SAT-FV-14815-S1

Rev. 1.3

V-Band Orthomode Transducer

Description:

Model SAT-FV-14815-S1 is a full band, WR-15 orthomode transducer (OMT) operating between 50 and 75 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 is configured with a 0.148" x 0.148" square waveguide for the antenna port and two WR-15 waveguides for the horizontal and vertical ports. All ports have UG-385/U anti-cocking flanges with 4-40 threaded holes.

Features:

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

Applications:

- Radar Systems
- Communication Systems
- Antenna Ranges
- Waveform Polarization Separation and Combination

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	50 GHz		75 GHz
Insertion Loss (H to A Port)		1.0 dB	
Insertion Loss (V to A Port)		0.6 dB	
Isolation (H to V Port)		40 dB	
Return Loss (H Port)		17 dB	
Return Loss (V Port)		17 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	0.148" x 0.148" Sq. Waveguide with UG-385/U Anti-Cocking Flange
Horizontal Port	WR-15 Waveguide with UG-385/U Anti-Cocking Flange
Vertical Port	WR-15 Waveguide with UG-385/U Anti-Cocking Flange
Material	Aluminum
Finish	Gold Plated
Weight	1.1 Oz
Outline	AT-VS-148-F-A

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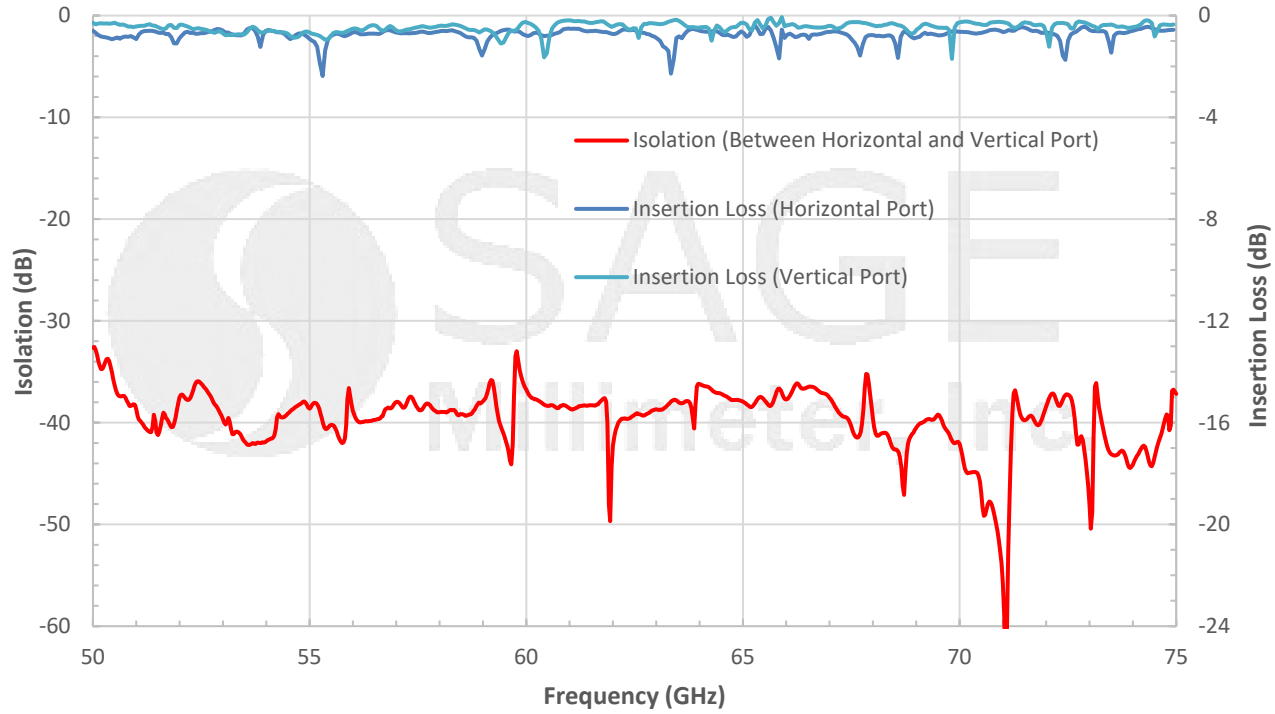
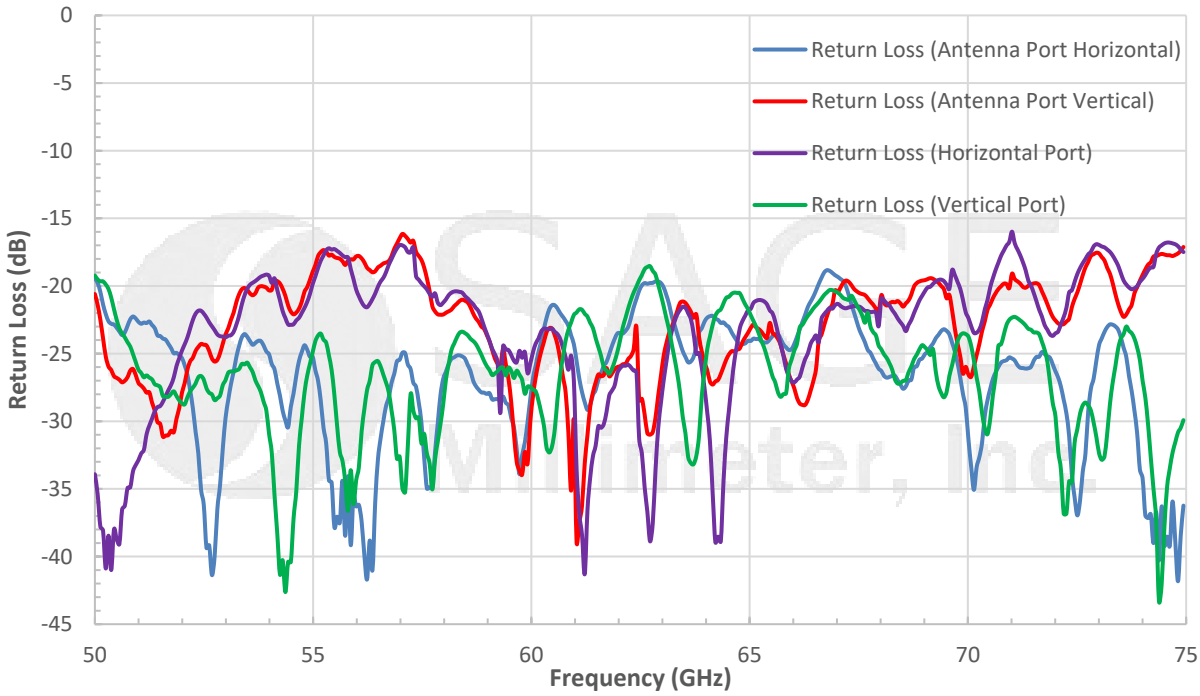
Typical Performance vs. Frequency



