



**SLOVENSKI STANDARD**  
**SIST ETS 300 297/A1 E1:2003**

**01-december-2003**

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**Digitalno omrežje z integriranimi storitvami (ISDN) – Digitalni dostopni odsek za osnovni dostop v sistemu ISDN**

Integrated Services Digital Network (ISDN); Access digital section for ISDN basic rate

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**Ta slovenski standard je istoveten z: ETS 300 297/A1 Edition 1**

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**ICS:**

33.080	Digitalno omrežje z integriranimi storitvami (ISDN)	Integrated Services Digital Network (ISDN)
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# AMENDMENT

**ETS 300 297**

**A1**

**March 1996**

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This amendment A1 modifies  
the European Telecommunication Standard ETS 300 297 (1995)  
(standards.iteh.ai)

SIST ETS 300 297/A1 E1:2003  
Integrated Services Digital Network (ISDN);  
Access digital section for ISDN basic rate

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## Foreword

This amendment provides a new normative annex C, which defines the conformance test principles for the ISDN basic rate access digital section for ETS 300 297 (1995).

The current informative annex C is reallocated as informative annex D.

Transposition dates	
Date of adoption of this amendment:	25 August 1995
Date of latest announcement of this amendment (doa):	30 June 1996
Date of latest publication or endorsement of this amendment (dop/e):	31 September 1996
Date of withdrawal of any conflicting National Standard (dow):	31 September 1996

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## Amendments

### Page 10, subclause 3.1

Add the following definitions to subclause 3.1:

**access digital section:** The whole of the means of digital transmission of a digital signal of specified rate between two consecutive reference points. The term should be qualified by the type of access supported, or by a prefix denoting the V interface at the digital section boundaries. For example:

- basic access digital section;
- primary rate access digital section;
- Vx digital section.

**Conformance Test Adaptor (CTA):** A device which is either a local exchange with adaption functions providing access to the required functions or an adaptor able to provide these functions and to simulate the required functionality of the local exchange.

**simulator (terminal equipment, exchange):** A device generating a stimulus signal conforming to this ETS to bring the Implementation Under Test (IUT) into the required operational state and monitoring the receive signal from the IUT. It can either be a simulator for the user side at the T reference point or the exchange side of the V1 reference point.

### Page 10, subclause 3.2

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Add the following abbreviations to subclause 3.2: [standards.iteh.ai](https://standards.iteh.ai)

CTA	Conformance Test Adaptor
DLL	Digital Line Loop
IUT	Implementation Under Test
PRBS	Pseudo Random Bit Sequence
Rx	signal Receiver
Tx	signal Transmitter

**Page 39, new annex C**

Add the following annex C:

**Annex C (normative): Conformance test principles for the ISDN basic rate access digital section**

This annex provides the test principles for the requirements of this ETS used to determine the compliance of an item under test to this ETS.

This ETS does not specify:

- safety requirements;
- interface or equipment overvoltage protection requirements;
- immunity requirements against electromagnetic interferences;
- emission limitation requirements.

Detailed test equipment accuracy and the specification tolerance of the test devices are not a subject of this annex. Where such details are provided, they are considered as being an "informative" addition to the test description.

The test configurations given do not imply a specific realization of test equipment or arrangement or the use of specific test devices for conformance testing. However, any test configuration used shall provide those test conditions specified under "system state", "stimulus" and "monitor" for each individual test.

Functions described in annex A are implemented in the local exchange. They are defined to ensure the correct interworking between the local exchange and the access digital section. Testing of these functions is outside the scope of this ETS.

**C.1 General**

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For conformance test of the access digital section, two relevant test points have to be identified:

- the T reference point covered by ETS 300 012 [6];
- the V1 reference point.

This document is applicable to interface points T and V1 as appropriate. The field of application is given at the beginning of each test.

As the transmission system is not part of this ETS, only relevant signals inside the basic rate stream have to be checked. The coding and the frame organization of this bit stream is outside the scope of this ETS.

