SAT-F5-51051-S1

Rev. 1.1

WR-51 Orthomode Transducer, Square Waveguide Port

Description:

Model SAT-F5-51051-S1 is a full waveguide band WR-51 orthomode transducer (OMT) that operates between 15 and 22 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 or vice versa. The OMT also supports either vertical or horizontal polarized waveguide forms. The OMT shows high port isolation while providing a low insertion loss. The OMT is configured with a 0.510" x 0.510" square waveguide for the antenna port and two WR-51 waveguides for the horizontal and vertical ports. All ports have standard flanges and 6-32 threaded holes.

Features:

- Full Band Performance
- High Port Isolation
- Low Insertion Loss

Applications:

- Radar Systems
- Communication Systems
- Antenna Ranges
- Circular and Linear Waveform Separation and Combination

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency Range	15 GHz		22 GHz
Insertion Loss (H to A Port)		0.5 dB	
Insertion Loss (V to A Port)		0.5 dB	
Isolation (H to V Port)		45 dB	
Return Loss (H Port)		15 dB	
Return Loss (V Port)		15 dB	
Return Loss (A Port, Vertical)		15 dB	
Return Loss (A Port, Horizontal)		15 dB	
Specification Temperature		+25 ˚C	
Operating Temperature	-40 ˚C		+85 ˚C

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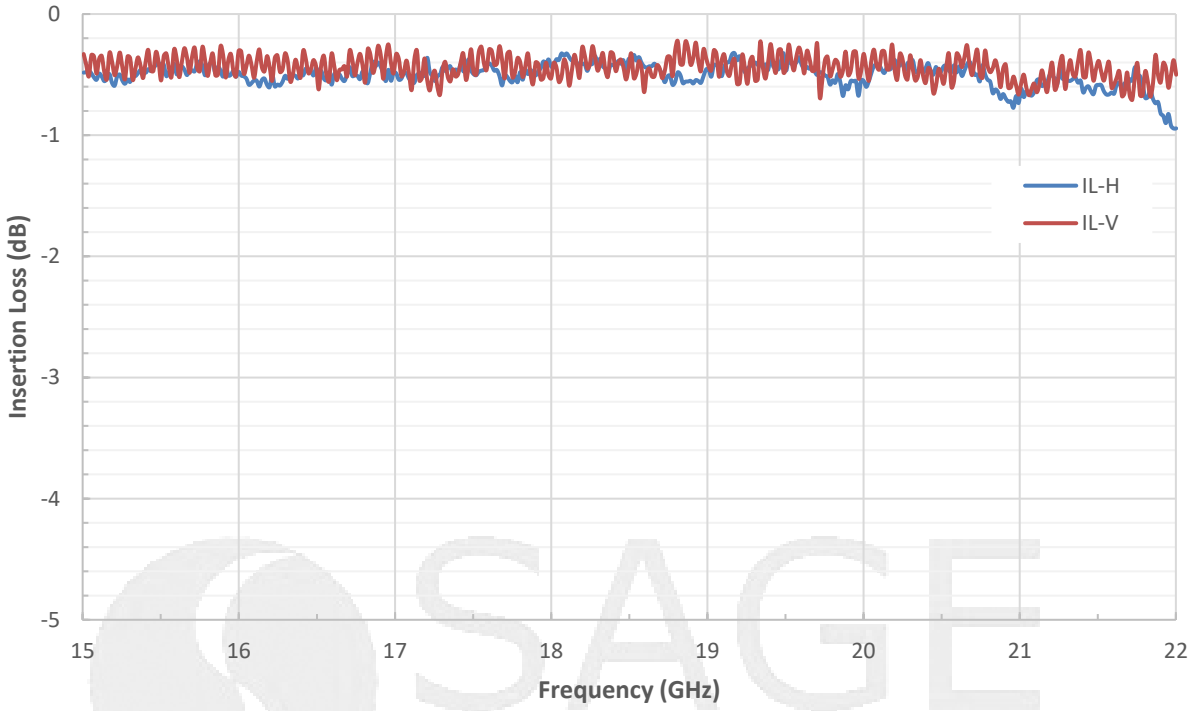
Mechanical Specifications:

Item	Specification
Antenna Port	0.510" Square Waveguide with Standard Compatible Flange
Horizontal and Vertical Ports	WR-51 Waveguide with Standard Compatible Flange
Material	Aluminum
Finish	Silver Plated
Weight	12 oz.
Outline	AT-5S-510-F

