

Optical Splitter Test System



Article Overview

An Optical Splitter Test System is designed to evaluate the performance, loss, and reliability of fiber optic splitters, using both field and production testing methods.

Overview of Optical Splitters

Optical splitters are passive devices that divide or combine optical signals in fiber networks. They are commonly used in FTTH (Fiber to the Home) PONs and passive optical LANs. Splitters are classified by the number of inputs and outputs, such as 1x2, 1x32, or 2x32, and are generally bidirectional, splitting signals in one direction and combining them in the other. Key performance parameters include insertion loss, excess loss, and variability across output ports.

Field Testing Systems

Field testing of optical splitters typically involves OTDRs (Optical Time-Domain Reflectometers) and OLTS (Optical Loss Test Sets). Standard tests include:

- OFSTP-14: Double-ended loss testing with connectors on both ends.
- FOTP-171: Single-ended testing for quick verification. Specialized PON-optimized OTDRs (e.g., EXFO FTBx-730, MAX-730) are designed to handle high-loss components and various splitter configurations, detecting splices, connectors, macrobends, and fiber breaks. Automated tools like iOLM simplify analysis, providing first-time-right results and reducing field errors. Fiber inspection scopes (e.g., FIP-400/FIP-500) ensure connectors are clean and undamaged, which is critical for accurate testing

Article Content

Testing optical splitters | IEEE Conference Publication | IEEE Xplore

This paper gives an overview of bidirectional optical splitter characteristics. It outlines the basics of passive optical network

PLC Splitter Qualification Test Report

This report presents the qualification test results of MESU Planar Lightwave Circuit Splitter (PLCS) products. The products chosen to

The FOA Reference For Fiber Optics

Fiber Optic Testing Testing is used to evaluate the performance of fiber optic components, cable plants and systems. As the

Guidelines On What Loss To Expect When Testing Fiber Optic Cables

Guidelines On What Loss To Expect When Testing Fiber Optic Cables To be able to judge whether a fiber optic cable plant is good,

Troubleshooting Optical Splitters | ICT Solutions & Education

Optical splitters in the outside plant (OSP) are used mostly in passive optical networks (PONs) for fiber-to-the-user (FTTx) networks,

The FOA Reference For Fiber Optics

OTDRs can be used if length is adequately long, to determine connection reflectance, fiber attenuation and troubleshoot problems.

Testing a balanced PON Splitter with CertiFiber® PRO

Testing a balanced PON Splitter with CertiFiber® PRO The CertiFiber® Pro Optical Loss Test Set (OLTS) can be used to check that

Optical Test Equipment | Yokogawa Test& Measurement

Leading-Edge Solutions for Accurate Optical Measurements Light is understood through measurement of its spectrum, wavelength,

Testing a Balanced PON Splitter with CertiFiber Pro

The CertiFiber® Pro Optical Loss Test Set (OLTS) can be used to check that the loss of a PON Splitter (often referred

Optical packaging of PLC optical splitter and their reliability tests ...

Optical packaging process and the results of reliability tests of a 1times4 optical power splitter is presented. In this process, the

Testing a balanced PON Splitter with CertiFiber® PRO

The CertiFiber® Pro has an operational mode called “Loopback” that can be employed to test optical splitters, no matter whether

Fiber Optic System Testing Tutorial

The passive fiber optic link may include the following components: 1) fiber optic cable, 2) fiber optic connectors, 3) fiber optic

Fiber Testing | Fiber Optic Cable Testing Methods & Top Tools

Fiber testing encompasses the processes, tools, and standards used to test fiber optic components, fiber links, and deployed fiber

Need a faster way to test optical fibers with one or several PON ...

With the FTTH-SLM (Smart Link Mapper) Application installed on your VIAVI OTDR you can test an entire fiber link and easily

What are Beamsplitters?

Optical components that create two beams by splitting incident light are beamsplitters. Read more about the different types of

Quick guide to testing FTTH | Brochure | EXFO

The industry's first optical fiber multimeter (EXFO's Optical Explorer also known as the OX1) was specifically built for these tests. Just

PASSIVE OPTICAL SPLITTER

These compliance tests address three main features of an optical splitter, which are functional design criteria, performance criteria,

The FOA Reference For Fiber Optics

Testing a splitter or other passive fiber optic devices like switches is little different from testing a patchcord or cable plant using the

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