



RFLL-40-H-1



MD-50



LTA-40-LD-V



EDFA-16-C



PD-50-DC

DEVICE

40 GHz RF over Fiber Lightwave Link, H-1

OVERVIEW

The Optilab RFLL-40-H-1 RF over Fiber Lightwave Link is composed of a MD-50 RF amplifier, LTA-A-LD-V lightwave transmitter module, EDFA-16-C low drive consumption and a PD-50 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
- Amplified up to -18 dB link gain

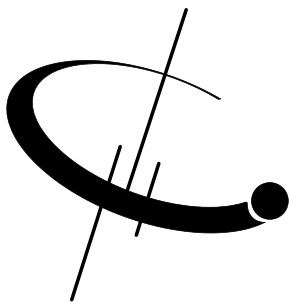
USE IN

- 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

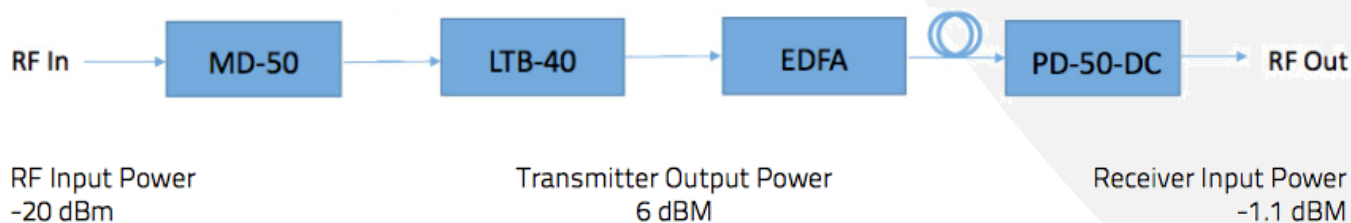
Analog Bandwidth	40 GHz
Link Gain Vs Bandwidth	-18 dB / 20 GHz -19 dB / 30 GHz -22 dB / 40 GHz
Input 1dB Comp.	-15.89 dBm Typical @ 1 GHz
Gain Flatness	+/- 1 dB over 1 GHz
Noise Figure	17.6 dB @ 10 GHz 18.3 dB @ 30 GHz
SFDR	106.4 dBm x Hz ^{2/3}
IIP3	3.9 dBm
Group Delay	+/- 49 ps



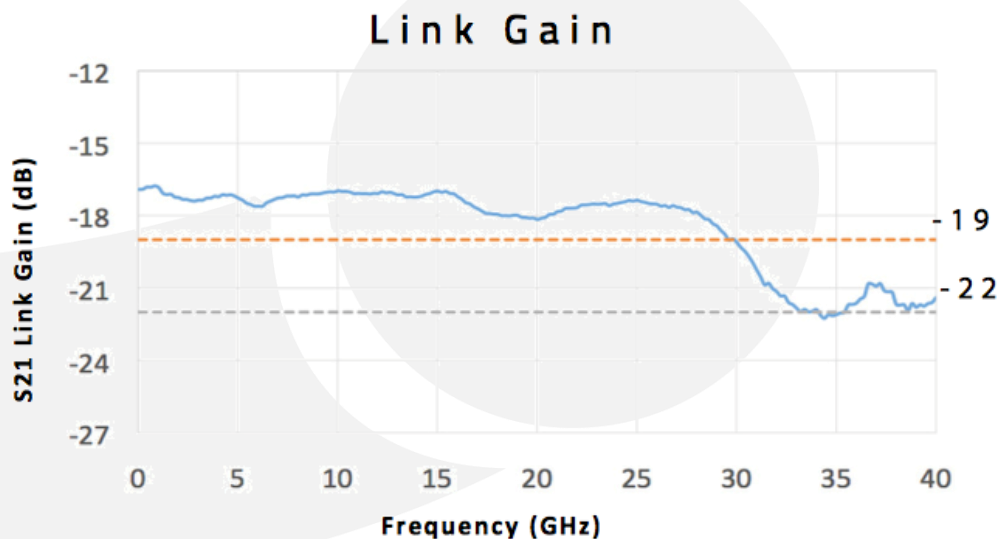


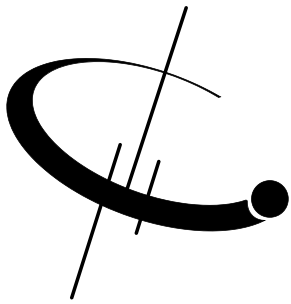
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CONFIGURATION DRAWING



