SAT-333-31528-C1

WR-28 Orthmode Transducer, 24-42 GHz, Circular Waveguide Port

SAT-333-31528-C1 is a WR-28 orthmode 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 waveformes into one circular or elliptical polarized waveform or vece 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 andvertical ports. All ports have standard UG-599/U flange with 4-40 threaded hols.

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency Range	24 GHz		42 GHz
Insertion Loss (A to V Port)*		0.5 dB	
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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

*Due to circular waveguide limitation, performance is slightly affected at band edge.

Mechanical Specifications:

Item	Specification
Antenna Port	Ø0.315” Circular Waveguide with UG-599/U Compatible Flange
H & V Ports	WR-28 with UG-599/U Compatible Flange and 4-40 Threaded Holes
Material	Aluminum
Finish	Gold Plated
Weight	2.6 Oz
Outline	AT-AC-315-F

ECCN

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FEATURES

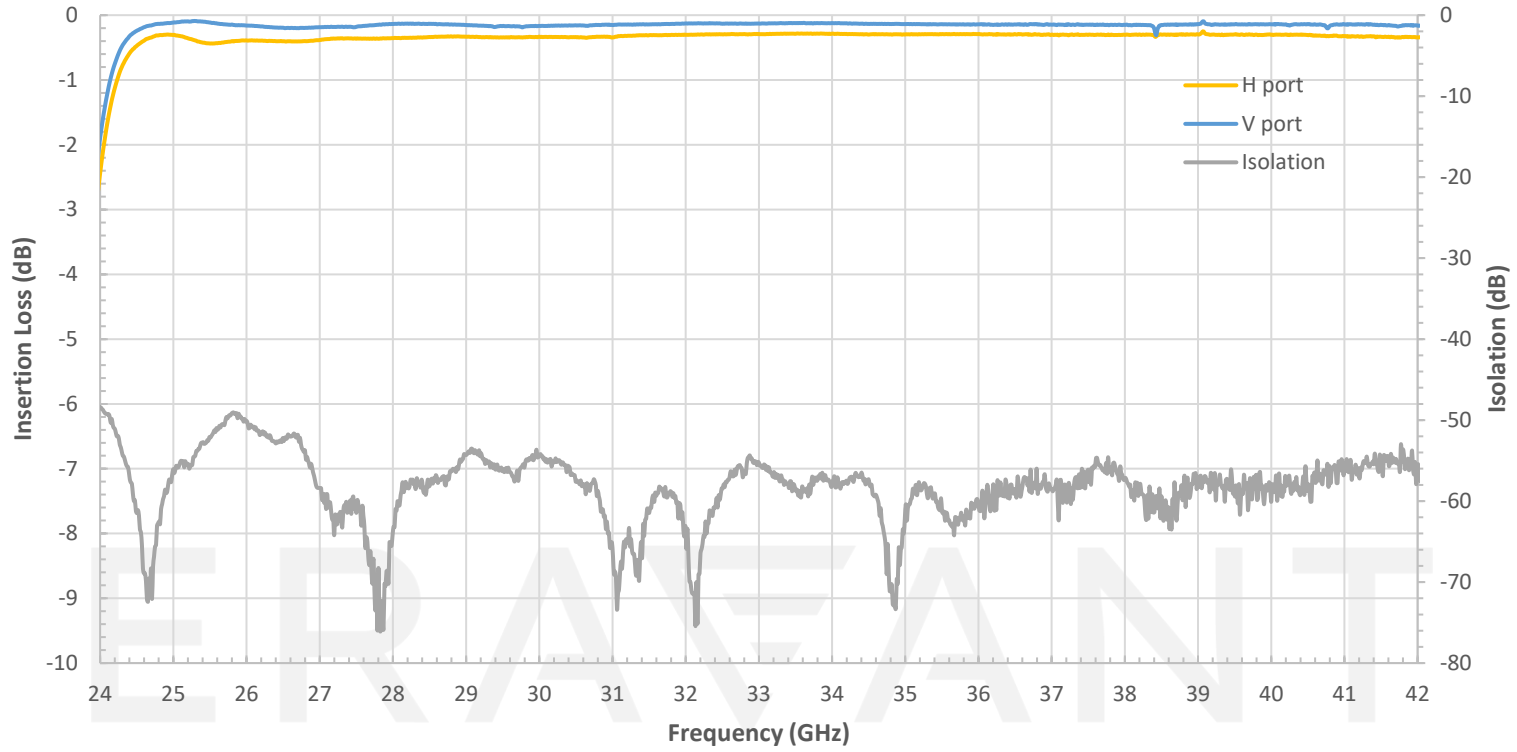
- High Port Isolation
- Low Insertion Loss
- Full Waveguide Band Operation

