

30 – 3000 MHz Analog Photonic Link

PTX-001-030 and PRX-001-030: VHF to UHF-Band



Features

- 30 – 3000 MHz Operational Bandwidth
- Low Noise Figure
- High Dynamic Range
- Status Monitors
- DC Powered (AC Adapters Supplied)
- Compact, power efficient modules

The PHARAD PTX-001-030 photonic transmitter and PRX-001-030 photonic receiver modules can be used together to realize a high performance multi-band analog optical link that supports the fiber optic remoting of RF signals over the frequency range of 30 MHz up to 3 GHz. Proprietary techniques are employed to achieve the best gain, noise figure, and dynamic range performance available in a cost-effective solution.

SPECIFICATIONS: LINK PERFORMANCE*

	30 MHz	1 GHz	3 GHz
Link Gain (Typical)	34 dB	32 dB	21 dB
Link Noise Figure (Typical)	6 dB	6.5 dB	14 dB
Spurious Free Dynamic Range (Typical)	106 dB-Hz ^{2/3}	106 dB-Hz ^{2/3}	106 dB-Hz ^{2/3}
Gain Flatness over 1 GHz (Maximum)	± 1.0 dB	± 1.5 dB	± 2.0 dB

*Link performance specified with 1 meter of fiber between PTX and PRX.

SPECIFICATIONS: OPTICAL

PTX Operating Wavelength	1540 – 1570 nm
PTX Optical Output Power (Typical)	+8 dBm
PRX Wavelength Response Range	1260 – 1620 nm
PRX Responsivity @ 1550 nm (Typical)	0.9 A/W
Maximum Optical Input Power into PRX	+8 dBm
Connector Type	FC/APC

SPECIFICATIONS: RF

Operational Frequency Range	30 – 3000 MHz
Input Impedance (PTX)	50 Ω
Output Impedance (PRX)	50 Ω
Maximum Return Loss (PTX/PRX)	10 dB
Maximum RF Input Power into PTX	-30 dBm
PTX 2 nd Harmonic Level (Maximum)	-35 dBc
PTX 1 dB Compression Point	-25 dBm
PRX Output Coupling	DC
Connector Type (Female)	SMA

SPECIFICATIONS: GENERAL

Operating Temperature	0 – 60 °C
Dimensions (PTX)	4.7" × 4.4" × 1.2"
Dimensions (PRX)	4.7" × 4.4" × 1.2"
Weight (PTX)	16.7 oz
Weight (PRX)	13.8 oz
Local Alarms	Front Panel LED
Remote Alarms (PTX)	Rear Panel Mini-USB & DB-9
Remote Alarms (PRX)	Rear Panel DB-9
Monitor Voltage (PRX)	0.5 V/mA

SPECIFICATIONS: POWER

Input Voltage (AC Adapter)	90 – 264 VAC
Power Consumption (PTX)	2.3 W
Power Consumption (PRX)	0.72 W

Specifications subject to change without notice.