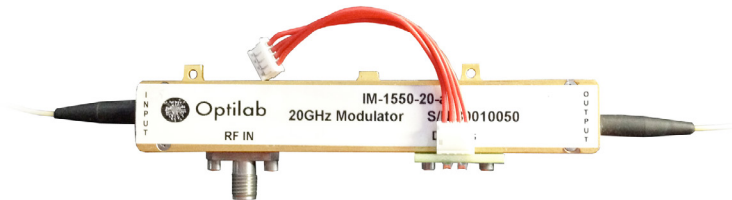


# IM-1550-20-P



## 1550 nm, 20 GHz Bandwidth Intensity Modulator, DC Bias Pin Option

The Optilab IM-1550-20-P Intensity Modulator is designed for TDM and WDM 20 Gb/s transmission, and can also be incorporated for analog modulation of up to 20 GHz for satellite links, antenna remoting, and RF over Fiber. It is a hands-on bias-stabilized lithium modulator that proves to be extremely stable for long periods of time, and features excellent stability in a biased circuit, operating from 1530 nm to 1610 nm. It has an excellent operating temperature tolerance ranging from -30 °C to +60 °C, and its low insertion loss provides for its maximum transmission power. The IM-1550-20-P uses a Polarization Maintaining (PM) input fiber and a Single Mode (SM) output fiber. It features separate RF and bias ports. Contact Optilab for more information.

### Features

- Excellent stability in a biased circuit
- 1530 nm to 1610 nm operating wavelength
- Low insertion loss
- Useful bandwidth up to 20 GHz
- Wide operating temp. range of -30 °C to +60 °C
- DC Bias Pin Option

### Applications

- TDM and WDM up to 25 Gb/s
- Analog Transmission up to 20 GHz
- Satellite Link
- Antenna Remote
- RF over Fiber

### Functional Diagram



# 1550 nm, 20 GHz Bandwidth Intensity Modulator, DC Bias Pin Option

## OPTIONS

**IM-1550-20-P-x**

x Connector Type:  
a, FC/APC;  
u, FC/UPC

## TECHNICAL INFO

For technical info and support:

[sales@optilab.com](mailto:sales@optilab.com)

[www.optilab.com](http://www.optilab.com)

## WEB ORDER

To order, please visit [OEQuest.com](http://OEQuest.com).



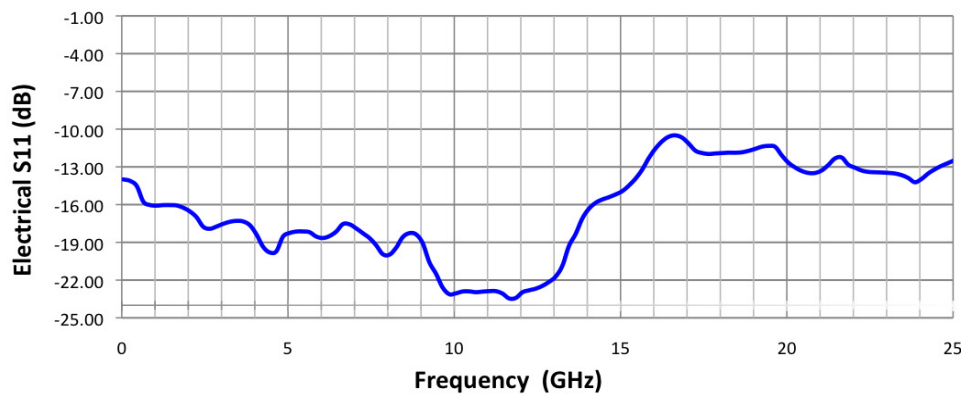
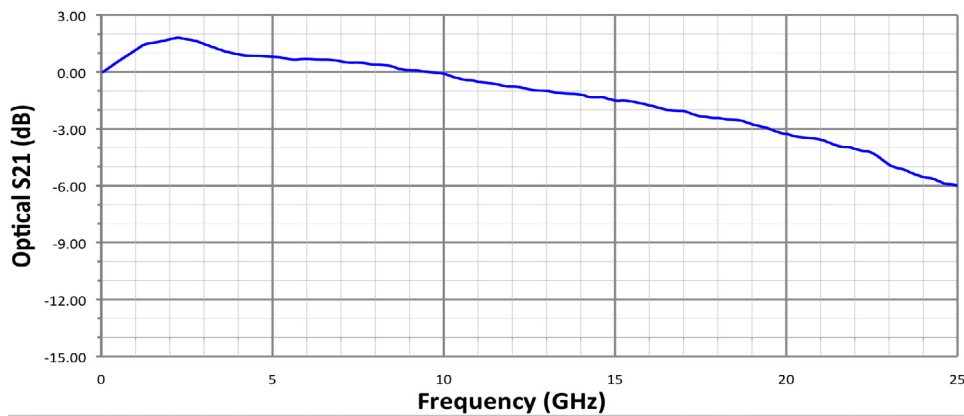
## Optilab Advantage

