



### Description

The PSI-2800-40UR is a high-performance microwave and millimeter wave photonic receiver providing wideband optical to electrical (O/E) conversion for RF signals up to 20 GHz. Along with a PSI-2800-20UT transmitter module, the PSI-2800-20UR provides a complete fiber optic link solution designed to replace coaxial cable or waveguide for applications in military systems, satellite communications, radio astronomy, optical delay lines, cellular/wireless base stations or other RF/Microwave related systems.

Rack mount packaging, custom packaging, and different I/O connectors are also available. [Please contact PSI with your application needs.](#)

### Features

- Wide Operational and Instantaneous Bandwidth
- High Dynamic Range
- Customization Available
- Complete Link Option Available

### Applications

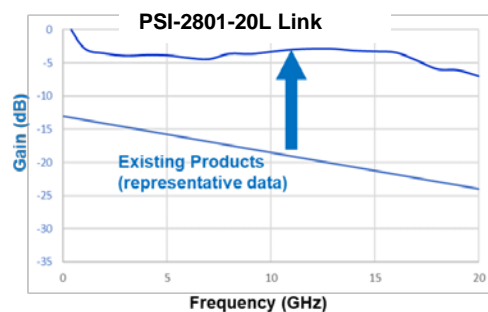
- Replace High Loss Coax Cable
- Replace Bulky Waveguide
- Remote Antenna Sites
- Radio Over Fiber
- Radio Astronomy
- Phased Array Radar
- EW/ECM
- SATCOM
- RF Optical Delay Lines

### RF Link Performance Summary

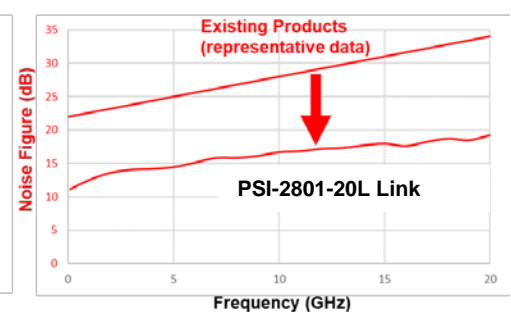
Parameter	Condition	Min	Typ	Max	Units
Operating Bandwidth		0.1		20	GHz
Link Gain	@ 10 GHz	-7	-4		dB
Noise Figure	@ 10GHz		17	20	dB
Input IP3	@ 10 GHz	7	10		dBm
Spur Free Dynamic Range	1 Hz band @ 5 GHz	106	110		dB/Hz <sup>2/3</sup>
Gain Flatness	1 - 20 GHz			±5	dB
	In any 100 MHz band			±1.0	dB

Note: RF link performance specifications with PSI-2800-20UT transmitter module

### Typical Link Gain



### Typical Link NF



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### RF Characteristics

Parameter	Min	Typ	Max	Units
RF Output Impedance		50		Ohm
RF Return Loss	8	15		dB
RF Input Connector	SMA Female			

### Optical Characteristics

Parameter	Min	Typ	Max	Units
Wavelength	1300		1600	nm
Optical Input Power			10	mW
Responsivity @ 25°C	0.7	0.9		A/W
Optical Connector	FC/APC (see notes)			

Notes:

1. Contact PSI for other connector options
2. User supplied fiber optic interconnect cable should be singlemode Corning SMF-28 or equivalent
3. Optical cable return loss should be >55dB by using angled-polished optical connectors

### DC Power & 9-pin D-Connector Pin Out

Pin	Description
1	+12 VDC at 20mA Max.
2	Ground
3	NC
4	Ground
5	NC
6	NC
7	Ground
8	Ground
9	NC

Note: Pins 2, 4, 7 and 8 all internally tied to case ground

### Environmental Characteristics

Parameter	Min	Typ	Max	Units
Operating Temperature	-20	25	70	°C
Optical Power Out	-20		70	°C

### Ordering Information

Part Number	Description
PSI-2800-20UR	Receiver Only
PSI-2801-20L	Link includes PSI-2800-20UT transmitter and PSI-2800-20UR receiver

### Mechanical Dimensions

