

## 40 GHz to 57 GHz, U-Band Magic Tee

### Description:

**Model SWM-40360320-19-SB-WPC** is a U band magic tee that covers the frequency range of 40 to 57 GHz. This magic tee is a four-port hybrid coupler and/or power divider with two collinear arms, an E-plane (difference) arm, and an H-plane (sum) arm. The magic tee offers a 0.3 dB nominal insertion loss and high isolation between the two collinear arms and between the sum and difference arms. All waveguide ports have standard WR-19 waveguides with UG-383/U-M anti-cocking flanges.



### Features:

- Low Insertion Loss
- High Isolation
- Compact Package

### Applications:

- Test Labs
- Test Instrumentation
- Sub-assemblies

### Electrical Specifications:

| Parameter                 |                          | Minimum | Typical | Maximum |
|---------------------------|--------------------------|---------|---------|---------|
| Frequency                 |                          | 40 GHz  |         | 57 GHz  |
| Insertion Loss            |                          |         | 0.3 dB  |         |
| Isolation                 | Sum and Difference Ports |         | 30 dB   |         |
|                           | Collinear Ports          | 15 dB   | 20 dB   |         |
| Return Loss               |                          |         | 15 dB   |         |
| Specification Temperature |                          |         | +25 °C  |         |
| Operating Temperature     |                          | -40 °C  |         | +85 °C  |

### Mechanical Specifications:

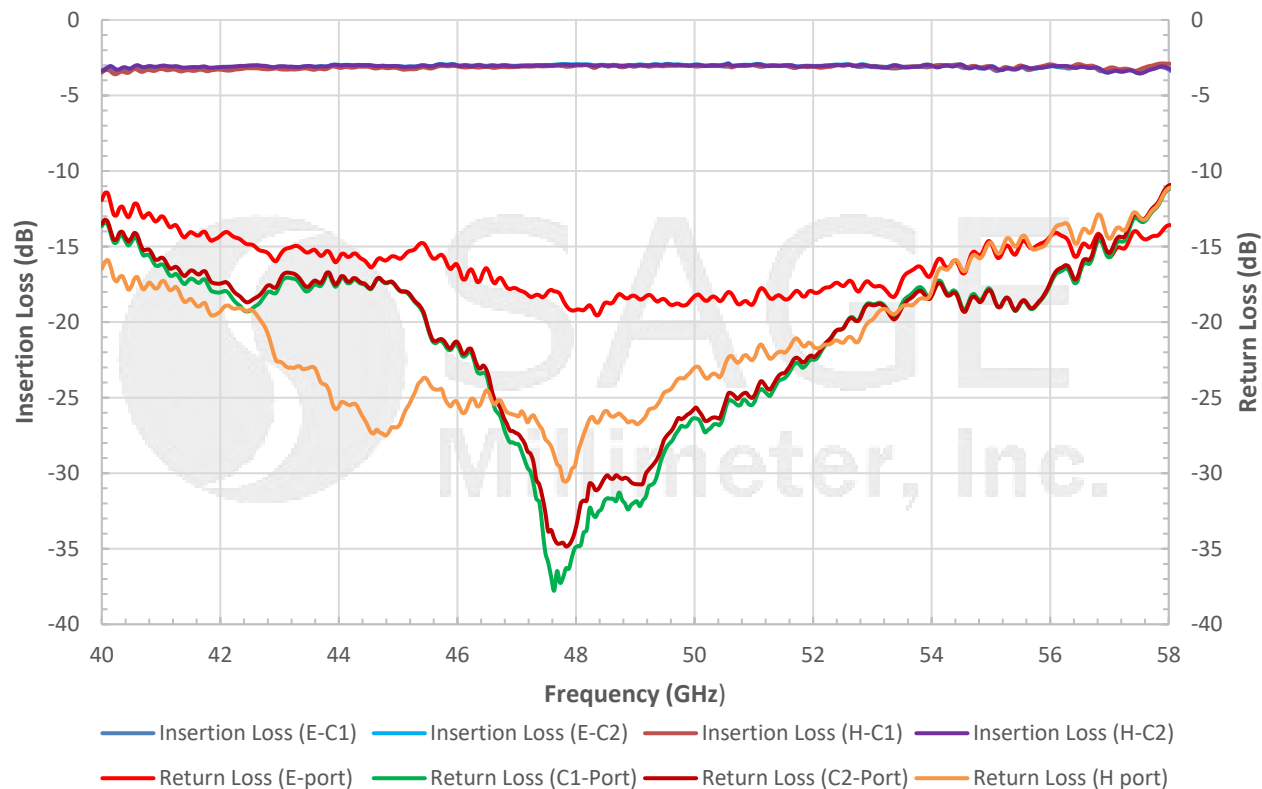
| Item            | Specification                                        |
|-----------------|------------------------------------------------------|
| Waveguide Ports | WR-19 Waveguide with UG-383/U-M Anti-Cocking Flanges |
| Material        | Aluminum                                             |
| Finish          | Gold Plated                                          |
| Weight          | 3.7 Oz                                               |
| Outline         | WM-BU-A-2                                            |



