031: TP2-1-031, TP2-1-032, TP2-1-033.
TP2-1-031: [ETS 300 144 [2] subclause 7.1 §4,10.1.2 §12] [ETS300 143 [1] subclause 7.1.2 §2]
Verify that, when the IUT supports 2 B-channel operation, when the initial and the additional B channels have been established, when multiframe alignment and synchronisation between both B-channels have been gained, the IUT transmits channel no.2 BAS command (001) [18] in BAS position on the additional channel.
TP2-1-032: [ETS 300 144 [2] subclause 7.1 §4]
Verify that, when the IUT supports 2 B-channel operation, when the initial and the additional B channels have been established, when multiframe alignment and synchronisation between both B-channels have been gained, while the initial channel is not lost, the IUT does not transmit any channel numbering identification among BAS commands on the initial channel.
TP2-1-033: [ETS 300 144 [2] subclause 10.1.2 §12]
Verify that, if the IUT supports 2 B-channel operation, when the IUT has sent the 2B capability (100)[17] during Sequence A, when the additional channel has been established, with FAS and BAS being transmitted in both directions, the IUT accepts the Channel No. 2. command (001)[18] transmitted by the remote terminal the on the additional channel.

10.1.3   Basis sequences and Procedures

10.1.3.1   Capability exchange (sequence A)

CTP2-1-034: TP2-1-034, TP2-1-035.
TP2-1-034: [ETS 300 144 [2] subclause 6.4 §3]
Verify that the IUT, when it supports 2 B-channel operation, when it has set the A-bit of its outgoing odd frames to "0" in the initial channel after gaining multiframe alignment, is able to respond to and complete a capability exchange sequence A on the initial channel.
TP2-1-035: [ETS 300 144 [2] subclause 10.1.6 §2] [ETS 300 143 [1] subclause 5.1.9 §4 table 2]
Verify that, during a sequence A in an initialisation procedure, when the IUT supports only 1B and 2B transfer rates, the IUT sends a capability set that contains the transfer rate capability 2B (100)[17] as its only transfer rate capability.

TP2-1-036: [ETS 300 144 [2] subclause 10.1.5 §5]
Verify that the IUT, when it supports G.722-48 audio mode, can send the audio capability G.722-48 (100)[4] in its capability set.

10.1.3.2   Mode switching (sequence B)

TP2-1-037: [ETS 300 144 [2] subclause 10.1.2 §1]
Verify that, during a 2B communication, when the IUT receives from the remote terminal the 64 command (001)[0] signalling a single channel communication, it only decodes data received on the initial channel.

CTP2-1-038: TP2-1-038, TP2-1-039.
TP2-1-038: [ETS 300 143 [1] subclause 6.2 §1 2)] [ETS 300 144 [2] subclause 10.1.2 §2, 10.1.6 §2, 7.1]
Verify that, if the IUT supports 2B channel operation, after the completion of sequence A during which it has sent the 2B transfer rate capability (100)[17], the IUT accepts the BAS command code 2*64 (001)[1] transmitted by the remote terminal signalling the expansion of communication onto the additional channel.
TP2-1-039: [ETS 300 143 [1] subclause 6.2 §1 3)] [ETS 300 144 [2] subclause 10.1.2 §2, 7.1]
Verify that, if the IUT supports 2B channel operation, when the additional channel is established and synchronised with the initial channel, the IUT sends the BAS command code 2*64 (001)[1] in order to expand communication onto the additional channel.

TP2-1-040: [ETS 300 144 [2] subclause 10.1.2 §2]
*Verify that, if the IUT supports 2 B-channel operation, when the IUT has sent the 2B capability (100)[17] during Sequence A and received from the remote terminal the 2*64 command (001)[1] signalling a two channel communication, it properly decodes the incoming data bit-streams of the initial and the additional channels according to the other commands.*

CTP2-1-041: TP2-1-041, TP2-1-042.
TP2-1-041: [ETS 300 143 [1] subclause 6.2 §1 1)] [ETS 300 144 [2] subclause 10.1.1.1 §9]
Verify that, when the IUT is in a framed audio mode other than G.722 m2, if the IUT is able to perform mode switching to G.722 56kbit/s audio mode, it can send the BAS command code G.722 m2 (000)[24] in order to change the audio mode to G.722 m2.
TP2-1-042: [ETS 300 144 [2] subclause 10.1.1.1 §9; 10.1.5 §5]
Verify that, when the IUT supports G722 at 56kbit/s, when the IUT has sent the G.722-48 capability (100)[4] during Sequence A, it accepts the G.722, m2 command (000)[24] from the remote terminal signalling the 7 kHz G.722 audio mode at 56 kbit/s.

TP2-1-043: [ETS 300 144 [2] subclause 10.1.1.1 §9]
Verify that, when the IUT supports G722 at 56kbit/s, when the IUT wishes to operate in the 7 kHz G.722 framed audio mode at 56 kbit/s, after it has sent the G.722, m2 command (000)[24] to the remote terminal, its outgoing data bit-stream in the initial channel contains framed audio encoded to G.722 at 56 kbit/s.

TP2-1-044: [ETS 300 144 [2] subclause 10.1.1.1 §9; 10.1.5 §5]
Verify that, when the IUT supports G722 at 56kbit/s, when the IUT has sent the G.722-48 capability (100)[4] during Sequence A, when it has received the G.722, m2 command (000)[24] from the remote terminal, the IUT properly decodes the incoming data bit-stream containing framed audio encoded to G.722 at 56 kbit/s in the initial channel.

CTP2-1-045: TP2-1-045, TP2-1-047.
TP2-1-045: [ETS 300 143 [1] subclause 6.2 §1 1)]
Verify that, when the IUT is in a framed audio mode other than G.722 m3, if the IUT is able to perform mode switching to G.722 48kbit/s audio mode, it can send the BAS command code G.722 m3 (000)[25] in order to change the audio mode to G.722 m3.
TP2-1-046: [ETS 300 144 [2] subclause 10.1.1.1 §10; 10.1.5 §5]
Verify that, when the IUT supports G722 at 48kbit/s, when the IUT has sent the G.722-48 capability (100)[4] during Sequence A, it accepts the G.722, m3 command (000)[25] from the remote terminal signalling the audio mode G.722 at 48 kbit/s.

TP2-1-047: [ETS 300 144 [2] subclause 10.1.1.1 §10]
Verify that, if the IUT supports the G.722 audio mode at 48kbit/s, when the IUT wishes to operate in the 7 kHz G.722 framed audio mode at 48 kbit/s, after it has sent the G.722, m3 command (000)[25] to the remote terminal, its outgoing data bit-stream in the initial channel contains framed audio encoded to G.722 at 48 kbit/s.

TP2-1-048: [ETS 300 144 [2] subclause 10.1.1.1 §10; 10.1.5 §5]
Verify that, if the IUT supports the G.722 audio mode at 48kbit/s, when the IUT has sent the G.722-48 capability (100)[4] during Sequence A, after it has received from the remote terminal the G.722, m3 command (000)[25], the IUT properly decodes the incoming data bit-stream containing framed audio encoded to G.722 at 48 kbit/s in the initial channel.

