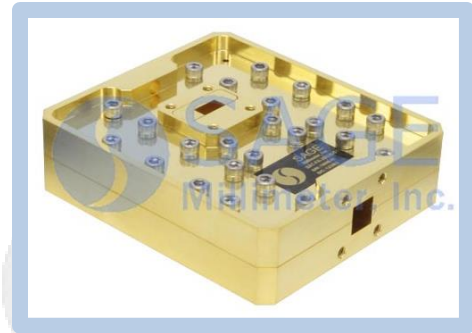




Ka-Band Orthomode Transducer

Description

Model SAT-FA-28028-S1-1 is a full band, WR-28 orthomode transducer (OMT) that operates between 26.5 and 40 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 with more than 30 dB cross polarization rejections. The OMT shows high port isolation while providing a low insertion loss. The OMT is configured with a 0.280" x 0.280" square waveguide for the antenna port and two WR-28 waveguides for the horizontal and vertical ports. All ports have standard UG-599/U flanges with 4-40 threaded holes.



Features:

- Full Waveguide Band Operation
- High Port Isolation
- High Crosspol Rejection
- 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	26.5 GHz		40.0 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	
Cross Polarization (H to A Port)		35 dB	
Cross Polarization (V to A Port)		35 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

Mechanical Specifications:

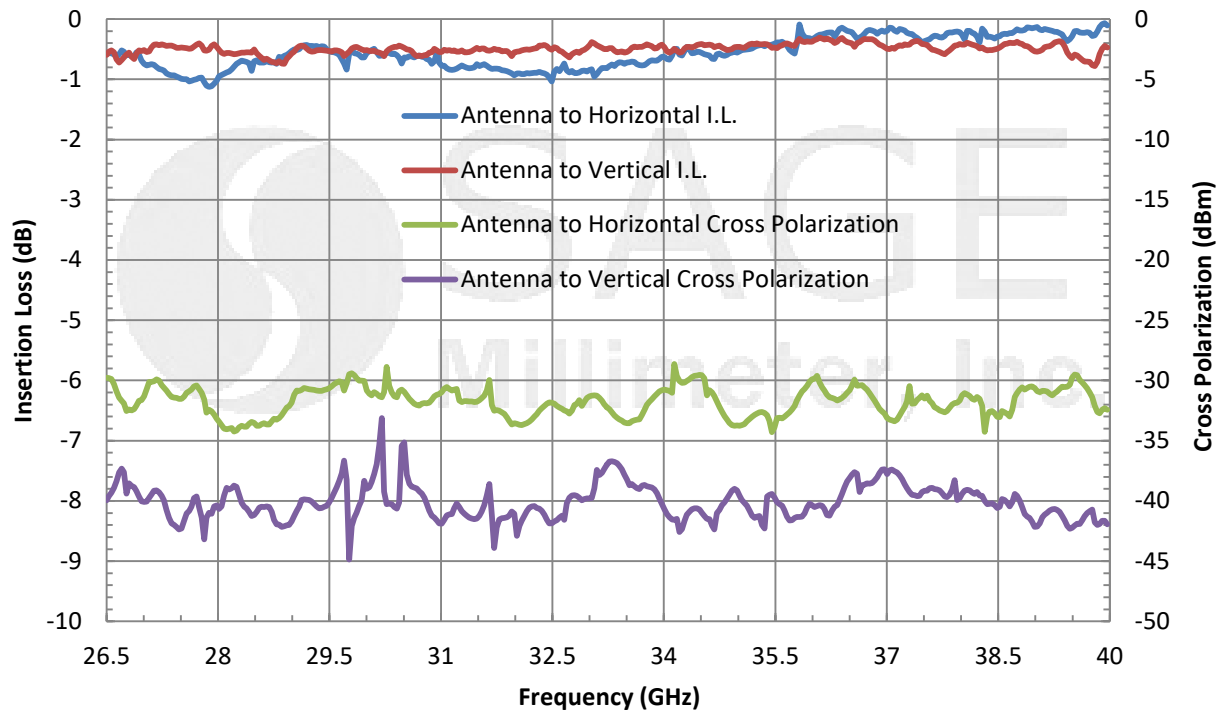
Item	Specification
Antenna Port	0.280" x 0.280" Square Waveguide
Horizontal and Vertical Ports	WR-28 Waveguide
Flange Type	UG-599/U Flange 4-40 Threaded Holes
Material and Finish	Gold Plated Aluminum
Weight	5.2 Oz
Outline	AT-AS-280-F-1





