



RFLL-40-H-3



MD-50



LTA-50-X



EDFA-PA-MSA



PD-40-DC

DEVICE

40 GHz RF over Fiber Lightwave Link, H-3

OVERVIEW

The Optilab RFLL-40-H-3 RF over Fiber Lightwave Link is composed of a MD-50 RF amplifier, LTA-50-X lightwave transmitter module, EDFA-PA-MSA pre-amplifier module and a PD-40 receiver to form a high- performance RFoF link for up to 40 GHz applications.

FEATURES

- Bandwidth up to 40 GHz
- Low Noise Figure
- High Linearity Receiver
- USB Monitor and Control Interface

USE IN

- Wideband RF Transmission over Fiber
- RF/IF Signal Distribution
- Satcom microwave antenna signal distribution
- Broadband delay-line and signal processing
- Phased and interferometric array antenna

LINK PERFORMANCE SUMMARY

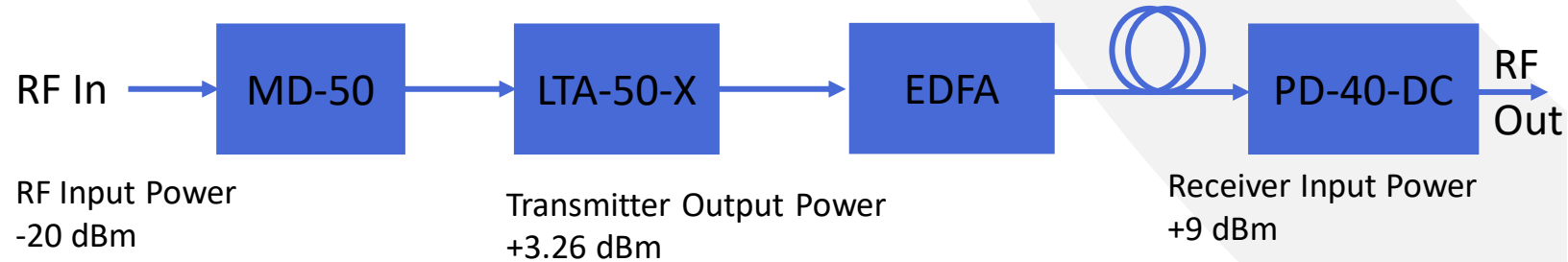
Analog Bandwidth	32 GHz
Link Gain Vs Bandwidth	+9 dB / 29 GHz +3 dB / 32 GHz -3 dB / 40 GHz
Input 1dB Comp	-20.82 dBm @ 1 GHz
Gain Flatness	+/- 1 dB over 1 GHz
Noise Figure	8 dB @ 10 GHz 14.6 dB @ 30 GHz
SFDR	105.5 dBm x Hz ^{2/3}
IIP3	-1.15 dBm
Group Delay	+/- 54 ps



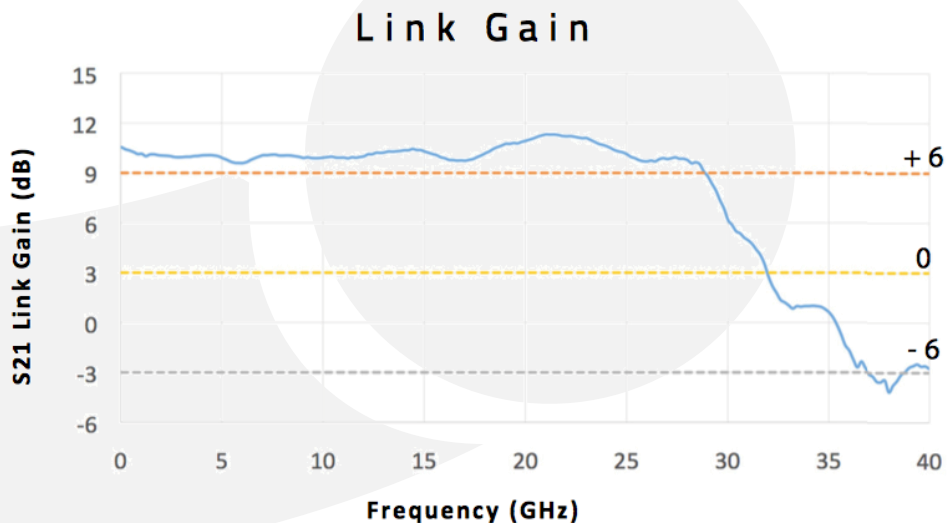


RFL-40-H-3

CONFIGURATION DRAWING



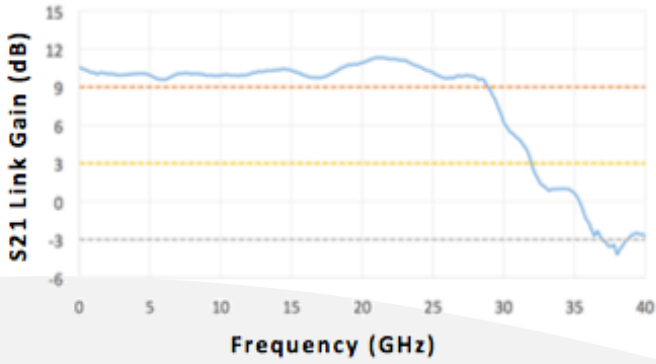
- **MD-50**, 50 GHz Modulator Driver/RF Amplifier
The Modulator Driver (MD) is a 50 GHz Bandwidth RF Amplifier in a compact and user friendly module that provides a high-quality, single-ended voltage to drive an external LiNbO3 modulator.
- **LTA-50-X**, 50 GHz Lightwave Transmitter Module for RFoF
The unit is a high performance Lightwave Transmitter Module designed for analog photonics applications from DC to 50 GHz.
- **EDFA-PA-MSA**, high-gain pre-amplifier module
The EDFA-PA-MSA is a high-gain pre-amplifier module in a multiple source agreement footprint housing.
- **PD-40-DC**, 40 GHz Linear InGaAs PIN Photodetector, Module
The Optilab PD-40-M is a 40 GHz bandwidth PIN receiver module designed for RF over Fiber, antenna remoting, and broadband analog photonics link.



