RFLL-40+-H-3


MD-50


LTA-40-LD-X


EDFA-16-C


PD-50-M

40 GHz + RF over Fiber Lightwave Link, H-3

The Optilab RFLL-40+-H-3 RF over Fiber Lightwave Link is composed of a MD-50 RF amplifier, LTA-40-LD-X lightwave transmitter module, EDFA-16-C low drive consumption and a PD-50-M receiver to form a high-performance RFoF link for grater than 40 GHz applications.

Features

- Bandwidth greater than 40 GHz
- Low Noise Figure
- High Linearity Receiver
- USB Monitor and Control Interface

Applications

- 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	40+ GHz
Link Gain Vs Bandwidth	-12 dB / 28 GHz -15 dB / 40 GHz
Input 1dB Comp	-20.6 dBm @ 1 GHz
Gain Flatness	+/- 1 dB
Noise Figure	15.4 dB @ 10 GHz 18.6 dB @ 30 GHz
SFDR	102.2 dBm x $Hz^{2/3}$
IIP3	-2.1 dBm
Group Delay	+/- 146 ps

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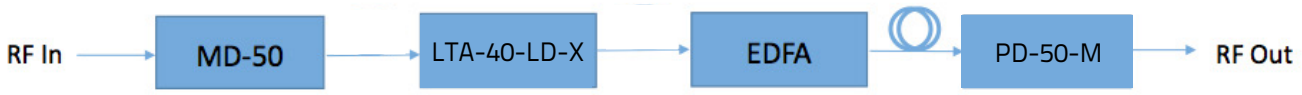
Configuration Diagram



