



# 1.25Gbps SFP Transceiver Bi-Directional 1550nm Tx/1490nm Rx 120km P/N AEZ0A0x-5549



## Description

Menara Networks' AEZ0A0x-5549 bi-directional transceivers are designed for use in links of 120km over a single strand of single mode fiber. The SFP module supports Gigabit Ethernet applications as specified in IEEE 802.3ah along with Fiber Channel 1x. In addition, it is compliant with SONET OC-12 and SONET OC-3 standards.

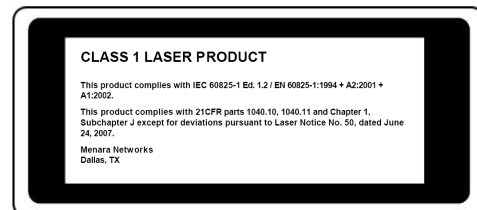
Digital Optical Monitoring interfaces are provided via the SFP SFF-8472 standards compliant I2C interface. The receiver features differential ac-coupled data outputs and LVTTTL for LOS (Loss of Signal) output. Circuit ground is internally isolated from frame ground.

## Applications

- 120km 1G bi-directional Gigabit Ethernet
- CPRI: 614Mb/s, 1.22Gb/s
- OBSAI: 768Mb/s

## Features

- Hot-pluggable SFP footprint
- RoHS compliant
- Bi-directional optical data links over a single strand of single mode fiber
- Compliant with SFP MSA
- Digital diagnostic SFF-8472 compliant
- 1550nm DFB transmitter
- 1490nm wavelength specific APD receiver
- Compliant with CPRI and OBSAI signal
- Very low jitter
- Metal package for lower EMI
- Single power supply voltage : +3.3V
- Low power dissipation
- LC diplexer connector
- Laser Class 1 IEC/CDRH compliant
- Distances of 120km



## Transmitter E-O Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Support data rate	-	0.155	1.25	1.35	Gb/s	
Center Wavelength	$\lambda$	1530	1550	1570	nm	
Spectral Width (RMS)	$\Delta\lambda$			1.0	nm	
Side Mode Suppression Ratio	SMSR	30			dB	
Average Optical Output Power	P <sub>o</sub>	0		+5	dBm	1
Extinction Ratio	Er	9			dB	
Optical Rise/Fall Time (20%~80%)	tr/tf			0.26	ns	
Output Eye Diagram	Compliant with Eye Mask Defined in IEEE802.3ah standard					
Data Input Swing Differential	V <sub>IN</sub>	400		1800	mV	2
Input Differential Impedance	Z <sub>IN</sub>	90	100	110	$\Omega$	
TX Disable	Disable	2.0		V <sub>CC</sub>	V	
	Enable	0		0.8	V	
TX Fault	Fault	2.0		V <sub>CC</sub>	V	
	Normal	0		0.8	V	

1. The optical power is launched into SMF.
2. PECL input, internally AC-coupled and terminated

## Receiver O-E Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Note
Support data rate	-	0.155	1.25	1.35	Gb/s	
Operating Wavelength	$\lambda$	1470	1490	1510	nm	
Receiver sensitivity	S <sub>en</sub>			-30	dBm	3
Saturation	P <sub>sat</sub>	-9			dBm	3
Receiver Optical Return Loss	-			-27	dB	
LOS Assert	LOS <sub>A</sub>	-35			dBm	
LOS Deassert	LOS <sub>D</sub>			-31	dBm	
LOS Hysteresis		1		4	dB	
Data Output Swing Differential	V <sub>OUT</sub>	400		1800	mV	4
LOS	High	2.0		V <sub>CC</sub>	V	
	Low	0		0.8	V	

3. Measured with a PRBS 2<sup>7</sup>-1 test pattern @ 1250Mbps, BER  $\leq 1 \times 10^{-12}$
4. Internally AC-coupled

## Ordering Information

Part Number	ROHS Compliant	Operating Case Temperature
AEZ0A0x-5549	ROHS-6	0°C ~ +70°C

x = J for Juniper  
x = C for Cisco  
x = A for Alcatel  
x = O for Cisco ONS



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