

V-Band Orthomode Transducer

Description:

Model SAT-FV-14815-S1-WP is a full band, WR-15 orthomode transducer (OMT) operating between 50 and 75 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 is configured with a 0.148" x 0.148" square waveguide for the antenna port and two WR-15 waveguides for the horizontal and vertical ports. All ports have UG-385/U anti-cocking flanges with 4-40 threaded holes.



Features:

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

Applications:

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

Electrical Specifications:

| Parameter | Minimum | Typical | Maximum |
|----------------------------------|---------|---------|---------|
| Frequency | 50 GHz | | 75 GHz |
| Insertion Loss (H to A Port) | | 1.0 dB | |
| Insertion Loss (V to A Port) | | 0.6 dB | |
| Isolation (H to V Port) | | 40 dB | |
| Return Loss (H Port) | | 17 dB | |
| Return Loss (V Port) | | 17 dB | |
| Return Loss (A Port, Vertical) | | 17 dB | |
| Return Loss (A Port, Horizontal) | | 17 dB | |
| Specification Temperature | | +25 °C | |
| Operating Temperature | -40 °C | | +85 °C |

Mechanical Specifications:

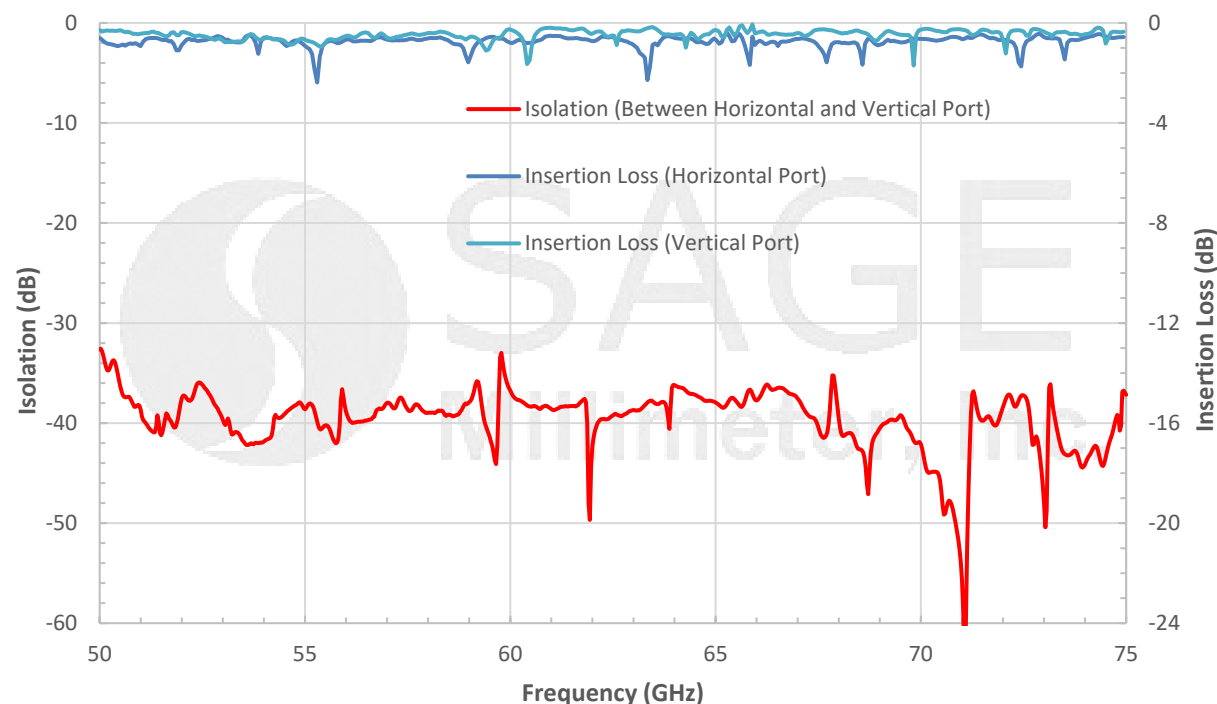
| Item | Specification |
|-----------------|---|
| Antenna Port | 0.148" x 0.148" Sq. Waveguide with UG-385/U Anti-Cocking Flange |
| Horizontal Port | WR-15 Waveguide with UG-385/U Anti-Cocking Flange |
| Vertical Port | WR-15 Waveguide with UG-385/U Anti-Cocking Flange |
| Material | Aluminum |
| Finish | Gold Plated |
| Weight | 1.1 Oz |
| Outline | AT-VS-148-F-A |



