

RFLL-30-L-2



LTA-40-LD-V



PD-40-DC

30 GHz RF over Fiber Lightwave Link, L-2

The Optilab RFLL-30-L-2 RF over Fiber Lightwave Link is composed of a LTA-40-LD-V transmitter and a PD-40-DC receiver unit to form a high-performance RFoF link for up to 30 GHz applications.

Features

- RFoF Link up to 30 GHz Bandwidth
- High Dynamic Range
- DFB low RIN Source Laser
- High linearity Reciver
- USB Monitor and Control Interface

Applications

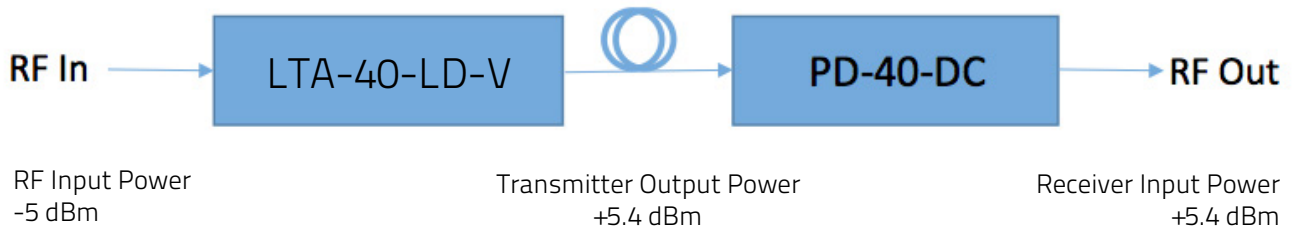
- Wideband RF Transmission over Fiber
- RF/IF Signal Distribution
- Satcom microwave antenna signal distribution
- Broadband delay-line and signal processing
- Phased and interferometric array antenna

Link Performance Summary

Analog Bandwidth	32 GHz
Link Gain Vs Bandwidth	-27 dB / 29 GHz Typical -33 dB / 33 GHz Typical -39 dB / 38 GHz Typical
Input 1dB Comp	13.1 dBm Typical
Gain Flatness	+/- 0.5 dB
Noise Figure	25.7 dB @10 GHz 24.4 dB @ 30 GHz
SFDR	119.1 dBm x Hz ^{2/3}
IIP3	30.3 dBm
Group Delay	+/- 30.3 ps

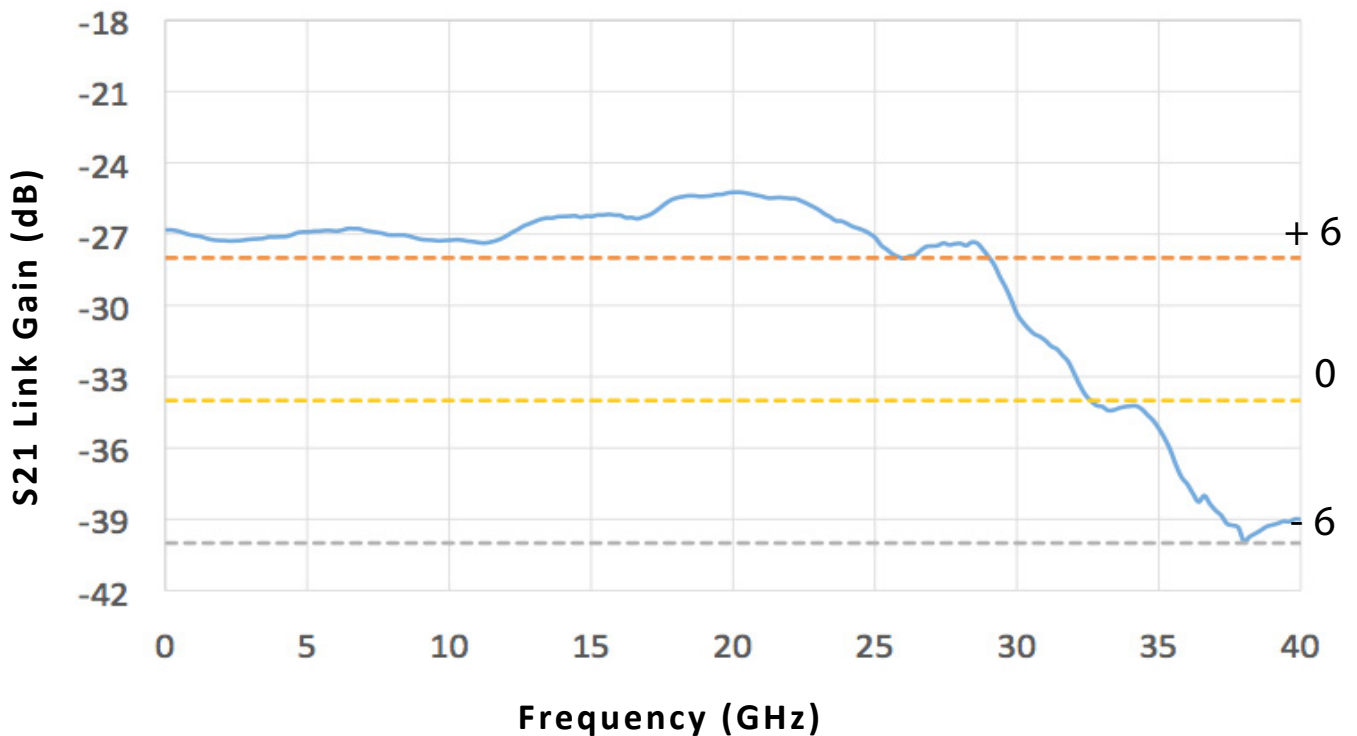
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Configuration Diagram