## C.2 Additional information to support the test

As the V1 reference point is specific to the system under test and is not a standardized electrical interface, a suitable means such as either a local exchange or a Conformance Test Adaptor (CTA) enabling the monitoring of the V1 reference point and giving access to the B-channels and D-channel need to be provided by the manufacturers.

The following facilities need to be provided by the CTA:

- monitoring of the FEs sent to and from the ET across the V1 reference point;
- the ability to transmit and receive test patterns to and from B-channel and D-channel.

Stimuli are provided either:

- at the V1 reference point, by the means described in this subclause; or
- at the T reference point, by the simulator at the T reference point.

If the equipment to be tested does not provide access to the B-channels and D-channel, the apparatus supplier needs to additionally provide a test equipment using the same chip set and interface components as in the equipment to be tested. This test equipment shall provide either access to the B-channels and D-channel to allow insertion of specific test patterns so that the necessary tests can be carried out or else implementation of a test pattern generator providing the necessary test patterns and a monitor point for monitoring the FEs sent to and from the ET across the V1 reference point.

## C.3 Connection of the simulator to the IUT

For testing the characteristics of the IUT, the simulator at the T reference point, or its relevant part, is to be connected to the IUT as described in ETS 300 012 [6]. Because the V1 reference point may be inside the CTA as described in subclause C.2, the connection is dependent on the configuration of the test equipment.

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## C.4 Allocation of test

<https://standards.iteh.ai/catalog/standards/sist/baebe606-a148-46bb-86d1-fa99274d5768/sist-ets-300-297-a1-e1-2003>

One test definition may cover more than one requirement for one or both interface points (interface T or V1). Requirements which do not need specific test definition are indicated by "not relevant" (N/R). Requirements which are not relevant for this normative and which require to be tested as defined by other ETSs are indicated by "not applicable" (N/A).

### C.4.1 General

Table C.1

Functions	Clause/ subclause	Relevant interface or reference point T, V1, or T and V1	Test defined in
Scope	1	N/R	
Normative references	2	N/R	
Definitions and abbreviations	3	N/R	
Partial activation	3.1	N/R	
Full activation	3.2	N/R	



**C.4.2 Type of configuration and applications requirements****Table C.2**

Functions	Clause/ subclause	Relevant interface or reference point T, V1, or T and V1	Test defined in
Configuration and application	4	N/R	
Configuration	4.1	N/R	
Application	4.2	N/R	
Modelling and relationship between the access digital section and the ET	4.3	N/R	

**C.4.3 Functional characteristics requirements****Table C.3**

Functions	Clause/ subclause	Relevant interface or reference point T, V1, or T and V1	Test defined in
Functions	5	N/R	
B-channel	5.1	T, V1	C.5.1.1
D-channel	5.2	T, V1	C.5.1.2
Bit timing	5.3	T, V1	C.5.1.1, C.5.1.2
Octet timing	5.4	T, V1	C.5.3.1
Activation	5.5	T	C.7.1
Activation from ET	5.5.1	V1	C.7.1
Request for activation from TE	5.5.2	V1	C.7.1
Deactivation	5.6	T, V1	C.7.1
Power feeding	5.7	T	C.5.6.1
Operation and maintenance	5.8	T, V1	C.8.1.1, C.8.1.2, C.8.1.3, C.8.3.1

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**C.4.4 Signal transfer delay and jitter requirements****Table C.4**

Functions	Clause/ subclause	Relevant interface or reference point T, V1, or T and V1	Test defined in
Signal transfer delay	6	T, V1	C.6.1
Jitter	7	N/R	
Output/input jitter at T reference point	7.1	T	C.6.2.1.2, ETS 300 012 [6]
Jitter at V1 reference point	7.2	N/A	

