

SWZ-11412417-08-4B

110 to 120 GHz Short Slot 90 Degree Hybrid Coupler, WR-08

SWZ-11412417-08-4B is a F band, short slot 90 degree hybrid coupler that delivers a 3 dB nominal coupling level and 20 dB typical isolation from 110 to 120 GHz. Across the operation frequency band, the coupler can achieve the magnitude imbalance within ± 1.5 dB, and the phase imbalance within ± 5 degrees. The interfaces of the coupler are WR-08 waveguides with UG-387/U-M anti-cocking flanges.



Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	110 GHz		120 GHz
Insertion Loss**		1.5 dB	
Return Loss		20 dB	
Coupling*		3 dB	
Isolation		20 dB	
Amplitude Imbalance*		± 1.5 dB	
Phase Difference between Through and Coupling Ports		90°	
Phase Imbalance*		$\pm 5^\circ$	
Specification Temperature		+25 °C	
Operating Temperature	-40 °C		+85 °C

**Insertion loss specification does not include loss due to coupling. However, plotted data includes coupling loss.

*The definition of the insertion loss, coupling, amplitude imbalance and phase imbalance is shown below:

ECCN

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FEATURES

- ± 5 GHz Bandwidth
- Low Insertion Loss
- Low Amplitude and Phase Imbalance

APPLICATIONS

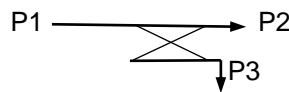
- Testing & Measurement
- Instrumentation
- Sub-assemblies

