

How to calculate the local attenuation of an optical splitter



Overview

For example, for the loss (attenuation) in a segment of optical fiber we have the value at the input of the segment and at its output. If we have measured gains in linear units (e. in Watts – W), the loss value in dB is calculated by the formula: $\text{Loss (dB)} = 10 \lg (mW_1 / mW_2)$. Optical splitters are common in building distribution networks, especially where one feeder must serve many rooms, floors, or tenants. A splitter does not “create” power; it divides available optical energy among outputs, so every branch must be checked for adequate loss budget. This calculator. Instantly compute insertion loss, power at each subscriber port, and fade margin for PLC and FBT splitters — including dual cascade configurations. Covers GPON (1490 nm / 1310 nm), EPON, and RF video overlay (1550 nm). Also useful as an optical power budget calculator, FTTH link budget tool, and. Estimate whether an FTTH or PON optical link is feasible by calculating PLC splitter loss, fiber attenuation, connector loss, splice loss and remaining power margin between the OLT and ONU/ONT.



Article Content

Jul 29, 2025

FTTH / PON Splitter Loss Calculator

FTTH / PON Engineering Tool FTTH / PON Splitter Loss Calculator Estimate whether an FTTH or PON optical link is feasible by calculating PLC splitter loss, fiber attenuation, connector loss, splice loss ...

Nov 11, 2025

Fiber Optic Splitter Loss Calculator

Fiber Optic Splitter Loss Calculator Estimate split loss, fiber attenuation, and budget margin for FTTH trees, passive taps, and home lab optical branches.

Oct 20, 2025

Optical Splitter Loss Calculator

Calculate optical splitter loss instantly — enter output ports and excess loss to get ideal and total insertion loss for PLC and FBT splitters.

Jun 04, 2026

Tutorial of Optical Splitter Loss Test

Optical splitters are widely used in passive optical networks. Splitter loss is an important parameter of fiber optic splitters. How to Test Optical Splitter Loss? This tutorial will introduce optical ...

Jan 18, 2026

How to calculate and measure fiber optic splitter loss□

Let's explore the fiber optic splitter attenuation loss from the optical Wavelength, insertion loss, additional loss, and splitting ratio.

Oct 14, 2025

PON crib: splitters, ratios, gains, losses

Here's a table with calculated attenuations for even fiber optic splitters with 2 or more outputs. If you don't have this table at hand, use this primitive formula to calculate the maximum ...

Dec 06, 2025

Calculating Allowable Splitter Loss in Optical Networks

Learn how to calculate splitter loss in optical networks. Includes fiber, connector, and splitter loss calculations for tap installation.

Jun 26, 2026

Optical Splitter Loss Calculator

A splitter does not “create” power; it divides available optical energy among outputs, so every branch must be checked for adequate loss budget. This calculator helps construction and commissioning ...

Aug 27, 2025

How To Calculate The Optical Attenuation Of Optical Splitter?

The most important performance of the optical splitter is the different optical attenuations generated by the optical splitter under a specific splitting ratio.

Oct 06, 2025

Fiber Splitter Calculator

Free GPON & FTTH fiber splitter calculator. Instantly compute optical power loss for PLC & FBT splitters with dual cascade support. Used by ISP engineers worldwide.

Contact Us

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