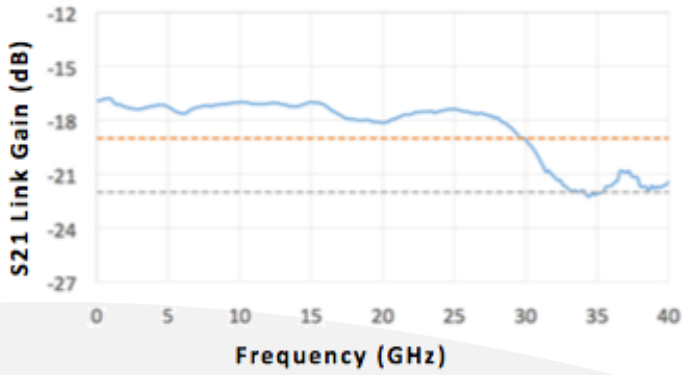
- **MD-50**, 50 GHz Modulator Driver/RF Amplifier
The Modulator Driver (MD) is a 50 GHz Bandwidth RF Amplifier in a compact and user friendly module that provides a high-quality, single-ended voltage to drive an external LiNbO3 modulator.
- **LTA-40-LD-V**, 40 GHz Lightwave Transmitter Module for RFoF
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
The EDFA-16-C with a Low Drive Consumption (LD) is an ideal building block for photonic subsystems and OEM system integration.
- **PD-50-DC**, 50 GHz Linear InGaAs PIN Photodetector, Module
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.



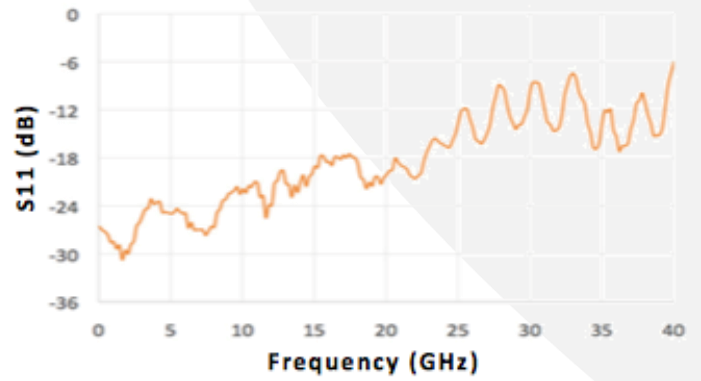


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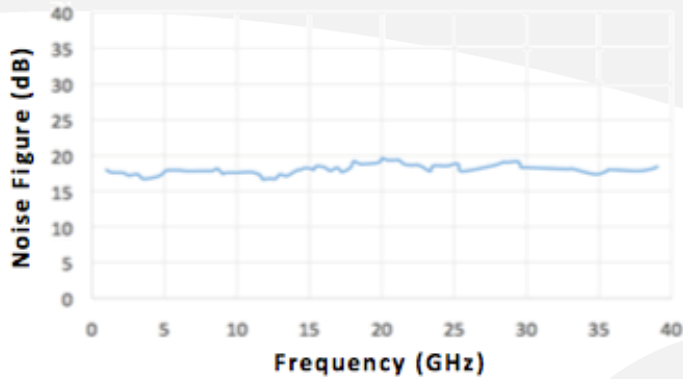
Link Gain



