

INTERNATIONAL STANDARD



**Specification for the testing of balanced and coaxial information technology cabling –
Part 2: Cords as specified in ISO/IEC 11801-1 and related standards**

Document Preview

[IEC 61935-2:2022](#)

<https://standards.iteh.ai/catalog/standards/iec/f24bbf0b-b606-4e73-b3e3-a572fee5f1e1/iec-61935-2-2022>





THIS PUBLICATION IS COPYRIGHT PROTECTED

Copyright © 2022 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

IEC Secretariat
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigendum or an amendment might have been published.

IEC publications search - webstore.iec.ch/advsearchform

The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee, ...). It also gives information on projects, replaced and withdrawn publications.

IEC Just Published - webstore.iec.ch/justpublished

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and once a month by email.

IEC Customer Service Centre - webstore.iec.ch/csc

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: sales@iec.ch.

IEC Products & Services Portal - products.iec.ch

Discover our powerful search engine and read freely all the publications previews. With a subscription you will always have access to up to date content tailored to your needs.

Electropedia - www.electropedia.org

The world's leading online dictionary on electrotechnology, containing more than 22 300 terminological entries in English and French, with equivalent terms in 19 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

International Standards
standards.iteh.ai
Document Preview

[IEC 61935-2:2022](https://standards.iteh.ai/catalog/standards/iec/f24bbf0b-b606-4e73-b3e3-a572fee5f1e1/iec-61935-2-2022)

<https://standards.iteh.ai/catalog/standards/iec/f24bbf0b-b606-4e73-b3e3-a572fee5f1e1/iec-61935-2-2022>



IEC 61935-2

Edition 4.0 2022-02
COMMENTED VERSION

INTERNATIONAL STANDARD



Specification for the testing of balanced and coaxial information technology cabling –
Part 2: Cords as specified in ISO/IEC 11801-1 and related standards

Document Preview

[IEC 61935-2:2022](#)

<https://standards.iteh.ai/catalog/standards/iec/f24bbf0b-b606-4e73-b3e3-a572fee5f1e1/iec-61935-2-2022>

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 33.040.20; 33.120.20

ISBN 978-2-8322-5010-5

Warning! Make sure that you obtained this publication from an authorized distributor.

CONTENTS

FOREWORD	5
INTRODUCTION	7
1 Scope	8
2 Normative references	8
3 Terms and definitions	11
4 General Requirements and test configuration	11
4.1 Cable and connector design	
4.2 Balanced cord, cable and connector tests	
4.3 Test configuration and equipment	
4.4 Balanced cord tests requirements	
4.1 Cord components: cable and connector	14
4.2 Cord tests	14
4.2.1 General	14
4.2.2 Acceptance tests	15
4.2.3 Periodic tests	15
4.3 Cord test procedure	16
4.3.1 General	16
4.3.2 Electrical transmission parameters, test fixtures and reference test heads	16
5 Acceptance tests and additional optional tests	16
5.1 Visual inspection (balanced and coaxial cords)	16
5.2 Wire map (balanced cords)	17
5.3 Propagation delay	
5.4 Delay skew	
5.5 Insertion loss	
5.6 Return loss	
5.7 Near end crosstalk (NEXT)	
5.8 Assumptions used in the development of cord requirements	
5.3 Return loss (balanced and coaxial cords)	23
5.4 Pair-to-pair NEXT and PS NEXT (balanced cords)	23
5.5 Insertion loss and attenuation (balanced and coaxial cords)	23
5.6 Pair-to-pair ACRF and PS ACRF (balanced cords)	23
5.7 Alien crosstalk, PS ANEXT and PS AACRF, (balanced cords)	23
5.8 Unbalance attenuation, TCL and EL TCTL, (balanced cords)	23
5.9 Coupling attenuation (screened balanced cords)	23
5.10 Screening attenuation and transfer impedance (screened balanced and coaxial cords)	23
5.11 Propagation delay (balanced and coaxial cords)	23
5.12 Delay skew (balanced cords)	24
5.13 DC resistance (balanced and coaxial cords)	24
5.14 DC resistance unbalance within pairs (balanced cords)	24
5.15 DC resistance unbalance between pairs (balanced cords)	24
6 Balanced cord test procedure – Network analyser test configuration	
6 Periodic tests, procedures	24
6.1 General	24
6.2 Tensile strength	24

