SLOVENSKI STANDARD
SIST ETS 300 336:1998

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Digitalno omrežje z integriranimi storitvami (ISDN) - Signalizacija št. 7 - Sporočilno -prenosni del (MTP) - Preskusna specifikacija (preoblikovani priporočili ITU-T Q.781 in Q.782 (1993)

Integrated Services Digital Network (ISDN); Signalling System No.7; Message Transfer Part (MTP); Test specification [ITU-T Recommendations Q.781 and Q.782 (1993), modified]

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[ITU-T Recommendations Q.781 and Q.782 (1993), modified]

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

Foreword

This European Telecommunication Standard (ETS) has been produced by the Signalling Protocols and Switching (SPS) Technical Committee of the European Telecommunications Standards Institute (ETSI).

Transposition dates	
Date of adoption of this ETS:	6 September 1996
Date of latest announcement of this ETS (doa):	31 December 1996
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	30 June 1997
Date of withdrawal of any conflicting National Standard (dow):	30 June 1997

Endorsement notice

The text of ITU-T Recommendations Q.781 (1993) and Q.782 (1993) was approved by ETSI as an ETS with agreed modifications as given below.

NOTE: New or modified text is indicated using sidebars. In addition, underlining and/or strike-out are used to highlight detailed modifications where necessary. For the tests, bold font is used in addition to increase legibility.

Global modifications to ITU-T Recommendations Q.781 and Q.782

Insert the following two clauses (scope and normative references):

Scope

This European Telecommunication Standard (ETS) defines a set of detailed tests of the Signalling System No.7 Message Transfer Part (MTP) level 2 and level 3 protocol. These tests intend to validate the protocol specified in ETS 300 008-1 [1].

This ETS conforms to ITU-T Recommendation Q.780 [2] which describes the basic rules of the test specifications, however, it contains additional general principles specific to level 2 and level 3 tests, respectively.

Normative references

This 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 ETS only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

[1] ETS 300 008-1: "Integrated Services Digital Network (ISDN); Signalling System No.7; Message Transfer Part (MTP) to support international interconnection; Part 1: Protocol specification [ITU-T Recommendations Q.701 (1993), Q.702 (1988), Q.703 to Q.706 (1993), Q.707 (1988) and Q.708 (1993), modified]".

[2] ITU-T Recommendation Q.780 (1993): "Signalling System No.7 test specification general description".

Throughout the text of ITU-T Recommendations Q.781 and Q.782

Replace references as shown below.

Reference in ITU-T Recommendations Q.781 and Q.782	Modified reference
ITU-T Recommendation Q.701	ITU-T Recommendation Q.701 as modified by ETS 300 008-1 [1]
ITU-T Recommendation Q.702	ITU-T Recommendation Q.702 as modified by ETS 300 008-1 [1]
ITU-T Recommendation Q.703	ITU-T Recommendation Q.703 as modified by ETS 300 008-1 [1]
ITU-T Recommendation Q.704	ITU-T Recommendation Q.704 as modified by ETS 300 008-1 [1]
ITU-T Recommendation Q.707	ITU-T Recommendation Q.707 as modified by ETS 300 008-1 [1]

Modifications to ITU-T Recommendation Q.781

Test number 1.5

Modify the test as follows:

TEST NUMBER: 1.5	PAGE: 1 OF 1
REFERENCE: Q.703 Clause 7 **STD: Fig. 8; Fig. 9**	
TITLE: Link State Control – Expected signal units/orders	
SUB TITLE: Normal alignment – correct procedure (FISU)	
PURPOSE: To check normal alignment procedure	
PRE-TEST CONDITIONS: Link out of service	
CONFIGURATION: 1	TYPE OF TEST: VAT, CPT

MESSAGE SEQUENCE:

SP B Link			Link SP A
		<----------	1 – 0 SIOS
1 – 0	SIOS	---------->	
			: start
		<----------	1 – 0 SIO
1 – 0	SIO	---------->	
		<----------	1 – 0 SIN
1 – 0	SIN	---------->	
		<----------	1 – 0 FISU
1 – 0	FISU	---------->	

TEST DESCRIPTION

1. Start normal alignment procedure.
2. Check link aligns and enters “In service” state.
3. Check that “In service” state is maintained.
4. In VAT only check it is possible to perform a normal alignment procedure in the following cases:
   – use LSSU in point B with a status field of 8 bits;
   – use LSSU in point B with a status field of 16 bits.

Test number 1.7

Modify the test as follows:

TEST NUMBER: 1.7	PAGE: 1 OF 1
REFERENCE: Q.703 Clauses 7, 10.3 STD: Fig. 9; Fig. 17	
TITLE: Link State Control – Expected signal units/orders	
SUB TITLE: SIO received during normal proving period	
PURPOSE: To test the response to the reception of an SIO during the normal proving period	
PRE-TEST CONDITIONS: Link out of service	
CONFIGURATION: 1	TYPE OF TEST: VAT

EXPECTED SIGNAL UNIT SEQUENCE:

SP B			Link	SP A	
Link					
		<----------	1 – 0	SIOS	
1 – 0	SIOS	---------->			: start
		<----------	1 – 0	SIO	
1 – 0	SIO	---------->			
		<----------	1 – 0	SIN	
1 – 0	SIN	---------->			T4 Stopped
1 – 0	SIO (one only)	---------->			
1 – 0	SIN	---------->			
		<----------	1 – 0		SIN T4(Pn)
		<----------	1 – 0	FISU	

TEST DESCRIPTION

1. Send an SIO at B during normal proving period.
2. Check that new normal period is entered.

Test number 4.1

Modify the test as follows:

