



## F-Band Waveguide Directional Coupler, 40 dB

### Description:

**Model SWD-4030H-08-SB** is an F band, three-port waveguide directional coupler that delivers a 40 dB nominal coupling level and 25 dB minimum directivity across the full waveguide band from 90 to 140 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-08 waveguides with UG-387/U-M 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	90 GHz		140 GHz
Insertion Loss*		2.5 dB	
Coupling*		40 dB	
Directivity*	25 dB		
VSWR		1.2:1	
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 = $-10 \log_{10} [P3/P2]$	



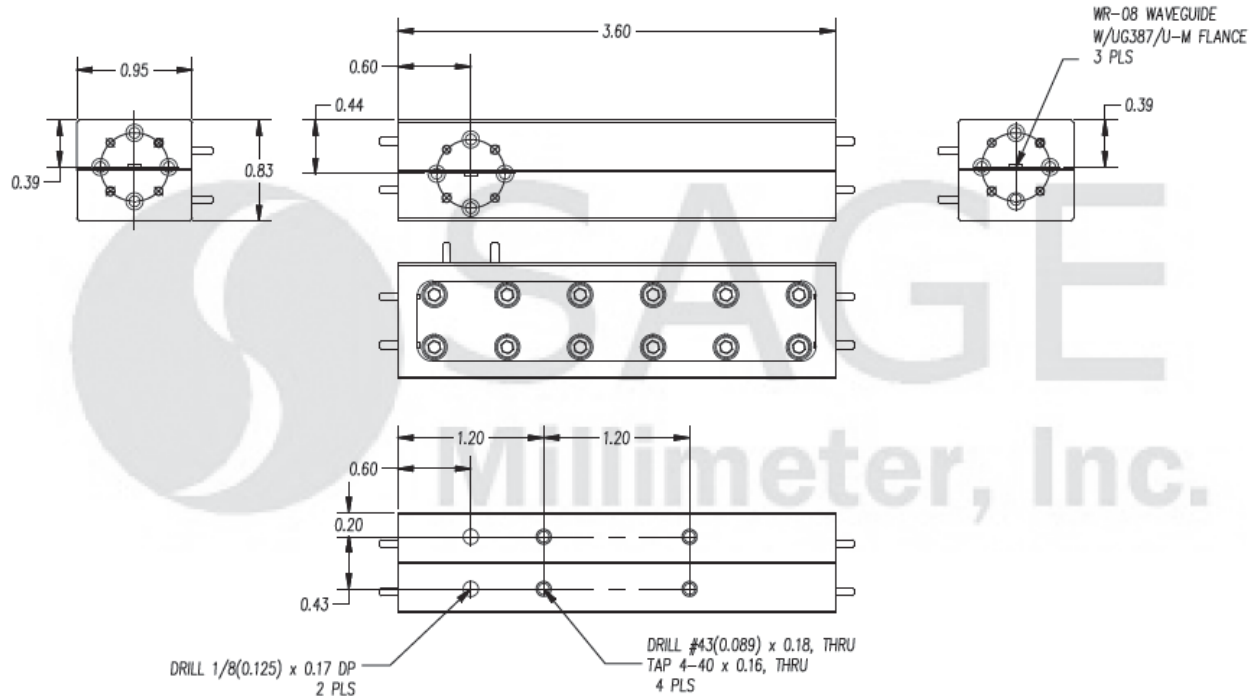


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### Mechanical Specifications:

Item	Specification
Through Ports	WR-08 Waveguide with UG-387/U-M Flange
Coupled Port	WR-08 Waveguide with UG-387/U-M Flange
Size	3.60" (L) X 0.95" (W) x 0.83" (H)
Material	Brass
Finish	Gold Plated
Weight	7.7 Oz
Outline	WD-SB-F

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



### Note:

- SAGE Millimeter, Inc. 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.

