SAT-FE-12212-S1-WPC

E-Band Orthomode Transducer

SAT-FE-12212-S1-WPC is a full band, WR-12 orthomode transducer (OMT) that operates between 60 and 90 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 0.122” x 0.122” square waveguide for the antenna port and two WR-12 waveguides for the horizontal and vertical ports. All ports have standard UG-387/U anti-cocking flanges and 4-40 threaded holes.

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	60 GHz		90 GHz
Insertion Loss (H to A Port)		1.2 dB	
Insertion Loss (V to A Port)		0.8 dB	
Isolation (H to V Port)		40 dB	
Cross Polarization		35 dB	
Specification Temperature		+25°C	
Operating Temperature	-40°C		+85°C

Mechanical Specifications:

Item	Specification
Antenna Port	0.122” x 0.122” Square Waveguide
Horizontal and Vertical Ports	WR-12 Waveguide
Flange Type	UG-387/U Anti-Cocking Flange
Material	Aluminum
Finish	Gold Plated
Weight	1.0 Oz
Outline	AT-ES-122-F-A

ECCN

EAR99

FEATURES

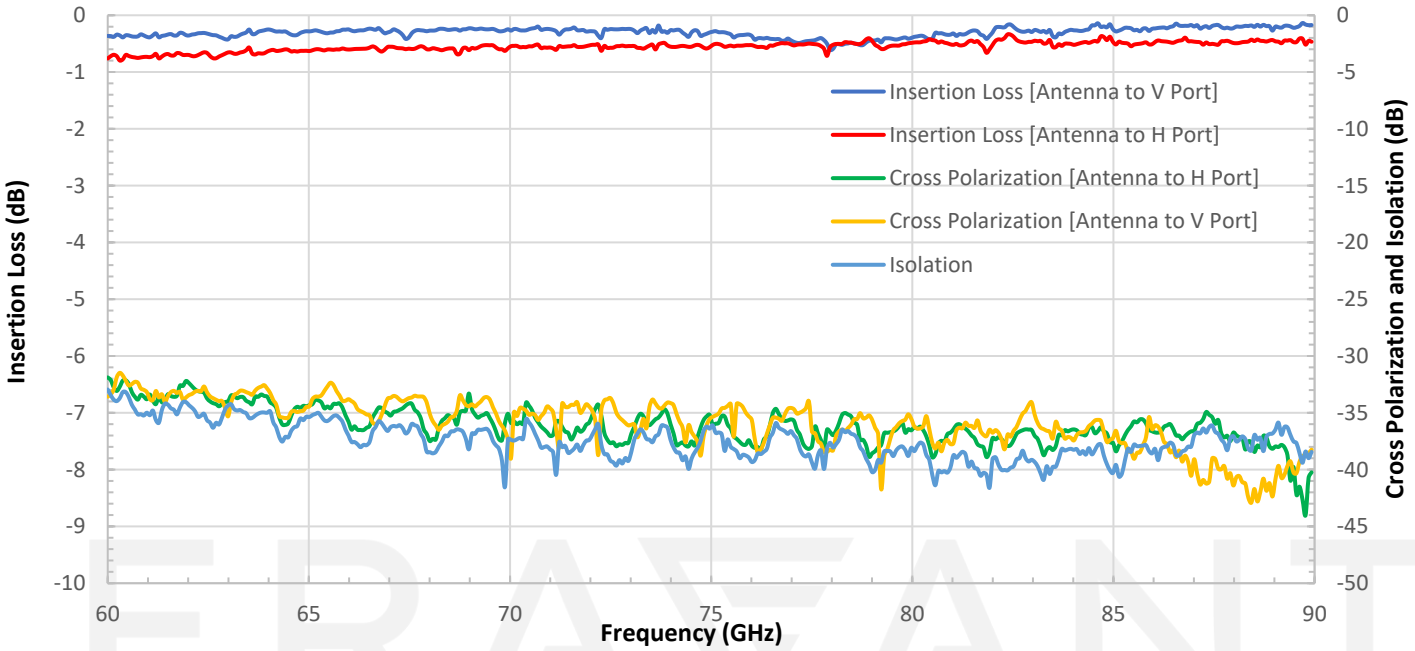
- Full Waveguide Band Operation
- High Port Isolation
- High Crosspol Rejection
- Low Insertion Loss

