

Features

- 30 MHz to 3 GHz (6 GHz optional)
- 0°C to +50°C Operating Temperature Range
- High Spur Free Dynamic Range
- 1310 nm, 1550 nm, CWDM Wavelengths
- High Density – Up to Four J1 Modules per J84 Plug-in Module
- High Density – Up to Nine J84 Modules per 1RU J-Chassis
- Automatic Optical Power Control
- Hot Swappable
- Multiple local and remote monitoring and control options
- Uncooled DFB Lasers
- Lasers Conform to Class 1 Emission Level Per CDRH and IEC-825 (EN 60825) Standards

Options

- Integrated +20 dB Transmitter LNA
- Extended High Frequency, 6.0 GHz
- Extended Low Frequency, 1 MHz
- Multimode fiber transport

Applications

- RF Over Fiber Transport
- Teleport RF Signal Distribution
- RF and Optical Redundancy
- Antenna Site Diversity
- Phased Array Antenna Systems
- Radar Systems RF Signal Transport
- TVRO
- VSAT
- Wireless
- Cellular
- 5G Sub-6 GHz CBRS

J1 & J84 RF Signal Transport Plug-in Modules

Description

The J1 series of Optical Zonu RF over Fiber transmitter and receiver modules facilitate very high density 19" rack mount signal transport. J1 modules are hot pluggable. Up to 36 J1 transmitter and/or receiver modules may be housed in a 1RU J-Chassis with a power supply. Up to 108 transmitter and/or receiver modules may be housed in 3RU of rack space. This represents the highest RF over Fiber rack density in the industry today.

Transmitters feature linear uncooled isolated DFB laser diodes. Receivers feature high performance InGaAs photodiodes. The standard RF frequency band is 30 – 3000 MHz. Options exist for extending the frequency range to 6 GHz on the upper end, and/or 1 MHz on the lower end. Modules are optimized for linear signal transport with high spur free dynamic range (SFDR). An optional integrated transmitter LNA facilitates optimization of noise figure, linearity (P1dB and IIP3), and RF gain over a wide variety of optical loss budgets and RF signal levels. The RF interface is 50Ω SMA. Built-in RF shielding facilitates low EMI/EMC/RF interference. The optical connector is LC/APC to maintain low optical reflections throughout the fiber plant. The standard transmitter wavelengths are 1310 nm and 1550 nm. CWDM wavelengths (1270 – 1610 nm) are also supported.

The J84 chassis plug-in module facilitates housing J1 modules in 1RU J-Chassis and 3RU J3U chassis. J1 modules do not plug directly into 19" chassis. Up to four pluggable J1 transmitter and/or receiver modules may be housed within a J84 plug-in. The J84, in turn, plugs into the 19" chassis. J84 modules are hot pluggable as well.

J1 modules within the J-Chassis or the J3U platform may be monitored and controlled via SSH, Web UI, OZC GUI, and SNMP v2 and v3 ([see JS14 Managed Switch datasheet](#)).

Absolute Maximum Ratings¹

Parameter	Symbol	Min	Typical	Max	Units
Operating Temperature	T_{op}	0	-	50	°C
Storage Temperature	$T_{storage}$	-40	-	85	°C
DC Supply Voltage (J84)	$V_{CC,J84}$	-	12	12.25	V
Unpackaged Weight (1 x J1)	-	-	-	60	g
Unpackaged Weight (J84)	-	-	-	115	g
Unpackaged Weight (J84 + 4 x J1)	-	-	-	355	g
Relative Humidity	RH	20	-	90	%
Altitude	-	-	-	10,000	MASL

¹ For additional specifications, see [OZ10x datasheet](#)

DC Characteristics¹

Parameter	Symbol	Min	Typical	Max	Units
DC Supply Voltage (J84)	V_{CC}	11	12	12.5	V
Input/Output Impedance	$Z_{in/out}$	-	50	-	Ω

¹ For additional specifications, see [OZ10x datasheet](#)

