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TECHNICAL REPORT

Information technology – Generic cabling for customer premises – Part 9905: Guidelines for the use of installed cabling to support 25GBASE-T application



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Part 9905: Guidelines for the use of installed cabling to support 25GBASE-T application

FOREWORD

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ISO/IEC TR 11801-9905, which is a Technical Report, was 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 website.

This Technical Report 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 Technical Report is to be read in conjunction with ISO/IEC/IEEE 8802.3:2017/AMD3.

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

INTRODUCTION

This document provides guidance to determine whether and which installed channels will support 25GBASE-T. It takes into account the design goals for 25GBASE-T equipment such as:

a) the frequency signal range up to 1 250 MHz;

b) the support of two-connector channels up to 30 m in length.

The requirements of 25GBASE-T are fully defined in ISO/IEC/IEEE 8802-3:2017/AMD3.

Installed two-connector channels which are characterized up to 1 250 MHz and support all the requirements of the ISO/IEC/IEEE 8802-3:2017/AMD3 link segment are expected to support the 25GBASE-T application.

Characterization of channels using Category 7_A components is described in 4.4.

Characterization of channels using Category 7 components is described in 4.5.

Characterization of channels using Category 6_A components is described in 4.6.

This document also provides mitigation procedures to improve the performance of installed channels to the point where the 25GBASE-T application is supported. Additionally, this document recommends the use of Class I and Class II channels to support 25GBASE-T in new installations.

Class I and Class II channels according to ISO/IEC 11801-1 will support 25GBASE-T without mitigation.

Component requirements are not provided in this document and should not be inferred from the channel limits provided.

INFORMATION TECHNOLOGY – GENERIC CABLING FOR CUSTOMER PREMISES –

Part 9905: Guidelines for the use of installed cabling to support 25GBASE-T application

1 Scope

This part of ISO/IEC 11801, which is a Technical Report,

a) provides guidance on how to select and assess installed channels which conform to ISO/IEC 11801-1, and clarify if they also support ISO/IEC/IEEE 8802-3:2017/AMD3 for 25GBASE-T;

b) specifies the methods to assess whether installed channels constructed with Category 7_A, 7, or 6_A components meet the 25GBASE-T requirements;

c) provides guidance to identify which channels are likely to meet the 25GBASE-T requirements to avoid unnecessary testing;

d) provides mitigation techniques to improve the performance of installed channels to meet the 25GBASE-T requirements;

e) provides cabling recommendations for new installations.

NOTE 1 The channel transmission performance specified in this document is derived from the 25GBASE-T requirements in ISO/IEC/IEEE 8802-3:2017/AMD3.

NOTE 2 This document does not re-specify component or channel definitions of ISO/IEC 11801-1.

2 Normative references

The following referenced documents are indispensable for the application 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 11801-1, *Information technology – Generic cabling systems – Part 1: General requirements*

ISO/IEC/IEEE 8802-3:2017/AMD3, *Information technology – Telecommunications and information exchange between systems – Local and metropolitan area networks – Specific requirements – Part 3: Standard for Ethernet – Amendment 3: Physical layers and management parameters for 25 Gb/s and 40 Gb/s operation, types 25GBASE-T and 40GBASE-T*

3 Terms, definitions and abbreviations

For the purposes of this document, the terms, definitions and abbreviations given in ISO/IEC 11801-1 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