

microwave photonic systems

7284A1MTX / 7284A1MRX

X-Band; 7 to 9 GHz Fiber Optic Plug-In Module



Provides low noise and high dynamic range performance.

The Model 7284A1MTX and Model 7284A1MRX product series provides high performance X-Band communications interconnectivity in a hot swappable 4RU plug-in form factor. Designed for antenna remoting and X-Band SATCOM Uplink & Downlink RF transmission applications, the Plug-In modules are interconnected using singlemode fiber optic cable to extended transmission distance beyond that of traditional coaxial cable. The Transmitter and Receiver modules are equipped with digitally controlled attenuators which allows the operator to dynamically configure the optical channel to act as either an Uplink or Downlink transmission path. This capability provides operational flexibility to tailor the RF path performance over a range of Gain, NF, and Third Order Intercept Points that is required for a given SATCOM terminal.

The transmitter uses a high efficiency Distributed Feedback (DFB) laser diode with an operating wavelength of 1310 nm that provides high dynamic range performance. The laser diode's temperature stability is microprocessor controlled using a thermal electric cooler. The transmitter's microprocessor also provides embedded status monitoring of all critical parameters and communicates this information to a host computer using an RS-485 I/O interface. The I/O parameters include laser bias current, temperature and alarm status.

The receiver utilizes a high-speed, low distortion PIN photodiode detector and also has an integrated microprocessor which provides the user with status monitoring. The I/O parameters include received optical power, temperature and alarm status.

Information: Call us toll-free at 888-868-8967 or email info@b2bphotonics.com

Applications

- Antenna Remoting
- L Band SATCOM Transmission
- Delay Lines
- RADAR, EW & ECM

Features

- Uplink or Downlink, 7 GHz to 9 GHz
- High Spur Free Dynamic Range
- Hot Swappable, Plug-In Module
- Status Monitoring: RS-485

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7284A1MTX / 7284A1MRX

X-Band; 7 to 9 GHz

Fiber Optic Transmitter & Receiver Plug-In Modules

Specifications

Optical:

Operating Wavelength:	1310 nm
Optical Output Level (min):	+5.0 dBm
E/O Diff. Eff. (min):	0.1 W/A
Line Width (3 dB):	10 MHz
Side Mode Supression (typ):	45.0 dB

Uplink Channel:

Frequency:	7.9 GHz to 8.4 GHz
Flatness (typ.):	± 0.75 dB over any 500 MHz Bandwidth
VSWR Input (max):	1.8:1
1 dB Input Comp. Level (min):	15.0 dBm(1)
Output IP-3 (min):	27.0 dBm(1)
RF Link Gain (min):	0.0 dB +/- 1.0 dB(1)
Noise Figure (max):	46.0 dB (1)
RF Input Power (max):	+ 12 dBm

Downlink Channel:

Frequency	7.25 GHz to 7.75 GHz
Flatness (typ.)	± 0.75 dB over any 500 MHz Bandwidth
VSWR Input (max)	1.8:1
1 dB Input Comp. Level (min)	0.0 dBm(1)
Output IP-3 (min)	12.0 dBm(1)
RF Link Gain (min)	0.0 dB +/- 1.0 dB(1)
Noise Figure (max)	32.0 dB (1)
RF Input Power (max)	-3.0 dBm

General:

Power Supply	+15.0 VDC, 1.5 A max., Unipolar PWR Supply
Optical / RF Connector	FC/APC & SMA (f), 50 ohm
Operating/Storage Temp.	0.0°C to +50°C & -20°C to +70°C
Local Alarm	LED: Bit Fault & Optical Power Failure
Remote Alarms	RS-485 Interface
Dimensions	Plug-In Module

