CMB-20

20 GHz Compact Modulator with Bias Control

The Optilab CMB-20 is a Compact Modulator Board designed for analog photonics applications from DC to 20 GHz. This unit includes a compact optical intensity modulator and an Automatic Bias Control (ABC) board. The external laser source of CMB modules are typically DFB lasers. CMB series is an ideal solution for high density RFoF sub-system integration. Contact Optilab for more information.

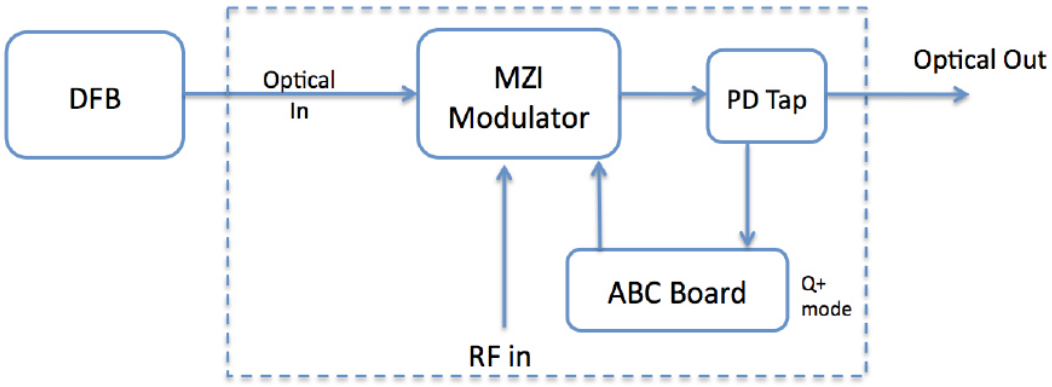
Features

- 20 GHz operational bandwidth
- Compact and low power consumption
- 1520 nm to 1610 nm wavelength range
- Automatic Bias Control
- Accepts external laser source via input
- Customizable options:
  - PM Output
  - Temperature Qualified (-55 °C to +75 °C)

Applications

- Analog photonics
- 20 GHz RFoF transmission
- RF/IF signal distribution
- Satellite communication
- Optical communications to 25 Gb/s
- Multi-channel RFoF system

Functional Diagram



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OPTIONS

CMB-20-XX-YY

XX **PM**: Polarization Maintaining

YY **TQ**: Temperature Qualifed

TECHNICAL INFO

For technical info and support:

sales@optilab.com

www.optilab.com

WEB ORDER

To order, please click below.

OEQuest.com

Optilab Advantage

- Innovation
- Performance
- Quality
- Customization
- Warranty

General Specifications	
Operating Wavelength	1520 nm to 1610 nm
Laser Source	User's external Input
Optical Input Level	+18 dBm max.
RF Return Loss	>15 dB @ 10 GHz; >10 dB @ 20 GHz
Impedance	50 Ω
Operating Frequency Range	DC to 20 GHz
Input RF Voltage	26 dBm max.
Optical Output Level	7 dBm @ +14 dBm input typ.
S21 Bandwidth	3 dB, 17 GHz typ.
Modulator Bias Mode	Q+ for linear operation
Extinction Ratio	25 dB typ.;
Modulator Voltage V_{PI}	6.7 V typ. @10 GHz
Analog Link Performance	
IIP3 @7 GHz	29 dBm typ.
1 dB Conpression Point @10 GHz	14.5 dBm typ.
Mechanical Specifications	
Operating Temperature (standard)	-30 °C to +60 °C
Operating Temperature (**TQ version**)	-55 °C to +75 °C
Storage Temperature	-60 °C to +90 °C
Power Supply Requirements	5V, 500 mA max.
Optical Connectors	FC/APC
Fiber Type	>1m, PANDA input, SMF-28 output; PANDA input/output (**PM version**)
RF Input Connector	GPO; GPO to SMA adaptor available
Electrical Connector	6 Pin, 5 volt supply and RS485
Remote Control	Software command via RS485
Alarm	LED bias mode status
Dimensions	140 mm x 28 mm x 20 mm

Electrical Connector Pin Out

Pin	Description
1	GND
2	NC
3	D- for RS485
4	D+ for RS485
5	GND
6	+5V power supply