APPLICATIONS

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

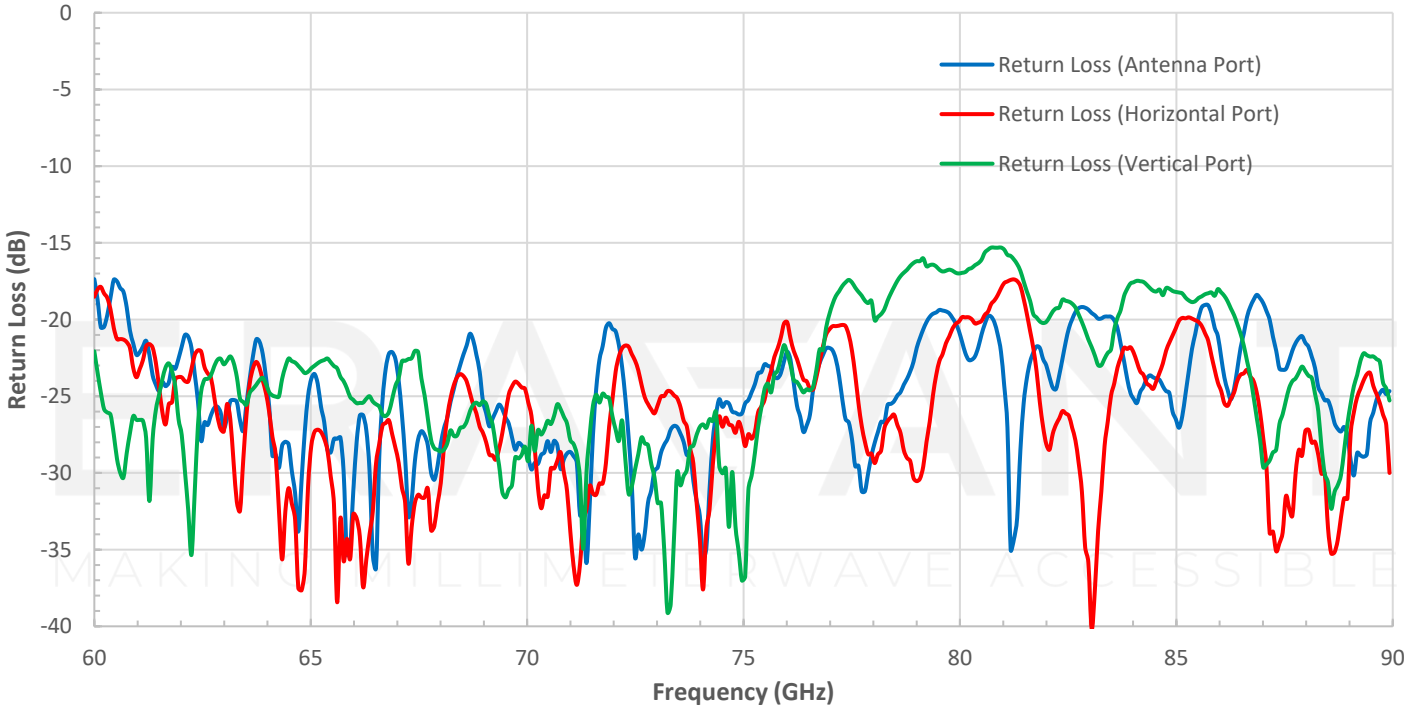
SUPPLEMENTAL DETAILS

Typical Performance vs. Frequency

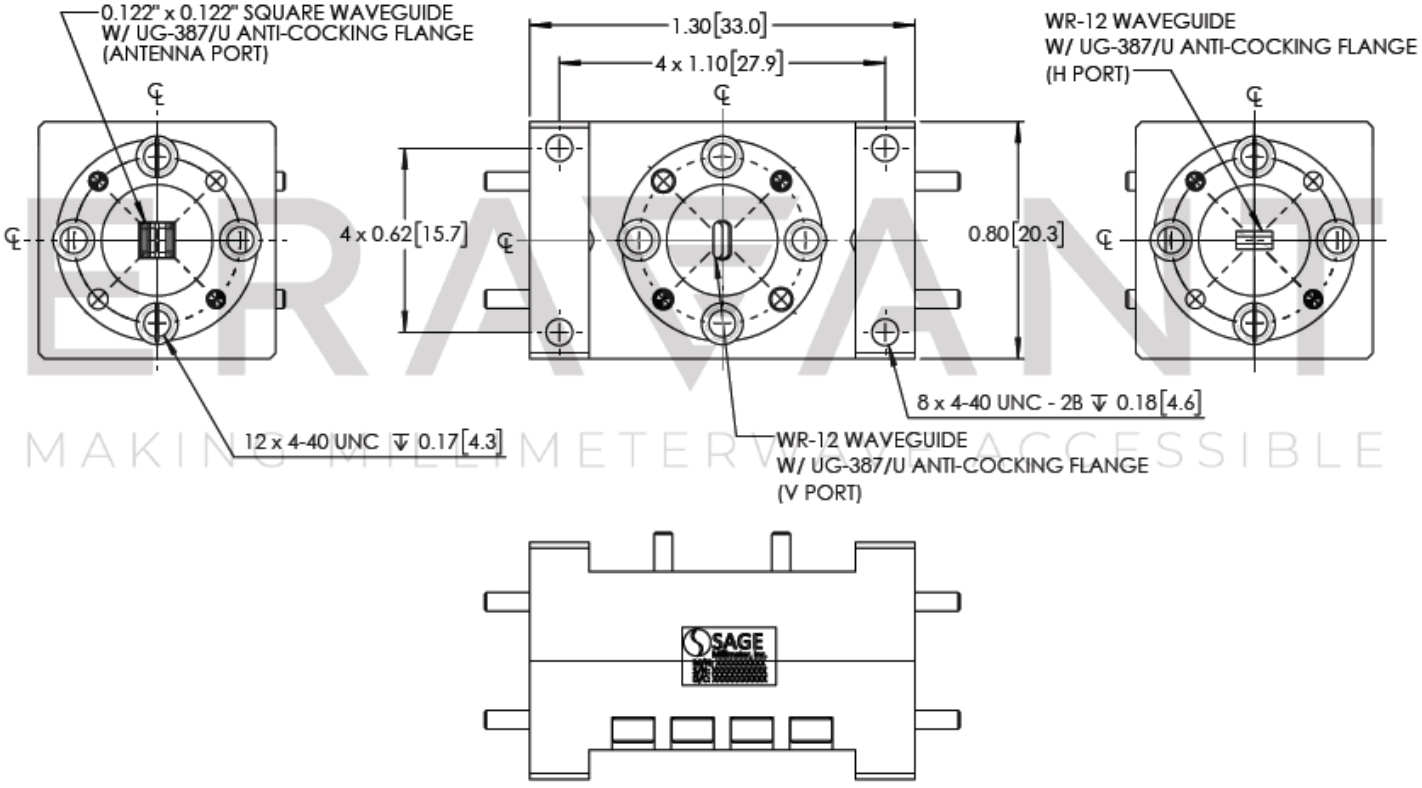


*Due to the limitations of the dynamic range of the network analyzer used, the actual isolation and polarization is much lower than shown.

Typical Return Loss vs. Frequency



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 slightly from unit to unit. All testing is performed under +25 °C room temperature.
- Eravant reserves the right to change the information presented without notice.

CAUTION:

- Any foreign objects in the waveguide will cause performance degradation and may damage or destroy the unit.
- For 1 mm connectors proper torque should be applied: 4.0 ± 0.15 inch-pounds (0.45 ± 0.02 Nm). Torque wrench model SCH-06004-S1 is highly recommended.
- For 1.35 mm, 1.85 mm, 2.4 mm, 2.92 mm, and SMA connectors proper torque should be applied: 8.0 ± 0.15 inch-pounds (0.90 ± 0.02 Nm). Torque wrench model SCH-08008-S1 is highly recommended.