TP2-1-049: [ETS 300 144 [2] subclause 10.1.3 §2]
Verify that, if the IUT supports video and 2 B-channel operation, when the IUT has sent the command H.261 (010)[1] to the remote terminal during a 2 B-channel communication, its outgoing data bit-stream in the additional channel contains encoded video signals.

TP2-1-050: [ETS 300 144 [2] subclause 10.1.3 §2]
Verify that, if the IUT supports video and 2 B-channel operation, during a 2 B-channel communication, after the IUT has received the H.261 command (010)[1], it decodes the incoming video signals on the additional channel.

TP2-1-051: [ETS 300 144 [2] subclause 10.1.7 QCIF]
Verify that, when the IUT sends a capability set during sequence A containing QCIF capability code (101)[20] followed by one MPI value, the IUT can decode video received in the QCIF format having the corresponding Minimum Picture Interval.

TP2-1-052: [ETS 300 144 [2] subclause 10.1.3 §2; 10.1.7 CIF]
Verify that, when the IUT sends a capability set during sequence A containing CIF capability code (101)[21] followed by two MPI values, after the IUT has received the H.261 command (010)[1], the IUT decodes video received in the QCIF format having the corresponding first Minimum Picture Interval.

TP2-1-053: [ETS 300 144 [2] subclause 10.1.3 §2; 10.1.7 CIF]
Verify that, when the IUT sends a capability set during sequence A containing CIF capability code (101)[21] followed by two MPI values, after the IUT has received the H.261 command (010)[1], the IUT decodes video received in the CIF format having the corresponding second Minimum Picture Interval.

TP2-1-054: [ETS 300 143 [1] subclause 6.2 §1 1)]
Verify that, when the IUT supports mode b3, performs a mode switching in order to obtain this mode by sending the following commands: G.728 (000)[29], 2*64 (001)[1] and H.261 (010)[1].

TP2-1-055: [ETS 300 143 [1] subclause 6.2 §1 1)]
Verify that, when the IUT supports mode b2, performs a mode switching in order to obtain this mode by sending the following commands: G.722-m2 (000)[24] or G.722-m3 (000)[25], 2*64 (001)[1] and H.261 (010)[1].

TP2-1-056: [ETS 300 143 [1] subclause 6.2 §1 1)]
Verify that, when the IUT supports mode b1, performs a mode switching in order to obtain this mode by sending the following commands: G.711 A-law 0F (000)[18] or G.711 μ-law 0F (000)[19], 2*64 (001)[1] and H.261 (010)[1].

TP2-1-057: [ETS 300 143 [1] subclause 6.2 §1 2)]
Verify that, if the IUT supports 2B channel operation, after 2B communication has been established, the IUT accepts the BAS command code 64 (001)[0] transmitted by the remote terminal signalling the end of communication on the additional channel.

10.1.3.3 Mode initialisation procedure

TP2-1-058: [ETS 300 144 [2] subclause 10.1.2 §2, 7.1] [ETS 300 143 [1] subclause 5.2.2 §1]
Verify that, if the IUT supports 2 B-channel operation, when it is sending video, when the IUT wishes to operate in two channel mode, after multiframe alignment and synchronisation have been achieved, after it has sent the 2*64 command (001)[1] to the remote terminal, it expands its transmission mode to occupy the additional channel and all unallocated space in the initial channel.

TP2-1-059: [ETS 300 144 [2] subclause 10.1.6 §1] [ETS300 143 [1] subclause 7.1.2 §1]
Verify that the IUT, when it supports 2 B-channel operation, when it initiates the call, when it receives the transfer rate capability 1B (100)[16] in the capability set from the remote terminal, it does not initiate a second call.

TP2-1-060: [ETS300 143 [1] subclause 7.1.2 §1]
Verify that, if the IUT has 2B (100)[17] channel transfer rate capability and sends this capability to the remote terminal during mode initialisation, when the remote terminal has also sent 2B (100)[17] channel transfer rate capability to the IUT during mode initialisation, when the IUT is the calling terminal, the IUT establishes the second connection.

TP2-1-061: [ETS300 143 [1] subclause 7.1.2 §1]
Verify that, if the IUT has 2B (100)[17] transfer rate capability and sends this capability to the remote terminal during mode initialisation, when the remote terminal has also sent 2B (100)[17] transfer rate capability to the IUT during mode initialisation, when the remote terminal is the calling terminal but does not attempt to establish the second connection, the IUT does not establish the second connection.

CTP2-1-063: TP2-1-062, TP2-1-063.
TP2-1-062: [ETS300 143 [1] subclause 7.1.2 §1]
Verify that, if the IUT has 2B (100)[17] transfer rate capability and sends this capability to the remote terminal during mode initialisation, when the remote terminal has also sent 2B (100)[17] transfer rate capability to the IUT during mode initialisation, when the remote terminal is the calling terminal, the IUT accepts establishment of the second connection by the remote terminal.
TP2-1-063: [ETS300 143 [1] subclause 7.1.2 §3]
Verify that, if the IUT has two channel capability, when the remote terminal is the calling terminal, when the second connection has been established by the remote terminal, when multiframe alignment and synchronisation has been achieved and both terminals are transmitting A-bit = 0, when the remote terminal has numbered the additional channel using FAS and BAS channel numbering, the IUT uses the same numbering.

10.2 Valid behaviour

10.2.1 Frame and multiframe

TP2-2-001: [ETS 300 143 [1] subclause 7.1.2 §4]
Verify that the IUT can manage a delay in the additional channel multiframe numbering and set its outgoing A-bit to "0" in the additional channel considering the 2B channels as synchronised.

SP003: [ETS 300 143 [1] subclause 5.4 §1]
Verify that the IUT accepts unoccupied bits, except those bit positions reserved for FAS and BAS filled with any combinations of bit values.

TP2-2-002D: [ETS 300 143 [1] subclause 5.4 §1]
Verify that the IUT, when it supports 2 B-channel operation, after the additional channel has been established and synchronised, before the transfer rate command for the second channel has been sent by the remote terminal, accepts unoccupied bits on the additional channel filled with "0", except those bits containing FAS and BAS.

TP2-2-003: [ETS 300 144 [2] subclause 11]
Verify that, if the IUT supports G.722 audio at 64kbit/s, when the IUT transmits audio according to G.722 at 64kbit/s unframed, it occupies the bit positions in the order given in table 17 of ETS 300 144 [2].

TP2-2-004: [ETS 300 144 [2] subclause 11]
Verify that, if the IUT supports G.722 audio at 64kbit/s, when the IUT receives audio according to G.722 at 64kbit/s unframed, it correctly decodes the audio received in the bit positions in the order given in table 17 of ETS 300 144 [2].

TP2-2-005: [ETS 300 144 [2] subclause 11]
Verify that, if the IUT supports G.722 audio at 56kbit/s, when the IUT transmits audio according to G.722 at 56kbit/s framed and the corresponding command, it occupies the bit positions in the order given in table 17 of ETS 300 144 [2].

TP2-2-006: [ETS 300 144 [2] subclause 11]
Verify that, if the IUT supports G.722 audio at 56kbit/s, when the IUT receives audio according to G.722 at 56kbit/s framed and the corresponding command, it correctly decodes the audio received in the bit positions in the order given in table 17 of ETS 300 144 [2].

