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

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.