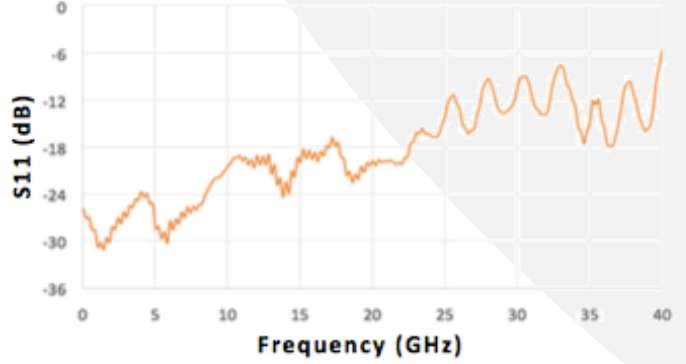


RFL-40-H-3

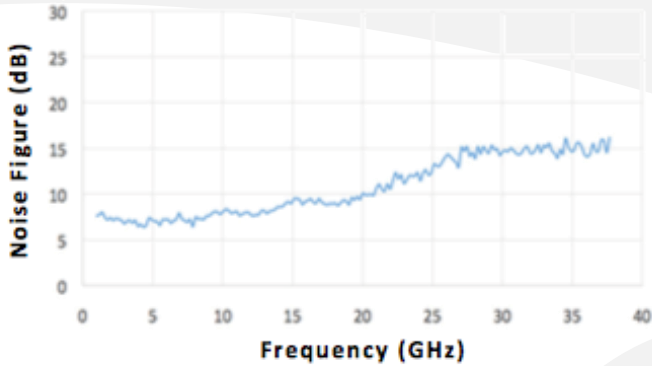
Link Gain



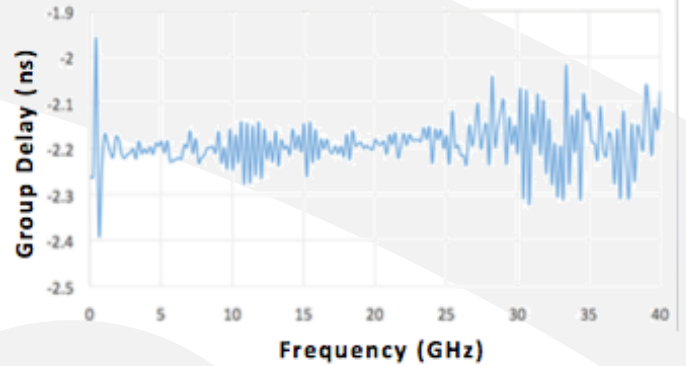
S11 Response



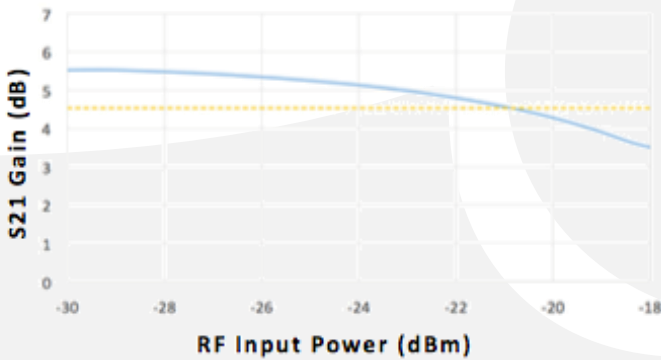
Noise Figure



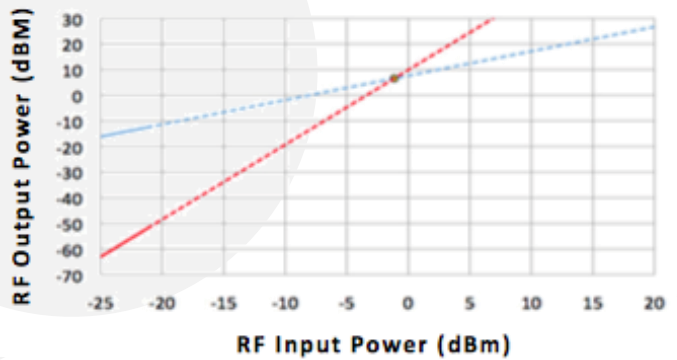
Group Delay



1 dB Compression



IIP3 Plot





RFL-40-H-3

GENERAL SPECIFICATIONS

	MD-50	LTA-50-X	EDFA-PA-MSA	PD-40-DC
Power Supply	+12 V DC, 2 A max.	±5 V, 1A typ.	+5 V DC, 4.0 A max.	+5 V DC, 500 mA max.
Dimensions	150 x 150 x 30 (mm)	206 x 102.4 x 31.5 (mm)	90 x 70 x 20 (mm)	82 x 60 x 26.5 (mm)
Accessories	Cables	Cables	Cables	USB adaptor & Cables

RF SPECIFICATIONS

S11 Reflection	< -17 dB from DC to 23 GHz	S22 Reflection	< -5 dB from DC to 25 GHz
	< -6 dB from DC to 40 GHz		< -3 dB from DC to 40 GHz

CONTROL SOFTWARE (OPTIONAL)

A LabVIEW™ based control software is used to set the RF over Fiber system parameters and monitors system performance.