TEST NUMBER: 4.1				PAGE: 1 OF 1
REFERENCE: Q.703 Clause 8 STD: Fig. 10				
TITLE: Processor outage control				
SUB TITLE: Set and clear LPO while link in service				
PURPOSE: To check the ability to perform correctly when LPO is set and recovered				
PRE-TEST CONDITIONS: Link in service				
CONFIGURATION: 1				TYPE OF TEST: VAT

EXPECTED SIGNAL UNIT SEQUENCE:

	SP B		Link	SP A
		<----------	1 – 0	FISU (FSN = 7F, BSN = 7F)
1 – 0	FISU (FSN = 7F, BSN = 7F)	---------->		
		accepted		
		<----------	1 – 0	MSU (1) (FSN = 0, BSN = 7F)
		<----------	1 – 0	MSU (2) (FSN = 1, BSN = 7F)
				: set LPO
1 – 0	MSU (FSN = 0, BSN = 0)	---------->		
		<----------	1 – 0	SIPO (FSN = **1** ~~0~~, BSN = 7F)
1 – 0	**FISU (FSN = 0, BSN = 0)**	---------->		
				: clear LPO
		<----------	1 – 0	MSU (3) (FSN = 1~~, BSN = 5~~)

TEST DESCRIPTION

1. Set LPO at A while link in service.
2. Check that MSU from B is discarded.
3. Clear LPO at A **after at least 1,2 s**.
4. Check that “old” messages are flushed from level 2 buffers and not transmitted on the link. Check that new MSUs are sent correctly.

Test number 5.3

Modify the test as follows:

TEST NUMBER: 5.3	PAGE: 1 OF 1
REFERENCE: Q.703 subclause 4.1 STD: Fig. 11	
TITLE: SU delimitation, alignment, error detection and correction	
SUB TITLE: Below minimum signal unit length	
PURPOSE: To test the signal unit delimitation, alignment and error detection action on receipt of signal unit less than the minimum length	
PRE-TEST CONDITIONS: Link in service	
CONFIGURATION: 1	TYPE OF TEST: VAT

EXPECTED SIGNAL UNIT SEQUENCE:

	SP B			SP A
Link			Link	
		<----------	1 – 0	FISU (BIB + BSN = FF)
1 – 0	FISU	---------->		
1 – 0	corrupt MSU (FIB + FSN = 80) (signal unit less than 6 octets)	---------->		
		<----------	1 – 0	FISU (BSN unchanged)
1 – 0	FISU	---------->		

TEST DESCRIPTION

1. Generate a corrupt MSU at B of less than 6 octet (i.e. less than 5 octets between flags).
2. Check A discards the signal unit, and **may go** ~~goes~~ into octet counting mode.
3. On reception of a correct FISU, check that A leaves the octet counting mode **if it was entered** and remains in the “in service” state.

Test number 9.7

Modify the test as follows:

TEST NUMBER: 9.7	PAGE: 1 OF 1
REFERENCE: Q.703 subclause 6.2 STD: Fig. 15	
TITLE: Transmission and reception control (PCR)	
SUB TITLE: MSU transmission while RPO set	
PURPOSE: To ensure correct performance while RPO is set	
PRE-TEST CONDITIONS: Link in service	
CONFIGURATION: 1	TYPE OF TEST: VAT

EXPECTED SIGNAL UNIT SEQUENCE:

	SP B			SP A
Link			Link	
		<----------	1 – 0	FISU (FSN = 7F, BSN = 7F)
1 – 0	FISU (FSN = 7F, BSN = 7F)	---------->		
		<----------	1 – 0	MSU (FSN = 0, BSN = 7F)
	: set LPO			: :
1 – 0	SIPO (FSN = 7F, BSN = 7F)	---------->		
		<----------	1 – 0	FISU (FSN = 0, BSN = 7F)
	: clear LPO			: :
1 – 0	MSU (FSN = 0, BSN = 7F)	---------->		
		<----------	1 – 0	FISU (FSN = **7F** ~~0~~, BSN = 0)
1 – 0	MSU (FSN = 0, BSN = 7F)	---------->		
		<----------	1 – 0	FISU (FSN = **7F** ~~0~~, BSN = 0)

TEST DESCRIPTION

1. Generate an MSU at A.
2. Instead of sending positive acknowledgement, set and keep PO at B **for at least 1,2 s**.
3. Check A stops a retransmission of the MSU and sends FISUs, and does not detect link failure by the expiration of T7.
4. Cease PO **after at least 1,2 s** and send an MSU with no positive acknowledgement at B.
5. Check A flushed its buffer and no old MSU is sent.
6. Generate an MSU at B.
7. Check A receives the MSU and responds correctly.

Modifications to ITU-T Recommendation Q.782

Test number 2.3

Modify the test as follows:

TEST NUMBER: 2.3		PAGE: 1 of 1
REFERENCE: Q.704 subclause 2.4 Fig. 24, Fig. 25		
TITLE: Signalling message handling		
SUBTITLE: Message received with an erroneous SI (distribution function)		
PURPOSE: To check the response to a message received with an erroneous SI		
PRE-TEST CONDITIONS: Signalling linkset activated		
CONFIGURATION: A	TYPE OF TEST: VAT	TYPE OF SP: ALL

MESSAGE SEQUENCE:

	SP A		SP B
Link		Link	
	<---------- 1 – 1		:Invalid SLTM (**erroneous** ~~invalid~~ SI)

TEST DESCRIPTION	
1.	Send an SLTM message with an invalid SI.
2.	Check that no response is received **except perhaps a UPU (cause unequipped) when the SI used does not exist**.