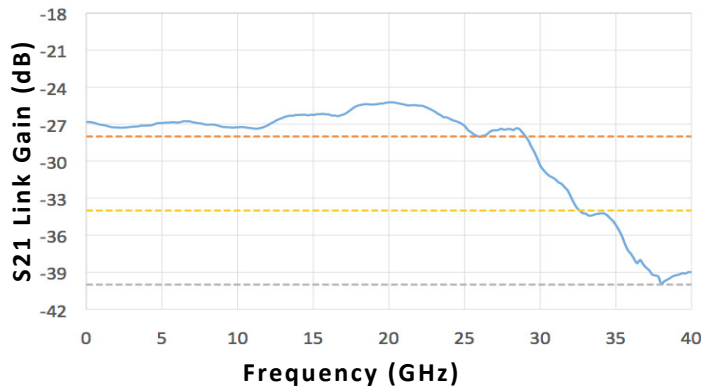
- **LTA-40-LD-V**, 40 GHz Lightwave Transmitter Board for OEM ([Datasheet](#))
The high performance Lightwave Low Drive Voltage Transmitter Board is designed for analog photonics applications from DC to 40 GHz.
- **PD-40-DC**, 40 GHz Linear InGaAs PIN Photodetector, Module ([Datasheet](#))
The Optilab PD-40-M is a 40 GHz bandwidth PIN receiver module designed for RF over Fiber, antenna remoting, and broadband RF transmission applications.

Link Gain

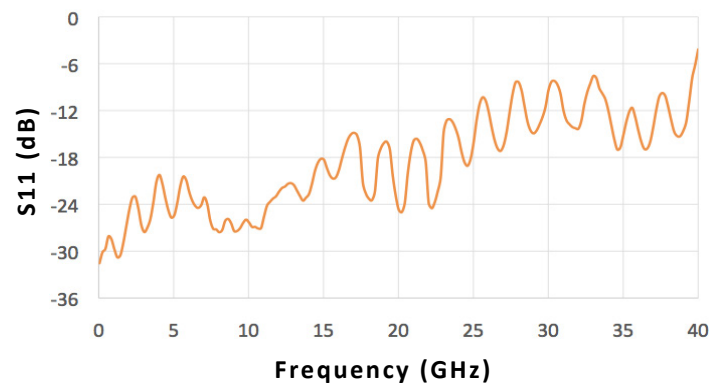


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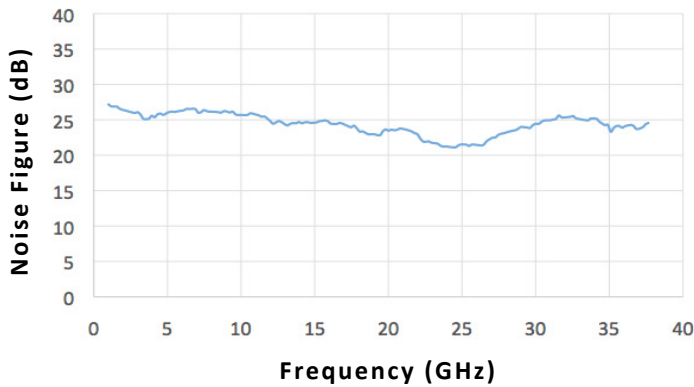
S21 Bandwidth



