

LT-3-M



3 GHz Lightwave Transmitter

The Optilab LT-3-M is a 3 GHz bandwidth lightwave transmitter module output designed for RF over fiber, antenna remoting and broadband RF transmission applications using single mode optical fiber. This convenient, cost-effective module uses a low noise, narrow linewidth, 1550 nm distributed feedback (DFB) laser diode as Continuous Wave (CW) light source. A compact Mach-Zehnder Interferometer (MZI) optical modulator is employed to provide the linear modulation capability that exceeds 3 GHz in its modulation bandwidth, and the externally modulated transmitter design provides a high spur-free dynamic range and high input intercept point performances. With useful bandwidth up to 4 GHz, the LT-3-M can be utilized for digital transmission when driven by a wideband modulator driver, and can be paired with the LR-12-A series of 12 GHz amplified receivers for a high-speed RF over Fiber Link. Contact Optilab for more information.

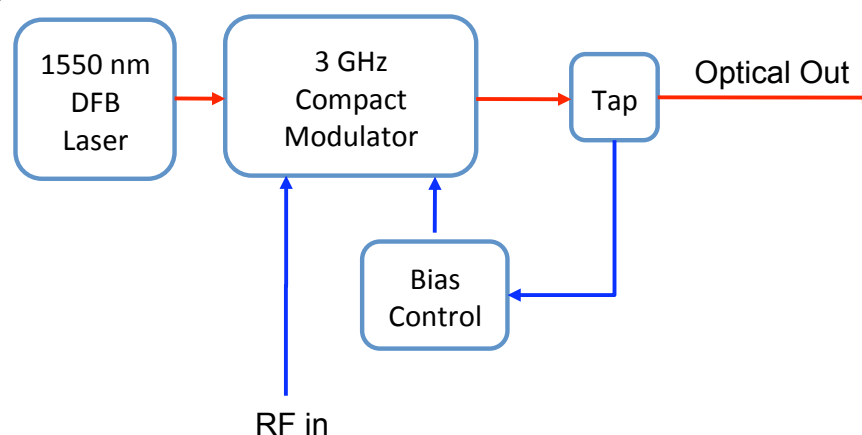
Features

- RFoF Transmitter with 3 GHz Bandwidth
- High Dynamic Range with low RIN Source Laser
- Highly Linear for Analog Transmission
- RS-232 Monitor Interface (optional)
- Compact MZI optical modulator
- Housing limits RF and thermal interference

Applications

- Wideband RF Transmission over Fiber
- RF/IF Signal Distribution
- Satcom microwave antenna signal distribution
- EW Systems
- Broadband delay-line and signal processing
- Radar system calibration phased
- Phased and interferometric array antenna

Functional Diagram



3 GHz Lightwave Transmitter

OPTIONS

LT-3-M-x-yy

- x Optical Output Power:
+4 to +6 dBm
- yy ITU 100 GHz Wavelength
Grid Number: Channels
20 (1561 nm) -
60 (1529 nm)

TECHNICAL INFO

For technical info and support:

sales@optilab.com

www.optilab.com

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Optilab Advantage

- Innovation
- Performance
- Quality
- Customization
- Warranty

General Specifications	
DFB Laser Wavelength	1550 nm ± 10 nm, Can be ordered w/ ITU wavelength
Operational Bandwidth	0.01 to 3.5 GHz
Optical Output Level	+4 dBm to +6 dBm
Optical Return Loss	50 dB typ.
Linewidth (FWHM)	< 3 MHz
DFB Side Mode Suppression Ratio	50 dB typ.
Relative Intensity Noise (RIN)	-145 dB/Hz max.
Impedance	50 Ω
Frequency Response Flatness	±0.1 dB/100 MHz
Phase Flatness	±0.2 degree/100 MHz
Spurious Free Dynamic Range (SFDR)	110 dB-Hz ^{2/3}
VSWR	2.0 : 1 max.
Input Damage Level	23 dBm max.
Mechanical Specifications	
Operating Temperature	-40° C to +70° C
Storage Temperature	-55° C to +85° C
Power Supply Requirements	+12 V DC, 2 A max.
Optical Connector	FC/APC, other optional
RF Input Connector	SMA Connector Female, 50 Ω
DC Connector	DB-15
Local Alarm	LED: Optional Input Power
Remote Alarms	RS-232 Interface
Dimensions	130 mm x 82 mm x 25 mm
Accessories Included	110 V - 240 V AC Adaptor & Cable
Housing	Precision Mach. Anodized Aluminum

Typical S21 Bandwidth