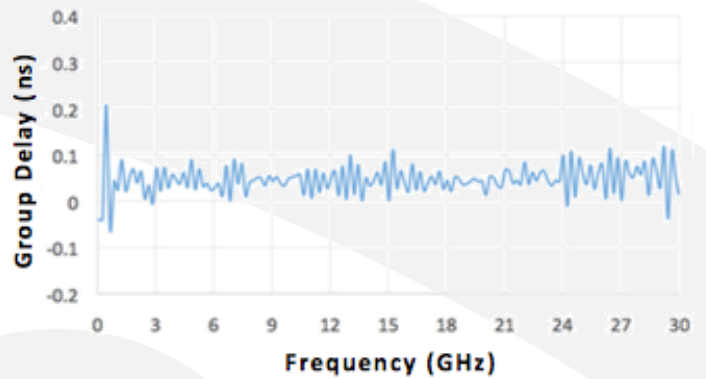
S11 Response



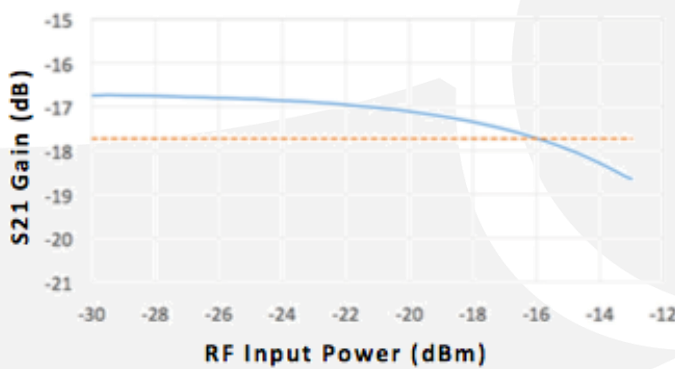
Noise Figure



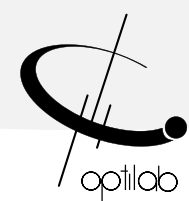
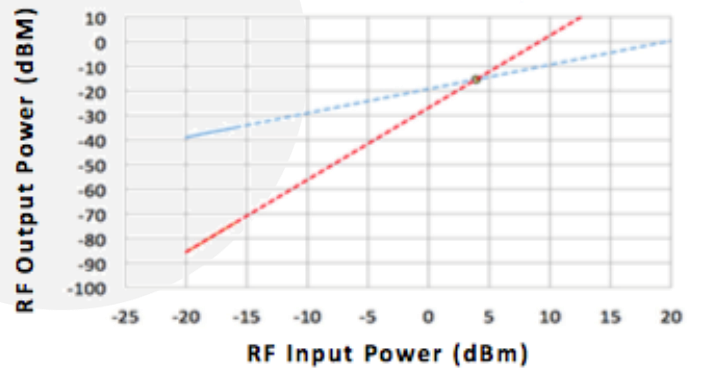
Group Delay

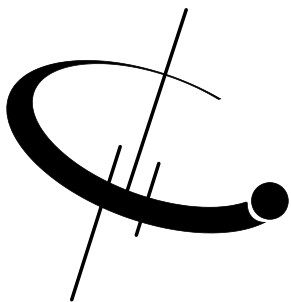


1 dB Compression



IIP3 Plot





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GENERAL SPECIFICATIONS

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

RF SPECIFICATIONS

S11 Reflection	From DC to 25 GHz < -12 dB	S22 Reflection	From DC to 25 GHz < -11 dB
	From 25 GHz to 40 GHz < -5 dB		From 25 GHz to 40 GHz < -5 dB

CONTROL SOFTWARE

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

Module	485 ID	S/N
LTA-40-LD-V #1	0	OE1603L101
LTA-40-LD-V #2	1	OE1603L102
LTA-40-LD-V #3	2	OE1603L103
LTA-40-LD-V #4	3	OE1603L104

Module	485 ID	S/N
MD-50 #1	4	OE1603M101
MD-50 #2	5	OE1603M102
MD-50 #3	6	OE1603M103
MD-50 #4	7	OE1603M104

