

EPON Power Budgets

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Assumptions

- Uses 802.3z Gigabit Ethernet Link Model
- 1310 nm Upstream Wavelength
 - Spectral Width for FP Bulk Laser: 2.8 nm
 - Spectral Width for DFB Laser: 0.03 nm
- 1550 nm Downstream Wavelength
 - Spectral Width for DFB Laser: 0.03 nm
- Standard Single Mode Fiber (SMF-28)

Losses Included

- Penalties per 802.3z Link Budget Model
- Simple Loss from Splitter
 - 1:4 9 dB
 - 1:8 12 dB
 - 1:16 15 dB
 - 1:32 18 dB
- Simple Loss from Connectors and Splices
 - 2 dB

Power Budgets (dB) (1550 nm/1310 nm)

	10 km		20 km		40 km		80 km	
	Down	Up	Down	Up	Down	Up	Down	Up
1:4 Split	15	16	18	20	24.5	26.5	36.5	41
1:8 Split	18	19	21	23	27.5	29.5	39.5	44
1:16 Split	21	22	24	26	30.5	32.5	42.5	47
1:32 Split	24	25	27	29	33.5	35.5	45.5	50

Yellow highlight indicates DFB