



## W-Band Magic Tee, 75 to 110 GHz

### Description:

**Model SWM-75311420-10-SB** is a W-band magic tee that covers the frequency range of 75 to 110 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 0.5 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-10 waveguides with UG-387/U-M anti-cocking flanges.



### Features:

- Full Band Performance from 75 to 110 GHz
- Low Insertion Loss
- High Isolation
- Compact Package

### Applications:

- Test Labs
- Test Instrumentation
- Sub-assemblies

### Electrical Specifications:

Parameter		Minimum	Typical	Maximum
Frequency		75 GHz		110 GHz
Insertion Loss			0.5 dB	
Isolation	Sum and Difference Ports		30 dB	
	Collinear Ports		20 dB	
Return Loss			15 dB	
Specification Temperature			+25 °C	
Operating Temperature		-40 °C		+85 °C

### Mechanical Specifications:

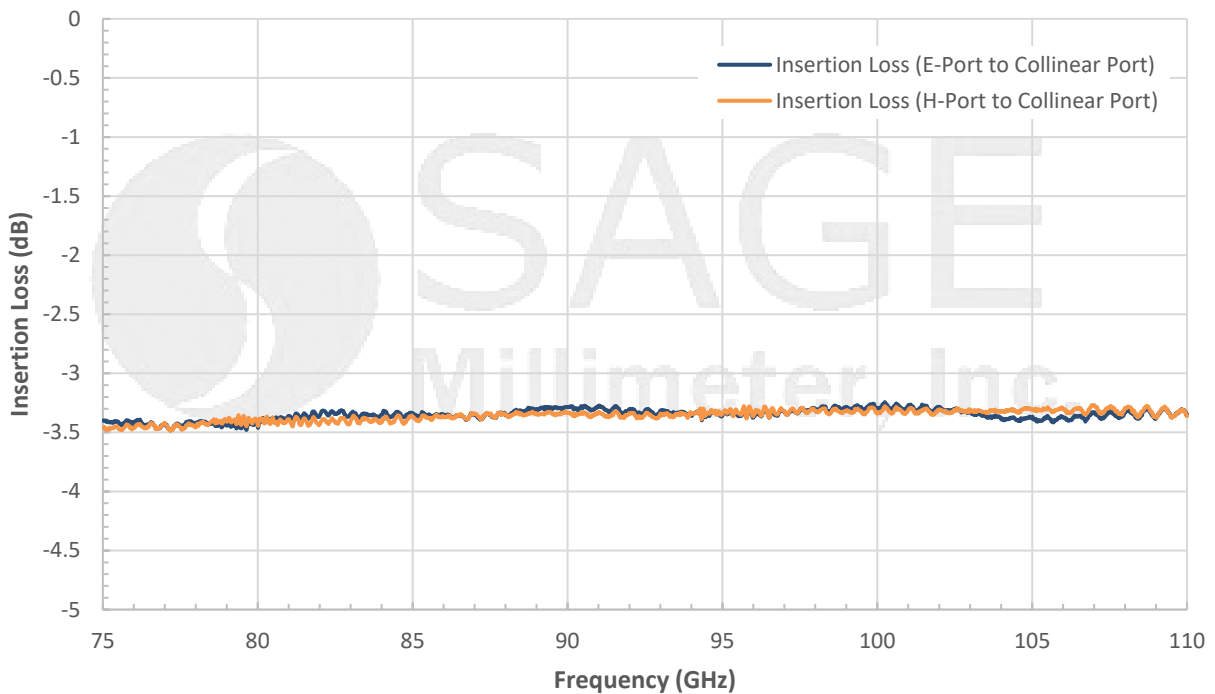
Item	Specification
RF Ports	WR-10 Waveguide with UG-387/U-M Anti-Cocking Flange
Material	Brass
Finish	Gold Plated
Weight	3.8 Oz
Outline	WM-BW-A



