

Ultra-Wideband (3 – 50 GHz) Analog Photonic Link

PTX-030-500 and PRX-030-500: S to Q-Band



Features

- 3 – 50 GHz Operational Bandwidth
- Low Loss and Noise Figure
- High Dynamic Range
- Monitoring Indicators
- AC Powered
- Integrated Rack-mountable Modules

The *octane* photonic transmitter (PTX) and photonic receiver (PRX) modules can be used together to realize a high performance ultra-wideband analog optical link that supports the fiber optic remoting of RF signals over the ultra-wideband frequency range of 3 GHz up to 50 GHz. Proprietary techniques are employed to achieve the best gain, noise figure, and dynamic range performance available.

SPECIFICATIONS: LINK PERFORMANCE*

	3 – 20 GHz	20 – 40 GHz	40 – 50 GHz
Link Gain (Minimum)	14 dB	6 dB	- 5 dB
Link Noise Figure (Maximum)	7 dB	8 dB	11 dB
Spurious Free Dynamic Range (Typical)	99 dB-Hz ^{2/3}	100 dB-Hz ^{2/3}	95 dB-Hz ^{2/3}
Input IP3 (Typical)	-21 dBm	-21 dBm	-24 dBm
Gain Flatness over 1 GHz (Maximum)	± 1.0 dB	± 2.0 dB	± 5.0 dB

SPECIFICATIONS: OPTICAL

PTX Operating Wavelength	1550 – 1570 nm
PTX Optical Output Power (Typical)	+8 dBm
PRX Wavelength Response Range	1064 – 1650 nm
PRX Responsivity @ 1550 nm (Typical)	0.6 A/W
Maximum Optical Input Power into PRX	+10 dBm
Connector Type	FC/APC

SPECIFICATIONS: GENERAL

AC Power Supply Voltage	90 – 264 VAC, 47 – 63 Hz
Operating Temperature	0 – 50 °C
Transmitter Dimensions	19" × 16.12" × 1.72"
Receiver Dimensions	8.49" × 8.10" × 1.72"
Power Consumption (Typical)	20 W (PTX), 1.5 W (PRX)
Front Panel LEDs	Power, Status
PTX Rear Panel Remote Status	RS-232 Interface

SPECIFICATIONS: RF

PTX Operational Frequency Range	3 – 50 GHz
PTX Input Impedance	50 Ω
Maximum RF Input Power into PTX	-20 dBm
PTX 2 nd Harmonic Level (Maximum)	-35 dBc
PTX 1 dB Compression Point	-25 dBm
PRX Operational Frequency Range	3 MHz – 50 GHz
PRX – 6 dB Bandwidth	50 GHz
PRX Output Impedance	50 Ω
PRX Amplitude Flatness [#] (Typical)	± 1.5 dB
PRX Output Coupling	AC
Connector Type (Female)	2.4 mm

*Link performance specified with 1 meter of fiber between PTX and PRX.
[#]Amplitude flatness measured from DC to 70% of 3 dB bandwidth.

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