TP2-2-007: [ETS 300 144 [2] subclause 11]
Verify that, if the IUT supports G.722 audio at 48kbit/s, when the IUT transmits audio according to G.722 at 48kbit/s framed and the corresponding command, it occupies the bit positions in the order given in table 17 of ETS 300 144 [2].

TP2-2-008: [ETS 300 144 [2] subclause 11]
Verify that, if the IUT supports G.722 audio at 48kbit/s, when the IUT receives audio according to G.722 at 48kbit/s framed and the corresponding command, it correctly decodes the audio received in the bit positions in the order given in table 17 of ETS 300 144 [2].

TP2-2-009:[[ETS 300 144 [2] subclause 11]
Verify that, if the IUT supports G.722 audio at 48kbit/s and 2B channel operation, when two channel communication is established, with video and G.722 audio at 48kbit/s being transmitted by the IUT, with the corresponding commands, the IUT inserts audio and video in the two channels in the bit positions and in the bit order given in table 19 of ETS 300 144 [2].

TP2-2-010: [ETS 300 144 [2] subclause 11]
Verify that, if the IUT supports G.722 audio at 48kbit/s and 2B channel operation, when two channel communication is established, with video and G.722 audio at 48kbit/s being transmitted by the remote terminal, with the corresponding commands, the IUT correctly decodes the audio and video which it extracts from the two channels in the bit positions and bit order given in table 19 of ETS 300 144 [2].

10.2.2 BAS

10.2.2.1 Audio command value (000)

TP2-2-011: [ETS 300 144 [2] subclause 10.1.1.1 §8]
Verify that, when the IUT supports G.722 at 64kbit/s, when the IUT wishes to operate in the 7 kHz audio G.722 unframed mode at 64 kbit/s, after it has sent the G.722 m1 command (000)[6], its outgoing data bit-stream in the initial channel contains unframed audio encoded to G.722.

TP2-2-012: [ETS 300 144 [2] subclause 10.1.1.1 §8; 10.1.5 §4,5]
Verify that, when the IUT supports G.722, when the IUT has sent the G.722-64 capability (100)[3] or the G.722-48 capability (100)[4] during sequence A, when it has received the G.722, m1 command (000)[6] from the remote terminal signalling the 7 kHz audio mode G.722 at 64 kbit/s unframed, the IUT properly decodes the incoming data bit-stream.

CTP2-2-014 :TP2-2-013, TP2-2-014, TP2-2-015.
TP2-2-013: [ETS 300 144 [2] subclause 10.1.6 §9]
Verify that, if the IUT is intended to interwork with a channel aggregator unit according to H.244, it sends the SM-comp capability (100)[7] in its capability set.
TP2-2-014: [ETS 300 143 [1] subclause 6.1 §3] [ETS 300 144 [2] subclause 10.1.1.1 §1] [ETS 300 144 [2] subclause 10.1.6 §9]
Verify that, if the IUT is intended to interwork with a channel aggregator unit according to H.244, when the IUT has sent the SM-comp capability (100)[7] in its capability set, when the IUT receives the command Capex (000)[1], it immediately initiates sequence A, if it is not already in sequence A.
TP2-2-015: [ETS 300 143 [1] subclause 6.1 §3]
Verify that, if the IUT is intended to interwork with a channel aggregator unit according to H.244, when the IUT has sent the SM-comp capability (100)[7] in its capability set, when the IUT receives the command Capex (000)[1] during a sequence A, it ensures that at least one complete capability set is transmitted after receiving the command Capex.

10.2.2.2   Video, loopback and other commands (010)

TP2-2-016: [ETS 300 144 [2] subclause 10.1.3 §10 & 10.2.2 §10]
Verify that, when the IUT supports 2 B-channels, during a 2 B-channel communication, after it has received the "Digital Loop Request" (LCD) command (010)[20], the IUT connects the output of the receiver demultiplexer to the input of the transmitter multiplexer on the additional channel.

10.2.2.3   C&I related to simple multipoint conferences not using MLP(111)[17] - (001)

CTP2-2-017: TP2-2-017, TP2-2-019D, TP2-2-021, TP2-2-020.
TP2-2-017: [ETS 300 144 [2] subclause 8.2.2 §2]
Verify that, when audio and video communication is established on both initial and additional channels, when the IUT receives the BAS extension code (111)[17] followed by the escape value (001)[0], the IUT interprets this as the MCC command and not as the 1B transfer rate command, and matches its transmitted audio and video transfer rates to the received transfer rates, without reducing communication to 1B channel.
SP004: [ETS 300 144 [2] subclause 10.2.2.3 §3]
Verify that, after the IUT has received the MCC command (111)[17]-(001)[0], it makes its outgoing transfer rate equal to its incoming transfer rate.
TP2-2-019D: [ETS 300 143 [1] subclause 6.2.2]
Verify that, when the IUT supports G.722 or G.728, when the IUT is transmitting in G.711 mode but the remote terminal is transmitting in G.722m3 or G.728, when the IUT detects the incoming BAS commands MCC (111)[17]-(001)[0] it switches the outgoing audio mode to G.722m3 or G.728, identical to the incoming rate.
TP2-2-020D: [ETS 300 143 [1] subclause 6.2.2]
Verify that, if the IUT supports an audio rate other than 56kbit/s, when the IUT has previously received the BAS command MCC (111)[17]-(001)[0] and is transmitting and receiving in Mode G.722m3 or G.728, when it receives an audio mode command to switch to a 56kbit/s rate, the IUT switches the outgoing audio rate to match the incoming rate.
TP2-2-021: [ETS 300 143 [1] subclause 6.2.2]
Verify that when the IUT is in multipoint conference, after it has received the BAS command MCC (111)[17]-(001)[0], it maintains its outgoing transmission mode identical to the incoming mode throughout the remainder of the call until receipt of cancel-MCC command (111)[17]-(001)[1].

SP004: [ETS 300 144 [2] subclause 10.2.2.3 §3]
Verify that, after the IUT has received the MCC command (111)[17]-(001)[0], it makes its outgoing transfer rate equal to its incoming transfer rate.

TP2-2-018D: [ETS 300 144 [2] subclause 10.2.2.3 §3] [ETS 300 143 [1] subclause 6.2.2]
Verify that, if two B-channels are established, and the additional channel is synchronised with the initial channel, with the IUT transmitting using 2B transfer rate but with the remote terminal transmitting using 1B transfer rate, when the remote terminal sends the MCC command (111)[17]-(001)[0], the IUT reduces its outgoing transfer rate to 1B.

10.2.3 Basic sequences and procedures

10.2.3.1 Mode switching (sequence B)

SP010: [ETS 300 143 [1] subclause 5.2.1 §1]
Verify that the IUT, accepts that the remote terminal expands its audio capacity into video bit positions.

TP2-2-022D: [ETS 300 143 [1] subclause 5.2.1 §1]
Verify that, when the IUT supports G722-48 and video, after the completion of the initialisation procedure for 2B channel operation, the IUT accepts the audio command G722,m3 (000)[25] then the video command H.261 (010)[1] and then the audio command A-law,0F (000)[18].

