

SAT-603-14115-C1

V-Band Orthomode Transducer, 58 to 62 GHz

SAT-603-14115-C1 is a WR-15 orthomode transducer (OMT) that operates between 58 to 62 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 0.141" Diameter Circular Waveguide for the antenna port and two WR-19 Waveguides for the horizontal and vertical ports. All ports have standard UG-385/U Anti-Cocking Flange with 4-40 Threaded Holes.



Electrical Specifications:

| Parameter | Minimum | Typical | Maximum |
|-----------------------------------|---------|---------|---------|
| Frequency Range | 58 GHz | | 62 GHz |
| Insertion Loss (V to A Port) | | 0.8 dB | |
| Insertion Loss (H to A Port) | | 0.5 dB | |
| Isolation (H to V Port) | | 35 dB | |
| Cross Polarization (V to A) Port | | 35 dB | |
| Cross Polarization (H to A) Port | | 35 dB | |
| Return Loss (H Port) | | 12 dB | |
| Return Loss (V Port) | | 12 dB | |
| Return Loss (A Port, Vertical) | | 12 dB | |
| Return Loss (A Port, Horizontal) | | 12 dB | |
| Specification Temperature | | +25 °C | |
| Operating Temperature | -40 °C | | +85 °C |

Mechanical Specifications:

| Item | Specification |
|-------------------------------|--|
| Antenna Port | 0.141" Dia Circular Waveguide |
| Horizontal and Vertical Ports | WR-15 Waveguide |
| Flange Type | UG-385/U Anti-Cocking Flange 4-40 Threaded Holes |
| Material | Aluminum |
| Finish | Gold Plated |
| Weight | 1.3 Oz |
| Outline | AT-VC-141-N-A |

