

# RFLL-40-H-3



MD-50



LTA-40-LD-X



EDFA-16-C



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-A-LD-X lightwave transmitter module, EDFA-16-C low drive consumption 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

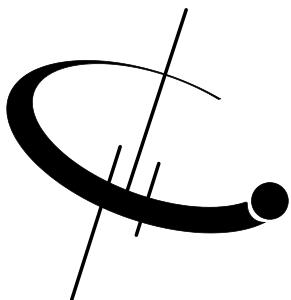
## USE IN

- 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

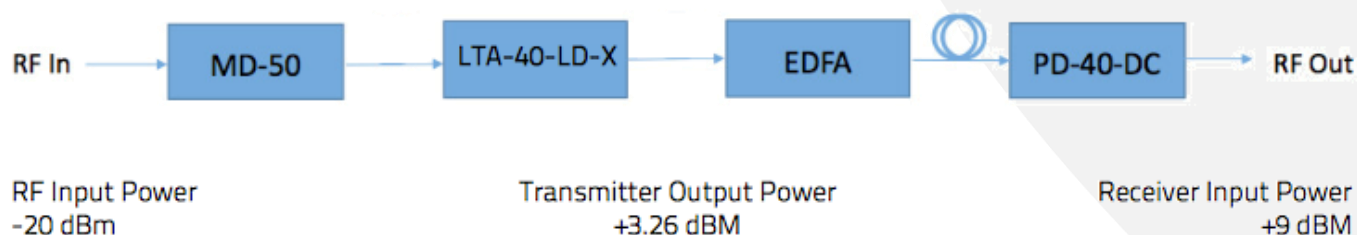
Analog Bandwidth	32 GHz
Link Gain Vs Bandwidth	+9 dB / 29 GHz +3 dB / 32 GHz -3 dB / 40 GHz
Input 1dB Comp	-20.82 dBm @ 1 GHz
Gain Flatness	+/- 1 dB over 1 GHz
Noise Figure	8 dB @ 10 GHz 14.6 dB @ 30 GHz
SFDR	105.5 dBm x Hz <sup>2/3</sup>
IIP3	-1.15 dBm
Group Delay	+/- 54 ps



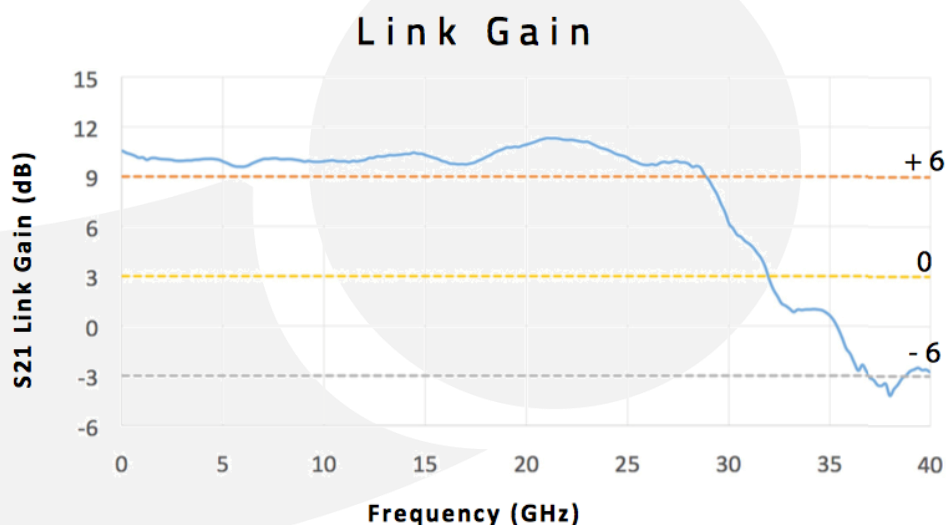


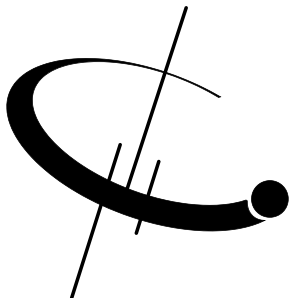
# RFL-40-H-3

## CONFIGURATION DRAWING



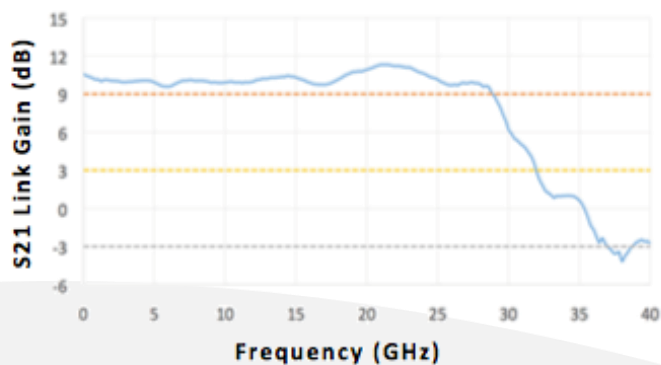
- **MD-50**, 50 GHz Modulator Driver/RF Amplifier  
The Modulator Driver (MD) is a 50 GHz Bandwidth RF Amplifier in a compact and user friendly module that provides a high-quality, single-ended voltage to drive an external LiNbO3 modulator.
- **LTA-40-LD-X**, 40 GHz Lightwave Transmitter Module for RFoF  
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-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.



