



LRC-30



DEVICE

Lightwave Receiver Module, 30GHz

OVERVIEW

The Optilab LRC-30 is a 30 GHz Lightwave Receiver module designed for RF over Fiber, antenna remoting, and broadband RF transmission applications using single mode optical. The LRC-30 can accept input power of up to 20 mW. The LRC-30 utilizes a high input power, low distortion PIN photodiode that provides optical to RF conversion out to the frequency range beyond 30 GHz. This cost-effective receiver module can provide users with status monitoring through OLED status display that communicates to a host computer over an RS-232 I/O interface via a standard USB 2.0 port. When the LRC-30 RF over fiber receiver module is linked with the LTC series of RF over fiber transmitter modules, the combination provides an excellent solution for ultra-wideband RF to fiber conversion applications. Contact Optilab for more information.

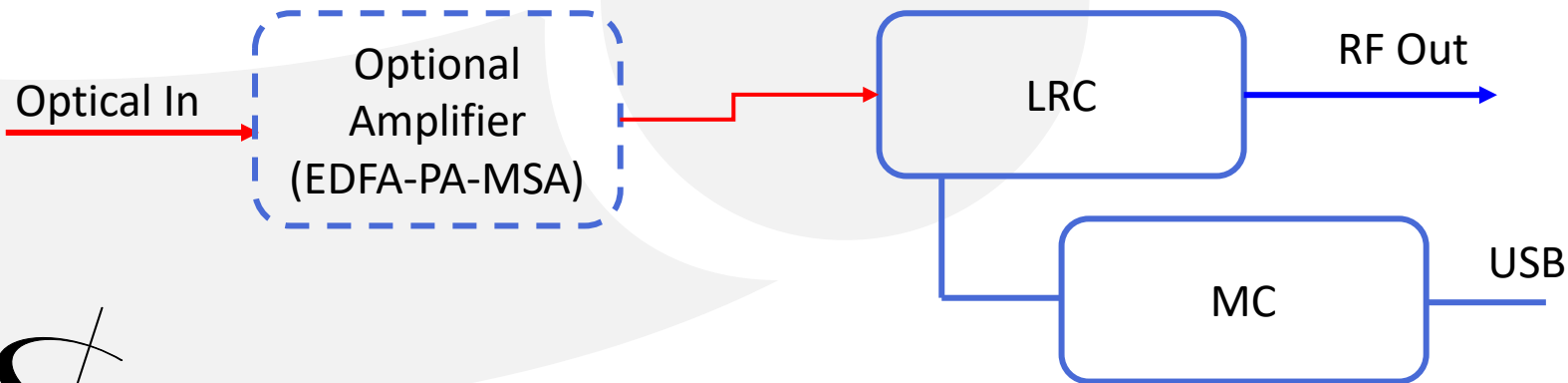
FEATURES

- Bandwidth 60 KHz to 30 GHz
- High Dynamic Range
- High Input Power Handling Capacity of 20 mW
- AC (110V to 240V) Power
- No TIA for Intrinsic Phase Linearity
- OLED Status Display
- Highly Linear for Analog Signals Transmission

USE IN

- EW Systems
- Broadband Delay-line and Signal Processing
- LIDAR Receivers
- Phased and Interferometric Array Antenna
- Wideband RF Transmission over Fiber
- RF/IF Signal Distribution
- Satcom Microwave Antenna Signal Distribution
- 5G Antenna to Base Station

FUNCTIONAL DIAGRAM





LRC-30

SPECIFICATIONS

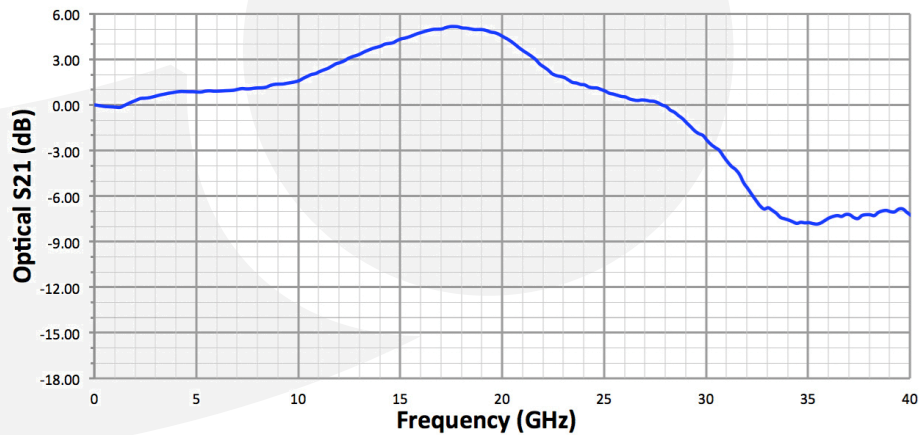
Photodiode Wavelength Range	1260 nm to 1600 nm
Operational Bandwidth	60 KHz to 30 GHz
Optical Input Level	20 mW max.
Responsivity	0.85 A/W @ 1550 nm typ.
S21 3 dB Bandwidth	10 GHz typ
S22 Characteristics	< -10 dB @ 20 GHz
Optical Return Loss	-30.00 dB typ.
2 nd Harmonics Distortion	-60.00 dBc max.
3 rd Harmonics Distortion	-70.00 dBc max.
Optical PDL @ 1550 nm	0.05 dB typ.
RF Impedance	50 Ω
Ripple over Bandwidth	± 1.0 dB max.

GENERAL

Operating Temperature (standard)	-10°C to +50°C
Storage Temperature	-20°C to +80°C
Power Supply Requirements	AC 110-240V (+ 5 V DC Available Upon Request)
Optical Connectors	FC/APC
RF Input Connectors	K Connector Female, 50 Ω
Local Alarm	OLED Display
Remote Alarm	RS232 Interface (standard) via USB
Dimensions	280mm x 90mm x 340mm

MECHANICAL

TYPICAL S21 BANDWIDTH





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ORDERING OPTIONS

LRC-30-XX

XX DC: DC coupled
AC: AC coupled

RELATED TRANSMITTER

- **LTC-40**



The Optilab LTC-40 is a high-performance Lightwave Transmitter Modulator that can be used with LRC-30 for RFoF conversion application.

RELATED AMPLIFIER

- **EDFA-PA-MSA**



The Optilab EDFA-PA-MSA is a high gain pre-amplifier module that can be used for amplifying the LRC-40's receiving signal.

AMPLIFIER INCLUDED VERSION

- **LRC-30-PA**



The Optilab LRC-30-PA is a 30 GHz Lightwave Receiver module with integrated pre amplified EDFA, designed for RF over Fiber application

