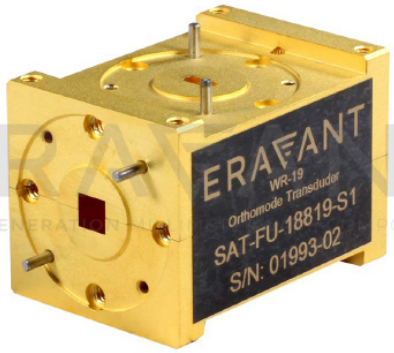
SAT-FQ-22422-S1

WR-22 Orthomode Transducer, 33 to 50 GHz

SAT-FQ-22422-S1 is a WR-22 orthomode transducer (OMT) that operates between 33 to 50 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 while providing a low insertion loss. The OMT is configured with a 0.224" x 0.224" square waveguide for the antenna port and two WR-22 waveguides for the horizontal and vertical ports. All ports have standard UG-383/U-M anti-cocking flanges.



Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency Range	33 GHz		50 GHz
Insertion Loss (A to V Port)		0.8 dB	
Insertion Loss (A to H Port)		0.8 dB	
Isolation (V to H Port)		40 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	
Power Handling			150 W (CW)
Specification Temperature		+25 °C	
Operating Temperature	-40 °C		+85 °C

Mechanical Specifications:

Item	Specification
Antenna Port*	0.224" x 0.224" Square Waveguide
Horizontal and Vertical Ports	WR-22 Waveguide
Flange Type	UG-383/U-M Anti-Cocking Flange (on all ports)
Material	Aluminum
Finish	Gold Plated
Weight	3.3 Oz
Dimensions	1.70" (L) x 1.20" (W) x 1.20" (H)
Outline	AT-QS-224-F-A

*The antenna port can be converted to circular waveguide via compact transition.

ECCN

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FEATURES

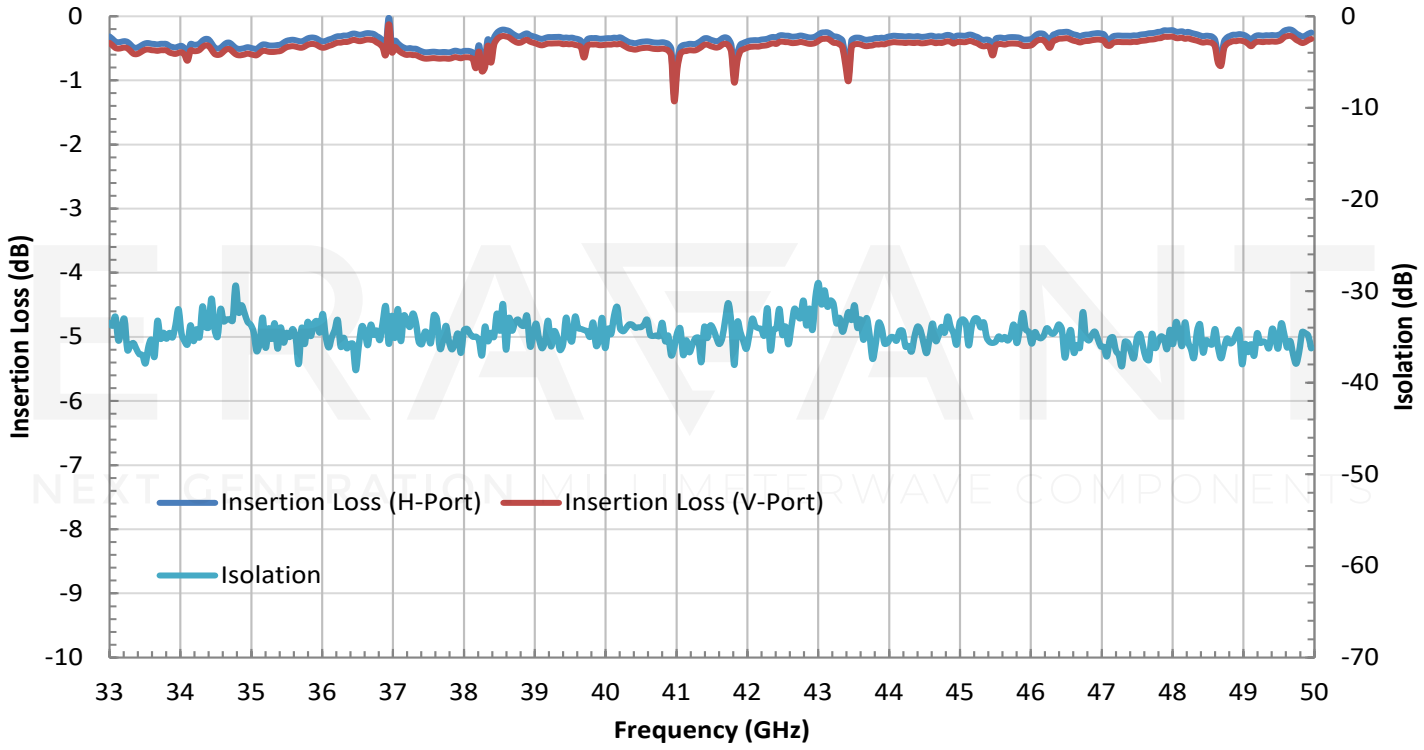
- High Isolation
- Low Insertion Loss
- Full Band Performance

