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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 46385.22-2025

**Optical circuit boards - Part 2-2: Basic test and measurement
procedures - Dimensions measurements**

光路板 第2-2部分：基本试验和测量程序 尺寸测量

(English Translation)

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Table of Contents

- Preface
- Introduction
- 1 Scope
- 2 Normative References
- 3 Terms and Definitions
- 4 Measurement conditions
- 5 Parameters to be measured and their procedures
- 6 Dimension Measurement Procedure
 - 6.1 Waveguide Core Shape
 - 6.2 I/O Port Coordinates
 - 6.3 Optical Circuit Board Shape
 - 6.4 I/O port deflection angle
 - 6.5 Mirror angle
 - 6.6 Hole
- Appendix A (Informative) Optical Waveguide Pattern Spacing
 - A.1 Measured parameters of optical waveguide pattern spacing
 - A.2 Measurement Procedure for Optical Waveguide Pattern Spacing
- Reference

Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is Part 2-2 of GB/T 46385 "Optical Circuit Boards". GB/T 46385 has already published the following parts.

---Part 1: General Provisions;

---Part 2: Basic Test and Measurement Procedures - Guidelines for Optical Property Measurement Conditions;

---Part 2-1. Basic Test and Measurement Procedures for Optical Attenuation and Isolation Measurement;

---Part 2-2.Basic Test and Measurement Procedures for Dimensional Measurement;
---Parts 2-4.Basic Test and Measurement Procedures for Optical Transmission Tests
Without Input/Output Pigtail Optical Circuit Boards this document is equivalent to IEC
62496-2-2:2011 "Optical circuit boards - Part 2-2.Measurement of optical circuit board
dimensions".

The following minimal editorial changes have been made to this document.

---To maintain harmony among the standards, the standard title has been changed to
"Optical Circuit Boards Part 2-2.Basic Test and Measurement Procedures Dimensions".
Measurement".

Please note that some content in this document may involve patents. The issuing
organization of this document assumes no responsibility for identifying patents.

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

Introduction

High-density optical interconnects are a significant trend in high-capacity, low-latency
communication networks. As a typical product of high-density optical interconnect
technology, optical circuit boards are based on an integrated structure of optical fiber or
optical waveguide, which carries optical devices and enables optical interconnection
between optical devices or systems, is crucial for supercomputing.

This provides a new board-level optical interconnect solution for fields such as computers,
data centers, and broadband communications. The GB/T 46385 series of standards aims to
standardize optical...

The terminology definitions, technical requirements, measurement procedures, and test
methods for circuit boards are essential for improving domestic standards for fiber optic
interconnect devices and passive devices.

Establishing a system and standardizing the research, development, and testing of optical
circuit boards, as well as guiding the technological and industrial development of optical
circuit boards, is of great significance. This is to meet the needs of the optical circuit board
industry.

The requirements, GB/T 46385, are proposed to consist of the following parts.

---Part 1: General Provisions. The purpose is to standardize the terminology and product
classification of optical circuit boards, and to clarify common technical requirements and
testing methods.

And quality evaluation.

---Part 2: Basic Test and Measurement Procedures - Guidelines for Optical Characteristic Measurement Conditions. The purpose is to determine the optical characteristics measurement conditions for optical path plates.

The encoding rules and information of quantity conditions.

---Part 2-1. Basic Test and Measurement Procedures for Optical Attenuation and Isolation Measurement. The purpose is to standardize the optical attenuation and isolation of optical circuit boards.

Methods for measuring separation.

---Part 2-2. Basic Test and Measurement Procedures for Dimensional Measurement. The purpose is to standardize the methods for measuring the dimensions of optical circuit boards.

---Parts 2-4. Basic Test and Measurement Procedures for Optical Transmission Without Input/Output Pigtail Optical Circuit Boards. The purpose is to standardize...

A method for measuring the optical transmission performance of fiber optic circuit boards without input/output pigtails.

---Parts 2-5. Basic Test and Measurement Procedures for Flexural Testing of Flexible Optoelectronic Composite Panels. The purpose is to standardize the testing procedures for flexible optoelectronic composite panels.

Methods for flexural testing of plywood.

---Part 3: General Performance Principles and Guidelines. The purpose is to standardize the general performance requirements and evaluation methods for optical circuit boards.

---Part 3-1. Performance of Glass Fiber Optic Pigtail Flexible Optical Circuit Boards. The purpose is to standardize glass fiber optic pigtail flexible optical circuit boards.

Performance requirements and evaluation methods.

---Part 4: Interface General Principles and Guidelines. The purpose is to standardize the general interface requirements for optical circuit boards.

---Part 4-1. Waveguide-type optical circuit board assembly with single-row twelve-channel PMT connectors for interface termination. The purpose is to standardize the termination.

Interface requirements for waveguide-type optical circuit board assemblies with single-row twelve-channel PMT connectors.

---Part 4-214. Waveguide-type optical circuit board assembly with single-row 32-channel PMT connectors at the interface termination. The purpose is to standardize...

Interface requirements for waveguide-type optical circuit board assemblies that terminate with single-row 32-channel PMT connectors.

Optical Circuit Board Part 2-2. Basic Tests and Measurement procedure dimensional measurement

1 Scope

This document establishes the dimensional measurement procedures related to optical circuit board interface information.

This document applies to the dimensional measurement of optical circuit boards.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

ISO 10360-2 Product Geometric Specification (GPS) - Acceptance and Re-inspection Testing of Coordinate Measuring Machines - Part 2: Testing for Measurement sions] Note. GB/T 16857.2-2017 Product Geometric Specification (GPS) - Acceptance Inspection and Re-inspection of Coordinate Measuring Machines - Part 2: For Measuring Lines Coordinate measuring machine for dimensional accuracy (ISO 10360-2:2009, IDT) guidance) Note. GB/T 2421-2020 Overview and Guidelines for Environmental Testing (IEC 60068-1:2013, IDT) IEC 60793-1-45 Optical Fibers - Part 1-45. Methods of Measurement and Test Procedures - Mode Field Diameter Note. GB/T 15972.45-2021 Fiber Optic Test Methods Specification Part 45: Measurement Methods and Test Procedures for Transmission Characteristics Mode Field Diameter (IEC 60793-1-45:2017, MOD) IEC 61189-2 Electronic materials, printed circuit boards and other interconnect structures and components - Test methods - Part 2: Materials for interconnect structures Note. GB/T 46385.21-2025 Basic Test and Measurement Procedures for Optical Circuit Boards - Part 2-1. Measurement of Optical Attenuation and Isolation (IEC 62496-2-1) 2011, IDT) Interface standards-General and guidance)

3 Terms and Definitions

The following terms and definitions apply to this document.