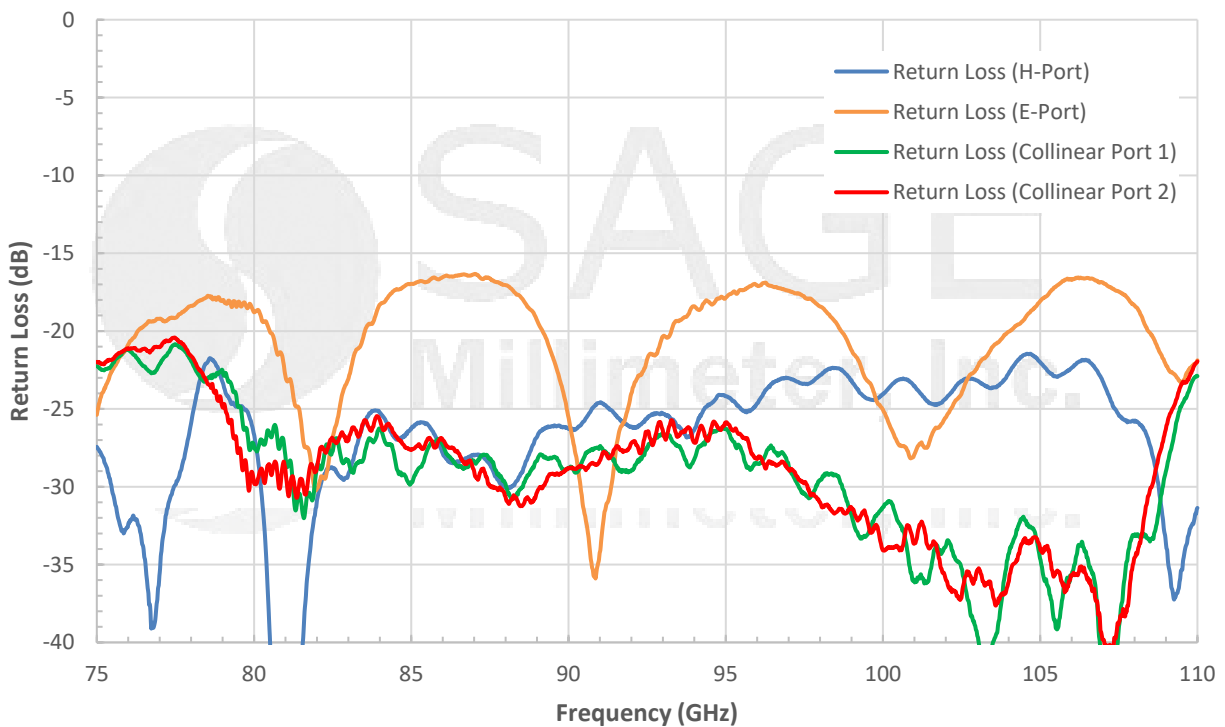


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### Typical Measured Insertion Loss vs Frequency



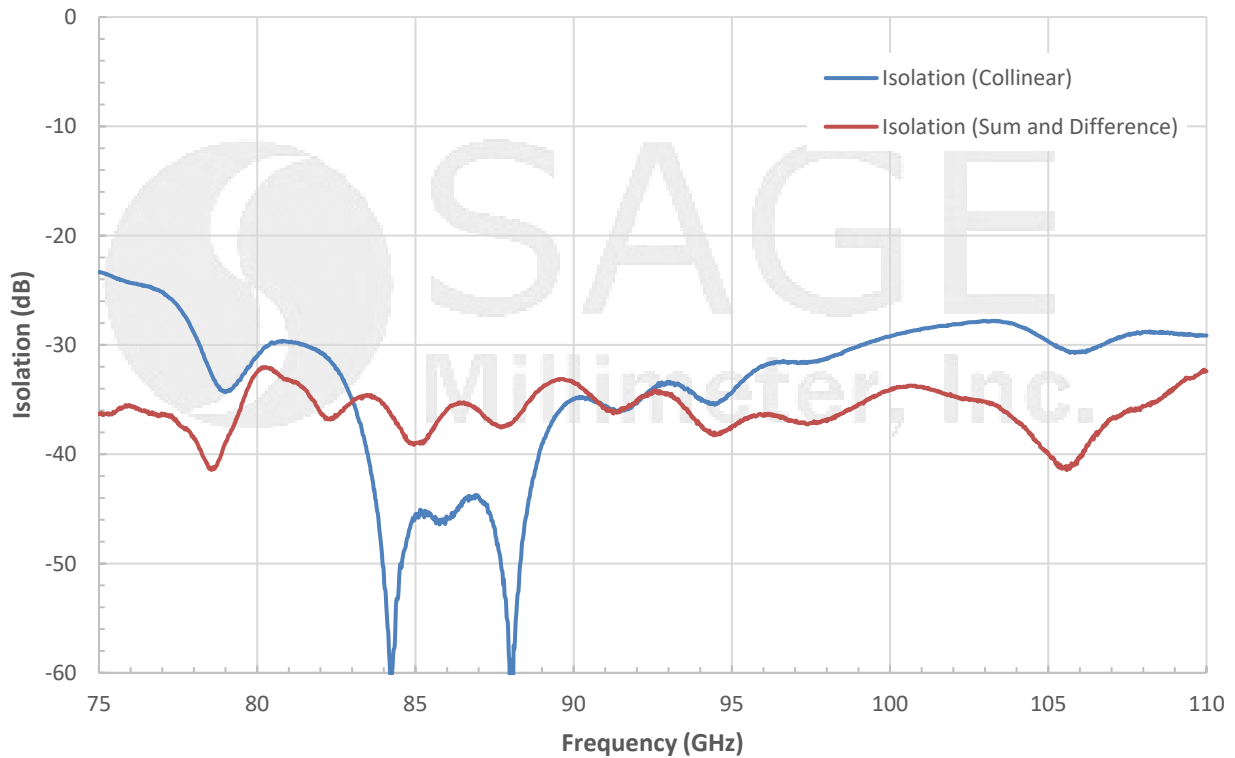
### Typical Measured Return Loss vs Frequency