APPLICATIONS

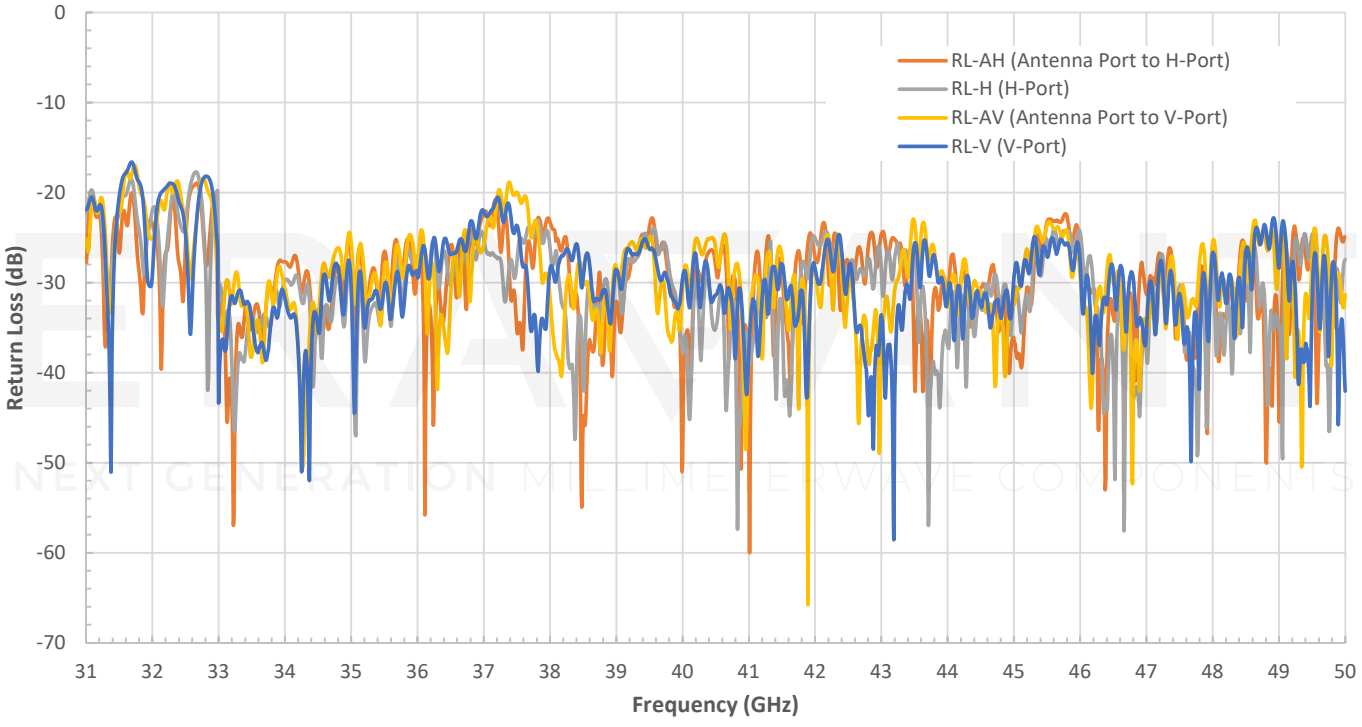
- Radar Systems
- Communication Systems
- Antenna Ranges
- Waveform Polarization Separation and Combination