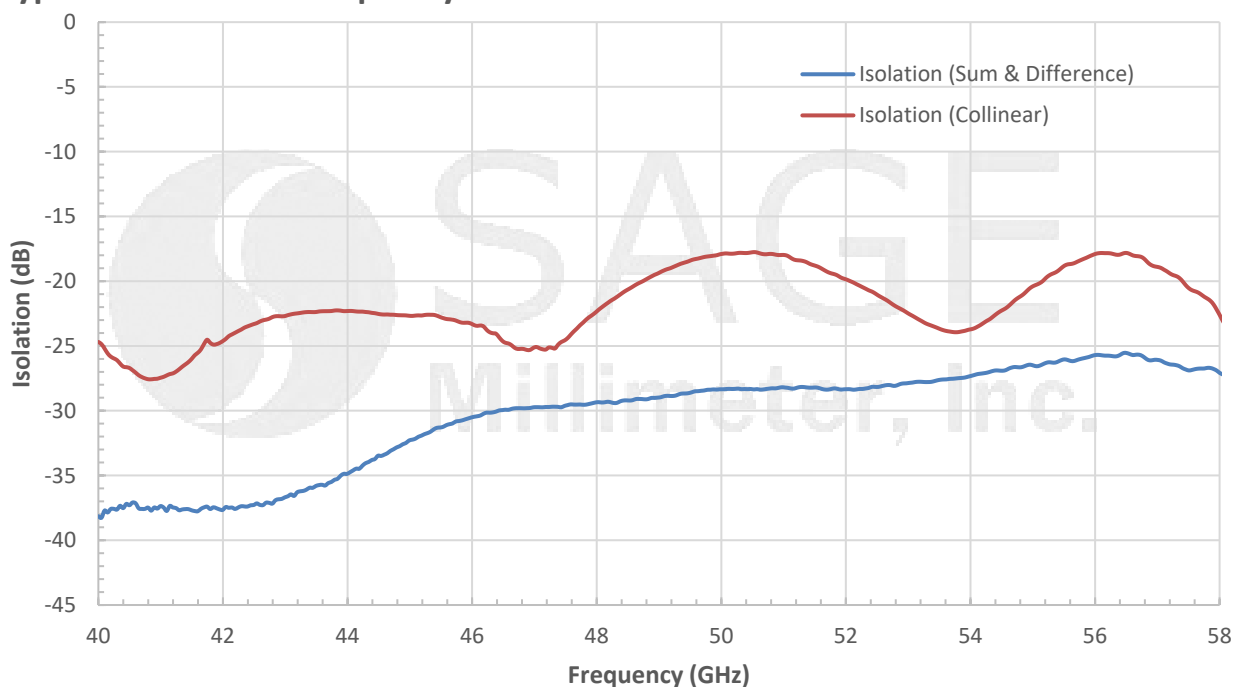


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Typical Insertion and Return Loss vs Frequency

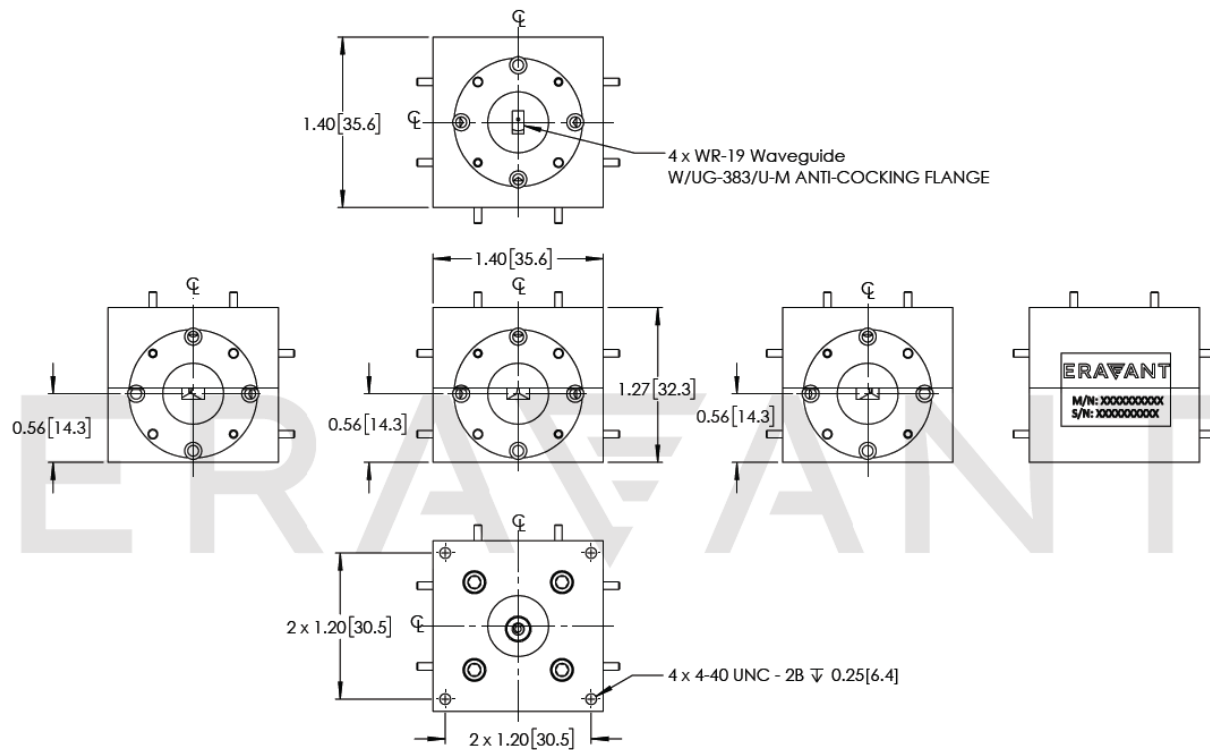


Typical Isolation vs Frequency



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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, slightly.
- All testing was performed under +25 °C case temperature.
- Eravant reserves the right to change the information presented without notice.

**Caution:**

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

