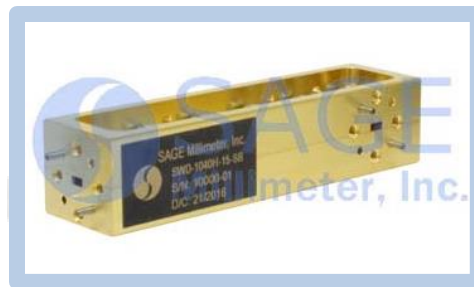




## V-Band Waveguide Directional Coupler, 10 dB

### Description:

**Model SWD-5038531040H-15-SB** is a V band, three-port waveguide directional coupler that delivers a 10 dB nominal coupling level and 30 dB minimum directivity across the full waveguide band from 50 to 85 GHz. The three-port coupler uses a traditional multi-hole and split block design to achieve a flat coupling level, high directivity, and low insertion loss. The interfaces of the coupler are WR-15 waveguides with UG-385/U flanges. Custom coupling levels are available under different model numbers.



### Features:

- Full Band Operation
- Low Insertion Loss
- High Directivity

### Applications:

- Test Labs
- Instrumentation
- Sub-assemblies

### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	50 GHz		85 GHz
Insertion Loss*		0.7 dB	
Coupling*		10 dB	
Directivity*	30 dB	40 dB	
Return Loss		20 dB	
Specification Temperature		+25 °C	
Operating Temperature	-40 °C		+85 °C

\* The definition of insertion loss, coupling and directivity is show below:

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

### Mechanical Specifications:

Item	Specification
Through Ports	WR-15 Waveguide with UG-385/U Flange
Coupled Port	WR-15 Waveguide with UG-385/U Flange
Material	Brass
Finish	Gold Plated
Weight	7.5 Oz
Size	3.6" (L) X 0.95" (W) x 0.83" (H)
Outline	WD-SB-V