CTP2-2-023: TP2-2-023, TP2-2-024.
TP2-2-023: [ETS 300 143 [1] subclause 6.2 §1 1)]
Verify that, when the IUT is in audio mode G.722 56kbit/s, if the IUT is able to perform mode switching to G.722 48kbit/s audio mode, it sends the BAS command code G.722-m3 (000)[25] in order to change the audio mode from G.722 56kbit/s to G.722 48kbit/s.
TP2-2-024: [ETS 300 143 [1] subclause 6.2 §1 1)]
Verify that, when the IUT is in audio mode G.722 48kbit/s, if the IUT is able to perform mode switching to G.722 56kbit/s audio mode, it sends the BAS command code G.722-m2 (000)[24] in order to change the audio mode from G.722 48kbit/s to G.722 56kbit/s.

CTP2-2-025: TP2-2-025, TP2-2-026.
TP2-2-025: [ETS 300 143 [1] subclause 6.2 §1 1)]
Verify that if G.722 audio mode is supported by the IUT, when the remote terminal is transmitting in G.722 56kbit/s, the IUT accepts the BAS command code G.722 m3 (000)[25] signalling a change of the audio mode from G.722 m2 to G.722 m3.
TP2-2-026: [ETS 300 143 [1] subclause 6.2 §1 1)]
Verify that if G.722 audio mode is supported by the IUT, when the remote terminal is transmitting in G.722 48kbit/s, the IUT accepts the BAS command code G.722 m2 (000)[24] signalling a change of the audio mode from G.722 m3 to G.722 m2.

10.2.3.2 Mode initialisation

TP2-2-027: [ETS300 143 [1] subclause 7.1.2 §1, ETS 300 144 [2] 10.1.6 §2]
Verify that, if the IUT has 2B (100)[17] channel transfer rate capability and sends this capability to the remote terminal during mode initialisation, when the remote terminal has sent 6B (100)[21] channel transfer rate capability to the IUT during mode initialisation, when the IUT is the calling terminal, the IUT establishes the second connection.

10.2.3.3 Mode forcing procedure

CTP2-2-029: TP2-2-028, TP2-2-029.
TP2-2-028: [ETS 300 143 [1] subclause 7.3.1]
Verify that, when the IUT supports G.722 audio mode, when the IUT wishes to perform mode forcing, when the current audio received mode is G.722, it starts a mode forcing procedure in order to reduce the audio mode from G.722 to G.711 μ-law by sending the command μ-law, 0F (000)[19].
TP2-2-029: [ETS 300 143 [1] subclause 7.3.1]
Verify that, when the IUT supports G.722 audio mode, when the IUT wishes to perform mode forcing, when the current audio received mode is G.722, after it starts a mode forcing procedure in order to reduce the audio mode from G.722 to G.711 μ-law by sending the command μ-law, 0F (000)[19], it sends a new capability set in which the only audio capability is G.711 μ-law (100)[2].

CTP2-2-031: TP2-2-030, TP2-2-031.
TP2-2-030: [ETS 300 143 [1] subclause 7.3.1]
Verify that, when the current audio transmitted mode by the IUT is G.722, on receipt from the remote terminal of the command μ-law, 0F (000)[19] and a capability set in which the only audio capability is μ-law (100)[2] capability, the IUT sends the command μ-law, 0F (000)[19].
TP2-2-031: [ETS 300 143 [1] subclause 7.3.1]
Verify that, when the current audio transmitted mode by the IUT is G.722, on receipt from the remote terminal of the command μ-law, 0F (000)[19] and a capability set in which the only audio capability is μ-law (100)[2], the IUT sends its capability set, completing sequence A.

CTP2-2-033: TP2-2-032, TP2-2-033.
TP2-2-032: [ETS 300 143 [1] subclause 7.3.1]
Verify that, if the IUT supports two channel communications, during a video communication, when it wishes to perform a mode forcing in order to turn video off, it sends the command Video-Off (101)[0].
TP2-2-033: [ETS 300 143 [1] subclause 7.3.1]
Verify that, if the IUT supports two channel communications, during a video communication, if a mode forcing procedure has already been started by the IUT in order to turn video off by sending the command video-off (101)[0], the IUT sends its capability set without any video capabilities.

CTP2-2-034: TP2-2-034, TP2-2-035
TP2-2-034: [ETS 300 143 [1] subclause 7.3.1]
Verify that, if the IUT supports two channel communications, during a video communication, on receipt from the remote terminal of the command video-off (101)[0] and of a capability set which does not contain any video capabilities, the IUT sends the command video-off (101)[0] to switch off its video transmission.
TP2-2-035: [ETS 300 143 [1] subclause 7.3.1]
Verify that, if the IUT supports two channel communications, during a video communication, on receipt from the remote terminal of the command video-off (101)[0] and of a capability set which does not contain any video capabilities, the IUT sends its capability set.

TP2-2-036: [ETS 300 143 [1] subclause 7.3.1]
Verify that, if the IUT supports two channel communications, if CIF video format is supported by the tester, when CIF video format is being transmitted by both terminals, when the IUT wishes to perform mode forcing to QCIF mode, it starts a mode forcing procedure in order to change the video mode from CIF to QCIF by sending a new sequence A containing a reduced capability set with QCIF capability code and an MPI value but without a CIF capability code.

TP2-2-037: [ETS 300 143 [1] subclause 7.3.1]
Verify that, if the IUT supports two channel communications, if the IUT supports the CIF video format, when it is transmitting in CIF format, on receipt from the remote terminal of a reduced capability set which contains the QCIF capability (101)[20] and its accompanying MPI code as the only video capabilities, the IUT sends its capability set, completing sequence A.

TP2-2-038: [ETS 300 143 [1] subclause 7.3.1]
Verify that, if the IUT supports the CIF video format, when it is transmitting in CIF format, on receipt from the remote terminal of a reduced capability set which contains the QCIF capability (101)[20] and its accompanying MPI code as the only video capabilities, the IUT changes its video transmission mode to QCIF.

TP2-2-039: [ETS 300 143 [1] subclause 7.3.1]
Verify that, if an MPI value of less than 4/29,97 seconds is supported by the IUT, when an MPI value of less than 4/29,97 seconds is being used by both terminals, when the IUT wishes to perform mode forcing to an MPI value of 4/29,97 seconds, it starts a mode forcing procedure in order to change the MPI value by sending a new sequence A containing 4/29,97 seconds (101)[25] as the only MPI value used by both CIF and QCIF .

SP026: [ETS 300 143 [1] subclause 7.3.1]
Verify that, if the IUT supports an MPI value of less than 4/29,97 seconds, when it is transmitting with an MPI value of less than 4/29,97 seconds, when it detects an incoming mode forcing procedure has been activated by the remote terminal in order to increase the MPI value to 4/29,97 seconds, the IUT sends its capability set and changes its video transmission mode.

TP2-2-040D: [ETS 300 143 [1] subclause 7.3.1]
Verify that, if the IUT supports an MPI value of less than 4/29,97 seconds, when it is transmitting with an MPI value of less than 4/29,97 seconds, on receipt from the remote terminal of a reduced capability set which contains the MPI value 4/29,97 seconds (101)[25] as the only MPI value for both CIF and QCIF, the IUT sends its capability set, completing sequence A.

