

X-Band Orthomode Transducer

Description

Model SAT-FX-90090-S1 is a full band, WR-90 orthomode transducer (OMT) that operates between 8.2 and 12.4 GHz. The OMT separates a circular or elliptical polarized waveform into two linear, orthogonal waveforms or combines two linear polarized waveforms into one circular or elliptical polarized waveform. The OMT shows high port isolation and high cross-polarization while providing a low insertion loss. The OMT is configured with a 0.900" x 0.900" square waveguide for the antenna port and two WR-90 waveguides for the horizontal and vertical ports. All ports have standard UG-39/U flanges.



Features:

- Full Waveguide Band Operation
- High Isolation
- Low Insertion Loss

Applications:

- Radar Systems
- Communication Systems
- Antenna Ranges
- Waveform separation and combination

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency Range	8.2 GHz		12.4 GHz
Insertion Loss (H to A Port)		0.5 dB	
Insertion Loss (H to V Port)		0.5 dB	
Isolation (H to V Port)		45 dB	
Cross Polarization (H to A Port)		40 dB	
Cross Polarization (V to A Port)		40 dB	
Return Loss (H Port)		17 dB	
Return Loss (V Port)		20 dB	
Return Loss (A Port, Vertical)		17 dB	
Return Loss (A Port, Horizontal)		17 dB	
Specification Temperature		+25 °C	
Operating Temperature	-40 °C		+85 °C

Mechanical Specifications:

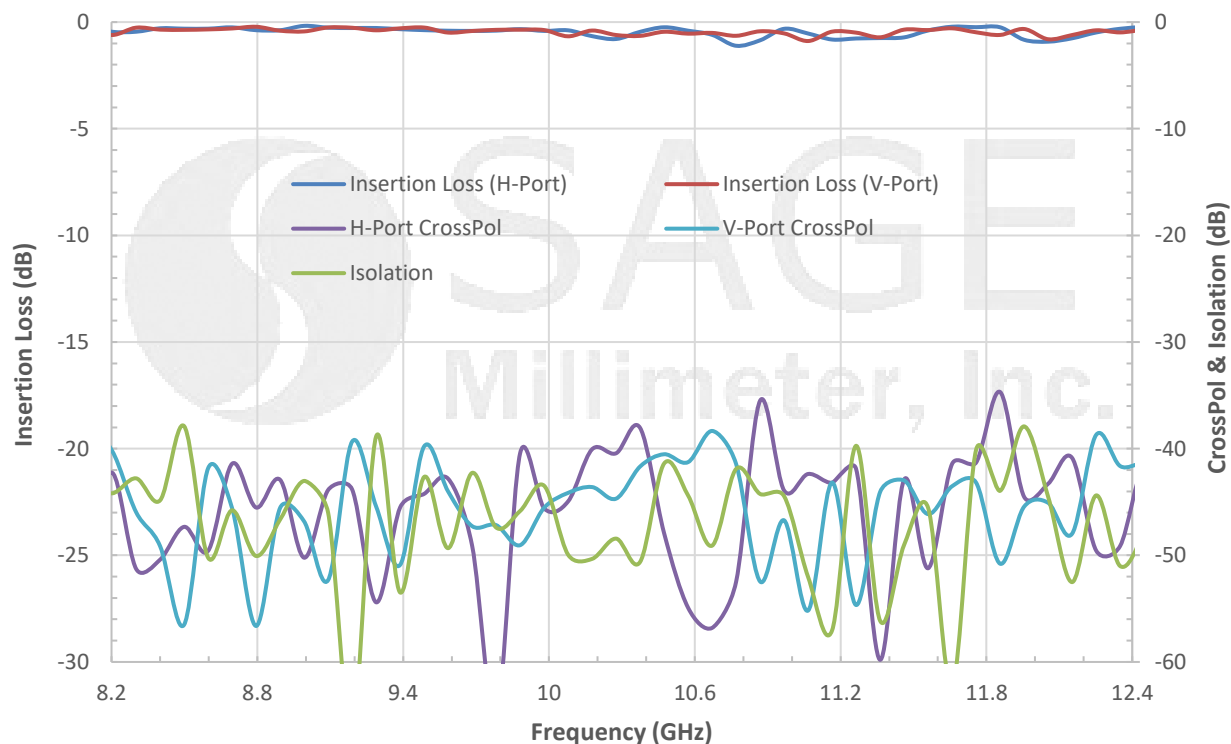
Item	Specification
Antenna Port	0.900" x 0.900" Square Waveguide
Horizontal and Vertical Ports	WR-90 Waveguide
Flange Type	UG-39/U Flange (on all ports)
Size	5.00" (L) x 3.50" (W) x 1.63" (H)
Material	Aluminum
Finish	Silver Plated
Weight	2.28 lb
Outline	AT-XS-900-F