6.2.1	Object.....	24
6.2.2	Procedure.....	24
6.2.3	Requirements	25
6.2.4	Detail specification	25
6.3	Flexure	25
6.3.1	Object.....	25
6.3.2	Procedure.....	26
6.3.3	Requirements	26
6.3.4	Information to be given in the detail specification.....	26
6.4	Bending	26
6.4.1	Object.....	26
6.4.2	Procedures	27
6.5	Twisting	27
6.5.1	Object.....	27
6.5.2	Procedures	27
6.5.3	Requirements	28
6.6	Crushing	28
6.6.1	Object.....	28
6.6.2	Procedure.....	28
6.6.3	Requirements	29
6.6.4	Information to be given in the detail specification.....	29
6.7	Dust test	29
6.7.1	Object.....	29
6.7.2	Procedure.....	29
6.7.3	Requirements	30
6.7.4	Information to be given in the detail specification.....	30
6.7.5	Test chamber.....	30
7.8	Coupling attenuation.....	31
6.8	Climatic sequence.....	31
6.8.1	General	31
6.8.2	Object.....	32
6.8.3	Procedure.....	32
6.8.4	Requirements	32
6.8.5	Information to be given in the detail specification.....	32
8	Test head requirements.....	33
8.1	General.....	33
8.2	Minimum requirements for all test head designs.....	33
8.3	Additional FEXT requirements for balanced connector compatible test heads.....	33
8.4	Additional return loss requirements for balanced connector compatible test heads.....	33
8.5	NEXT loss centering requirements for balanced connector compatible test heads.....	33
Annex A (normative)	Coaxial cord transmission requirements	35
A.1	General.....	35
A.2	Coaxial cord transmission requirements.....	35
A.2.1	Coaxial cord return loss	35
A.2.2	Coaxial cord screening attenuation	35
A.3	Coaxial cord testing	36
A.3.1	Cable and connector design	36

A.3.2	Coaxial cord test procedure	36
A.3.3	Coaxial cords reference test connectors	36
Annex B (normative)	Balanced cord transmission requirements	37
B.1	General requirements	37
B.1.1	General	37
B.1.2	Cable and connector types	37
B.1.3	Balanced cord connector backward compatibility	37
B.2	Balanced cord test configuration	37
B.2.1	Cable and connector design	37
B.2.2	Test configuration and equipment	38
B.2.3	Network analyser test configuration	39
B.2.4	Balanced cords test head requirements	39
Bibliography	42
List of comments	43

~~Figure 1 – Test configuration for balanced cord for NEXT and return loss measurements~~

~~Figure 2 – Correct pairing~~

~~Figure 3 – Incorrect pairing~~

~~Figure 4 – Initial marking of the cable sheath~~

~~Figure 5 – Final visual inspection~~

Figure 1 – Fixture for balanced cord flexure test

Figure 2 – Bending test: assembly in U shape

Figure 3 – Twisting test: assembly in U shape

Figure 4 – Fixture for cable crushing test

Figure 5 – Measuring device, dust test chamber

~~Figure 11 – Centering of NEXT properties of the balanced connector test head~~

Figure B.1 – Example NEXT loss measurement circuit

Figure B.2 – Example IEC 60603-7 series 8 pole RJ45 connector type "modular" cord NEXT loss balunless test configuration