ECCN

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FEATURES

- High Port Isolation
- Low Insertion Loss
- High Cross-pol Rejection

APPLICATIONS

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

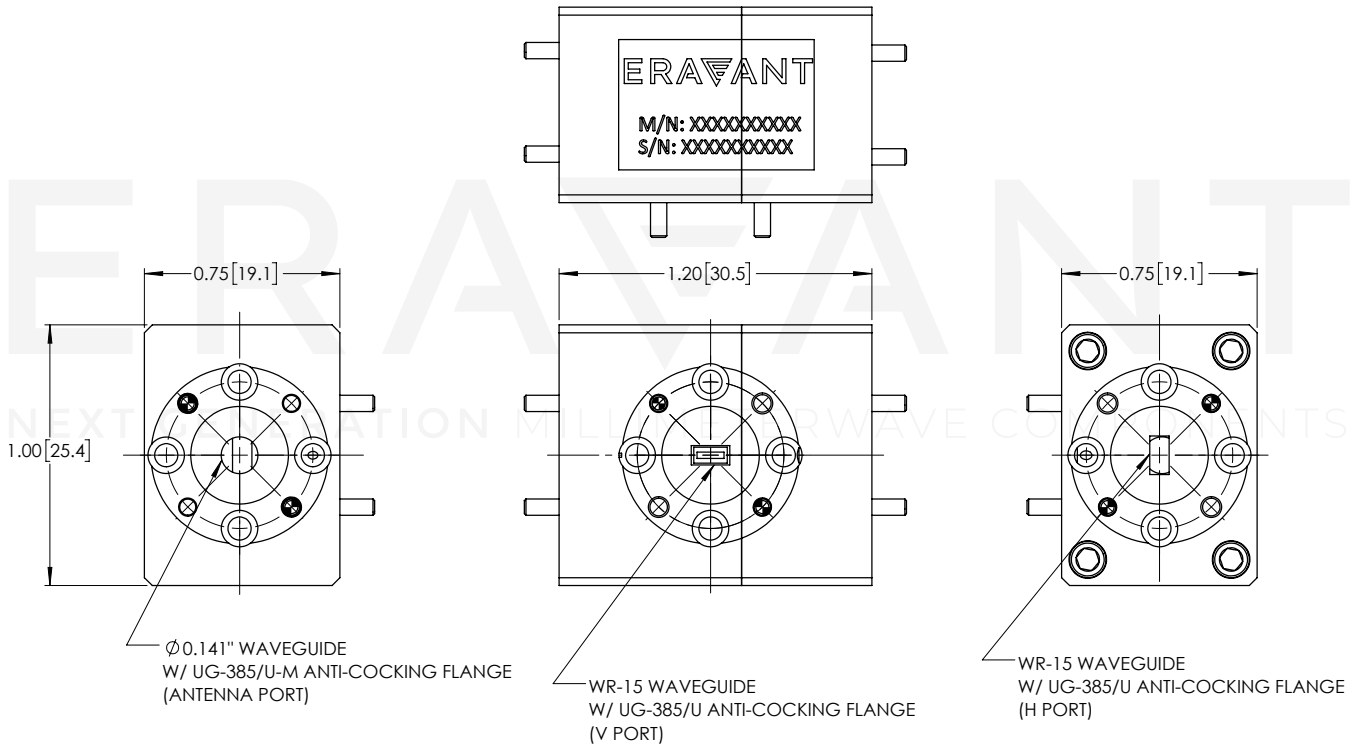
SUPPLEMENTAL DETAILS



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Mechanical Outline:

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



NOTE:

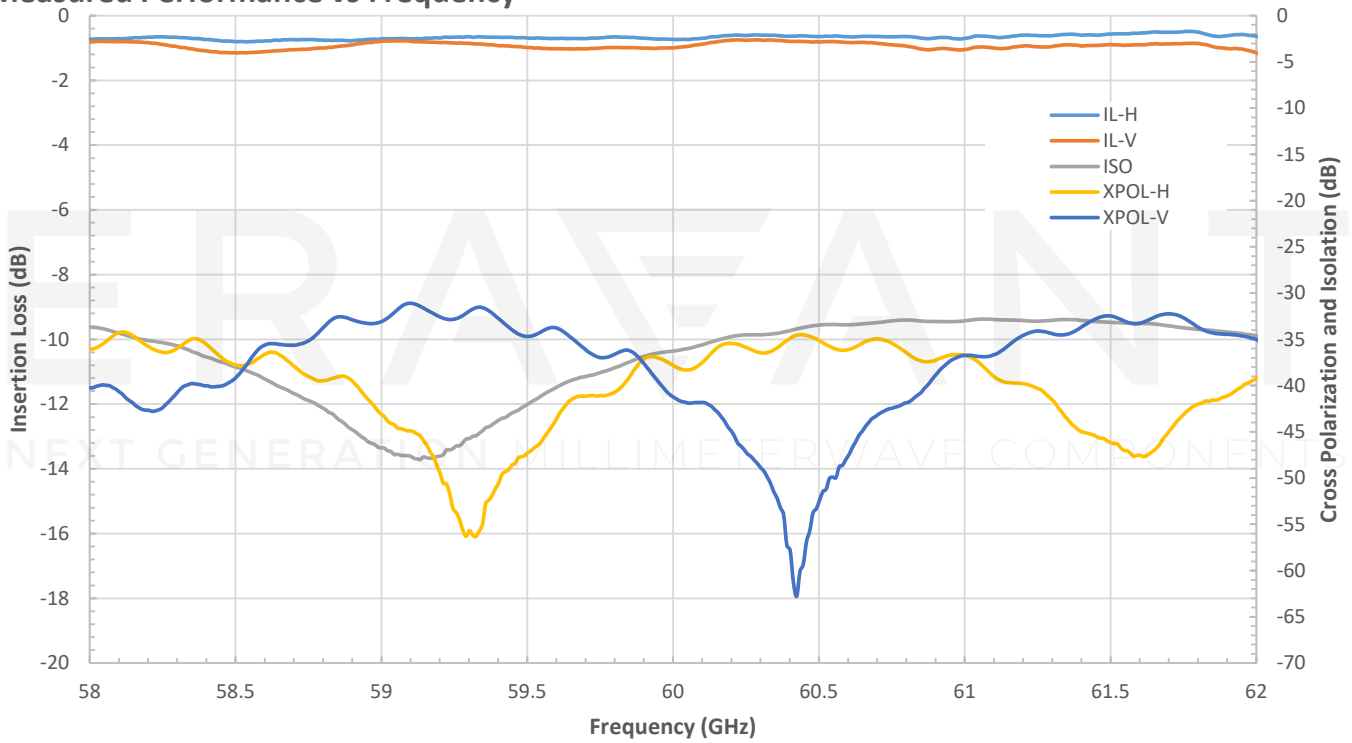
- On condition that test data is provided it is collected from a sample lot. Actual data may vary slightly from unit to unit. All testing is performed under +25 °C room temperature.
- On condition that simulated test data is provided, actual measured data may slightly vary.
- Eravant reserves the right 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.

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Measured Performance vs Frequency



Measured Return Loss vs Frequency