## C.4.5 Activation/deactivation

Table C.5

Functions	Clause/ subclause	Relevant interface or reference point T, V1, or T and V1	Test defined in
Activation/ deactivation	8	N/R	
Functional capabilities	8.1	N/R	
Customer installation at the user side of reference point T	8.1.1	N/R	
Installation at the network side of V1 reference point	8.1.2	N/R	
Modelling	8.2	N/R	
General	8.2.1	N/R	
Partitioning of functions	8.2.2	N/R	
Location of timer T2	8.2.3	N/R	
Activation/deactivation procedure	8.3	T, V1	C.7.1
Basic characteristics of the procedures	8.3.1	T, V1	C.7.1
Priority	8.3.1.1	N/A	
System management	8.3.1.2	N/R	
Loopbacks	8.3.1.3	T, V1	C.7.1, C.8.1.1, C.8.1.2, C.8.1.3
Protection of layer 2 frames	8.3.1.4	N/R	
Structure of the tables	8.3.1.5	N/R	
Description of the state transition table	8.4	N/R	
Access digital section state (DS states)	8.4.1	N/R	
State DS 1.0 (Access deactivated)	8.4.1.1	N/R	
State DS 1.1 (Access activation initiated)	8.4.1.2	N/R	
State DS 1.2 (Access activation: DS synchronized LT → NT)	8.4.1.3	N/R	
State DS 1.3 (Access activation: DS activated)	8.4.1.4	N/R	
State DS 1.4 (Access activated)	8.4.1.5	N/R	
State DS 1.5 (LOS/LFA at T)	8.4.1.6	N/R	
State DS 1.6 (Access deactivation initiated)	8.4.1.7	N/R	
State DS 1.7 (Defect condition)	8.4.1.8	N/R	
State DS 2.0 (Loopback 1 or 1a initiated)	8.4.1.9	N/R	
State DS 2.1 (Loopback 1 or 1a activated)	8.4.1.10	N/R	
State DS 2.2 (Loopback 2 initiated)	8.4.1.11	N/R	
State DS 2.3 (DS synchronized LT → NT)	8.4.1.12	N/R	
State DS 2.4 (DS activated)	8.4.1.13	N/R	
State DS 2.5 (Loopback 2 activated)	8.4.1.14	N/R	

(continued)

Table C.5 (concluded)

Functions	Clause/ subclause	Relevant interface or reference point T, V1, or T and V1	Test defined in
Repertoire of signals sent across the T reference point	8.4.2	N/R	
Repertoire of function elements sent across the V1 reference point	8.4.3	N/R	
Assumptions made in specifying the procedures in table 2	8.4.4	N/R	
Activation time	8.5	T, V1	C.7.2
Warm start time	8.5.1	T, V1	C.7.2.1, C.7.2.3
Cold start time	8.5.2	T, V1	C.7.2.2

## C.4.6 Operation and maintenance

Table C.6

Functions	Clause/ subclause	Relevant interface or reference point T, V1, or T and V1	Test defined in
Operation and maintenance	9	N/R	
Control facilities	9.1	N/R	
Loopbacks	9.1.1	V1	C.5.1
Loopback implementation	9.1.1.1	N/R	
Loopback procedure	9.1.1.2	V1	C.8.1.1, C.8.1.2, C.8.1.3, C.7.1
Information request	9.1.2	N/R	
Power switch on/off the line	9.1.3	N/R	
Continuity test	9.1.4	T, V1	C.7.1
Monitoring Functions	9.2	N/R	
	9.2.1	N/R	
Defect conditions and consequent actions	9.2.2	T, V1	C.8.3.1
Detection of defect conditions	9.2.2.1	N/R	
Consequent actions	9.2.2.2	T, V1	C.8.3.1
Error detection and reporting	9.2.3	N/R	
Status report functions	9.2.4	N/R	
System dependent status report functions	9.2.5	N/R	

## C.5 Functional characteristics tests

When the access digital section is implemented using a copper transmission system as defined in ETR 080 [8], then the test loop 1 given in ETR 080 [8] shall be used for carrying out the functional characteristics tests.