TP2-2-041D: [ETS 300 143 [1] subclause 7.3.1]
Verify that, if the IUT supports an MPI value of less than 4/29,97 seconds, when it is transmitting with an MPI value of less than 4/29,97 seconds, on receipt from the remote terminal of a reduced capability set which contains the MPI value 4/29,97 seconds (101)[25] as the only MPI value for both CIF and QCIF, the IUT changes its transmission MPI value to 4/29,97 seconds.

CTP2-2-045: TP2-2-042, TP2-2-043, TP2-2-044, TP2-2-045.
TP2-2-042: [ETS 300 143 [1] subclause 7.3.2]
Verify that, if the IUT supports two channel communication, during a 2B channel video communication, when the IUT wishes to perform a mode 0 forcing procedure in order to restrict its received mode to only audio mode G.711 A-law on 1B channel, it sends the command A-law 0F (000)[18] to reduce the current mode to the mode wanted.
TP2-2-043: [ETS 300 143 [1] subclause 7.3.2]
Verify that, if the IUT supports two channel communication, during a 2B channel video communication, when the IUT wishes to perform a mode 0 forcing procedure in order to restrict its received mode to only audio mode G.711 A-law on 1B channel, it sends the command 64 (001)[0] to reduce the current mode to the mode wanted.
TP2-2-044: [ETS 300 143 [1] subclause 7.3.2]
Verify that, if the IUT supports two channel communication, during a 2B channel video communication, when video is switched on, when the IUT wishes to perform a mode 0 forcing procedure in order to restrict its received mode to only audio mode G.711 A-law on 1B channel, it sends the command video off (010)[0] to reduce the current mode to the mode wanted.
TP2-2-045: [ETS 300 143 [1] subclause 7.3.2]
Verify that, if the IUT supports two channel communication, during a 2B channel video communication, when the IUT wishes to perform a mode 0 forcing procedure in order to restrict its received mode to only audio mode G.711 A-law on 1B channel, after it sends the commands A-law 0F (000)[18] 64 (001)[0] and video off (010)[0], it starts a new sequence A by sending the reduced capabilities which contain only the 1B transfer rate capability (100)[16] and the A-law capability (100)[1].

CTP2-2-049: TP2-2-046, TP2-2-047, TP2-2-048, TP2-2-049.
TP2-2-046: [ETS 300 143 [1] subclause 7.3.2]
Verify that, when the IUT supports two channel communication, during a 2B video communication, on receipt from the remote terminal of the command A-law 0F (000)[18], video off (010)[0] and 64 (001)[0] and a capability set which contains only A-law (100)[1] for audio and 1B (100)[16] for transfer rate, the IUT sends the command A-law 0F (000)[18] in order to switch its outgoing mode to the mode desired by the forcing terminal.
TP2-2-047: [ETS 300 143 [1] subclause 7.3.2]
Verify that, when the IUT supports two channel communication, during a 2B video communication, on receipt from the remote terminal of the command A-law 0F (000)[18], video off (010)[0] and 64 (001)[0] and a capability set which contains only A-law (100)[1] for audio and 1B (100)[16] for transfer rate, the IUT sends the command 64 (001)[0] in order to switch its outgoing mode to the mode desired by the forcing terminal.
TP2-2-048: [ETS 300 143 [1] subclause 7.3.2]
Verify that, when the IUT supports two channel communication, during a 2B video communication, when video is switched on, on receipt from the remote terminal of the command A-law 0F (000)[18], video off (010)[0] and 64 (001)[0] and a capability set which contains only A-law (100)[1] for audio and 1B (100)[16] for transfer rate, the IUT sends the command video off (010)[0] in order to switch its outgoing mode to the mode desired by the forcing terminal.
TP2-2-049: [ETS 300 143 [1] subclause 7.3.2]
Verify that, when the IUT supports two channel communication, during a 2B video communication, on receipt from the remote terminal of the commands A-law 0F (000)[18], video off (010)[0] and 64 (001)[0] and a capability set which contains only A-law (100)[1] for audio and 1B (100)[16] for transfer rate, the IUT sends its capability set, thus completing sequence A.

10.2.4   Encryption Control Signal (ECS)

TP2-2-050 :(300 144 [2] subclause 10.1.3 §8)
Verify that, when the IUT supports encryption and 2 B-channel operation, during a 2 B-channel communication, after it has sent the Encryp-on command (010)[6], it encrypts to all the bits of its outgoing additional channel except the FAS and BAS positions in the Service Channel (SC).

10.3 Invalid behaviour

10.3.1 Frame and multiframe

SP027 [ETS 300 144 [2] subclause 6.2 §9]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, when the IUT receives three wrong numbered multiframes, the IUT does not consider numbering for multiframes valid any more.

TP2-3-001D: [ETS 300 144 [2] subclause 6.2 §5]
Verify that, when the IUT supports 2 B-channel operation, during a 2B connection, after it has gained multiframe alignment and synchronisation between both B-channels, if it receives the same number (15 for example) in bits N1 to N4 on the initial channel for more than three multiframes, and bit N5 is set to "1", it sets the A-bit in the additional channel to "1".

TP2-3-002D: [ETS 300 144 [2] subclause 6.2 §5]
Verify that, when the IUT supports 2 B-channel operation, during a 2B connection, after it has gained multiframe alignment and synchronisation between both B-channels, if it receives the same number (15 for example) in bits N1 to N4 on the additional channel in more than three multiframes, and bit N5 is set to "1", it sets the A-bit in the additional channel to "1".

TP2-3-003: [ETS 300 143 [1] subclause 8.2.2 §1-1)]
Verify that, when the IUT supports 2 B-channel operation, after completion of mode initialisation for both channels, on receipt of three consecutive incoming A bits equal to 1 in the additional channel, the IUT clears the channel if incoming A bit does not go to zero before the timer T2 (10 seconds) expires.

TP2-3-004: [ETS 300 143 [1] subclause 8.4.3 §2]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, if there is no switch beforehand to an unframed mode or to a mode not using the additional channel, if the FAW is no longer detected in the additional channel but is still detected in the initial channel, the IUT discards unintelligible information.

TP2-3-005: [ETS 300 143 [1] subclause 8.4.3 §2]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, if there is no switch beforehand to an unframed mode or to a mode not using the additional channel, if the FAW is no longer detected in the additional channel but is still detected in the initial channel, the IUT discards information on other channels that have become meaningless by the previous discard of unintelligible information.

CTP2-3-007 :TP2-3-006, TP2-3-007, TP2-3-009D.
TP2-3-006: [ETS 300 143 [1] subclause 8.4.3 §2]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, if there is no switch beforehand to an unframed mode or to a mode not using the additional channel, if the FAW is no longer detected in the additional channel but is still detected in the initial channel, the IUT starts timer T3 and searches for framing in the receive direction for a period of 1 second.
TP2-3-007: [ETS 300 143 [1] subclause 8.4.3 §2]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, if there is no switch beforehand to an unframed mode or to a mode not using the additional channel, if the FAW is no longer detected in the additional channel but is still detected in the initial channel, the IUT does not change the outgoing mode of transmission during a period of 1 second (T3).
SP017: [ETS 300 144 [2] subclause 6.3 §2 & §4]
Verify that, after the IUT has gained frame alignment at least one time, when it detects three consecutive erroneous FAW the IUT considers frame alignment as lost.
TP2-3-009D: [ETS 300 144 [2] subclause 6.3 §2 & §4]
Verify that, when the IUT supports 2 B-channel operation, after the connection of the additional channel, after it has gained multiframe alignment and synchronisation between both B-channels, when it detects three times on the additional channel an even frame with the first correct seven bits of the FAW in bits 2 to 8 of the SC followed by an odd frame that contains bit 2 of the SC set to "0" (the eighth bit of the FAW), the IUT sets the A-bit of its following outgoing odd frames to "1" on the additional channel.

