

## WR-34 Waveguide Directional Coupler, 30 dB

### Description:

**Model SWD-3040H-34-SB** is a WR-34, three-port waveguide directional coupler that delivers a 30 dB nominal coupling level and 40 dB typical directivity across the full waveguide band from 22 to 33 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-34 waveguides with UG-1530/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

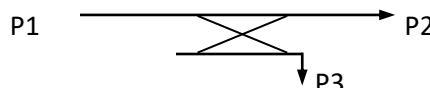
### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	22 GHz		33 GHz
Insertion Loss*		0.5 dB	
Coupling*		30 dB	
Directivity*		40 dB	
Return Loss		25 dB	
Specification Temperature		+25 °C	
Operating Temperature	-40 °C		+85 °C

\*The definition of insertion loss, coupling and directivity is show below. The required termination on the waveguide port is 30 dB or better for accurate measurement.

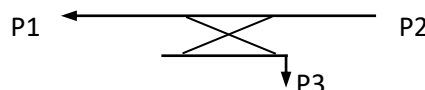
$$\text{Insertion Loss} = -10 \log_{10} [(P2+P3)/P1]$$

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



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

$$\text{Directivity} = \text{Isolation} - \text{Coupling Value}$$

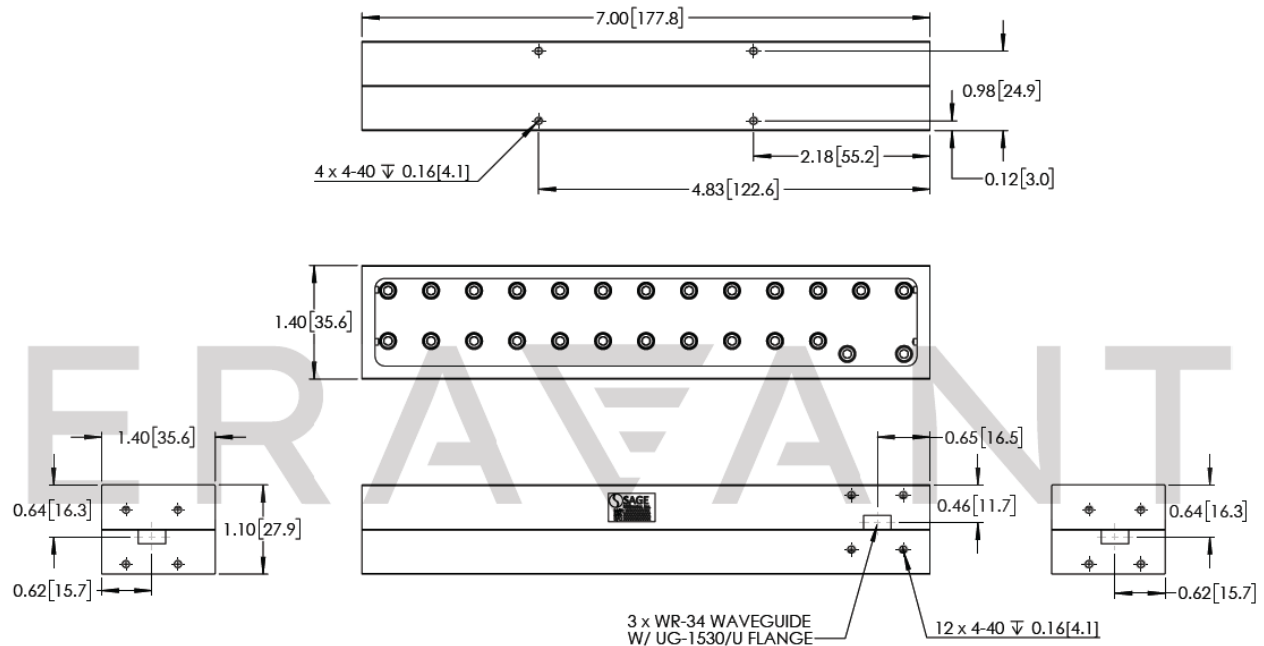


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### Mechanical Specifications:

Item	Specification
Through Ports	WR-34 Waveguide with UG-1530/U Flange
Coupled Port	WR-34 Waveguide with UG-1530/U Flange
Size	7.00" (L) X 1.40" (W) x 1.10" (H)
Material	Brass
Finish	Gold Plated
Weight	1.7 lbs.
Outline	WD-SB-3

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



### Note:

- 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.