Attenuation of a 1 64 splitter

Overview

A 1:64 splitter adds ~18dB of insertion loss, leaving less power for attenuation—so it's only viable for short distances (5–10km). If we have measured gains in linear units (e. in Watts – W), the loss value in dB is calculated by the formula: Loss (dB) = 10 lg (mW1 / mW2) When both gains are equal, the loss is 0 dB, so there is no loss (doesn't happen obviously). If we operate with absolute gains measured in relation to 1. Optical splitters play a crucial role in Fiber to the Home (FTTH) Passive Optical Network (PON) systems, efficiently distributing a single optical signal to multiple destinations. A deeper understanding of these. In PON equipment, the maximum attenuation value of OLT is between 22-25dB, which means that the attenuation value cannot exceed 25 dB. The choice of split ratio—1×2, 1×4, 1×8, 1×16, 1×32, or 1×64—directly impacts optical power budget, network reach, subscriber density, and long-term expansion capability. Each split. By dividing a single optical signal from a central Optical Line Terminal (OLT) into multiple outputs for Optical Network Terminals (ONTs) at users' homes, splitters eliminate the need for dedicated fibers to each residence—slashing infrastructure costs while scaling network reach. The global PLC Fiber Optic Splitter market was valued at $4.

Article Content

May 16, 2026

Optical Splitters: Split Ratios, Splitting Architectures & PON Network ...

Choosing the right split ratio depends on three interrelated factors: distance, bandwidth demand, and cost. Optical signals lose power (attenuation) as they travel through fiber—typically ...

Aug 19, 2025

Basic Knowledge about Split Ratio and Insertion Loss of Optical Splitter

Careful selection of the splitter ratio is crucial to maintaining an acceptable signal strength at each destination. Improper configuration of the ratio may lead to signal degradation and loss, ...

Apr 04, 2026

RLTECH PON (PON Line Indicators and Split Ratio Design)

RLTECH provides stable PON solutions, supporting commercial deployments for 1:128 high-density users. Recommended products: RH8008GL/RH8016G OLT and ONU terminals ...

Mar 17, 2026

Optimising FTTH Design: Split Levels & Split Ratios

The split ratio (for example, 1:32, 1:64) determines how many subscribers share an OLT (Optical Line Terminal) port and has a direct impact on optical budget, signal strength, and future growth.

Nov 24, 2025

Passive Optical Network (PON): Attenuation and Distance

The attenuation of a light signal as it propagates along a fiber is an important consideration in the design of an optical communication system; the degree of attenuation plays a ...

Sep 06, 2025

GPON Splitter Strategies: Optimizing Fiber Network Performance

However, choosing the right GPON splitter strategy is crucial for performance, cost-effectiveness, and scalability. This blog explores different GPON splitter deployment strategies and ...

Sep 03, 2025

PASSIVE OPTICAL SPLITTER

This enables the deployment of a Point to Multi Point (P2MP) physical fiber network with a single OLT port serving multiple ONTs. The most common split ratios are 1:2, 1:4, 1:8, 1:16, 1:32, and 1:64. ...

Oct 08, 2025

Differences Between 1x2 to 1x64 PLC Splitter Applications

Therefore, 1×2 has low loss, while 1×64 introduces significantly higher loss, affecting maximum transmission distance and allowable attenuation in the PON power budget.

Feb 04, 2026

Introduction to Passive Optical Network Splitter Architectures

As XGS-PON continues to be adopted, some service providers keep the 1x32 split and some have chosen 1x64 splits. Where splitters are placed in the network can make significant impacts on fiber ...

May 18, 2026

PON crib: splitters, ratios, gains, losses

Here''s a table of estimated splitter attenuation characteristics. It should be noted that this table is applicable for fused optical splitters (FBP) and of course does not pretend to absolute ...

Contact Us

For more information, pricing, or custom solutions, please contact us:

Website: https://professionistidelverde.it
Email: info@professionistidelverde.it
Phone: +49 176 4829 3715
Address: Friedrichstraße 123, 10117 Berlin, Germany

This document is for informational purposes only. Specifications subject to change without notice.