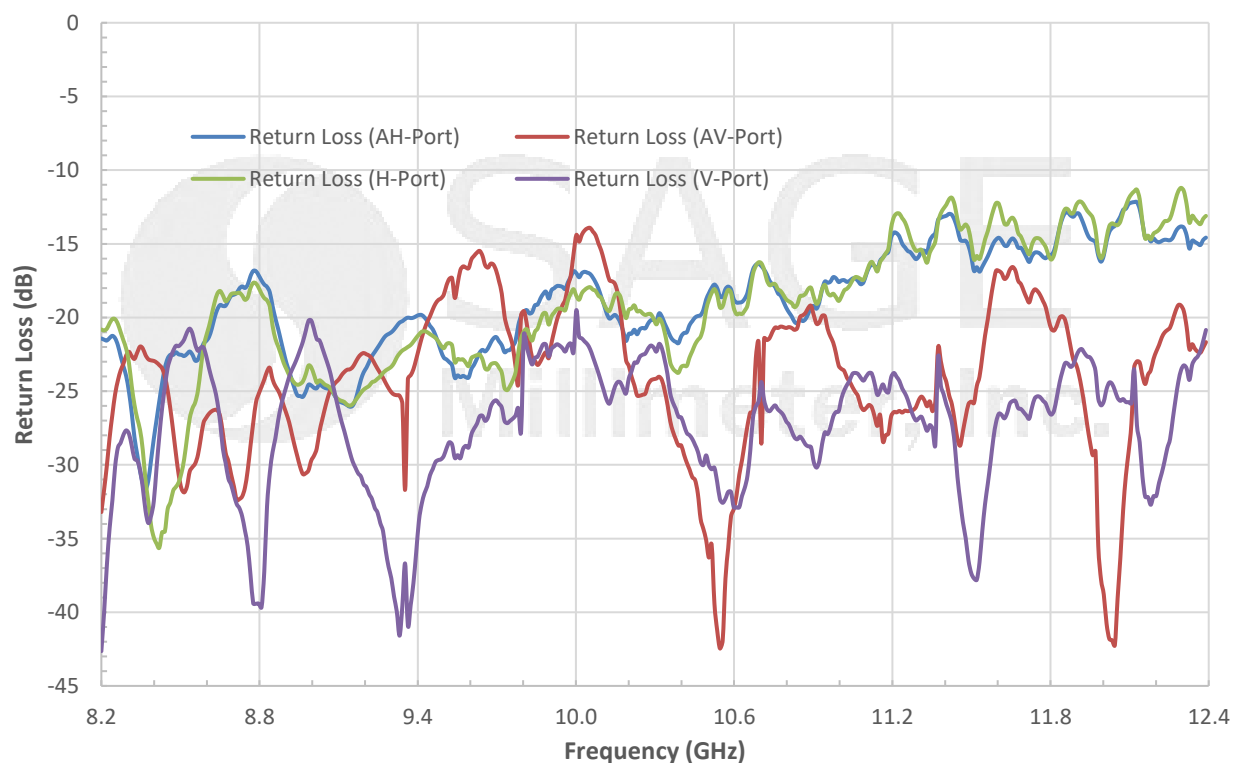


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Typical Performance vs. Frequency

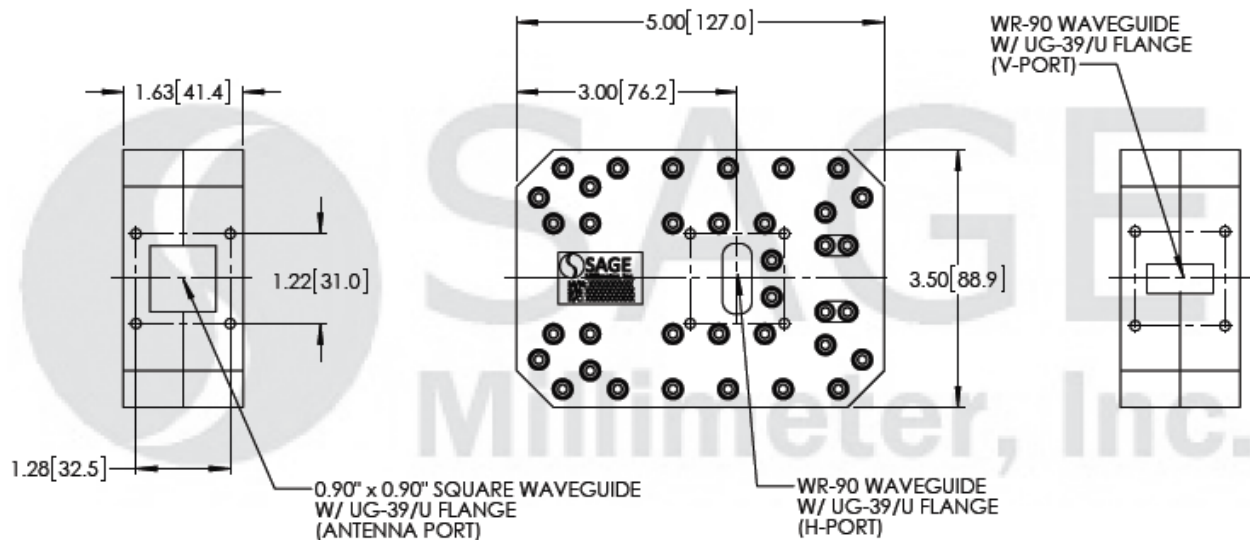


Typical Return Loss vs. Frequency



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Mechanical Outline: (Unless otherwise specified, all dimensions are in inches [millimeters])



Note:

- All data presented is collected by using a sample lot. Actual data may vary unit to unit.
- All testing was performed under +25°C case temperature.
- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.

Caution:

- Foreign objects in the waveguide will cause performance degradation and may damage the device.

