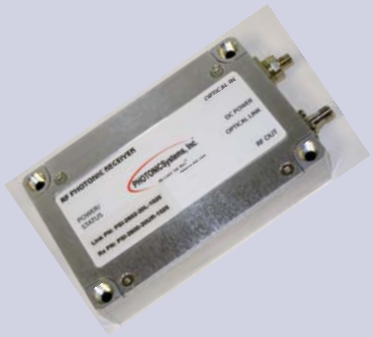
PHOTONICSystems, Inc.®
We Light the Way®

PSI-2600-20AR
Amplified RF Photonic Receiver



Features

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

Applications

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

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Description

The PSI-2600-20AR is a high performance microwave photonic receiver with RF post-amplifier providing wideband optical to electrical (O/E) conversion for RF signals beyond 20 GHz. Along with a PSI-2600-20xT transmitter module, the PSI-2600-20AR 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		0.45		20	GHz
Nominal Link Gain	@ 10 GHz	10	12		dB
Noise Figure	@ 10 GHz		32	35	dB
Input IP3	@ 10 GHz	13	15		dBm
Spur Free Dynamic Range	1 Hz band @ 5GHZ	104	105		$dB/Hz^{2/3}$
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 jumper (PSI-2603-20L Link).

Ordering Information

PSI Part Number	Description
PSI-2600-20AR	Amplified O/E Receiver Module
PSI-2603-20L	RF Photonic Link Includes: • PSI-2600-20UT RF Photonic Transmitter • PSI-2600-20AR Amplified RF Photonic Receiver
PSI-2604-20L	RF Photonic Link Includes: • PSI-2600-20AT Amplified RF Photonic Transmitter • PSI-2600-20AR Amplified RF Photonic Receiver

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RF Characteristics

Parameter	Condition	Min	Typ	Max	Units
Frequency Range		0.45		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 Output 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	°C
Storage Temperature	No damage	-40		85	°C
Humidity	Non-condensing	0		95	%

DC Power and D-Connector

Pin	Description	Pin	Description	Pin	Description
1	+12 V_{DC} @ 400mA max	4	Ground	7	Ground
2	Ground	5	NC	8	NC (link)
3	NC	6	NC (detector current)	9	NC

Mechanical Dimensions