CTP2-3-008: TP2-3-008D, TP2-3-010D
SP033: [ETS 300 143 [1] subclause 8.4.3 §2]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, if there is no switch beforehand to an unframed mode or to a mode not using the additional channel, if the FAW is no longer detected in the additional channel but is still detected in the initial channel, if the IUT does not recover framing before T3 (1 second) expires, the IUT implements an R2 recovery procedure.
TP2-3-008D: [ETS 300 143 [1] subclause 8.4.3 §2]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, if there is no switch beforehand to an unframed mode or to a mode not using the additional channel, if the FAW is no longer detected in the additional channel but is still detected in the initial channel, if the IUT does not recover framing before T3 (1 second) expires, when the IUT is the calling terminal, it drops the faulty connection.
SP017: [ETS 300 144 [2] subclause 6.3 §2 & §4]
Verify that, after the IUT has gained frame alignment at least one time, when it detects three consecutive erroneous FAW the IUT considers frame alignment as lost.
TP2-3-010D: [ETS 300 144 [2] subclause 6.3 §2 & §4]
Verify that, when the IUT supports 2 B-channel operation, after the connection of the additional channel, after it has gained multiframe alignment and synchronisation between both B-channels, when it receives three times on the additional channel, from the remote terminal, an even frame with bits 2 to 8 of the SC set to "0000000" followed by an odd frame that contains bit 2 of the SC set to "1" (the eighth bit of the FAW), the IUT sets the A-bit of its following outgoing odd frames to "1" in the additional channel.

SP017: [ETS 300 144 [2] subclause 6.3 §2 & §4]
Verify that, after the IUT has gained frame alignment at least one time, when it detects three consecutive erroneous FAW the IUT considers frame alignment as lost.

TP2-3-011D: [ETS 300 144 [2] subclause 6.3 §2 & §4]
Verify that, when the IUT supports 2 B-channel operation, after the connection of the additional channel, after it has gained multiframe alignment and synchronisation between both B-channels, when it receives twice on the additional channel, from the remote terminal, an even frame with bits 2 to 8 of the SC set to "0000000" followed by an odd frame which contains bit 2 of the SC set to "1" (the eighth bit of the FAW) and then receives an even frame with bits 2 to 8 of the SC set to "0011011" followed by an odd frame which contains bit 2 of the SC set to "1" (the eighth bit of the FAW), the IUT still sets the A-bit of its following outgoing odd frames to "0" in the additional channel.

CTP2-3-012: TP2-3-012D, TP2-3-014.
SP036: [ETS 300 144 [2] subclause 6.4 §4]
Verify that the IUT, if it supports 2 B-channel operation, after it has gained multiframe alignment, when it receives three erroneous consecutive multiframe alignment signals, sets the A-bit of its outgoing odd frames to "1".
TP2-3-012D: [ETS 300 144 [2] subclause 6.4 §4]
Verify that the IUT, when it supports 2 B-channel operation, during a 2 B-channel communication, after it has set the A-bit of its outgoing odd frames to "0" in the initial channel, when it receives on the initial channel three consecutive multiframes with the multiframe alignment signal bits set to "000000", sets the A-bit of its following outgoing odd frames to "1"on both channels.
TP2-3-014: [ETS 300 144 [2] subclause 6.4 §4]
Verify that, after the IUT has gained and then lost multiframe alignment, when it receives the multiframe alignment signal "001011" on the initial channel, the IUT resets the A-bit of its following outgoing odd frames to "0" in the initial channel.

SP029: [ETS 300 143 [1] subclause 8.4.2 §2-b)]
Verify that, when the IUT supports 2 B-channel operation and is the calling terminal, during a 2 B-channel communication, if multiframe alignment has been lost without losing frame alignment and information signal is carried by more than one channel, when in this case the IUT supports recovery action R2, the IUT implements R2 recovery procedure.

TP2-3-015D: [ETS 300 143 [1] subclause 8.4.2 §2-b)]
Verify that, when the IUT supports 2 B-channel operation and video and the IUT is the calling terminal, when a 2B connection has been established and video is switched on, if multiframe alignment has been lost on the initial channel without losing frame alignment, when in this case the IUT supports recovery action R2, the IUT drops the faulty connection.

SP030: [ETS 300 143 [1] subclause 8.4.2 §2-b)]
Verify that, when the IUT supports 2 B-channel operation and is the calling terminal, during a 2 B-channel communication, if multiframe alignment has been lost without losing frame alignment and the information signal is carried by more than one channel, when in this case the IUT supports recovery action R3, the IUT implements R3 recovery procedure.

TP2-3-016D: [ETS 300 143 [1] subclause 8.1 §4, 8.4.2b)]
Verify that, when the IUT supports 2 B-channel operation and video and the IUT is the calling terminal, when a 2B connection has been established and video is switched on, if multiframe alignment has been lost on the initial channel without losing frame alignment, when in this case the IUT supports recovery action R3, the IUT disconnects the video decoder.

TP2-3-017D: [ETS 300 143 [1] subclause 8.1 §4,8.4.2b)]
Verify that, when the IUT supports 2 B-channel operation and video and the IUT is the calling terminal, when a 2B connection has been established and video is switched on, if multiframe alignment has been lost on the initial channel without losing frame alignment, when in this case the IUT supports recovery action R3, after the IUT has disconnected the video decoder, the IUT connects it again on recovered of the multiframe alignment and synchronisation.

SP031: [ETS 300 143 [1] subclause 8.4.2 §2-b)]
Verify that, when the IUT supports 2 B-channel operation and is the called terminal, during a 2 B-channel communication, if multiframe alignment has been lost without losing frame alignment and information signal is carried by more than one channel, the IUT implements R3 recovery procedure.

TP2-3-018D: [ETS 300 143 [1] subclause 8.4.2 §2-b)]
Verify that, when the IUT supports 2 B-channel operation and video and the IUT is the called terminal, when a 2B connection has been established and video is switched on, if multiframe alignment has been lost on the initial channel without losing frame alignment, the IUT disconnects the video decoder.

TP2-3-019D: [ETS 300 143 [1] subclause 8.4.2 §2-b)]
Verify that, when the IUT supports 2 B-channel operation and video and the IUT is the called terminal, when a 2B connection has been established and video is switched on, if multiframe alignment has been lost on the initial channel without losing frame alignment, after the IUT has disconnected the video decoder, the IUT connects it again on recovered of the multiframe alignment and synchronisation.

TP2-3-020: [ETS 300 143 [1] subclause 8.4.4 §2]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, if there is loss of multiframe alignment without loss of frame alignment in the additional channel, the IUT discards unintelligible information.

TP2-3-021: [ETS 300 143 [1] subclause 8.4.4 §2]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, if there is loss of multiframe alignment without loss of frame alignment in the additional channel, the IUT discards information on other channels that have become meaningless by the previous discard of unintelligible information.