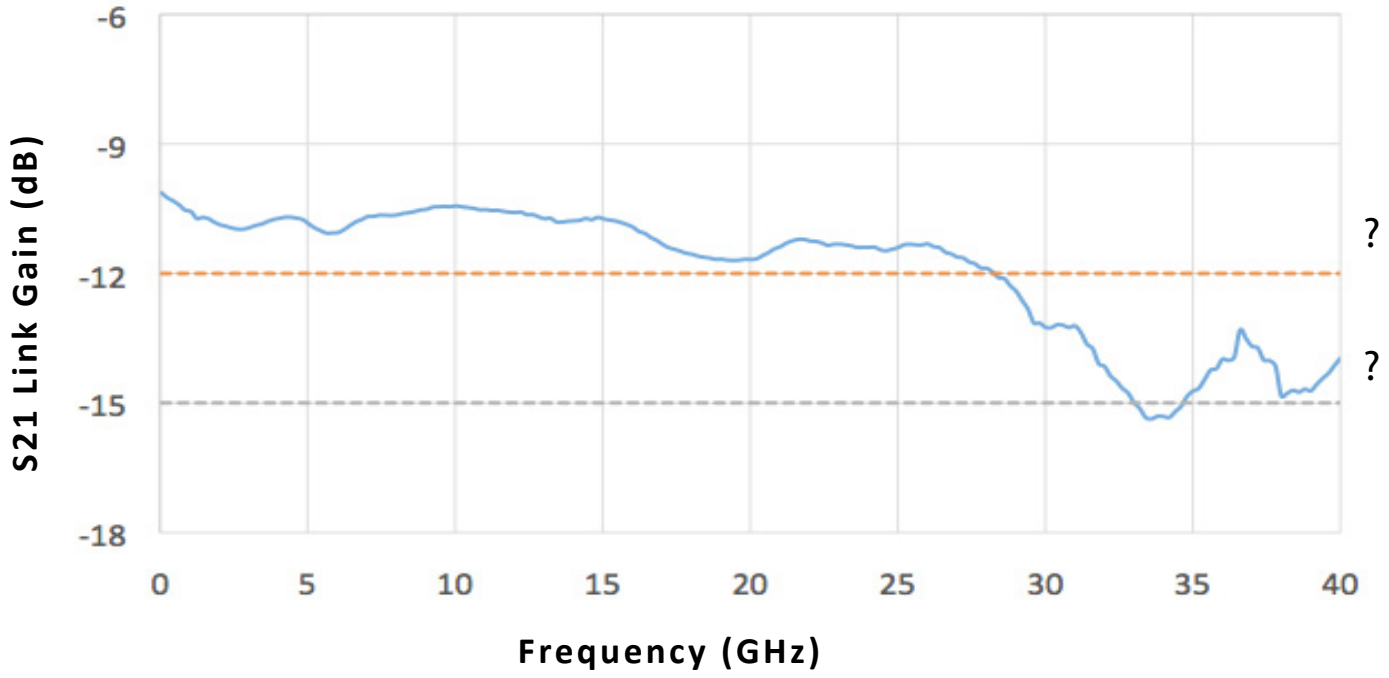
RF Input Power
-20 dBm

Transmitter Output Power
+3.26 dBM

Receiver Input Power
0 dBM

- **MD-50**, 50 GHz Modulator Driver/RF Amplifier (**Datasheet**)
  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-40-LD-X,** 40 GHz Lightwave Transmitter Module for RFoF (**Datasheet**)
  The unit is a high performance Lightwave Transmitter Module designed for analog photonics applications from DC to 40 GHz.
- **EDFA-16-C**, EDFA Module with Low Current Consumption (**Datasheet**)
  The EDFA-16-C with a Low Drive Consumption (LD) is an ideal building block for photonic subsystems and OEM system integration.
- **PD-50-M,** 50 GHz Linear InGaAs PIN Photodetector, Module (**Datasheet**)
  The Optilab PD-50-M is a 50 GHz bandwidth PIN receiver module designed for RF over Fiber, antenna remoting, and broadband analog photonics link.

Link Gain



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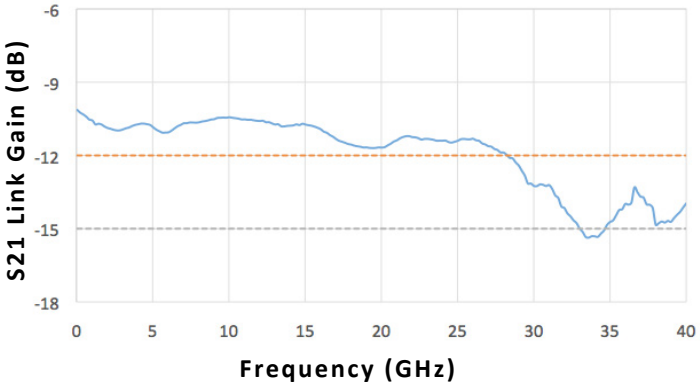
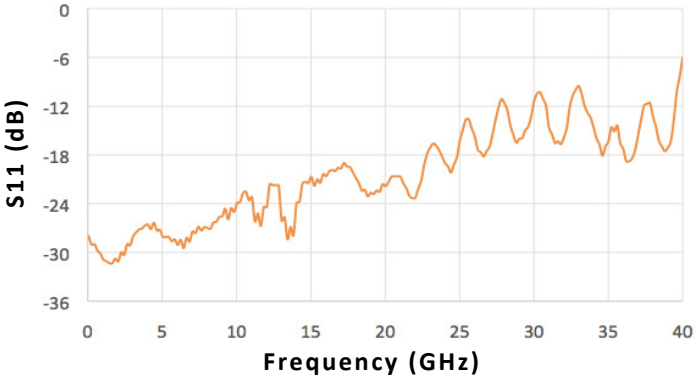
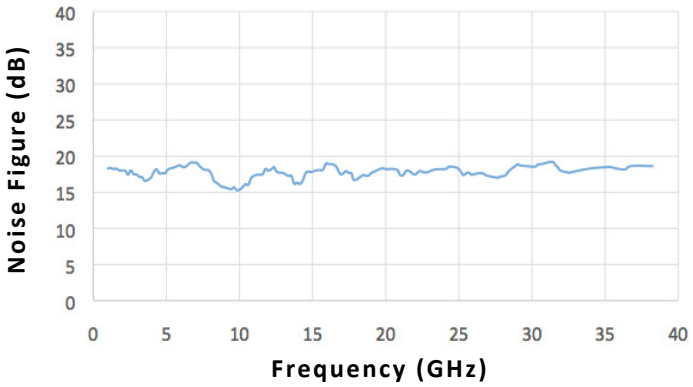
Link Gain