~~Table 1 – Return loss requirements~~

~~Table 2 – Balanced cord return loss requirements at key frequencies~~

~~Table 3 – Category 5 balanced cord NEXT requirements at key frequencies~~

~~Table 4 – Category 6 balanced cord NEXT requirements at key frequencies~~

~~Table 5 – Category 6_A balanced cord NEXT requirements at key frequencies~~

~~Table 6 – Category 7 balanced cord NEXT requirements at key frequencies~~

~~Table 7 – Category 7_A balanced cord NEXT requirements at key frequencies~~

~~Table 8 – Assumptions for cabling components used in the development of NEXT and return loss requirements~~

~~Table 9 – Coupling attenuation limits~~

Table 1 – Test procedure standards for cords

Table B.1 – IEC 60603-7 series 8-pole RJ45 connector types standards and respective connector test procedures standards

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**SPECIFICATION FOR THE TESTING OF BALANCED AND
COAXIAL INFORMATION TECHNOLOGY CABLING –****Part 2: Cords as specified in ISO/IEC 11801-1 and related standards**

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). 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. 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 IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

This commented version (CMV) of the official standard IEC 61935-2:2022 edition 4.0 allows the user to identify the changes made to the previous IEC 61935-2:2010 edition 3.0. Furthermore, comments from IEC TC 46 experts are provided to explain the reasons of the most relevant changes.

A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text. Experts' comments are identified by a blue-background number. Mouse over a number to display a pop-up note with the comment.

This publication contains the CMV and the official standard. The full list of comments is available at the end of the CMV.

IEC 61935-2 has been prepared by IEC technical committee 46: Cables, wires, waveguides, R.F. connectors, R.F. and microwave passive components and accessories. It is an International Standard.

This fourth edition cancels and replaces the third edition published in 2010. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) inclusion of cords up to category 8.1 and category 8.2, as defined in ISO/IEC 11801-1.

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

Draft	Report on voting
46/868/FDIS	46/869/RVD

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

The language used for the development of this International Standard is English.

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

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

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

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

~~Balanced cords are constructed for connecting equipment using free connectors according to IEC 60603-7 series, IEC 61076-3-104 and IEC 61076-3-110. It is known that connecting hardware performance is subject to influence by the properties of the free connector termination and therefore balanced cords should be tested to determine the quality of the assembly. Moreover, the performance of balanced cords may differ due to the performances of the involved separate components depending upon the efficiency of the manufacturing procedure. Manufacturing procedures also impact upon the reliability of these balanced cords. Therefore, the primary object of this standard is to provide test methods to ensure compatibility of balanced cords to be used in cabling according to ISO/IEC 11801. Another object is to provide test methods and associated requirements to demonstrate the performance and reliability of these balanced cords during their operational lifetime.~~

~~The test methods described in this standard may also be used for any balanced cords that include twisted pairs terminated at each end.~~

This part of IEC 61935 covers testing of balanced and coaxial cords, for use as equipment cords, patch cords, and CP cords, as specified in ISO/IEC 11801-1 and related standards.

The test methods described in this document are suitable for any balanced or coaxial cords or cable assemblies that include connector terminations at each end. **1**

Coaxial cords for connecting equipment are constructed using cable conforming to the IEC 61196-1 series and connectors conforming to the IEC 61169-1 series.

Balanced cords for connecting equipment are constructed using cable conforming to the IEC 61156-1 series and connectors conforming to the IEC 60603-7 series, IEC 61076-3-104, IEC 61076-3-110, IEC 61076-2-101, and IEC 61076-2-109.

Therefore, an object of this document is to provide test methods to ensure compatibility of cords to be used in cabling in accordance with ISO/IEC 11801-1 and to demonstrate their performance and reliability during their operational lifetime.