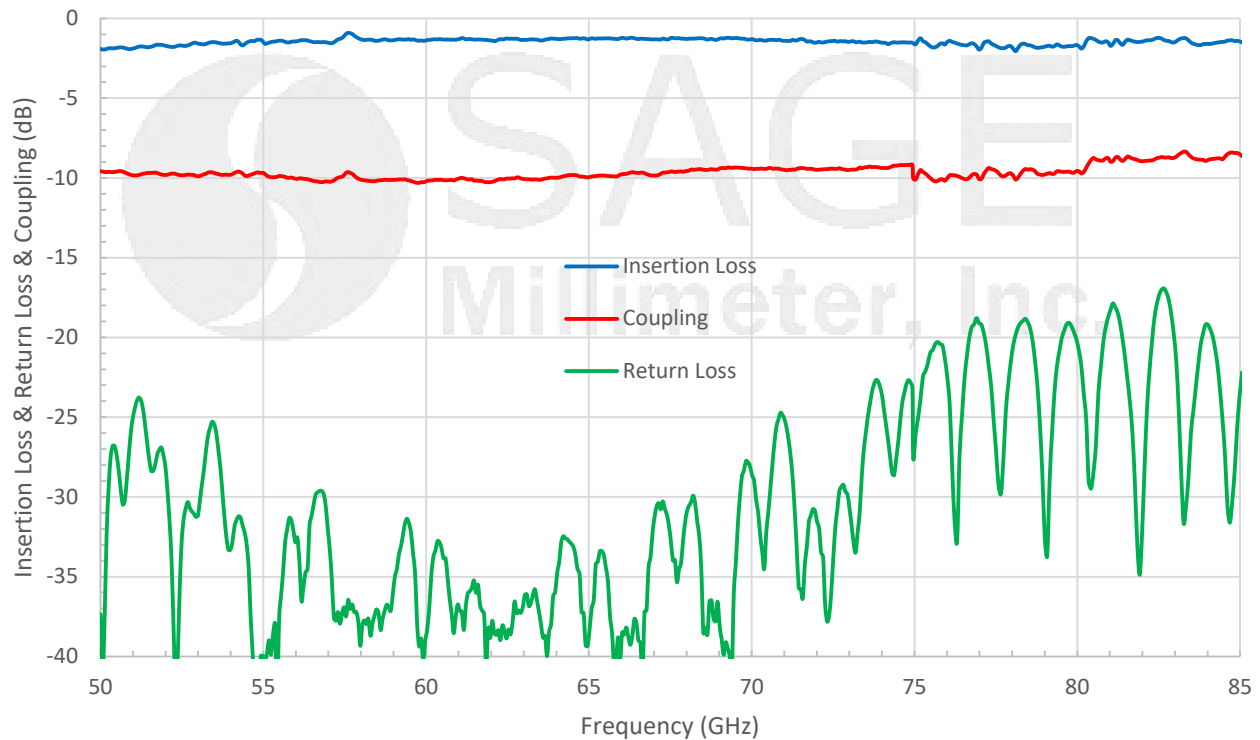


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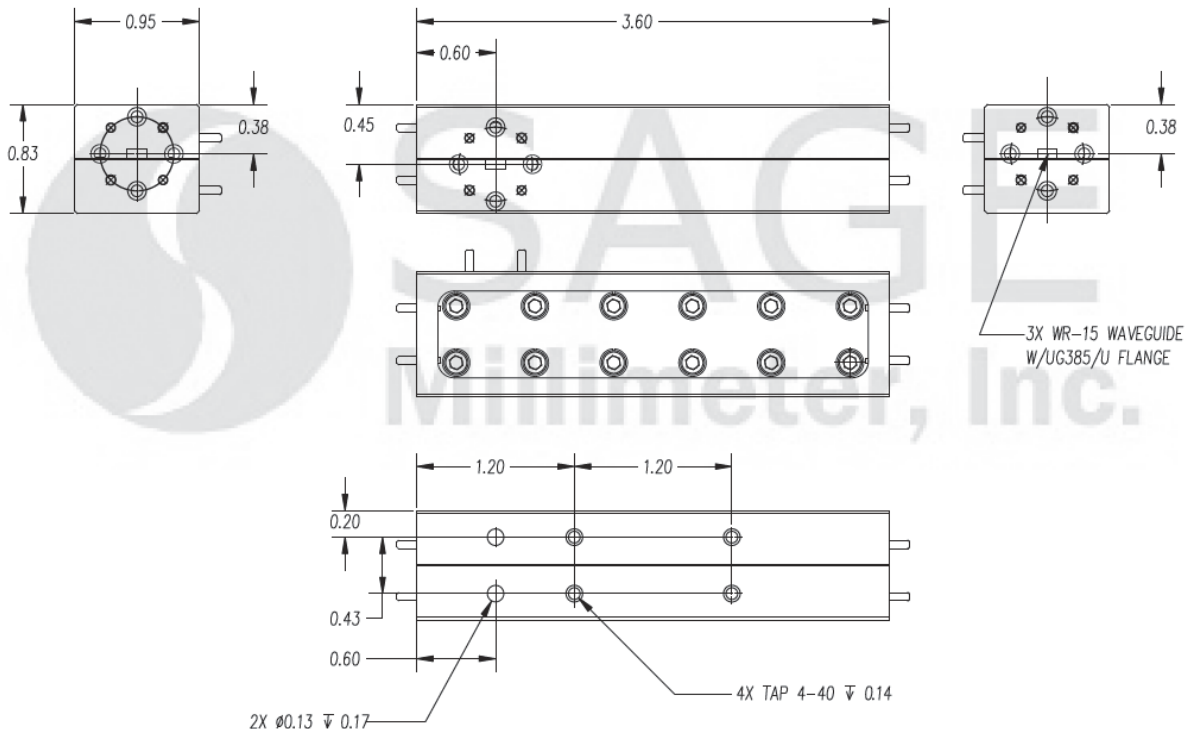


## V-Band Waveguide Directional Coupler, 10 dB

### Typical Performance vs. Frequency



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



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## V-Band Waveguide Directional Coupler, 10 dB

### 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.
- The insertion loss shown includes the loss due to coupling.
- SAGE Millimeter, Inc. 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.