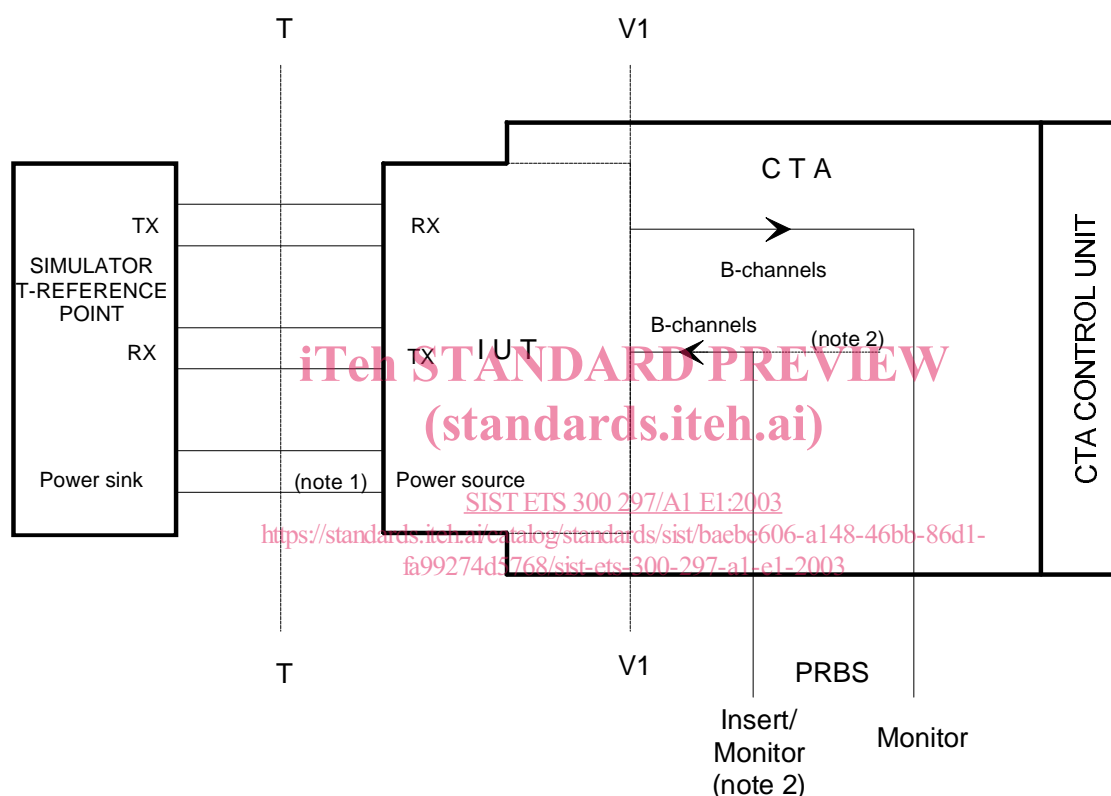
### C.5.1 Digital section transparent signal transfer

Test applicable at the T and the V1 reference points.

#### C.5.1.1 B-channels

Purpose: To test the transparency and independence of the B-channels.

Test configuration:



NOTE 1: If remote power feeding is provided; in practical realizations power feeding may be done by a phantom mode (ITU-T Recommendation I.430 [9]).

NOTE 2: If test signals provided by the ET:  
- monitor downstream.

**Figure C.1**

System state: Access activated. DS 1.4.  
Stimulus 1: Different PRBSs in the B1-channel and the B2-channel applied to the T reference point.  
Monitor 1: The PRBSs at the V1 reference point.  
Result: No bit errors.  
Stimulus 2: Different PRBSs in the B1-channel and the B2-channel applied to the T reference point.  
Monitor 2: The PRBSs at the V1 reference point.  
Result: No bit errors.