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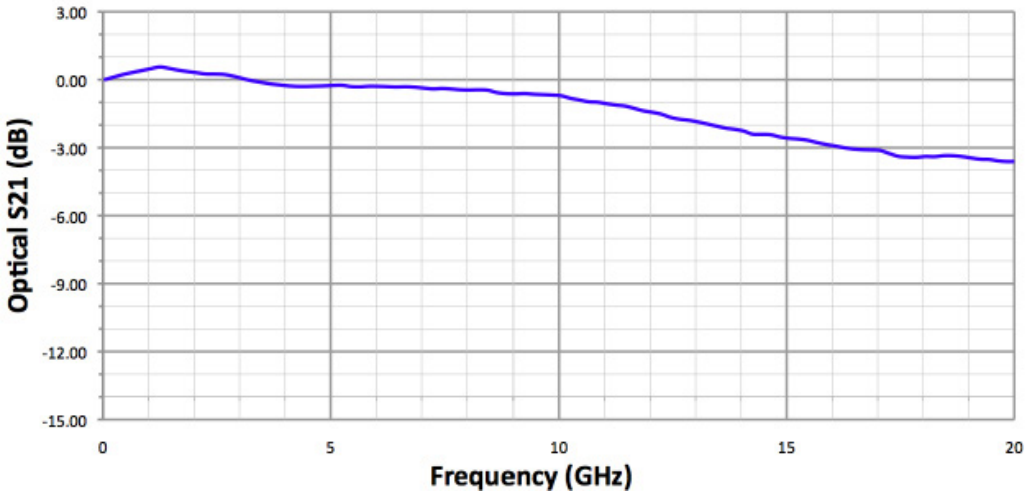
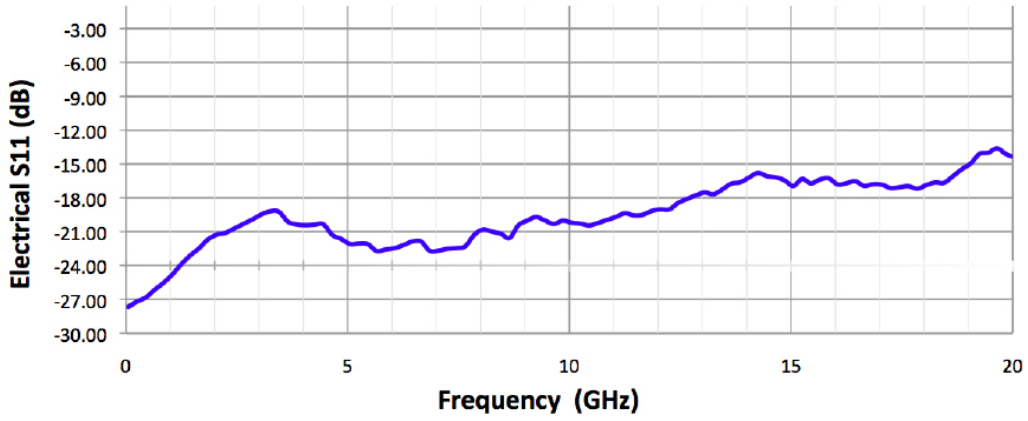
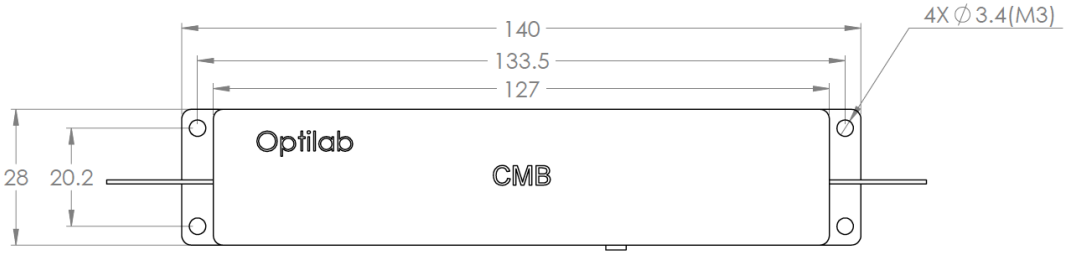
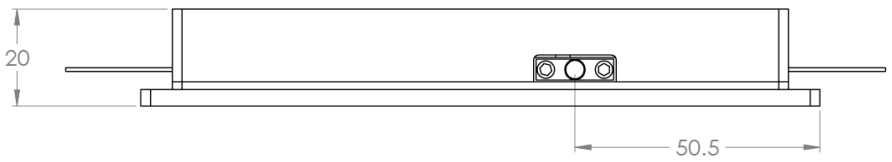
Typical S21 and S11 Bandwidth





Mechanical Drawing





Unit: mm