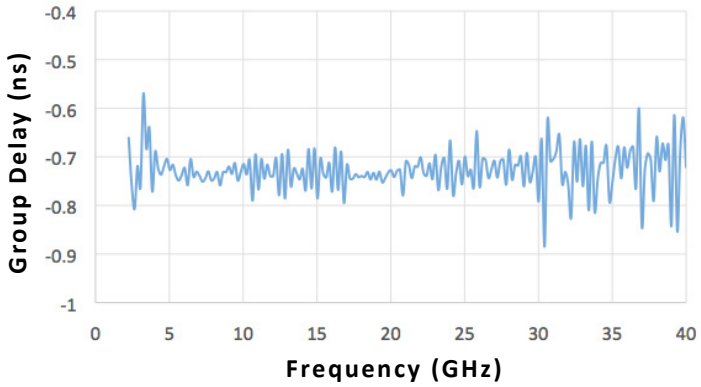
S11 Response



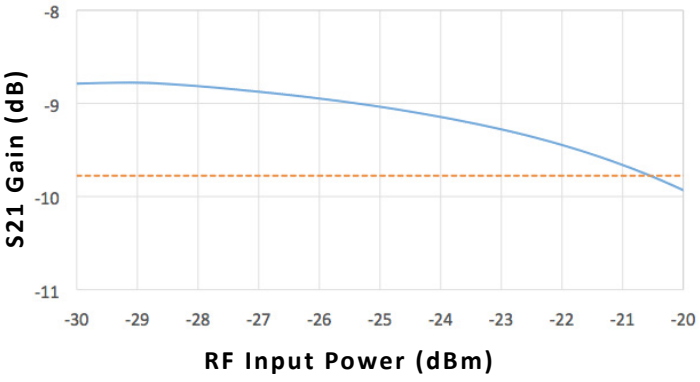
Noise Figure



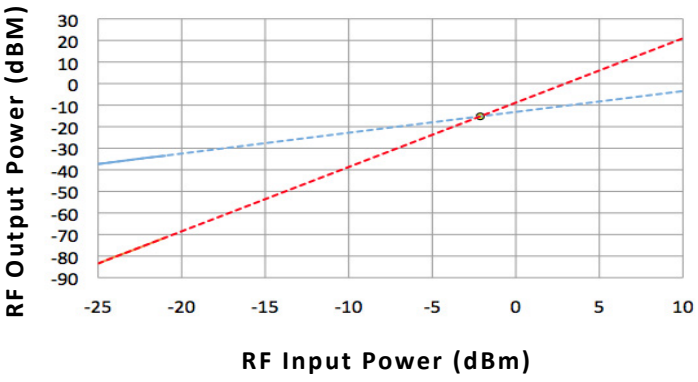
Group Delay



1 dB Compression



IIP3 Plot



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General Specifications

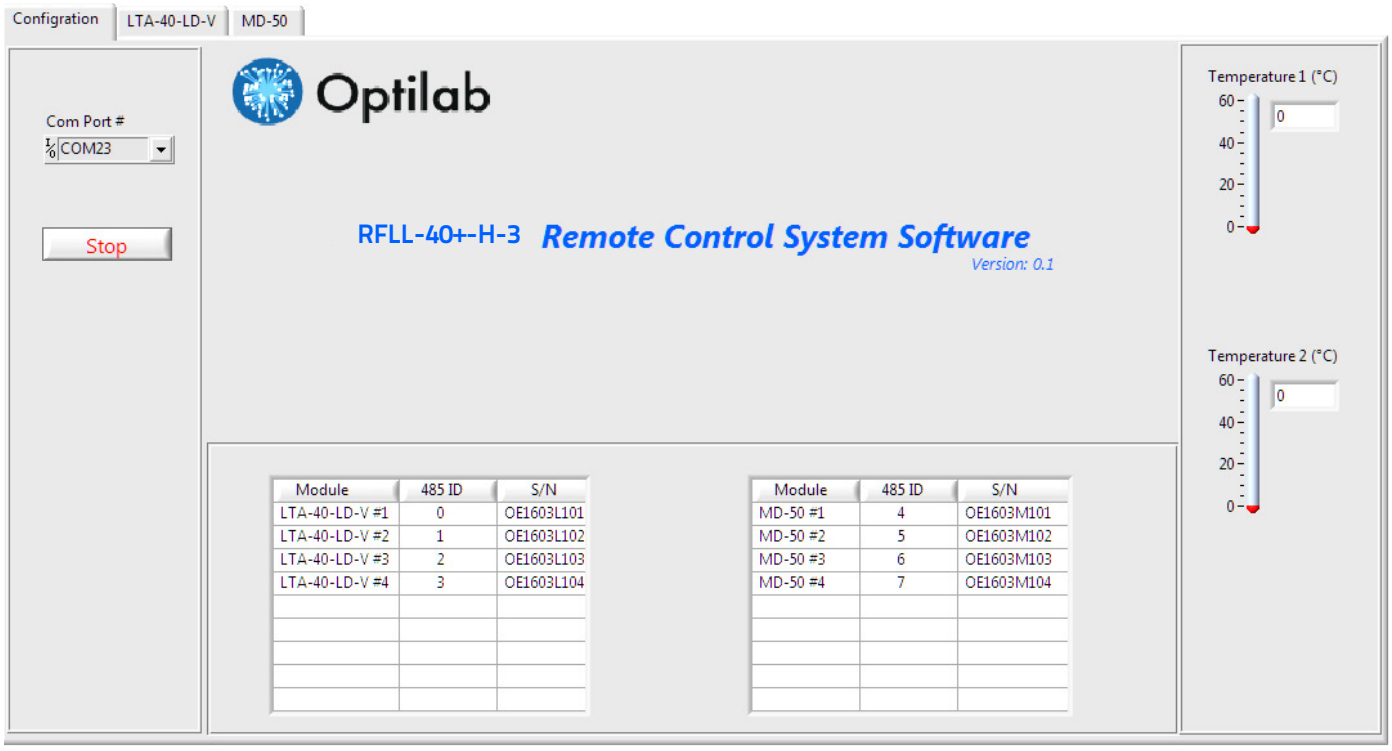
MD-50		**LTA-40-LD-X**	
Power Supply Requirements	+5 V DC, 500 mA max.	Power Supply Requirements	±5V, 1A typ.
Dimensions	82 mm x 60 mm x 26.5 mm	Dimensions	206 mm x 102.4 mm x 31.5 mm
Accessories	PS-5 & Cables	Accessories	PS-5 & Cables
EDFA-16-C		**PD-50-M**	
Power Supply Requirements	±5V, 1A typ.	Power Supply Requirements	+5 V DC, 500 mA max.
Dimensions	90 mm x 70 mm x 18 mm	Dimensions	82 mm x 60 mm x 26.5 mm
Accessories	PS-5 & Cables	Accessories Included	USB adaptor & Cables

RF Specifications

S11 Reflection	< -16 dB From DC to 25 GHz < -9.5 dB From DC to 39 GHz	**S22 Reflection**	< -12 dB From DC to 24 GHz < -3 dB From 24 GHz to 40 GHz

Control Software

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



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