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

Part 2: Cords as specified in ISO/IEC 11801-1 and related standards

1 Scope

~~This International Standard provides methods to ensure compatibility of balanced cords to be used in cabling according to ISO/IEC 11801 and provides test methods and associated requirements to demonstrate the performance and reliability of these balanced cords during their operational lifetime. This International Standard may also be used for providing test methods for assessing the behaviour of other balanced cords.~~

This part of IEC 61935 specifies test methods for balanced and coaxial cords, which are used as equipment cords, patch cords, and CP cords, within cabling systems, in accordance with ISO/IEC 11801-1. The test methods and associated requirements are provided to demonstrate performance and reliability and to ensure compatibility of these balanced and coaxial cords during their operational lifetime. This document may also be used for providing test methodology for assessing the performance of other cords. **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. **3**

IEC 60068-2-61, *Environmental testing – Part 2-61: Test methods – Test Z/AMBABDM: Climatic sequence*

IEC 60512-26-100, *Connectors for electronic equipment – Tests and measurements – Part 26-100: Measurement setup, test and reference arrangement and measurements for connectors according to IEC 60603-7 – Tests 26a to 26g*

IEC 60512-27-100, *Connectors for electronic equipment – Tests and measurements – Part 27-100: Signal integrity tests up to 500 MHz on 60603-7 series connectors – Tests 27a to 27g*

IEC 60512-28-100, *Connectors for electronic equipment – Tests and measurements – Part 28-100: Signal integrity tests up to 2 000 MHz – Tests 28a to 28g* **4**

IEC 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 60603-7 (all parts), *Connectors for electronic equipment – Part 7: Detail specifications*~~

IEC 60603-7:2008, *Connectors for electronic equipment – Part 7: Detail specification for 8-way, unshielded, free and fixed connectors*

IEC 60603-7-1, *Connectors for electronic equipment – Part 7-1: Detail specification for 8-way, shielded, free and fixed connectors*

IEC 60603-7-2, *Connectors for electronic equipment – Part 7-2: Detail specification for 8-way, unshielded, free and fixed connectors, for data transmissions with frequencies up to 100 MHz*

IEC 60603-7-3, *Connectors for electronic equipment – Part 7-3: Detail specification for 8-way, shielded, free and fixed connectors, for data transmission with frequencies up to 100 MHz*

IEC 60603-7-4, *Connectors for electronic equipment – Part 7-4: Detail specification for 8-way, unshielded, free and fixed connectors, for data transmissions with frequencies up to 250 MHz*

IEC 60603-7-5, *Connectors for electronic equipment – Part 7-5: Detail specification for 8-way, shielded, free and fixed connectors, for data transmissions with frequencies up to 250 MHz*

IEC 60603-7-7, *Connectors for electronic equipment – Part 7-7: Detail specification for 8-way, shielded, free and fixed connectors for data transmission with frequencies up to 600 MHz*

IEC 60603-7-41, *Connectors for electronic equipment – Part 7-41: Detail specification for 8-way, unshielded, free and fixed connectors, for data transmissions with frequencies up to 500 MHz*

IEC 60603-7-51, *Connectors for electronic equipment – Part 7-51: Detail specification for 8-way, shielded, free and fixed connectors, for data transmissions with frequencies up to 500 MHz*

IEC 60603-7-71, *Connectors for electronic equipment – Part 7-71: Detail specification for 8-way, shielded, free and fixed connectors, for data transmission with frequencies up to 1 000 MHz*

IEC 60603-7-81, *Connectors for electronic equipment – Part 7-81: Detail specification for 8-way, shielded, free and fixed connectors, for data transmissions with frequencies up to 2 000 MHz* **5**

IEC 60603-7-82, *Connectors for electronic equipment – Part 7-82: Detail specification for 8-way, 12 contacts, shielded, free and fixed connectors, for data transmission with frequencies up to 2 000 MHz* **5**

IEC 60966-1, *Radio frequency and coaxial cable assemblies – Part 1: Generic specification – General requirements and test methods*

IEC 61076-2-101, *Connectors for electronic equipment – Product requirements – Part 2-101: Circular connectors – Detail specification for M12 connectors with screw-locking*

IEC 61076-2-109, *Connectors for electronic equipment – Product requirements – Part 2-109: Circular connectors – Detail specification for connectors with M 12 × 1 screw-locking, for data transmission frequencies up to 500 MHz*