Typical Measured Insertion Loss vs Frequency



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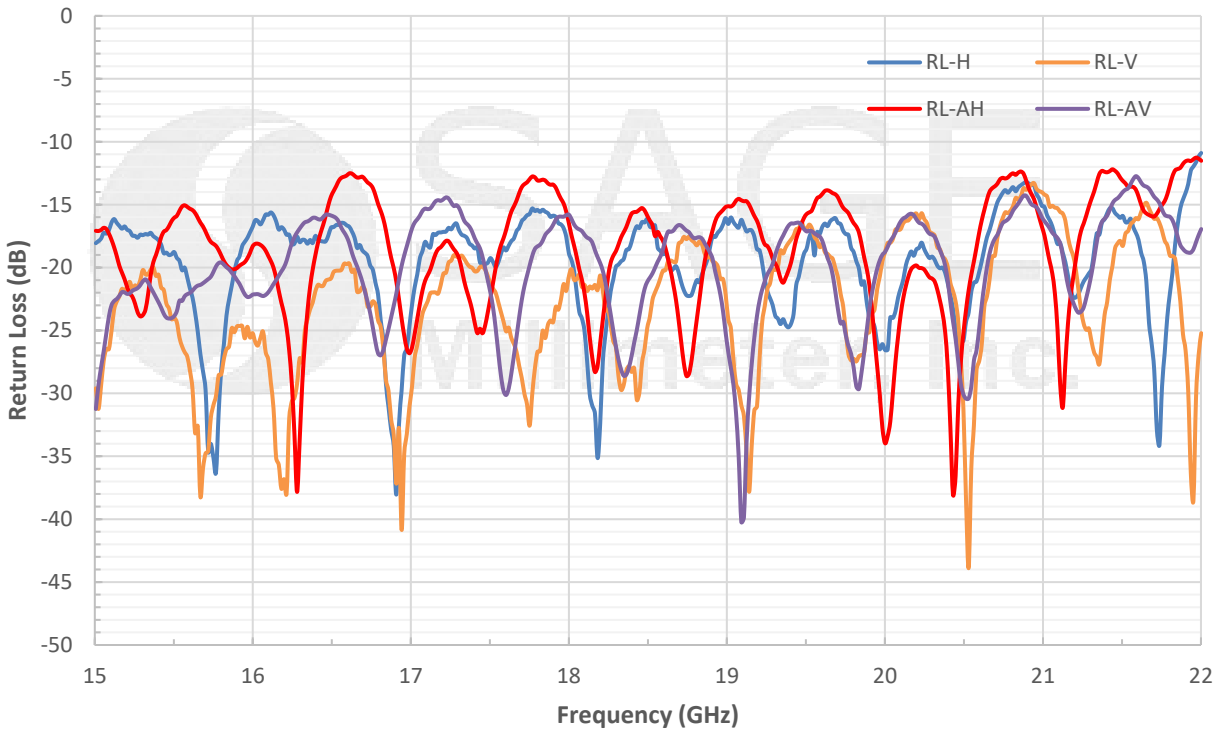
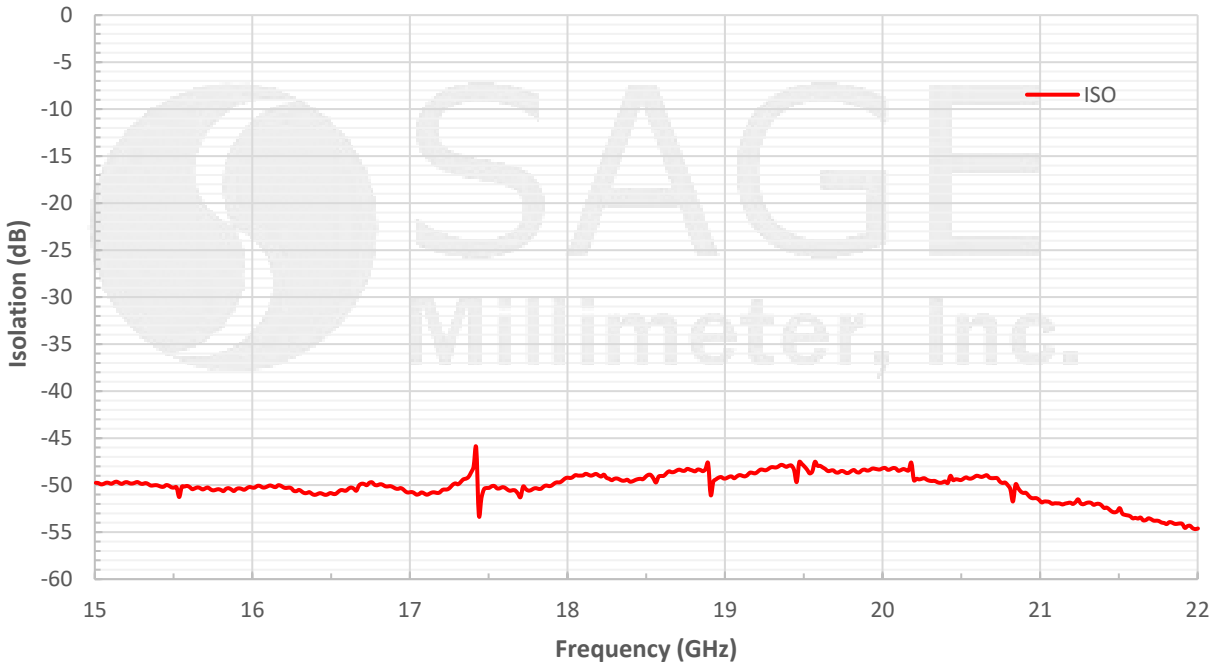
Typical Measured Return Loss vs Frequency