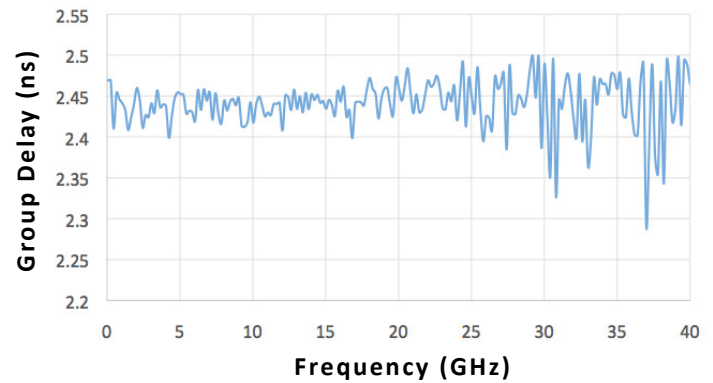
S11 Response



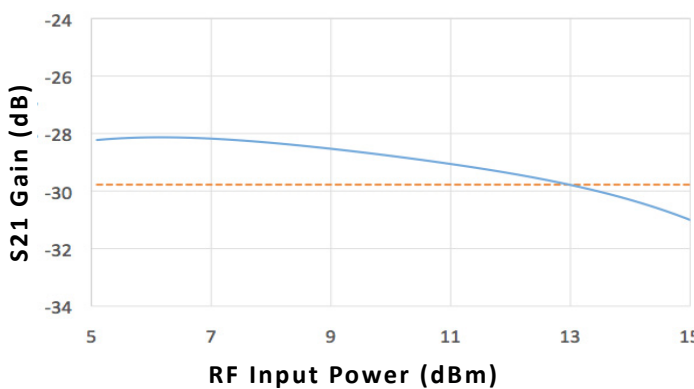
Noise Figure



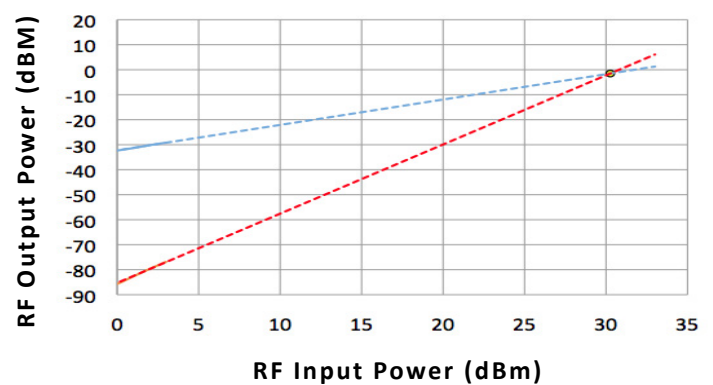
Group Delay



1 dB Compression



IIP3 Plot



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General Specifications

LTA-40-LD-V	
Power Supply Requirements	±5V, 1A typ.
Dimensions	102.4 mm x 200 mm x 31.5 mm
Accessories Included	PS-5 USB Adaptor & Cable
PD-40-DC	
Power Supply Requirements	+5 V DC, 500 mA max.
Dimensions	82 mm x 60 mm x 26.5 mm
Accessories Included	USB Adaptor & Cable

RF Specifications

S11 Reflection	From DC to 15 GHz <-18 dB	S22 Reflection	From DC to 23 GHz <-10 dB
	From 15 GHz to 25 GHz <-12 dB		From 23 GHz to 40 GHz <-5 dB
	From 25 GHz to 40 GHz <-4 dB		

Control Software

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

Configuration | LTA-40-LD-V | MD-50

Com Port #
COM23

Stop

Optilab

RFL-30-L-2 Remote Control System Software
Version: 0.1

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

Temperature 1 (°C)
0

Temperature 2 (°C)
0

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sales@optilab.com