CTP2-3-024 :TP2-3-022, TP2-3-023, TP2-3-024, TP2-3-013D, TP2-3-025, TP2-3-026 .
TP2-3-022: [ETS 300 143 [1] subclause 8.4.4 §2]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, if there is loss of multiframe alignment without loss of frame alignment in the additional channel, the IUT starts timer T3 and searches for multiframe alignment in the receive direction during a period of 1 second.
TP2-3-023: [ETS 300 143 [1] subclause 8.4.4 §2]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, if there is loss of multiframe alignment without loss of frame alignment in the additional channel, the IUT does not change the outgoing mode of transmission during a period of 1 second.
TP2-3-024: [ETS 300 143 [1] subclause 8.4.4 §2]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, if there is loss of multiframe alignment without loss of frame alignment in the additional channel, if the IUT recovers multiframe alignment before T3 (1 second) expires, the IUT resumes the operation in a normal way.
SP036: [ETS 300 144 [2] subclause 6.4 §4]
Verify that the IUT, if it supports 2 B-channel operation, after it has gained multiframe alignment, when it receives three erroneous consecutive multiframe alignment signals, sets the A-bit of its outgoing odd frames to "1".

TP2-3-013D: [ETS 300 144 [2] subclause 6.4 §4, 7.1 §3]
Verify that the IUT, when it supports 2 B-channel operation, during a 2 B-channel communication, after it has set the A-bit of its outgoing odd frames to "0" in the additional channel, when it receives on the additional channel three consecutive multiframes with the multiframe alignment signal bits set to "000000", sets the A-bit of its following outgoing odd frames to "1" in the additional channel.

TP2-3-025: [ETS 300 144 [2] subclause 7.1 §3]
Verify that, when the IUT supports 2 B-channel operation, when the initial and the additional B-channels have been established, when the IUT has acquired multiframe alignment and synchronisation on both channels, when the remote terminal then transmits frame but not multiframe structure on the additional channel, the IUT transmits A-bit set to "0" in the initial channel and A-bit set to "1" in the additional channel.

TP2-3-026: [ETS 300 144 [2] subclause 6.4 §4]
Verify that, if the IUT supports 2B channel operation, when the IUT has gained multiframe alignment and synchronisation between channels, but then loses multiframe alignment in the additional channel, when it has regained multiframe alignment and synchronisation, the IUT resets the A-bit of its following outgoing odd frames in the additional channel to "0".

TP2-3-027: [ETS 300 143 [1] subclause 8.4.4 §2]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, if there is loss of multiframe alignment without loss of frame alignment in the additional channel, if the IUT does not recover multiframe alignment before T3 (1 second) expires, the IUT implements an R2 recovery procedure.

CTP2-3-028: TP2-3-028D, TP2-3-029D.
SP036: [ETS 300 144 [2] subclause 6.4 §4]
Verify that the IUT, if it supports 2 B-channel operation, after it has gained multiframe alignment, when it receives three erroneous consecutive multiframe alignment signals, sets the A-bit of its outgoing odd frames to "1".

TP2-3-028D: [ETS 300 144 [2] subclause 6.4 §4]
Verify that the IUT, when it supports 2 B-channel operation, during a 2 B-channel communication, after it has set the A-bit of its outgoing odd frames to "0" on the initial channel, when it receives in the initial channel two consecutive multiframes with the multiframe alignment signal bits set to "000000" and then a multiframe with the multiframe alignment signal bits set to "001011", the IUT maintains the A-bit of its following outgoing odd frames to "0" on the initial channel.

TP2-3-029D: [ETS 300 144 [2] subclause 6.4 §4]
Verify that the IUT, when it supports 2 B-channel operation, after it has set the A-bit of its outgoing odd frames to "0" on the additional channel, when it receives in the additional channel two consecutive multiframes with the multiframe alignment signal bits set to "000000" and then a multiframe with the multiframe alignment signal bits set to "001011", the IUT maintains the A-bit of its following outgoing odd frames to "0" on the additional channel.

TP2-3-030: [ETS 300 144 [2] subclause 6.2 §9]
Verify that, when it supports 2 B-channel operation, when it receives in the initial channel three multiframes with no consistent channel numbering, the IUT does not consider the number of the channel specified in FAS as valid anymore.

TP2-3-031: [ETS 300 144 [2] subclause 6.2 §9]
Verify that, when it supports 2 B-channel operation, when it receives in the additional channel three multiframes with no consistent channel numbering, the IUT does not consider the number of the channel specified in FAS as valid anymore.

CTP2-3-033: TP2-3-033, TP2-3-034.
TP2-3-033: [ETS 300 144 [2] subclause 7.1 §3]
Verify that, when the IUT supports 2 B-channel operation and E-bit operation, when the initial and the additional B channels have been established, when multiframe alignment and synchronisation between both B-channels have been gained, when the remote terminal transmits an incorrect CRC4 code on the additional channel, the IUT transmits E bit set to "1" in the next sub-multiframe transmitted on the additional channel.
TP2-3-034: [ETS 300 144 [2] subclause 7.1 §3]
Verify that, when the IUT supports 2 B-channel operation and E-bit operation, when the initial and the additional B channels have been established, when multiframe alignment and synchronisation between both B-channels have been gained, when the remote terminal transmits an incorrect CRC4 code on the additional channel but transmits a correct CRC4 code on the initial channel, the IUT maintains E-bit set to "0" in the next sub-multiframe transmitted on the initial channel.

CTP2-3-035: TP2-3-032, TP2-3-035.
TP2-3-032: [ETS 300 144 [2] subclause 9.2.1 §1]
Verify that, if the IUT implements CRC4 decoding procedure, when the CRC bits C1-C4 detected in the most recently received block have been found to be in error (at least one bit in error) in the initial channel, it sets the E-bit of a block J in the transmitting direction to "1".
TP2-3-035: [ETS 300 144 [2] subclause 7.1 §3]
Verify that, when the IUT supports 2 B-channel and E-bit operation, when the initial and the additional B channels have been established, when multiframe alignment and synchronisation between both B-channels have been gained, when the remote terminal transmits an incorrect CRC4 code on the initial channel but transmits a correct CRC4 code on the additional channel, the IUT maintains E-bit set to "0" in the next sub-multiframe transmitted on the additional channel.

TP2-3-036: [ETS 300 144 [2] subclause 9.2.2 §2]
Verify that, when the IUT provides incorrect frame alignment monitoring in the receiving side in the initial channel, when it counts 89 blocks or more with CRC errors, it reinitiates a search for frame alignment.

TP2-3-037: [ETS 300 144 [2] subclause 9.2.2 §2]
Verify that, when the IUT provides incorrect frame alignment monitoring in the receiving side in the additional channel, when it counts 89 blocks or more with CRC errors, it reinitiates a search for frame alignment.

TP2-3-038: [ETS 300 143 [1] subclause 8.6 §2)]
Verify that, when the IUT supports 2 B-channel operation, on receipt of a TEA = 1, the IUT does not perform any mode switch until TEA returns to 0.