APPLICATIONS

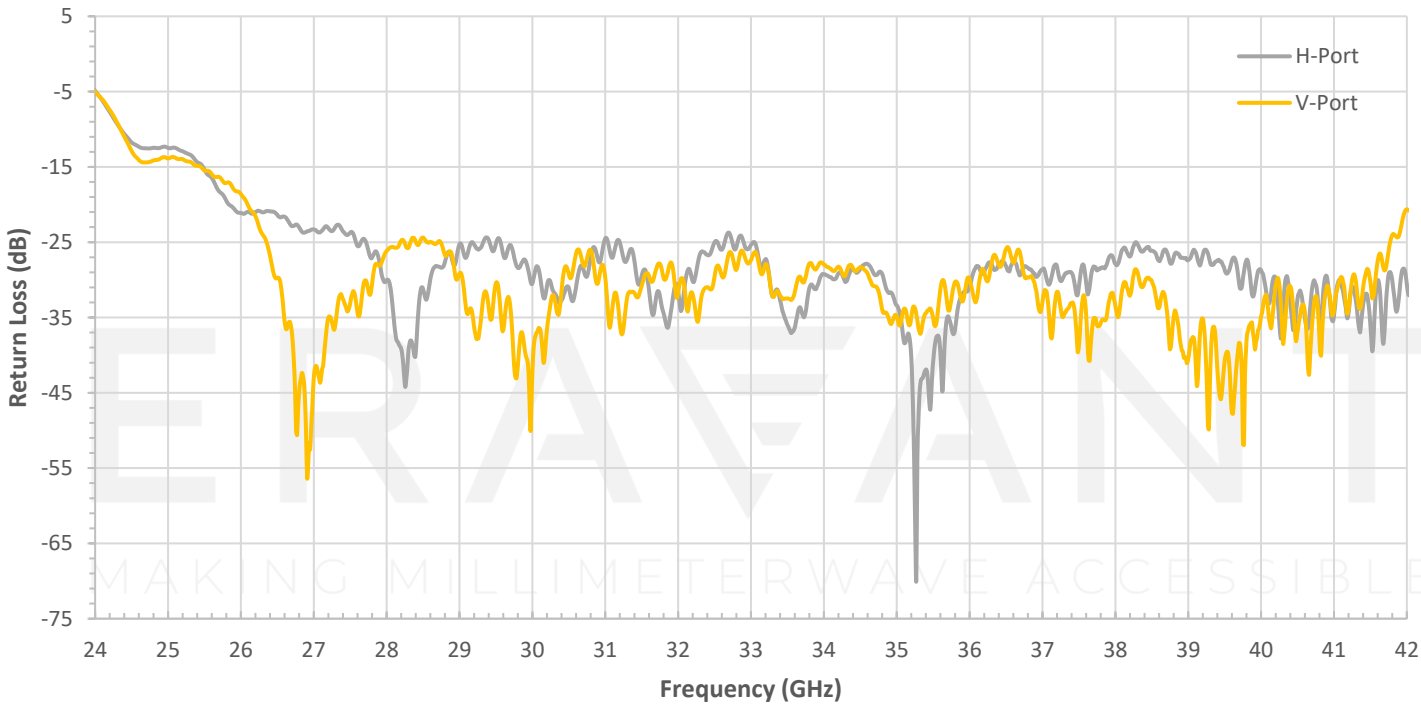
- 5G Systems
- Radar Systems
- Communication Systems
- Antenna Ranges
- Circular and Linear Waveform Separation and Combination