Optical Characteristics¹

Parameter	Symbol	Min	Typical	Max	Units
Transmitter Wavelengths	λ_{TX}	1270 1470	-	1330 1610	nm
Receiver Wavelengths	λ_{RX}	1270	-	1610	nm

¹ For additional specifications, see [OZ10x datasheet](#)

RF Characteristics of J1 (3 GHz)

See 3 GHz RF Characteristics in [OZ10x datasheet](#)

RF Characteristics of J104 (4 GHz)

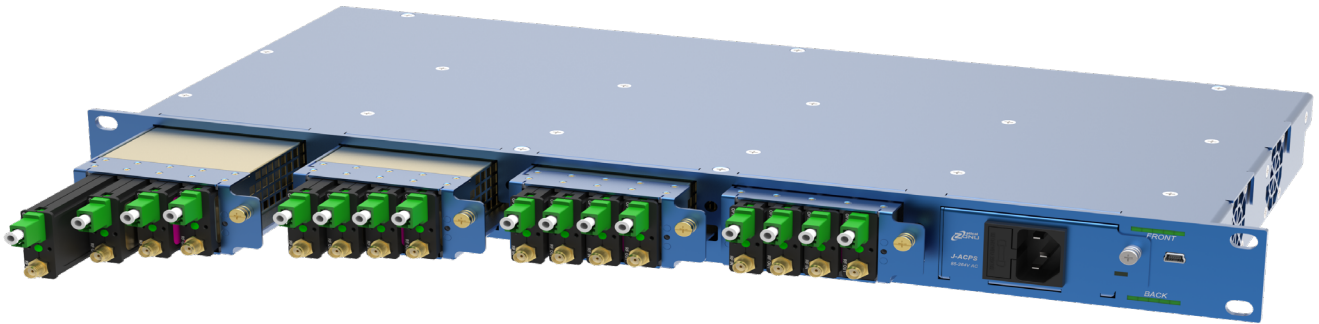
See 4 GHz RF Characteristics in [OZ10x datasheet](#)

RF Characteristics of J106 (6 GHz)

See 6 GHz RF Characteristics in [OZ10x datasheet](#)

Typical Configurations

Hot pluggable J1 transmitter and receiver modules, when housed in hot pluggable J84 chassis plug-in modules, facilitate a high density 19" rack mount solution. J1 modules within a 1RU J-chassis (5-slot) are shown below. The 1RU J-Chassis is available in both 5-slot and 10-slot models. J84 plug-in modules are also compatible with the five module slots on the back of the 3RU J3U chassis.

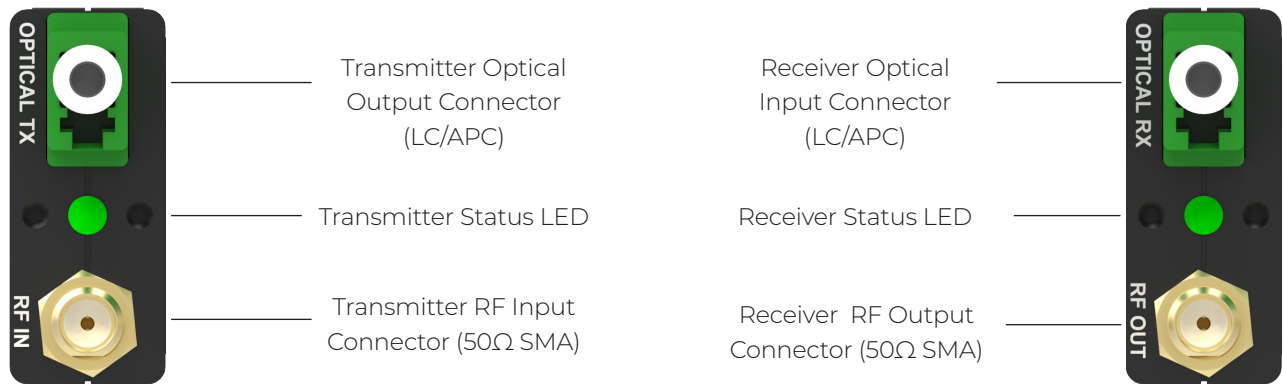


J84 (and therefore J1) modules may be used within single slot desktop enclosures (powered by 12V) as shown to the right.



