

High Performance RF Photonic Transceiver

PXR-005-030-S: UHF – S-band



Features

- 0.5 – 3 GHz Operational Bandwidth
- Ultra-High Spurious Free Dynamic Range
- Low Noise Figure
- Low Loss over 0.5 – 3 GHz
- WDM Compliant
- Power and Status LEDs
- Remote Status/Alarm Monitoring Capability via RS-232

The *octane* high performance photonic transceiver (PXR) is the ideal solution for the fiber optic remoting of high dynamic range RF signals. Proprietary techniques are employed to achieve the best gain, noise figure, and dynamic range performance available. Our innovative RF photonic transceiver is the first and only commercially available technology that provides high spurious free dynamic range (SFDR) performance without sacrificing RF-over-fiber transport loss and noise figure. Built-in Self Test Status is available via a RS-232 interface.

Applications include RF and radio signal over fiber distribution in communications, radar, electronic warfare, and ISR systems, aircraft and shipboard RF distribution systems, antenna remoting, as well as commercial wireless networks and SATCOM platforms.

SPECIFICATIONS: RF

Transmitter Operating Frequency	0.5 – 3 GHz
Link Gain (Typical)	-7 dB
Link Noise Figure (Typical)	14 dB
Spurious Free Dynamic Range (Typical)	120 dB-Hz ^{2/3}
Input IP3 (Typical)	+20 dBm
Input P1dB (Minimum)	+10 dBm
Maximum RF Input Power (Absolute)	+4 dBm
Gain Flatness (Maximum)	± 1.0 dB
Input/Output Impedance	50 Ω
Input/Output Connectors	SMA
VSWR (Maximum)	2.0:1

SPECIFICATIONS: OPTICAL

Operating Wavelength	1550 – 1565 nm
Optical Output Power (Typical)	+10 dBm
Receiver Responsivity (Typical)	0.8 A/W
Receiver 3 dB Bandwidth (Typical)	12 GHz
Maximum Optical Input Power	+ 16 dBm
Input/Output Connectors	FC/APC

SPECIFICATIONS: GENERAL

Power	AC or DC
Temperature	0 – 60 °C
Remote Status/Alarms	RS-232 Interface

Notes:

- (1) RF Link Gain, SFDR, Noise Figure, and Input IP3 specified with optical loss over 1 meter of fiber.
- (2) Gain Flatness specified over 0.5 GHz bandwidth.
- (3) SFDR specified over single octave. Out-of-band rejection filtering recommended.

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