

PRODUCT DESCRIPTION

The PSI-1600 series microwave photonic link family consists of optical transmitter and receiver modules designed for microwave frequency transmission applications. Offering operating bandwidth in excess of 12 GHz and a wide spur-free dynamic range (SFDR), the PSI-1600s are well suited for distortion-free transmission in applications such as antenna remoting, phased arrays, or optical delay lines. Providing very low distortion and low loss per unit distance, these links allow for high preservation of signal fidelity. Use of a PSI-1601 or PSI-1604 photonic link allows significant performance improvement compared to the use of coaxial cables or waveguides. Fiber optic links offer very high noise immunity and protection from unauthorized access to transmitted signals. Employing precisely controlled electro-absorption modulated laser diode (EML) technology, these links are highly reliable, complete transmission solutions. The separate transmitter and receiver modules are packaged in small housings and shipped with AC power supplies.

Photonic Link Specification Highlights

PSI-1601 Microwave Photonic Link

Parameter	Value *
Operating Bandwidth	0.045 -12 GHz
Gain	≥ -40 dB, -30 dB typical
VSWR	≤ 2:1 across bandwidth
Noise Figure	≤ 45 dB, 35 dB typical
Spur-free dynamic range	≥ 100 dB, 108 dB typical (in 1 Hz)
1-dB compression dynamic range	130 dB typical (in 1 Hz)
Input IP3	33 dBm typical
Fiber-optic connectors **	FC/APC
DC Power Requirements†	Tx ≤ 7.5 W; Rx ≤ 25 mW
AC Power Requirements	110 VAC, 60 Hz

* all values specified at 1dB optical loss. Greater loss from optical connectors, splices and fiber span will result in reduction of system performance.

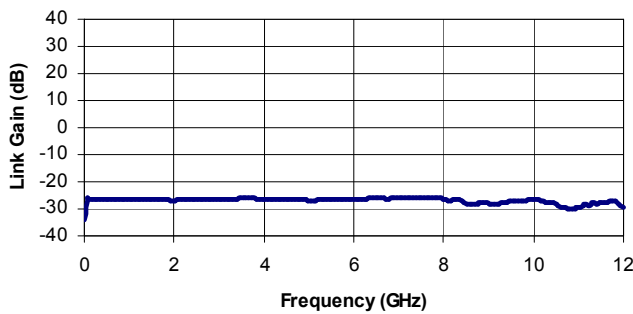
** other connectors available upon request.

† at 25 deg. C.

PSI-1604 Amplified Microwave Photonic Link

Parameter	Value *
Operating Bandwidth	0.045 -10 GHz
Gain	26 dB typical
VSWR	≤ 2:1 across BW
Noise Figure	18 dB typical
Spur-free dynamic range	106 dB typical (in 1 Hz)
1-dB compression dynamic range	129 dB typical (in 1 Hz)
Input IP3	4.25 dBm typical
Fiber-optic connectors **	FC/APC
DC Power Requirements†	Tx ≤ 7.5 W; Rx ≤ 25 mW
AC Power Requirements	110 VAC, 60 Hz

PSI-1601 Typical Frequency Response



PSI-1604 Typical Frequency Response