Typical Return Loss vs. Frequency



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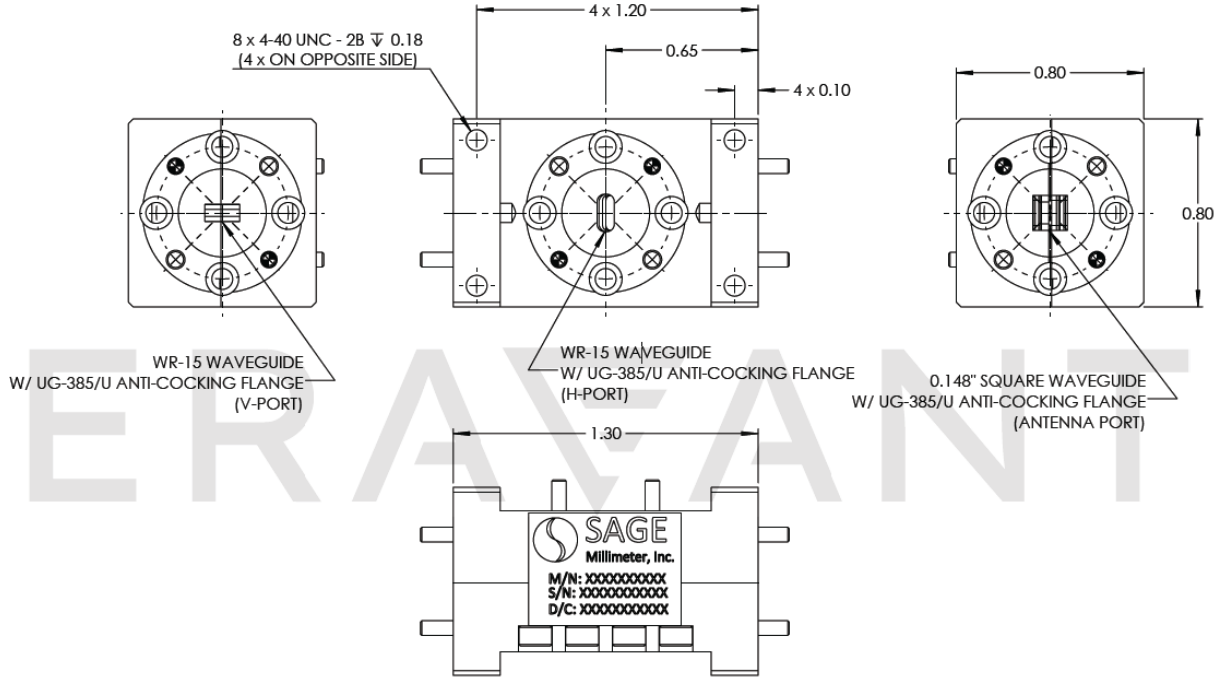
Mechanical Outline: (Unless otherwise specified, all dimensions are in inches [millimeters])



Note:

- All data presented is collected 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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