



# TECHNICAL REPORT

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**Information technology – Generic cabling for customer premises –  
Part 9904: Assessment and mitigation of installed balanced cabling channels  
to support 2,5GBASE-T and 5GBASE-T**

INTERNATIONAL  
ELECTROTECHNICAL  
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## INFORMATION TECHNOLOGY – GENERIC CABLING FOR CUSTOMER PREMISES –

### Part 9904: Assessment and mitigation of installed balanced cabling channels to support 2,5GBASE-T and 5GBASE-T

#### FOREWORD

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ISO/IEC TR 11801-9904, which is a Technical Report, has been prepared by subcommittee 25: Interconnection of information technology equipment, of ISO/IEC joint technical committee 1: Information technology.

The list of all currently available parts of the ISO/IEC 11801 series, under the general title *Information technology – Generic cabling for customer premises*, can be found on the IEC web site.

ISO/IEC TR 11801-9904 should be read in conjunction with IEEE Std. 802.3bz.

This document has been approved by vote of the member bodies, and the voting results may be obtained from the address given on the second title page.

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

## INTRODUCTION

This document provides guidance on whether installed Class D and Class E channels specified in ISO/IEC 11801:2002 will support 2,5GBASE-T and 5GBASE-T. This document also provides mitigation procedures to improve the performance of Class D and Class E channels to the point where these applications are supported. Higher classes according to ISO/IEC 11801:2002 will support 2,5GBASE-T and 5GBASE-T without mitigation up to 100 m.

The support of 2,5GBASE-T and 5GBASE-T includes additional parameters and an extended frequency range for Class D. Conformance of installed cabling beyond the original cabling specifications should be determined on a case-by-case basis, and is primarily needed due to new application requirements. Whether these requirements are met by a specific channel is influenced by the components and installation practices used. As 2,5GBASE-T and 5GBASE-T use frequencies above those specified for Class D of ISO/IEC 11801:2002 as well as exogenous noise parameters, input from supplier and installer might be helpful to evaluate the performance of installed Class D and Class E channels.

This document takes into account the design goals for 2,5GBASE-T and 5GBASE-T equipment such as frequency signal range up to 100 MHz for 2,5GBASE-T and up to 250 MHz for 5GBASE-T.

## INFORMATION TECHNOLOGY – GENERIC CABLING FOR CUSTOMER PREMISES –

### Part 9904: Assessment and mitigation of installed balanced cabling channels to support 2,5GBASE-T and 5GBASE-T

#### 1 Scope

This part of ISO/IEC 11801

- a) specifies the transmission performance for balanced cabling channels to support 2,5GBASE-T and 5GBASE-T,
- b) specifies the methods to assess whether installed Class D and Class E channels meet 2,5GBASE-T and 5GBASE-T requirements,
- c) provides mitigation techniques to improve the performance of an existing installation to meet the 2,5GBASE-T and 5GBASE-T requirements,
- d) provides cabling recommendations for new installations.

NOTE 1 The channel transmission performance specified in this document is derived from IEEE Std 802.3bz:2016.

NOTE 2 IEEE Std 802.3bz:2016 specifies requirements beyond the frequency range specified for Class D of ISO/IEC 11801:2002 and additional parameters to those specified for Class D and Class E cabling in ISO/IEC 11801:2002.

NOTE 3 This document does not re-specify Class D and Class E cabling of ISO/IEC 11801:2002.

#### 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.

ISO/IEC 11801:2002, *Information technology – Generic cabling systems*  
ISO/IEC 11801:2002/AMD1:2008