ICS 33.100.10, 35.110 SLOVENSKÁ TECHNICKÁ NORMA Január 2020

STN	**Informačná technika** **Meranie medzikoncových (E2E) liniek**	**STN** **EN 50697** 36 7253

Information technology - Measurement of end-to-end (E2E) links

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 12/19

Obsahuje: EN 50697:2019

129849

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 50697

July 2019

ICS 33.100.10; 35.110

English Version

Information technology - Measurement of end-to-end (E2E) links

Technologies de l'information - Mesurage des liaisons de bout en bout (E2E)

Informationstechnik - Messung von Ende-zu-Ende-Verbindungsstrecken

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

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EN 50697:2019 (E)

Contents

European foreword

This document (EN 50697:2019) has been prepared by CLC/TC 215 “Electrotechnical aspects of telecommunication equipment”, based upon ISO/IEC 14763-4:2018 “Information technology – Implementation and operation of customer premises cabling – Part 4: Measurement of end-to-end (E2E) links”.

The following dates were fixed:

• latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2020–05–08
• latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2022–05–08

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Introduction

Balanced cabling is constructed for connecting equipment using free connectors. It is known that field termination in all parts of the channel has an influence on the channel performance.

Poor termination can cause problems in the channel performance and can affect reliable data transmission.

Until now, a verification of the field terminated cabling was done by measurement of the channel performance of Channel Class D or E according to EN 50173-1. The measurement of Channel Class D or E excludes the connections at the end of the cable. The measurement of Channel Class D or E does not identify the influence to the performance caused by bad terminations of the connections at the end.

The measurement of performance of end-to-end (E2E) link includes the termination on both ends of balanced cabling.

This document describes the measurement of E2E links of two- and four-pair balanced cabling of 100 MHz of Class D and 250 MHz of Class E using laboratory and field tester measurement procedures.

The performance of E2E links is described in ISO/IEC TR 11801-9902.

This European Standard is one of a number of documents prepared in support of European Standards and Technical Reports on information and communication technology cabling produced by CLC/TC 215.

1 Scope

This document specifies the measurement at frequencies of E2E links of two- and four-pair balanced cabling of 100 MHz of Class D and 250 MHz of Class E including free connectors which terminate two and four pairs in both field and laboratory conditions.

The specifications for E2E links are described in ISO/IEC TR 11801-9902.

This document specifies laboratory and field measurement procedures. The requirements for accuracy to measure cabling parameters identified in ISO/IEC TR 11801-9902 are provided in EN 61935-1 and EN 61935-2.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 50173-1, *Information technology – Generic cabling systems – Part 1: General requirements*

EN 50174-1, *Information technology — Cabling installation — Part 1: Installation specification and quality assurance*

EN 50174-2, Information technology — Cabling installation — Part *2:* Installation planning and practices inside buildings

EN 60512-29-100, *Connectors for electronic equipment - Tests and measurements - Part 29-100: Signal integrity tests up to 500 MHz on M12 style connectors - Tests 29a to 29g (IEC 60512-29-100)*

EN 61918, *Industrial communication networks – Installation of communication networks in industrial premises (IEC 61918)*

EN 61935-1, *Specification for the testing of balanced and coaxial information technology cabling - Part 1: Installed balanced cabling as specified in the standards series EN 50173 (IEC 61935-1)*

EN 61935-2, *Specification for the testing of balanced and coaxial information technology cabling - Part 2: Cords as specified in ISO/IEC 11801 and related standards (IEC 61935-2)*

ISO/IEC/TR 11801-9902:2017, *Information technology — Generic cabling for customer premises — Part 9902: Specifications for End-to-end link configurations*