TP2-3-039: [ETS 300 144 [2] subclause 6.2 §10]
Verify that, when the IUT supports 2 B-channel operation, the IUT accepts that bit 1 of the FAS is set to "1" (TEA) in the incoming frame number 14 of each multiframe in the initial channel.

TP2-3-040: [ETS 300 144 [2] subclause 6.2 §10]
Verify that, when the IUT supports 2 B-channel operation, the IUT accepts that the bit 1 of the FAS is set to "1" (TEA) in incoming frame number 14 of each multiframe in the additional channel.

TP2-3-041: [ETS 300 144 [2] subclause 6.2 §10]
Verify that, when the IUT supports 2 B-channel operation and implements the terminal Equipment Alarm, during a 2B channel communication, when the IUT has an internal equipment fault such that it cannot receive and act on the incoming signal or cannot transmit, the IUT sets bit 1 of the FAS to "1" in the transmitted frame number 14 of each multiframe in the initial channel.

TP2-3-042: [ETS 300 144 [2] subclause 6.2 §10]
Verify that, when the IUT supports 2 B-channel operation and implements the terminal Equipment Alarm, during a 2B channel communication, when the IUT has an internal equipment fault such that it cannot transmit user information in the form previously transmitted or cannot receive user information, the IUT sets bit 1 of the FAS to "1" in the transmitted frame number 14 of each multiframe in the additional channel.

10.3.2 Basic sequences and procedures

10.3.2.1 Capability exchange (sequence A)

TP2-3-043: [ETS 300 143 [1] subclause 6.1.3 §2]
Verify that, when the IUT initiates sequence A, when the IUT has 2B channel capability, when the remote terminal sends frame but not multiframe structure on the initial channel, and when timer T1 of 10 seconds, started when the IUT first transmitted its capability set, has expired, the sequence A fails with outcome A-II and the IUT switches its transmission and reception modes to unframed mode OU.

10.3.2.2 Mode initialisation

TP2-3-044: [ETS 300 143 [1] subclause 7.1.2 §1]
Verify that, if the IUT has two channel capability, when the IUT is the calling terminal, when the IUT has established the second connection, when timer T2 was started for 10 seconds when FAS and BAS were first transmitted by the IUT on the additional channel, on expiry of timer T2 without receiving A-bit = 0 on the additional channel, the IUT initiates a R2 fault recovery procedure, by dropping the additional connection and re-establishing it.

10.3.3 Loss of connection

CTP2-3-045: TP2-3-045, TP2-3-046, TP2-3-047.
TP2-3-045: [ETS 300 143 [1] subclause 8.1 §6-1, 8.5.2 §2-a]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, if the only additional channel connection has been lost, when in this case the IUT uses an R5 recovery procedure, the IUT sends audio in current mode or in mode OF.
TP2-3-046: [ETS 300 143 [1] subclause 8.1 §6-1, 8.5.2 §2-a]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, if the only additional channel connection has been lost, when in this case the IUT uses an R5 recovery procedure, when the IUT sends audio in current mode or in mode OF, it sends the transfer rate command 64 (001)[0] before any other command.
TP2-3-047: [ETS 300 143 [1] subclause 8.1 §6-2, 8.5.2 §2-a]
Verify that, when the IUT supports 2 B-channel operation, during a 2 B-channel communication, if the only additional channel connection has been lost, when in this case the IUT uses an R5 recovery procedure, after it has sent the transfer rate command 64 (001)[0] and none or any other relevant commands, the IUT starts a sequence A including the same transfer rate capabilities as before the channel loss.

CTP2-3-051: TP2-3-048, TP2-3-049, TP2-3-050, TP2-3-051.
TP2-3-048: [ETS 300 143 [1] subclause 8.5.4 §1 & 8.1 §5]
Verify that, when the IUT supports 2 B-channel operation, during a 2 b-channel communication, if the initial channel has been lost, when in this case the IUT implements an R4 recovery procedure, the IUT renumbers the additional channel.
TP2-3-049: [ETS 300 143 [1] subclause 8.5.4 §1 & 8.1 §5]
Verify that, when the IUT supports 2 B-channel operation, during a 2 b-channel communication, if the initial channel has been lost, when in this case the IUT implements an R4 recovery procedure, when the IUT has renumbered the additional channel, it expands the communication on to the additional channels when incoming A-bit is set to "0".
TP2-3-050: [ETS 300 143 [1] subclause 8.5.4 §1 & 8.1 §5]
Verify that, when the IUT supports 2 B-channel operation, during a 2 b-channel communication, if the initial channel has been lost, when in this case the IUT implements an R4 recovery procedure, after the IUT has renumbered the additional channel and expanded the communication on to the additional channel when incoming A-bit was set to "0", after it has reinstated FAS and BAS to make the new channel number known to the remote terminal, it repeats the command Loss-i.c. (001)[17] on the new initial channel whenever the other BAS commands are repeated.

TP2-3-051: [ETS 300 143 [1] subclause 8.5.4 §1 & 8.1 §5]
Verify that, when the IUT supports 2 B-channel operation, during a 2 b-channel communication initiated by the IUT, if the initial channel has been lost, when in this case the IUT implements an R4 recovery procedure, after the IUT has renumbered the additional channel and expanded the communication on to the additional channel when incoming A-bit was set to "0", after it has reinstated FAS and BAS to make the new channel number known to the remote terminal ,after it has repeated the command Loss-i.c. (001)[17] on the new initial channel whenever the other BAS commands are repeated, the IUT clears the lost channel.

TP2-3-052: [ETS 300 143 [1] subclause 8.5.4 §1 & 8.1 §5]
Verify that, when the IUT supports 2 B-channel operation, during a 2 b-channel communication, if the initial channel has been lost, when in this case the IUT implements an R4 recovery procedure, after the IUT has renumbered the additional channel and expanded the communication on to the additional channel when incoming A-bit was set to "0", it reinstates FAS and BAS to make the new channel number known to the remote terminal.

Annex A (informative): Bibliography

- ITU-T Recommendation H.221 (1993): "Frame structure for 64 to 1 920 kbit/s channel in audiovisual teleservices".

- ITU-T Recommendation H.230 (1993): "Frame-synchronous control and indication signals for audiovisual systems".

- ITU-T Recommendation H.242 (1993): "System for establishing communication between audiovisual terminals using digital channels up to 2 Mbit/s".

- ITU-T Recommendation H.243 (1993): "Procedures for establishing communication between three or more audiovisual terminals using digital channels up to 2 Mbit/s".

- ITU-T Recommendation H.320 (1993): "Narrow-band visual telephone systems and terminal equipment".

- ETS 300 264 (1994): "Integrated Services Digital Network (ISDN); Videotelephony teleservice; Service description".

- ETS 300 267-1 (1996): "Integrated Services Digital Network (ISDN); Telephony 7 kHz and videotelephony teleservices, Digital Subscriber Signalling System No. one (DSS 1) protocol; Part 1: Protocol specification".

- I-ETS 300 654 (1995): "Integrated Services Digital Network (ISDN); Videotelephony terminals Interim D-channel signalling aspects".

- I-ETS 300 245-5 (1995): "Integrated Services Digital Network (ISDN); Technical characteristics of telephony terminals Part 5:Wideband [7 kHz] handset telephony".

History

Document history		
June 1996	Public Enquiry	PE 108: 1996-06-24 to 1996-10-18