Module shown enlarged for details

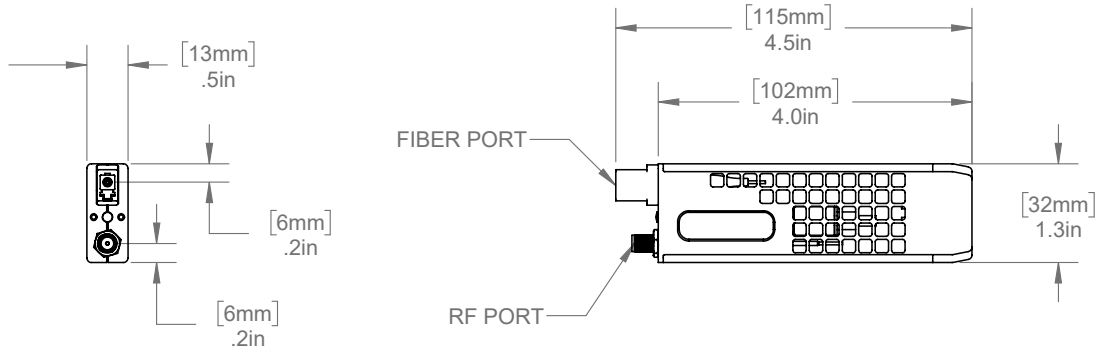
Front Panel Features



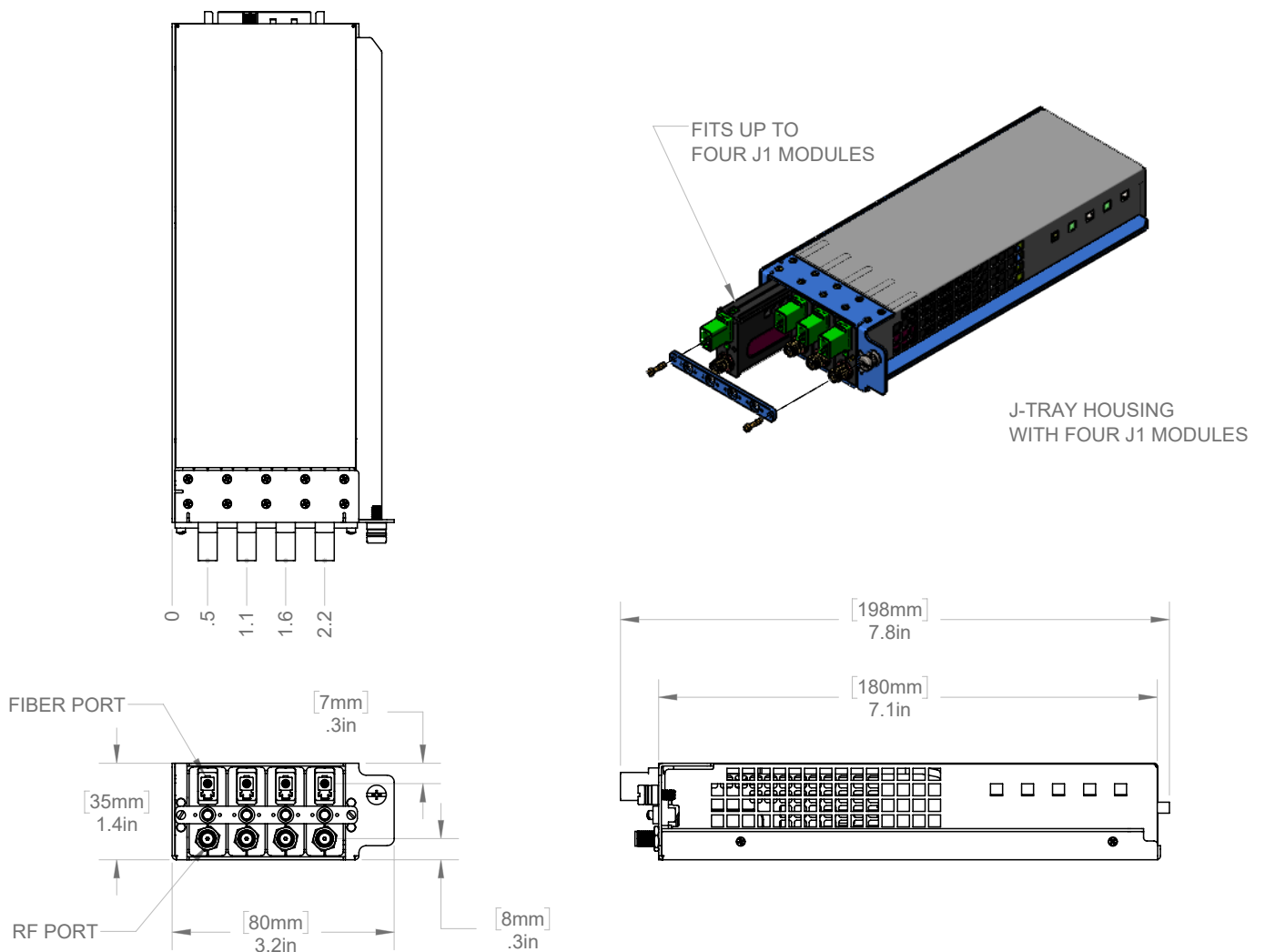
LED Definitions

LED State	Transmitter LED	Receiver LED
OFF	Module Not Powered	Module Not Powered
GREEN	Normal Operation	Normal Operation
RED	Laser Bias Fault (≥ 110 mA)	Input Optical Power Low (≤ -10 dBm)

J1 Mechanical Outline



J84 Mechanical Outline



Ordering Information — Tx and Rx

TRANSMITTER PART NOS.

A13-J1XX - DXX-AL-XX

(blank) - 3 GHz	31 - 1310 nm	S - Single mode	(blank) - No LNA
04 - 4 GHz	55 - 1550 nm	M - 62.5µm Multimode	L - Integrated LNA
06 - 6 GHz	yy - CWDM 1yy0 nm	M50 - 50µm Multimode	

RECEIVER PART NOS.

A23-J1XX - 00-AL-X

(blank) - 3 GHz	S - Single mode
04 - 4 GHz	M - 62.5µm Multimode
06 - 6 GHz	M50 - 50µm Multimode

Note: For multimode Fiber option, receiver optical connector is LC/UPC.

J84 PLUG-IN MODULE PART NO.

AJ3-J84-00

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Related Products

[J-Chassis Platform Overview](#)

[J-Chassis, Modular 19" 1RU, 5-Slot or 10-Slot, Fan Cooled, AC and/or DC Power Supplies, Remote Access via HTTP, GUI, SNMP v2 and v3](#)

[J400 Transmitter/Receiver/Transceiver Plug-in Modules \(30 - 6000 MHz\), optional CWDM, Remote Access via HTTP, GUI, SNMP v2 and v3](#)

[JS14 Managed Switch Plug-in Module, 5-Port Layer 2 Ethernet, SFP Optical Port with mOTDR, Hosts Web UI, GUI, SNMP v2 and v3 Agents](#)

Additional Resources

[Standalone RF Over Fiber Modules](#)

[RF Over Fiber Rack Mount Integrated Subsystems](#)

[RF Over Fiber Rack Mount Modular Subsystems](#)

[RF Over Fiber Applications](#)

[19" 1RU J-Chassis](#)

[19" 3RU J3U Chassis](#)

