Why does the active optical splitter lose power

Overview

Light power goes in and light power coming out of the various legs is reduced in accordance to the split ratio. For every 2X increase in split ratio, power is reduced by roughly 3 dB. There are no electronic components involved and no external power is required. In practical deployment, the splitter behaves as a fixed optical distribution point. Key Characteristics of Passive Splitters Zero Power. Passive Operation: Splitters have no active electronics, so they require no power, cooling, or maintenance—lowering operational costs (OPEX) for ISPs. Scalability: Adding new subscribers only requires connecting additional ONTs to existing splitter outputs (if capacity remains), avoiding costly. These are known as passive optical splitters, and they perform the function of splitting the light signal without using any power. Splitters are essential when you want one fiber line from a central office (like an ISP's headend or data center) to serve multiple homes or businesses. This calculator helps construction and commissioning teams document expected attenuation before pulling, terminating, and testing fiber. It's like a cable has been cut or broken somewhere. The fault might not necessarily come from the OLT; it can come from anywhere along the path — from the ports at the ODF, the FAT. A splitter is not a filter like a wavelength division multiplexer (WDM).

Article Content

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