SUPPLEMENTAL DETAILS

Typical Performance vs. Frequency

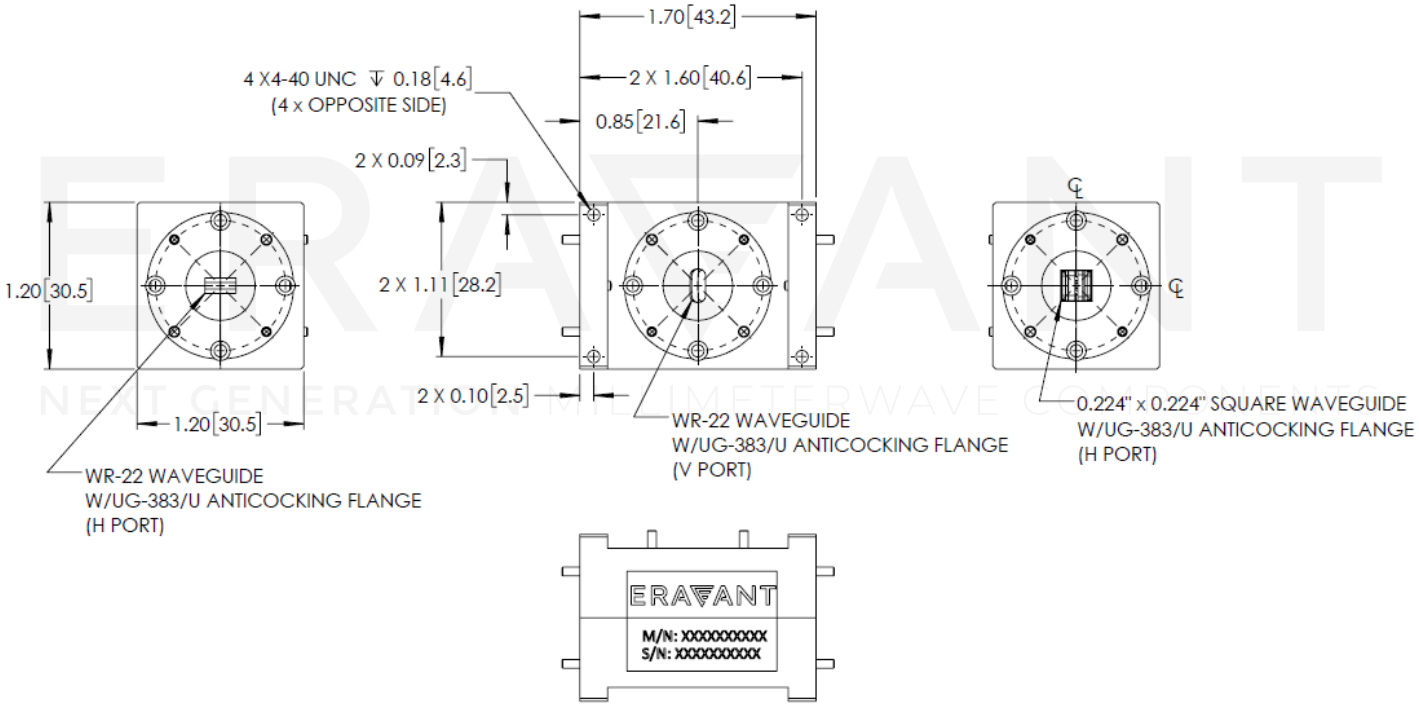


Typical Return Loss vs. Frequency



Mechanical Outline:

Unless otherwise specified, all dimensions are in inches [millimeters])



NOTE:

- On condition that test data is provided it is collected from a sample lot. Actual data may vary slightly from unit to unit. All testing is performed under +25 °C room temperature.
- On condition that simulated test data is provided, actual measured data may slightly vary.
- Eravant reserves the right to change the information presented without notice.

CAUTION:

- If a waveguide is present, any foreign objects in the waveguide will cause performance degradation and may damage or destroy the unit.
- Any foreign objects in the antenna will cause performance degradation and possible device damage.
- 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.