30 – 3000 MHz RF Photonic Transceiver

PXR-001-030: VHF to UHF-Band

Features

- 30 – 3000 MHz Operational Bandwidth
- Low Noise Figure
- High Gain
- High Dynamic Range
- Local and Remote Status Monitors
- AC Powered

The PHARAD PXR-001-030 RF Photonic Transceiver module supports the high performance fiber optic remoting of VHF/UHF RF signals over the frequency range of 30 MHz to 3 GHz. It is a fully self-contained rack-mountable chassis that incorporates both an optical transmitter (TX) and receiver (RX). 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 TX and RX.

SPECIFICATIONS: OPTICAL

TX Operating Wavelength	1540 – 1570 nm
TX Optical Output Power (Typical)	+8 dBm
RX Wavelength Response Range	1260 – 1620 nm
RX Optical Return Loss (Minimum)	40 dB
RX Maximum Optical Input Power	+8 dBm
Connector Type	FC/APC

SPECIFICATIONS: RF

Operational Frequency Range	30 – 3000 MHz
Input Impedance (TX)	50 Ω
Output Impedance (RX)	50 Ω
Maximum Return Loss (TX/RX)	10 dB
Maximum RF Input Power into TX	-20 dBm
2nd Harmonic Level (Maximum)	-30 dBc
1 dB Compression Point	-21 dBm
RX Output Coupling	DC
Connector Type	SMA Female

SPECIFICATIONS: GENERAL

Operating Temperature	0 – 60 °C
Dimensions	16.97″ × 12.06″ × 1.72″
Weight	9 lbs
Front Panel LED Indicators	Power, Status
Rear Panel Remote Status	Mini-USB
AC Power Supply Voltage	90 – 264 VAC
Power Consumption (Max)	3 W

Specifications subject to change without notice.

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