



Features

- » Extremely Wideband >20GHz
- » High Dynamic Range
- » Customization Available
- » Fully Integrated Module
- » Complete Link Option

Applications

- » Replaces Coax Cable
- » Radio Over Fiber
- » Radio Astronomy
- » Remote Antenna Sites
- » Phased Array Radar
- » EW/ECM
- » Optical Delay Lines
- » SATCOM

PHOTONIC SYSTEMS INC.

900Middlesex Turnpike
Building 5
Billerica, MA 01821
USA

Phone: 978-670-4990
Fax: 978-670-2510
psi.sales@photonicsinc.com
www.photonicsinc.com

Description

The PSI-2600-20UR is a high performance microwave photonic receiver providing wideband optical to electrical (O/E) conversion for RF signals beyond 20GHz. Along with a PSI-2600-20xT transmitter module, the PSI-2600-20UR provides a complete fiber optic link solution designed to replace low loss coaxial cable or microwave repeaters for applications in military systems, satellite communications, radio astronomy, optical delay lines, cellular/wireless base stations or other RF/Microwave related systems. Custom packaging, connectors and RF performance configurations are available. **Please contact PSI with your application needs.**

RF Link Performance

Parameter	Condition	Min	Typ	Max	Units
Operating Frequency		0.01		20	GHz
Nominal Link Gain	@ 10GHz	-22	-20		dB
Noise Figure	@ 10GHz		32	35	dB
Input IP3	@ 10GHz	20	22		dBm
Spur Free Dynamic Range	1 Hz band @ 10GHZ	106	110		dB/Hz ^{2/3}
Gain Flatness	1-20 GHz			±5	dB
	Any 100 MHz band			±0.5	dB

Note: RF link specifications with PSI-2600-20UT and a 3m optical jumper (PSI-2601-20L Link)

Ordering Information

PSI Part Number	Description
PSI-2600-20UR	O/E Receiver Module
PSI-2601-20L	RF Photonic Link Includes: <ul style="list-style-type: none"> • PSI-2600-20UT RF Photonic Transmitter • PSI-2600-20UR RF Photonic Receiver
PSI-2602-20L	RF Photonic Link Includes: <ul style="list-style-type: none"> • PSI-2600-20AT Amplified RF Photonic Transmitter • PSI-2600-20UR RF Photonic Receiver

RF Characteristics

Parameter	Condition	Min	Typ	Max	Units
Frequency Range		0.01		20	GHz
RF Output Impedance			50		Ω
RF Return Loss		9.5	15		dB
RF Output Connector		SMA Female			

Optical Characteristics

Parameter	Condition	Min	Typ	Max	Units
Wavelength		1300		1600	nm
Optical Input Power				10	dBm
Responsivity	@ DC	0.7	0.85		A/W
Optical Input Connector		FC/APC (Others Available Upon Request)			

Notes:

1. User supplied fiber optic cable should be singlemode Corning SMF-28 or equivalent
2. To minimize distortion caused by optical reflections the optical cable return loss should be >55 dB using angled-polished connectors
3. ITU channel wavelength selection is possible, please contact PSI with requirements

Environmental Characteristics

Parameter	Condition	Min	Typ	Max	Units
Operating Temperature	Within Specifications	-40		70	$^{\circ}\text{C}$
Storage Temperature	No damage	-40		85	$^{\circ}\text{C}$
Humidity	Non-condensing	0		95	%

DC Power and D-Connector

Pin	Description	Pin	Description	Pin	Description
1	+15 V _{DC} @ 20mA max	4	Ground	7	Ground
2	Ground	5	NC	8	Ground
3	NC	6	NC	9	NC

Mechanical Dimensions

