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**Technical requirements for interoperability of access network
system-Part 1: 10Gbit/s passive optical networks (XG-PON)**

接入网系统互通性技术要求 第1部分：10Gbit/s无源光网络（XG-PON）

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document is Part 1 of GB/T 44816 "Technical Requirements for Interoperability of Access Network Systems". GB/T 44816 has been published as follows part.

- Part 1.10 Gbit/s Passive Optical Network (XG-PON);
- Part 2.10 Gbit/s symmetrical passive optical network (XGS-PON).

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document is proposed by the Ministry of Industry and Information Technology of the People's Republic of China.

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Introduction

At the access network level, it realizes the interoperability deployment of central office equipment and user-side terminals from different manufacturers, which not only effectively reduces the network construction costs of network operators, but also It can meet the needs of users to use high-speed and economical broadband access services, so it is necessary to formulate the access network central office equipment and user side terminal equipment.

GB/T 44816 "Technical requirements for interoperability of access network systems" aims to specify various technical requirements applicable to public telecommunication networks.

The interoperability technical requirements for the physical layer, universal transmission convergence layer and ONU management of the passive optical network (PON) system of the technical standard are to be formulated by It consists of two parts.

- Part 1.10 Gbit/s Passive Optical Network (XG-PON). The purpose is to specify the interoperability requirements of XG-PON systems.
- Part 2.10Gbit/s Symmetric Passive Optical Network (XGS-PON). The purpose is to specify the interoperability of XGS-PON systems Require.

Technical requirements for interoperability of access network systems Part 1.10Gbit/s Passive Optical Network (XG-PON)

1 Scope

This document specifies the physical medium dependent (PMD) layer interoperability requirements for 10Gbit/s passive optical network (hereinafter referred to as XG-PON) systems.

requirements, transmission convergence (TC) layer interoperability requirements, optical network terminal management and control interface (OMCI) protocol interoperability requirements and service-related function interoperability requirements Require.

This document is applicable to the design, development, and production of XG-PON equipment for public telecommunication networks, and can also be used as a reference for

other private telecommunication networks.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

YD/T 2402.2-2012 Access Network Technical Requirements 10Gbit/s Passive Optical Network (XG-PON) Part 2: Physical Layer Require YD/T 2402.3-2012 Access Network Technical Requirements 10Gbit/s Passive Optical Network (XG-PON) Part 3: XGTC Layer Require YD/T 2793-2023 Access Network Technical Requirements ONU Management and Control Interface (OMCI) IEEE 802.1ad Local and Metropolitan Area Networks Virtual Bridging Supplement 4.Provider Bridges (IEEE Standard for viderBridges) ITU-TG.987.2(2023) 10Gbit/s Passive Optical Network (XG-PON). Physical Medium Dependent (PMD) Layer Requirements[10- cation] ITU-TG.987.3(2014) 10Gbit/s Passive Optical Network (XG-PON). Transmission Convergence Layer Requirements [10-Gigabit-capable cation(OMCI)] ITU-TT.38 Procedures for real-time Group 3 fax communications over IP networks