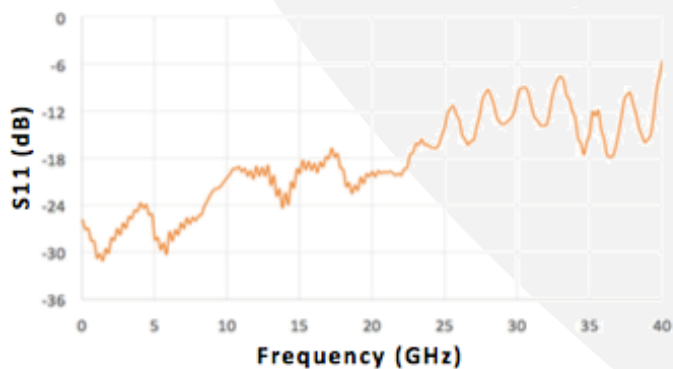


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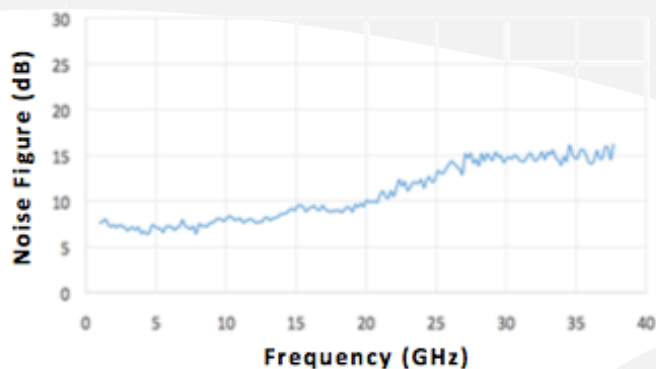
### Link Gain



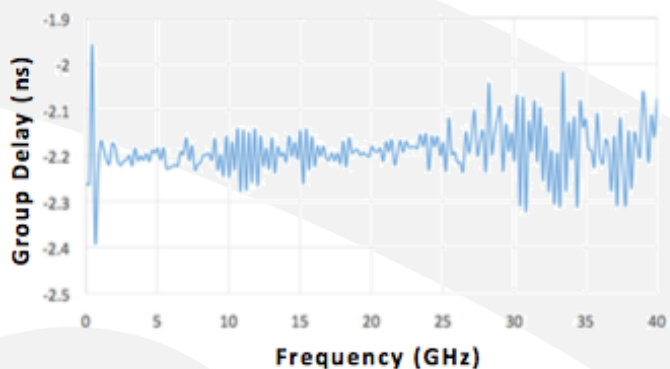
### S11 Response



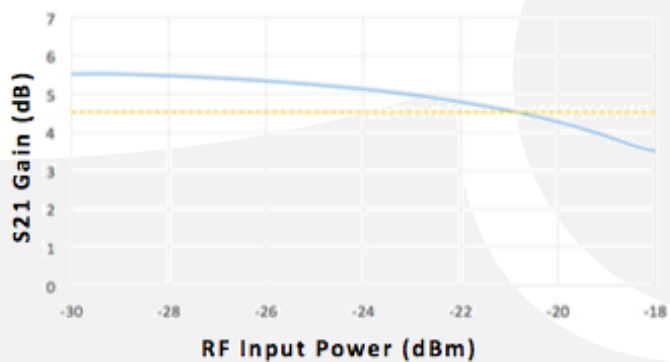
### Noise Figure



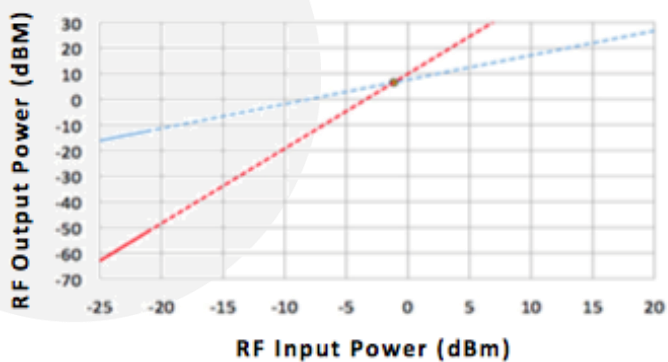
### Group Delay

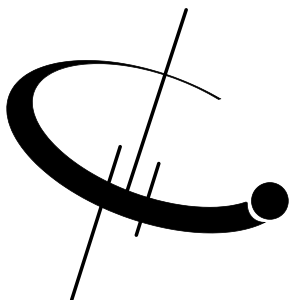


### 1 dB Compression



### IIP3 Plot





# RFL-40-H-3

## GENERAL SPECIFICATIONS

	MD-50	LTA-40-LD-V	EDFA-16-C	PD-40-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	< -17 dB from DC to 23 GHz < -6 dB from DC to 40 GHz	S22 Reflection	< -5 dB from DC to 25 GHz < -3 dB from DC to 40 GHz
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## CONTROL SOFTWARE

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