$$\text{Insertion Loss} = -10 \log_{10} [(P2+P3)/P1]$$

$$\text{Coupling Value} = -10 \log_{10} [P3/P1]$$

$$\text{Amplitude Imbalance} = -10 \log_{10} [P3/P2]$$

$$\text{Phase Imbalance} = \angle[P3/P1] - \angle[P2/P1]$$

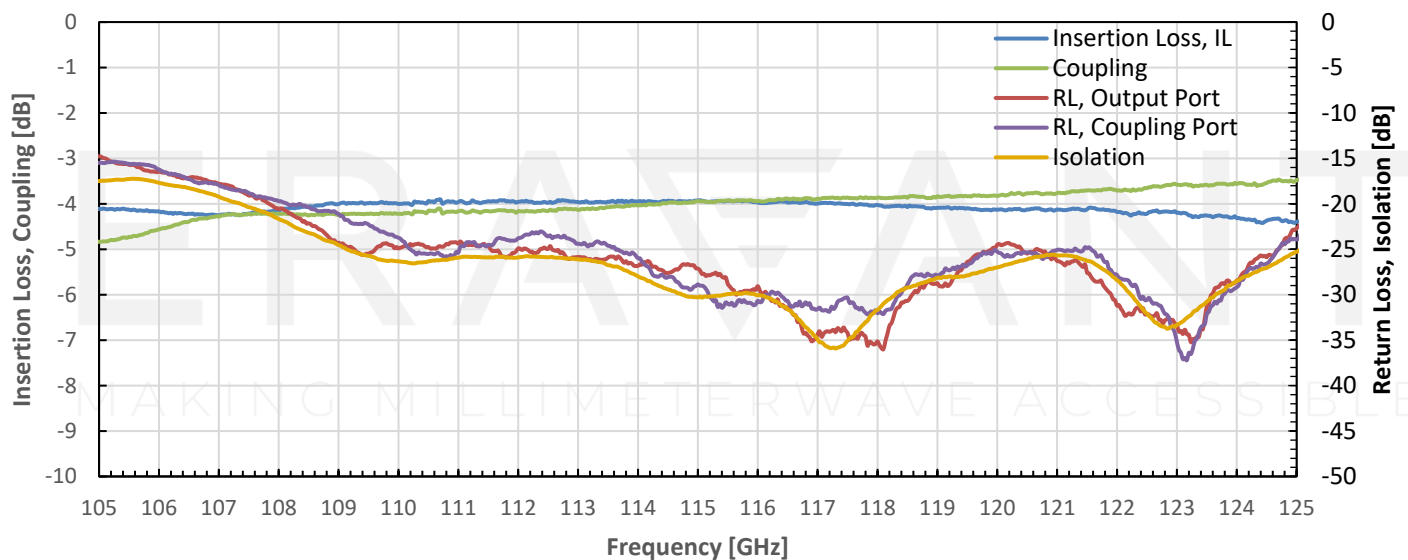


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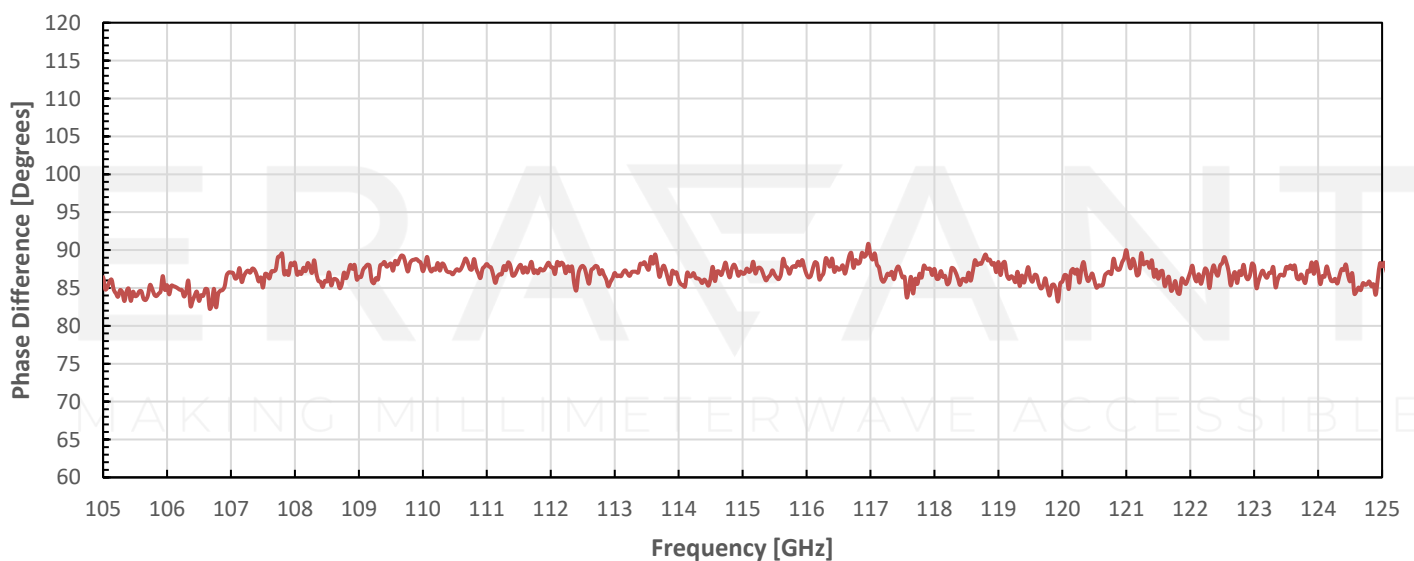
Mechanical Specifications:

Item	Specification
RF Ports	WR- 08 Waveguide
Flange	UG-387/U-M Anti-Cocking Flange
Material	Brass
Finish	Gold Plated
Weight	4.8 Oz
Outline	WZ-FB-A

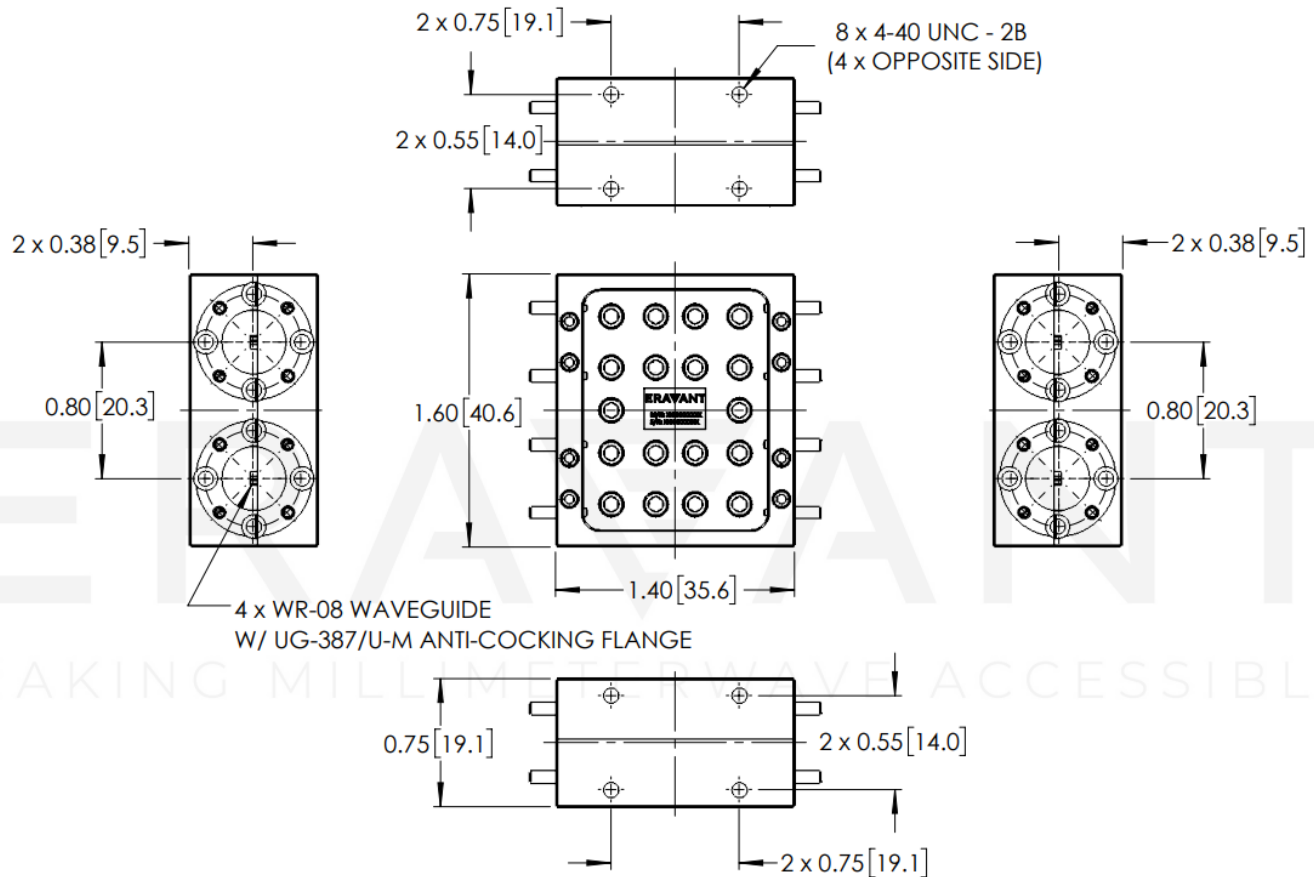
Typical Performance vs. Frequency



Typical Phase Difference



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:

- Any foreign objects in the waveguide will degrade performance and/or damage the device.