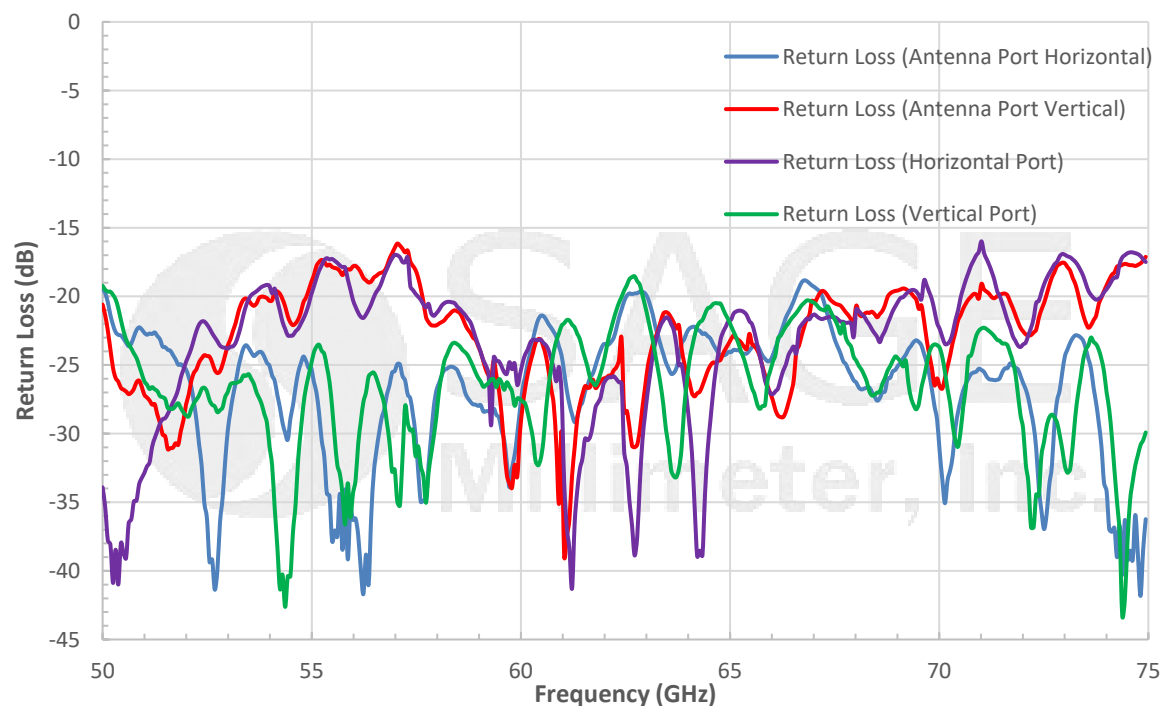


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Typical Performance vs. Frequency

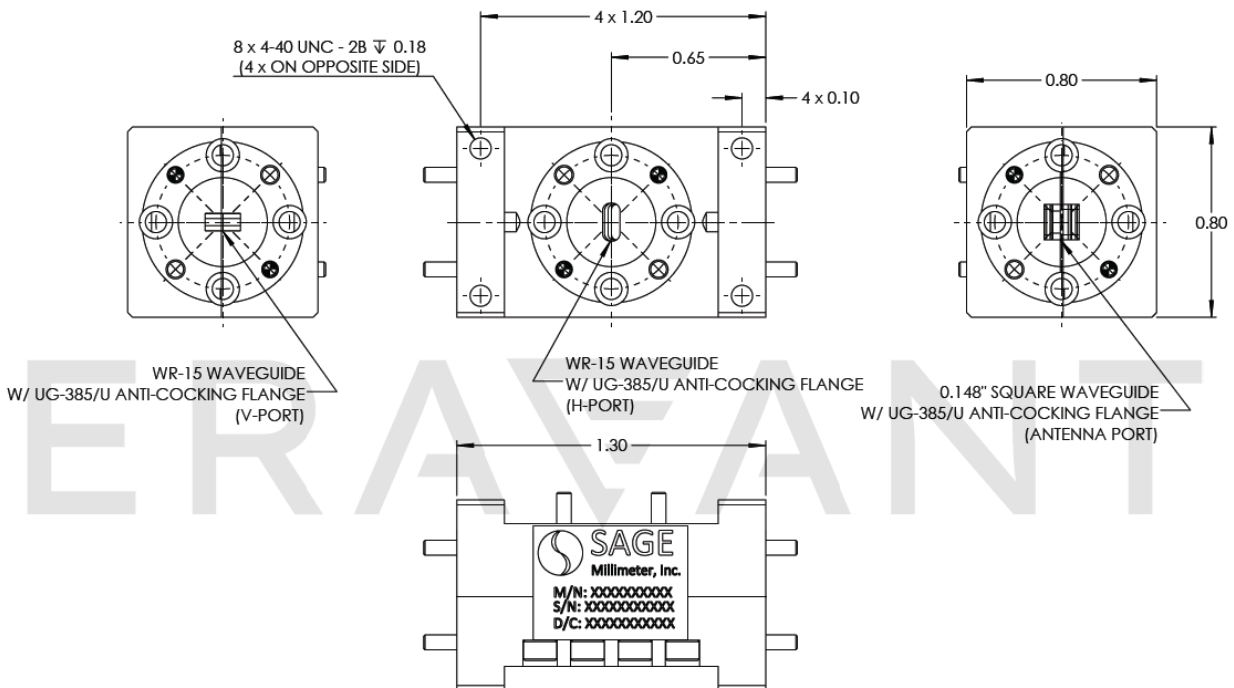


Typical Return Loss vs. Frequency



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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 unit to unit.
- All testing was performed under +25°C room temperature.
- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.

Caution:

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