SAT-333-31528-C1

WR-28 Orthomode Transducer, 24 to 42 GHz, Circular Waveguide Port

SAT-333-31528-C1 is a WR-28 orthomode transducer (OMT) that operates between 24 to 42 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 0.315" diameter circular waveguide for the antenna port and two WR-28 waveguides for the horizontal and vertical ports. All ports have standard UG-599/U flange with 4-40 threaded holes.

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency Range	24 GHz		42 GHz
Insertion Loss (A to V Port)		0.5 dB	
Insertion Loss (A to H Port)		0.5 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	
Specification Temperature		+25 °C	
Operating Temperature	-40 °C		+85 °C

Mechanical Specifications:

Item	Specification
Antenna Port	0.315" Diameter Circular Waveguide
Horizontal and Vertical Ports	WR-28 Waveguide
Flange Type	UG-599/U Flange with 4-40 Threaded Holes
Material	Aluminum
Finish	Gold Plated
Weight	2.6 Oz
Outline	AT-AC-315-F

ECCN

EAR99

FEATURES

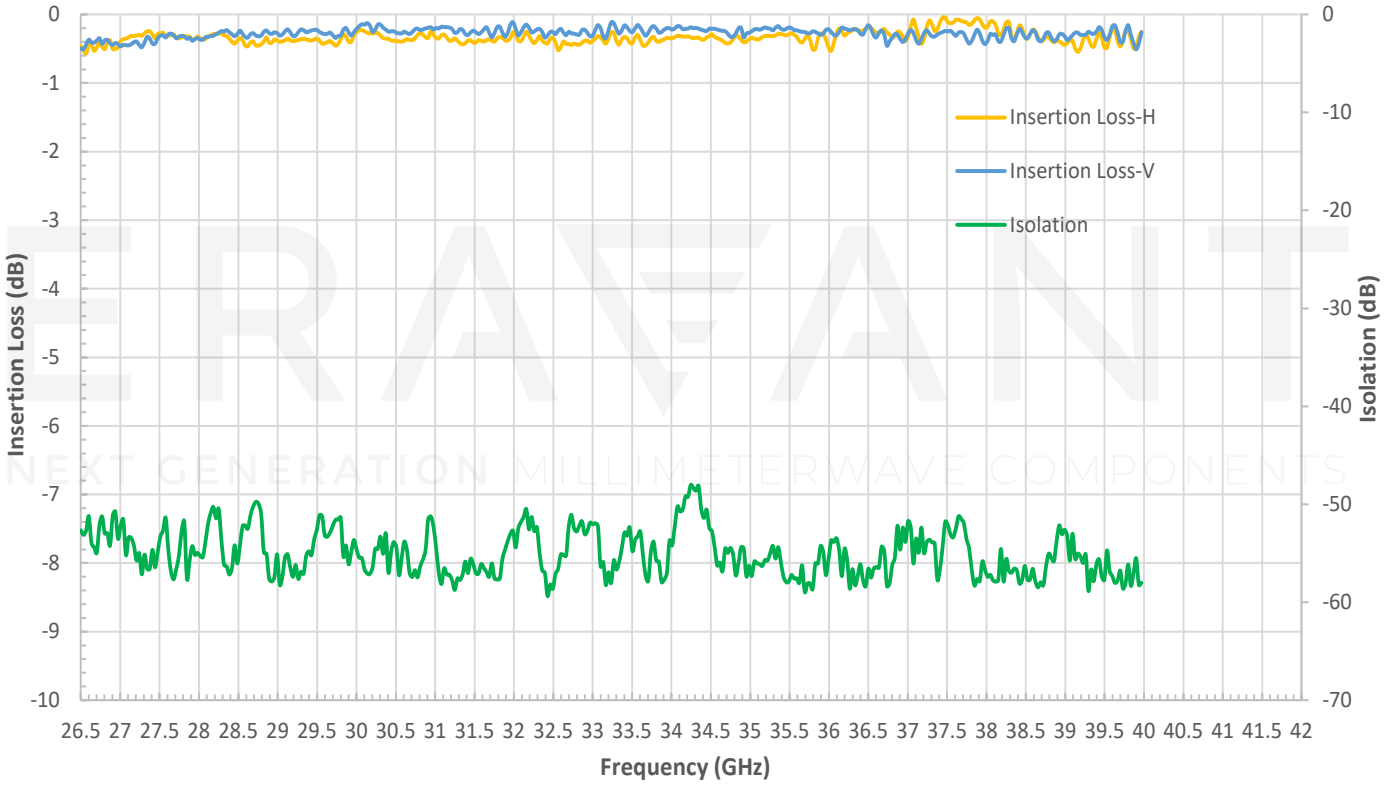
- High Port Isolation
- Low Insertion Loss
- Full Waveguide Band Operation