- Innovation
- Performance
- Quality
- Customization
- Warranty

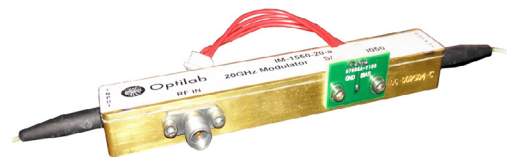
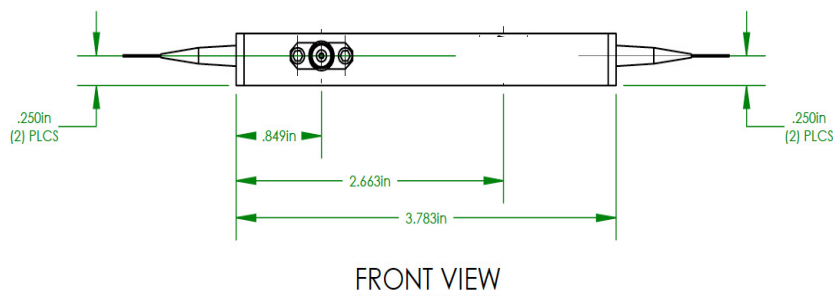
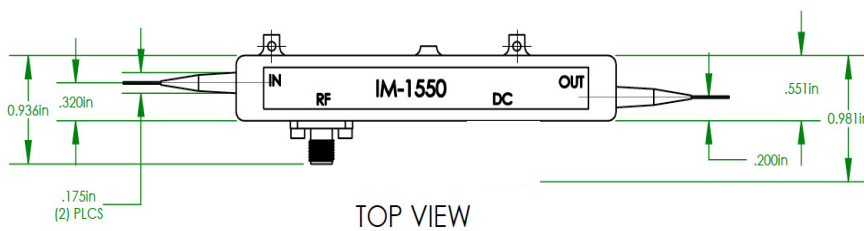
General Specifications	
Input optical power	100 mW max.available
Operating wavelength	1530 to 1610 nm
Chirp Value	<± 0.2 (zero chirp design)
Insertion Loss	≤ 5.0 dB max.
Extinction Ratio	≥ 25 dB min.
Optical return loss	≤ - 45 dB
PRBS Electrical drive voltage	6.0 Vpp typ.
S21 Bandwidth	Up to 20 GHz
S11 Return Loss	≤ 10 dB @ 10 GHz
V $\pi$ (RF Port)	6.6 V typ. @ 10 GHz
RF Input power	27 dBm max.
Impedance (RF Port)	50 $\Omega$ typ.
S21 Bandwidth (Bias Port)	500 MHz typ.
V $\pi$ (Bias Port)	≤ 10 V @ DC
Impedance (Bias Port)	>1 M $\Omega$
Analog Link Performance	
IIP3 @7 GHz	32 dBm typ.
1 dB Compression Point @10 GHz	16 dBm typ.
Mechanical Specifications	
Operating Temperature	-30 °C to +60 °C
Storing Temperature	-60 °C to +90 °C
Operating Humidity	0% to 90% Relative Humidity
Input Fiber Type	PANDA - PM
Output Fiber Type	SMF-28
Input Connector	PM FC/APC, PM FC/UPC
Output Connector	FC/APC, FC/UPC
Material	LiNbO3
Crystal Orientation	X-cut, y-propagating
Waveguide Process	Ti-indiffused
Bias Port Connector	Pin
RF Port connectors	K type (compatible w/ SMA)
Cabling	900 $\mu$ m tubing
Dimensions	3.783" x 0.981" x 0.640"

# 1550 nm, 20 GHz Bandwidth Intensity Modulator, DC Bias Pin Option

## Typical S21 and S11 Bandwidth



## Mechanical Drawing



\* Dimension unit: inch