

Link Budget Calculation Worksheet

Operating Wavelength

Fiber Type

Technician

Date

Passive Cable System Attenuation

Fiber Loss at Operating Wavelength (Distance x Fiber Loss)

Total Cable Distance km

Individual Fiber Loss (at operating wavelength) dB/km

Total Fiber Loss dB

Connector Loss (Connector Loss x Connector Pairs)

Individual Connector Loss dB

Number of Connector Pairs

Total Connector Loss dB

Splice Loss (Splice Loss x Splices)

Individual Splice Loss dB

Number of Splices

Total Splice Loss dB

Other Components dB

Total System Attenuation dB

(Fiber Loss + Connector Loss + Splice Loss + Other Components)

Calculate Link Loss Budget

Determine System Gain (Avg. Transmitter Power - Receiver Sensitivity)

Avg. Transmitter Power dBm

Receiver Sensitivity dBm @ 10^{-9} BER

System Gain dB

Power Penalties (Operating Margin + Receiver Power Penalties + Repair Margin # Splices at 0.3dB each)

Operating Margin dB

Receiver Power Penalties dB

Repair Margin dB

Total Power Penalty dB

Determine link Loss Budget (System Gain - Power Penalty)

System Gain dB

Total Power Penalty dB

Total Link Loss Budget dB

Verify Performance

Verify Adequate Power (Total Link Loss Budget - Total System Attenuation)

Total Link Loss Budget dB

Total System Attenuation dB

System Performance Margin* dB

* System Performance Margin must be greater than 0 dB in order for the system to operate using the specified electronics.