APPLICATIONS

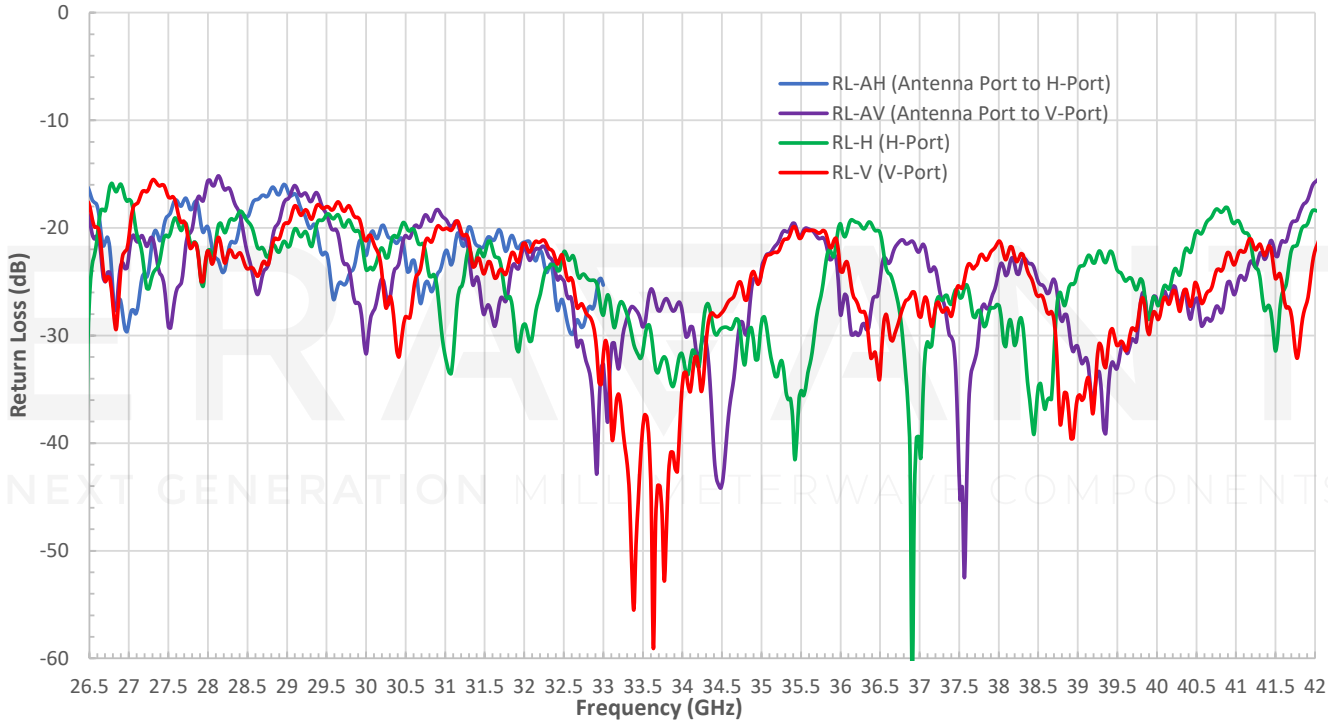
- 5G Systems
- Radar Systems
- Communication Systems
- Antenna Ranges
- Circular and Linear Waveform Separation and Combination

SUPPLEMENTAL DETAILS

Typical Performance vs. Frequency

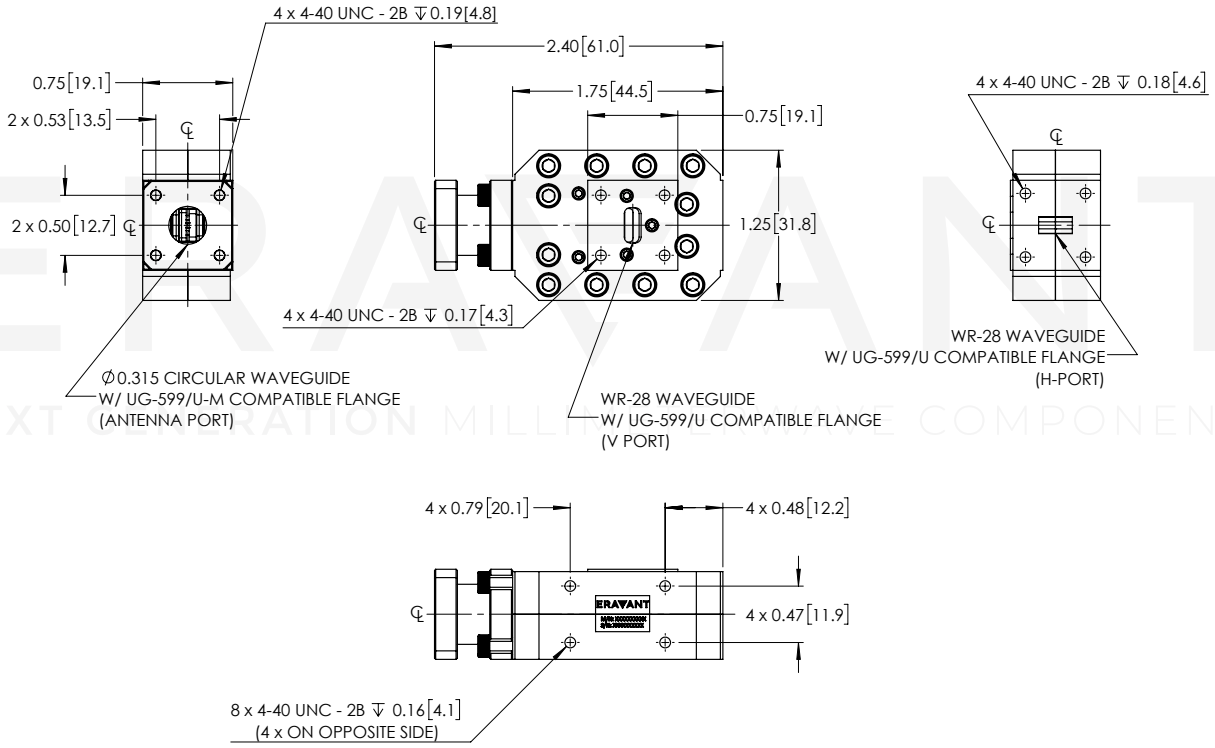


Typical Return Loss vs. Frequency



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.