Typical Measured Isolation vs Frequency



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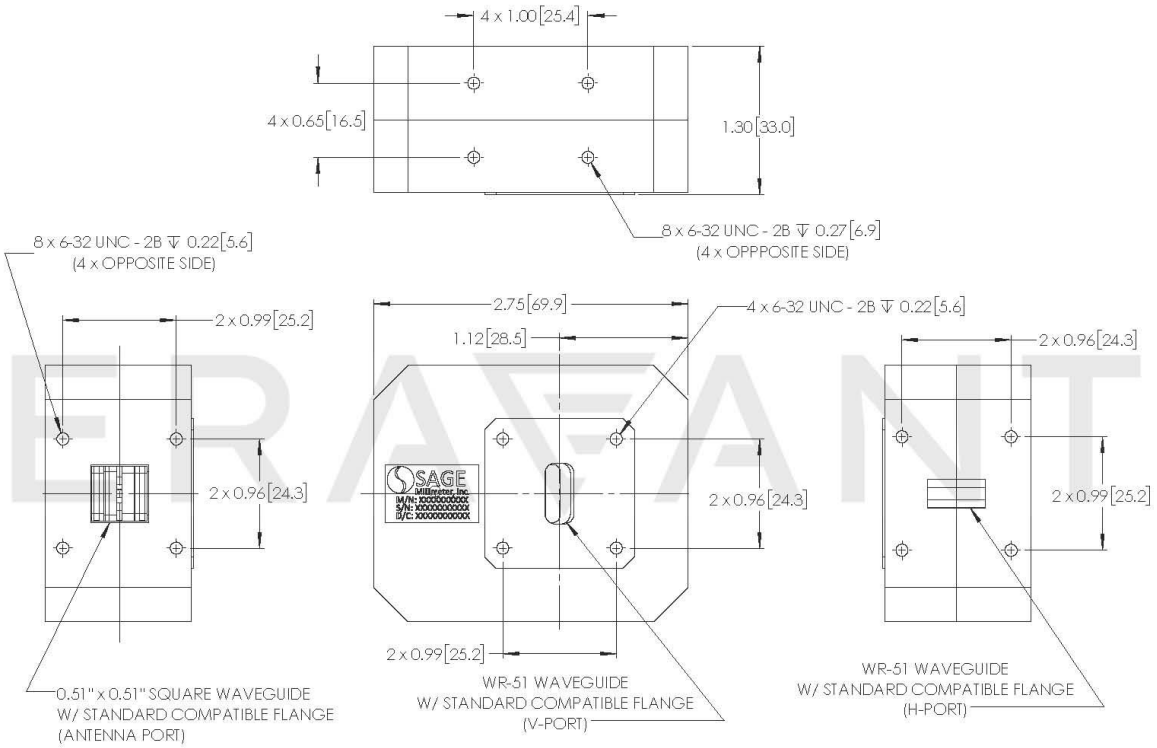
Mechanical Outline: (Unless otherwise specified, all dimensions are in inches [millimeters])



Note:

- All data presented is collected from a sample lot. Actual data may vary unit to unit.
- All testing was performed under +25 °C room temperature.
- Eravant reserves the right to change the information presented without notice.

Caution:

- Any foreign objects in the antenna will cause performance degradation and possible device damage.

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