IEC 61076-3-104, *Connectors for electronic equipment – Product requirements – Part 3-104: Detail specification for 8-way, shielded free and fixed connectors for data transmissions with frequencies up to ~~1000~~ 2 000 MHz*

IEC 61076-3-110, *Connectors for electronic equipment – Product requirements – Part 3-110: ~~Rectangular connectors~~ – Detail specification for ~~shielded~~, free and fixed connectors for data transmission with frequencies up to ~~1000~~ 3 000 MHz*

~~IEC 61156 (all parts), Multicore and symmetrical pair/quad cables for digital communications~~

IEC 61156-1, *Multicore and symmetrical pair/quad cables for digital communications – Part 1: Generic specification*

IEC TR 61156-1-2, *Multicore and symmetrical pair/quad cables for digital communications – Part 1-2: Electrical transmission characteristics and test methods of symmetrical pair/quad cables*

IEC 61156-5, *Multicore and symmetrical pair/quad cables for digital communications – Part 5: Symmetrical pair/quad cables with transmission characteristics up to 1 000 MHz – Horizontal floor wiring – Sectional specification*

IEC 61156-6, *Multicore and symmetrical pair/quad cables for digital communications – Part 6: Symmetrical pair/quad cables with transmission characteristics up to 1 000 MHz – Work area wiring – Sectional specification*

IEC 61156-9, *Multicore and symmetrical pair/quad cables for digital communications – Part 9: Cables for channels with transmission characteristics up to 2 GHz – Sectional specification* **6**

IEC 61156-10, *Multicore and symmetrical pair/quad cables for digital communications – Part 10: Cables for cords with transmission characteristics up to 2 GHz – Sectional specification* **6**

IEC 61169-1, *Radio-frequency connectors – Part 1: Generic specification – General requirements and measuring methods*

IEC 61169-1 (all parts), *Radio-frequency connectors – Part 1*

IEC 61169-2, *Radio-frequency connectors – Part 2: Sectional specification – Radio frequency coaxial connectors of type 9,52*

IEC 61169-24, *Radio-frequency connectors – Part 24: Sectional specification – Radio frequency coaxial connectors with screw coupling, typically for use in 75 Ω cable networks (type F)*

IEC 61196-1 (all parts), *Coaxial communication cables – Part 1*

IEC 61935-1:~~2009~~, *Specification for the testing of balanced and coaxial information technology cabling – Part 1: Installed balanced cabling as specified in ISO/IEC 11801-1 and related standards*

IEC 61935-1-1, *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*

IEC 61935-1-2, *Specification for the testing of balanced and coaxial information technology cabling – Part 1-2: Installed balanced cabling as specified in ISO/IEC 11801 – Additional requirements for measurement of resistance unbalance with field test instrumentation*

IEC 62153-4-11, *Metallic communication cable test methods – Part 4-11: Electromagnetic compatibility (EMC) – Coupling attenuation or screening attenuation of patch cords, coaxial cable assemblies, pre-connectorized cables – Absorbing clamp method*

IEC 62153-4-15, *Metallic communication cable test methods – Part 4-15: Electromagnetic compatibility (EMC) – Test method for measuring transfer impedance and screening attenuation – or coupling attenuation with triaxial cell*

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

ISO/IEC 14763-4, *Information technology – Implementation and operation of customer premises cabling – Part 4: Measurement of end-to-end (E2E) links*

3 Terms and definitions

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

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

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

3.1

cable assembly

combination of cable(s) and connector(s) with specified performance, used as a single unit intended to be a part of a cabling link as defined in ISO/IEC 11801-1 (or equivalent)

3.2

consolidation point cord

cabling between the consolidation point to the telecommunications outlet(s)

3.3

cord

cable, cable unit or cable element with a minimum of one termination; a cable assembly as defined in IEC 61935-1 whatever its targeted use