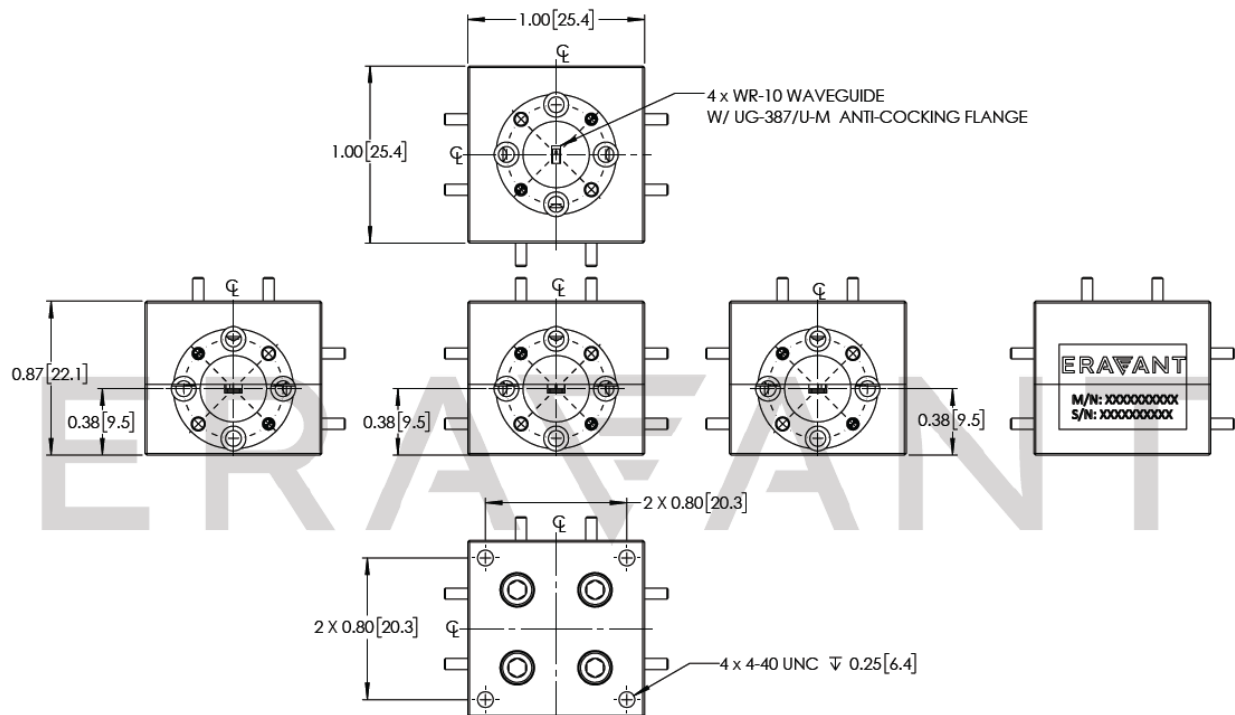


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### Typical Measured Isolation vs Frequency



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



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### Note:

- All data presented is collected from a sample lot. Actual data may vary unit to unit.
- All testing was performed under +25 °C case temperature.
- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.

### Caution:

- Exceeding absolute maximum ratings shown will damage the device.
- Any foreign objects in the waveguide will degrade performance and/or damage the device.