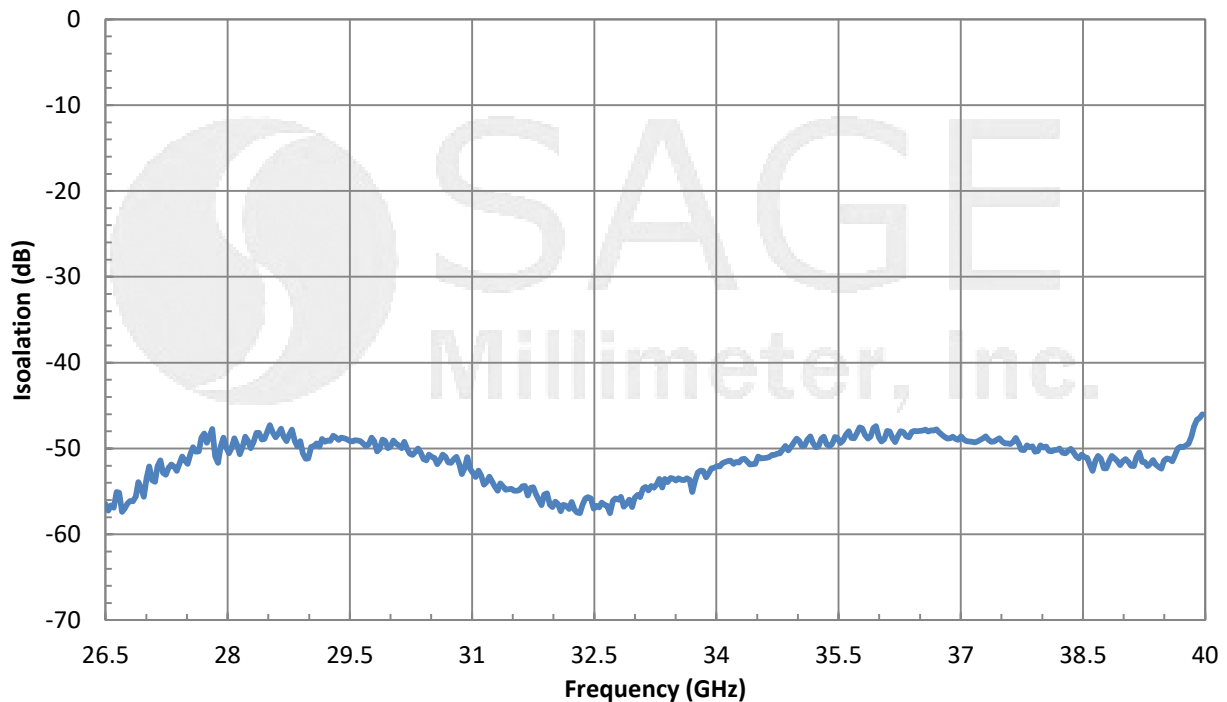
Ka-Band Orthomode Transducer

Typical Insertion Loss and Cross Polarization vs. Frequency



Typical Isolation Between Horizontal and Vertical Ports vs. Frequency

(Antenna port terminated with matched load)

