

INTERNATIONAL STANDARD

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Specification for the testing of balanced and coaxial information technology cabling –

Part 1-1: Additional requirements for the measurement of transverse conversion loss and equal level transverse conversion transfer loss

Spécification relative aux essais des câblages symétriques et coaxiaux des technologies de l'information –

Partie 1-1: Exigences supplémentaires pour le mesurage de l'affaiblissement de conversion transversale et de l'affaiblissement de transfert de conversion transversale de niveau égal



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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**SPECIFICATION FOR THE TESTING OF BALANCED
AND COAXIAL INFORMATION TECHNOLOGY CABLING –**
**Part 1-1: Additional requirements for the measurement of transverse
conversion loss and equal level transverse conversion transfer loss**

FOREWORD

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International Standard IEC 61935-1-1 has been prepared by IEC technical committee 46: Cables, wires, waveguides, RF connectors, RF and microwave passive components and accessories.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
46/724/FDIS	46/729/RVD

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

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 61935 series, published under the general title *Specification for the testing of balanced and coaxial information technology cabling*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

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INTRODUCTION

Measurement of TCL and ELTCTL is not required by IEC 61935-1. However, these parameters are specified requirements of unscreened cabling for class D up to F_A according to ISO/IEC 11801-1. The installation can experience delivery of non-compliant components which cannot assure ISO/IEC 11801-1 system compliance. Other installation factors can also affect TCL and ELTCTL performance.

For screened cabling, TCL and ELTCTL are not specified requirements for class D up to F_A according to ISO/IEC 11801-1.

Observation of the minimum requirements of IEC 61935-1 would not identify non-compliant cabling. However, field test instrumentation can provide reference tests for TCL and ELTCTL that can be optionally applied to the minimum requirements of IEC 61935-1.

This document describes the practice of such testing and provides a reference level of accuracy for such field testers.

In addition, those wishing to use field test instrumentation for the laboratory evaluation of systems or components according to ISO/IEC 11801-1 could also use this document to ensure a consistent level of understood accuracy.

SPECIFICATION FOR THE TESTING OF BALANCED AND COAXIAL INFORMATION TECHNOLOGY CABLING –

Part 1-1: Additional requirements for the measurement of transverse conversion loss and equal level transverse conversion transfer loss

1 Scope

This part of IEC 61935 specifies additional reference measurement procedures for level V field testers, transverse conversion loss (TCL) and equal level transverse conversion transfer loss (ELTCTL). The requirements for field tester accuracy to measure these parameters according to the requirements of ISO/IEC 11801-1 are specified in this document.

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.

IEC 61935-1:2019, *Specification for the testing of balanced and coaxial information technology cabling – Part 1: Installed balanced cabling as specified in ISO/IEC 11801 and related standards*

ISO/IEC 11801-1:2017, *Information technology – Generic cabling for customer premises – Part 1: General requirements*

3 Terms definitions and acronyms

For the purposes of this document, the terms and definitions given in IEC 61935-1 and ISO/IEC 11801 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1 Terms and definitions

3.1.1

transverse conversion loss

ratio, expressed in dB, of the measured common mode voltage on a pair relative to the differential mode voltage on the same pair applied at the same end

3.1.2

transverse conversion transfer loss

ratio, expressed in dB, of the measured common mode voltage on a pair relative to the differential mode voltage applied at the opposite end of the same pair

3.1.3

equal level transverse conversion transfer loss

difference, in dB, between the transverse conversion transfer loss and the differential mode insertion loss of a pair