SLOVENSKI STANDARD
SIST EN 60835-2-5:2002

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Methods of measurement for equipment used in digital microwave radio transmission systems - Part 2: Measurements on terrestrial radio-relay systems - Section 5: Digital signal processing sub-system (IEC 60835-2-5:1993)

Methods of measurement for equipment used in digital microwave radio transmission systems -- Part 2: Measurements on terrestrial radio-relay systems -- Section 5: Digital signal processing sub-system

Meßverfahren für Geräte in digitalen Mikrowellen-Funkübertragungssystemen -- Teil 2: Messungen an terrestrischen Richtfunksystemen -- Hauptabschnitt 5: Untersystem für digitale Signalverarbeitung

Méthodes de mesure applicables au matériel utilisé pour les sytèmes de transmission numérique en hyperfréquence -- Partie 2: Mesures applicables aux faisceaux hertziens terrestres -- Section 5: Sous-ensemble de traitement du signal numérique

Ta slovenski standard je istoveten z: **EN 60835-2-5:1995**

ICS:

33.060.30	Radiorelejni in fiksni satelitski komunikacijski sistemi	Radio relay and fixed satellite communications systems

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EUROPEAN STANDARD

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English version

Methods of measurement for equipment used in digital microwave radio transmission systems
Part 2: Measurements on terrestrial radio-relay systems
Section 5: Digital signal processing sub-system
(IEC 835-2-5:1993)

Méthodes de mesure applicables au matériel utilisé pour les sytèmes de transmission numérique en hyperfréquence
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Meßverfahren für Geräte in digitalen Mikrowellen-Funkübertragungssystemen
Teil 2: Messungen an terrestrischen Richtfunksystemen
Hauptabschnitt 5: Untersystem für digitale Signalverarbeitung
(IEC 835-2-5:1993)

This European Standard was approved by CENELEC on 1994-12-06. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of the International Standard IEC 835-2-5:1993, prepared by SC 12E, Radio-relay and fixed satellite communications systems, of IEC TC 12, Radiocommunications, was submitted to the formal vote and was approved by CENELEC as EN 60835-2-5 on 1994-12-06 without any modification.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 1995-12-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1995-12-01

Annexes designated "normative" are part of the body of the standard.
In this standard, annex ZA is normative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 835-2-5:1993 was approved by CENELEC as a European Standard without any modification.

ANNEX ZA (normative)

OTHER INTERNATIONAL PUBLICATIONS QUOTED IN THIS STANDARD WITH THE REFERENCES OF THE RELEVANT EUROPEAN PUBLICATIONS

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

NOTE : When the international publication has been modified by CENELEC common modifications, indicated by (mod), the relevant EN/HD applies.

IEC Publication	Date	Title	EN/HD	Date
835-1-2	1992	Methods of measurement for equipment used in digital microwave radio transmission systems Part 1: Measurements common to terrestrial radio-relay systems and satellite earth stations Section 2: Basic characteristics	EN 60835-1-2	1993
835-1-4	1992	Section 4: Transmission performance	EN 60835-1-4	1995
835-2-9	199X	Section 9: Service channels (under consideration)	-	-

Other publication:

CCITT Recommendation G.703 - Physical/electrical characteristics of hierarchical digital interfaces

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Méthodes de mesure applicables au matériel utilisé pour les systèmes de transmission numérique en hyperfréquence

Partie 2:
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Methods of measurement for equipment used in digital microwave radio transmission systems

Part 2:
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

METHODS OF MEASUREMENT FOR EQUIPMENT USED IN DIGITAL MICROWAVE RADIO TRANSMISSION SYSTEMS

Part 2: Measurements on terrestrial radio-relay systems
Section 5: Digital signal processing sub-system

FOREWORD

1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international cooperation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.

2) The formal decisions or agreements of the IEC on technical matters, prepared by technical committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.

3) They have the form of recommendations for international use published in the form of standards, technical reports or guides and they are accepted by the National Committees in that sense.

4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.

International Standard IEC 835-2-5 has been prepared by sub-committee 12E: Radio-relay and fixed satellite communications systems, of IEC technical committee 12: Radiocommunications.

The text of this standard is based on the following documents:

DIS	Report on Voting
12E(CO)141	12E(CO)151

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

IEC 835 consists of the following parts, under the general title: Methods of measurement for equipment used in digital microwave radio transmission systems:

- Part 1: Measurements common to terrestrial radio-relay systems and satellite earth stations.
- Part 2: Measurements on terrestrial radio-relay systems.
- Part 3: Measurements on satellite earth stations.

INTRODUCTION

In most digital radio-relay systems it is not possible to separate the digital signal processing sub-systems from the modulator or demodulator, i.e. the interface points are not accessible. This is why some processing functions, such as differential coding/decoding, series-parallel conversion etc., may be considered as part of the modulator/demodulator. Consequently, the measurements carried out on the transmit- and receive-signal processing sub-systems in closed loop do not take into account the performance of the individual parts of the signal processor inside the modulator and the demodulator, while the measurements carried out on the complete system take into account the performances of the radio part of the system.

In the following clauses, measurements on the signal processor in its general configuration, i.e., with multiplex facilities, are described. In the case of some types of signal processing (e.g. without multiplex facilities) performed inside the modulator/demodulator, most of the following measurements do not apply.

Type and acceptance tests are grouped into three parts:

- measurements on the transmit-signal processor are presented in clause 3;
- measurements on the receive-signal processor are presented in clause 4;
- measurements on the back-to-back connected transmitter-receiver systems are presented in clause 5.

The measurements are normally taken at each input/output port, while the unused input ports are supplied by pseudo-random bit-stream (PRBS) signals, and the unused output ports are terminated with their nominal impedances.