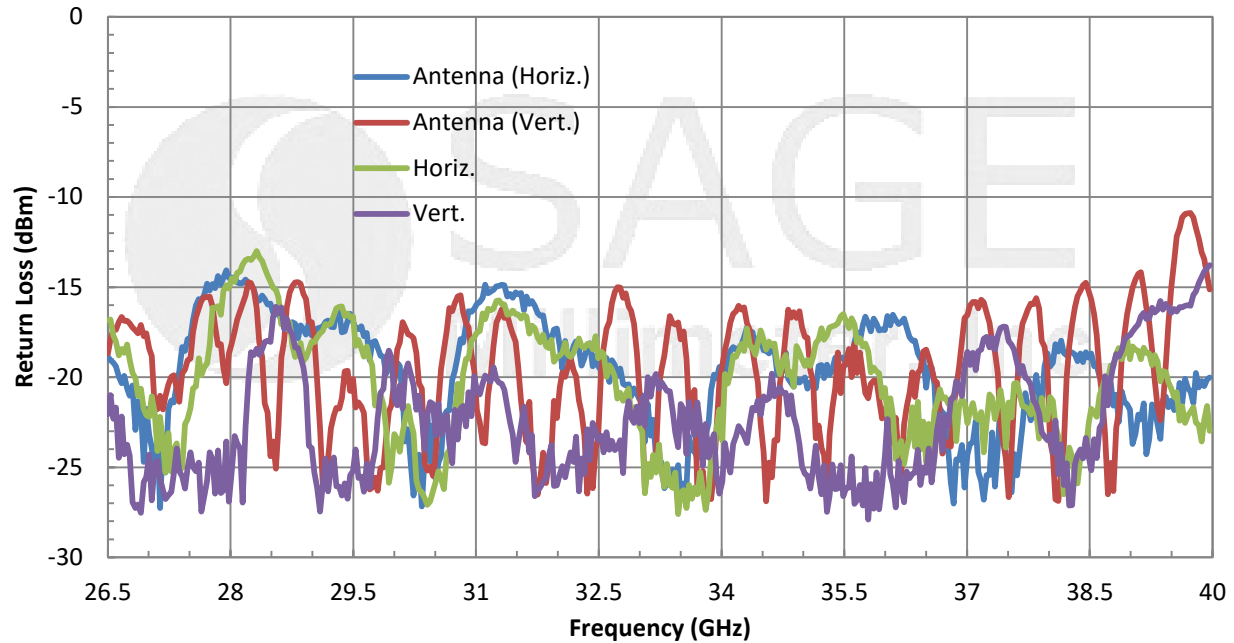




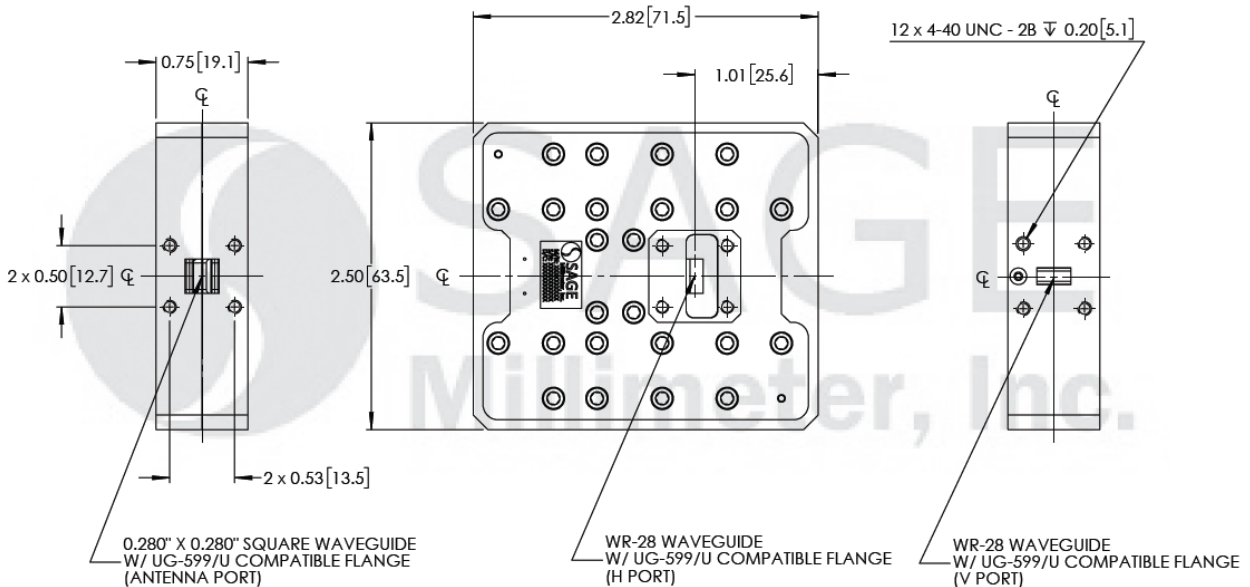
Ka-Band Orthomode Transducer

Typical Return Loss vs. Frequency

(Untested ports terminated with matched loads)



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



Note:

- All data presented is collected from 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.



Ka-Band Orthomode Transducer

Caution:

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