SUPPLEMENTAL DETAILS

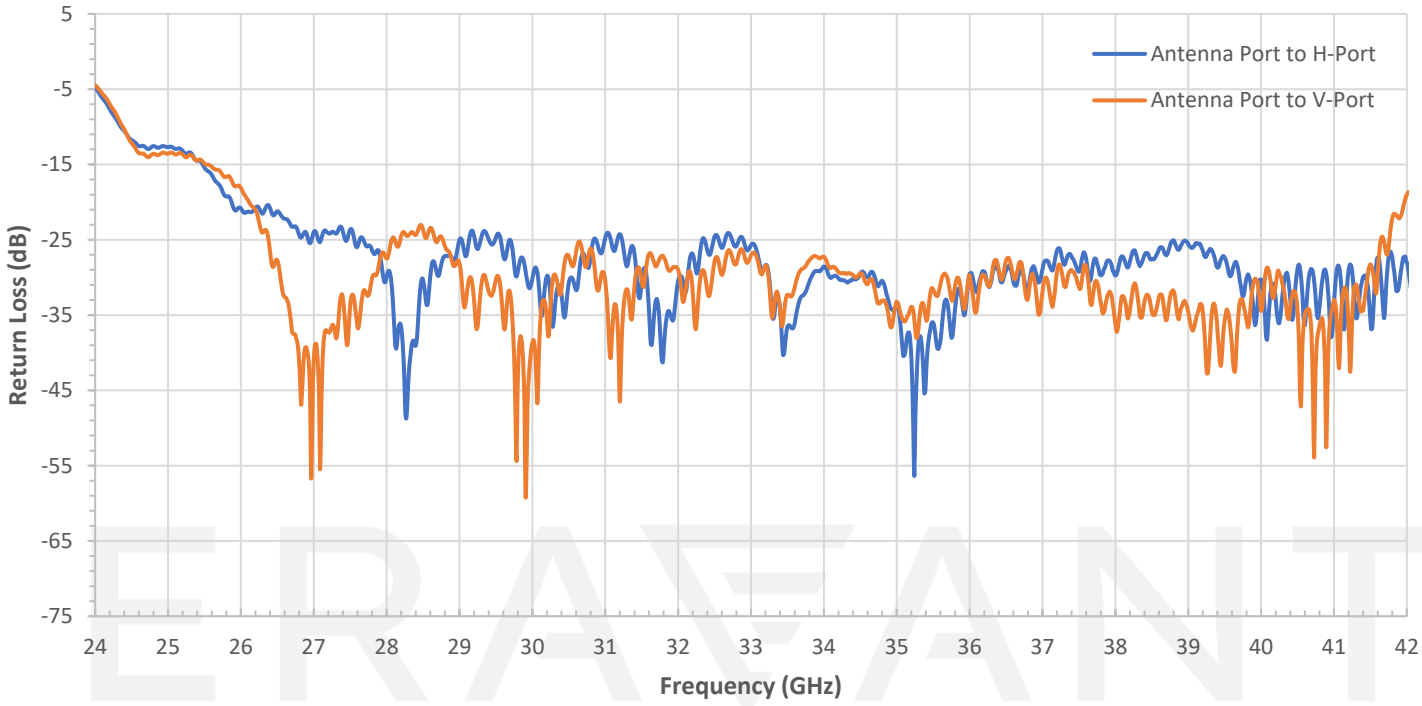
Measured Insertion Loss vs Frequency



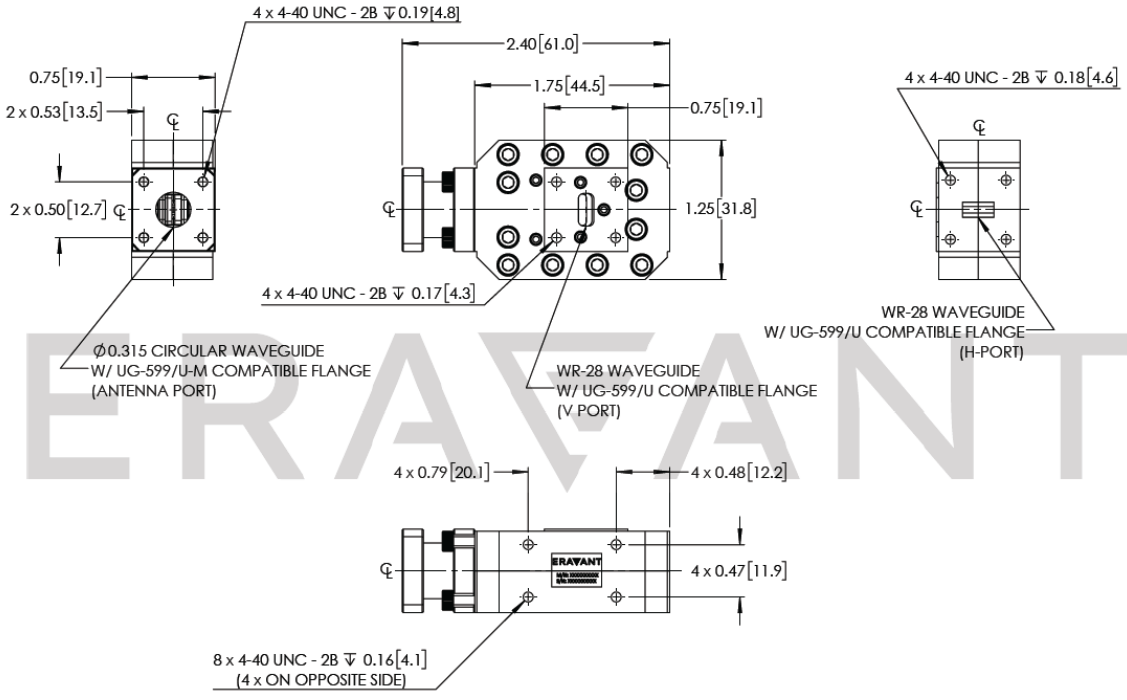
Measured Return Loss vs Frequency (H & V Ports)



Measured Return Loss vs Frequency (Antenna Port)



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



NOTE:

- Test data provided 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 waveguides 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.

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