3.4

equipment cord

cord connecting to equipment

3.5

patch cord

cord specifically used to establish connections on a patch panel

3.6

work area cord

cord specifically connecting to work area equipment

4 ~~General Requirements and test configuration~~

~~4.1 Cable and connector design~~

~~When compliance with ISO/IEC 11801 is required, the design of the cables and connectors should conform to the applicable parts of IEC 61156 and IEC 60603-7, IEC 61076-3-110 and IEC 61076-3-104 respectively.~~

4.2 — ~~Balanced cord, cable and connector tests~~

~~For balanced cords complying with ISO/IEC 11801, cables and connectors used in cable assemblies should be assessed separately in accordance with IEC 61156-1 and IEC 60603-7, IEC 61076-3-104 or IEC 61076-3-110 respectively. These component tests do not need to be repeated on the balanced cord, but the terminated contact height should be assessed (e.g. dimension K2 of Table 1 of IEC 60603-7).~~

~~For other cords, the cables and connectors shall be assessed separately according to their respective standard unless there are no component standards. In this case, all tests will be performed on the cords, including interface tests. The acceptance tests described in this document shall be performed on a balanced cord on a lot-by-lot basis.~~

~~The periodic tests described in this document are type tests that have to be performed according to the quality system of the manufacturer.~~

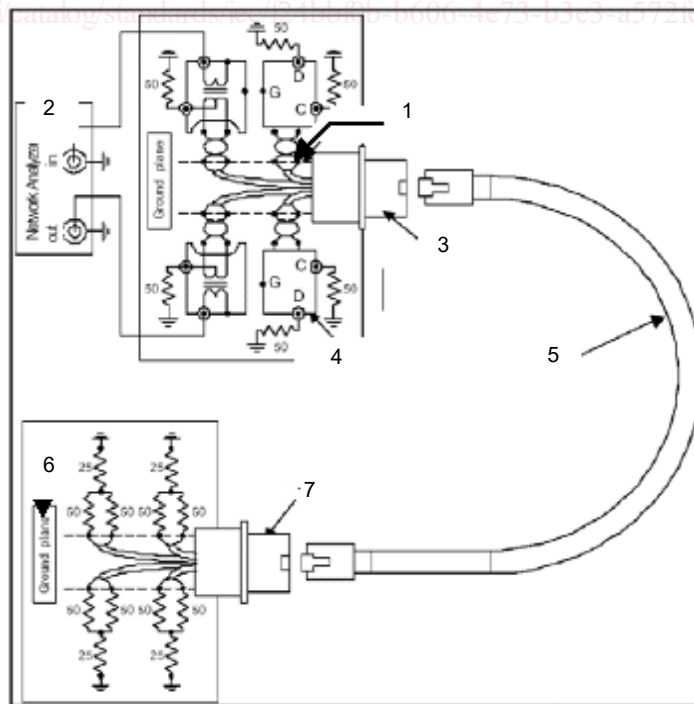
4.3 — ~~Test configuration and equipment~~

~~The reference measurement procedures that are described in this standard require the use of a network analyser, coaxial interface cables, r.f. transformers (baluns), twisted pair test leads and impedance matching terminations. Refer to IEC 61935-1 for requirements of test equipment, including baluns (see 4.2.6 of IEC 61935-1). The nominal impedance for the test set-up and the terminations is 100 Ω. The same tests may be used for 120 Ω and 150 Ω cords, but the measurement methods have not been evaluated for these nominal impedance values.~~

~~The test configuration includes termination test heads at each end of the cord. For NEXT and return loss, the test configuration is as shown in Figure 1. The terminals on the test heads interface with the test equipment. Refer to IEC 61935-1 for detailed connection diagrams. All pairs shall be terminated with differential plus common mode terminations per IEC 61935-1. Resistive type terminations are preferred.~~

IEC 61935-2:2022

<https://standards.iteh.ai/catalog/standards/iec/61935-2-2022/b666-4e73-b3e3-a572iec5flel/iec-61935-2-2022>



IEC 1351/10

Key