

## Ka-Band Waveguide Directional Coupler, 30 dB

**SWD-3030E-28-SW5** is a Ka band, three-port waveguide directional coupler that delivers a 30 dB nominal coupling level and 30 dB typical directivity across the full waveguide band from 26.5 to 40 GHz. The three-port coupler uses E-plane coupling and features a traditional multi-hole and waveguide design to achieve a flat coupling level, high directivity, and low insertion loss. The interfaces of the coupler are WR-28 waveguides with UG-599/U compatible flanges. Custom coupling levels are available under different model numbers.



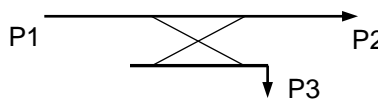
### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	26.5 GHz		40 GHz
Insertion Loss		0.7 dB	
Coupling*		30 dB	
Directivity*		30 dB	
Return Loss		20 dB	
Power Handling			200 W
Specification Temperature		+25°C	
Operating Temperature	-40°C		+85°C

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

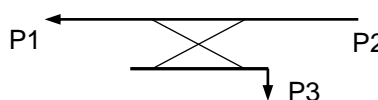
$$\text{Insertion Loss} = -10 \log_{10}[(P2+P3)/P1]$$

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



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

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



### ECCN

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### FEATURES

- Full Band Operation
- Low Insertion Loss
- Light Weight

### APPLICATIONS

- Test Lab
- Instrumentations
- System Integration

### SUPPLEMENTAL DETAILS

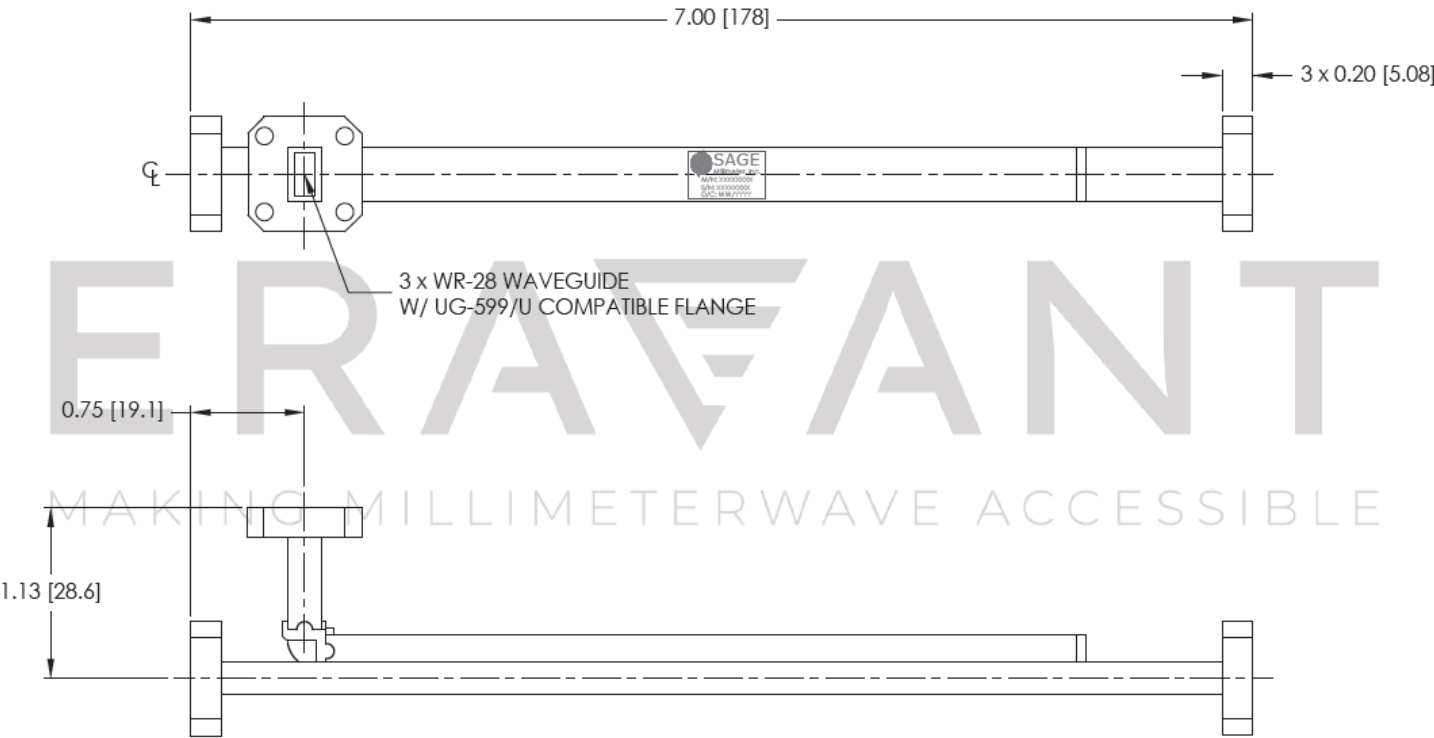


SWD-3030E-28-SW5

Mechanical Specifications:

Item	Specification
Through Ports	WR-28 Waveguide with UG-599/U Compatible Flange
Coupled Port	WR-28 Waveguide with UG-599/U Compatible Flange
Coupling Plane	E-Plane
Waveguide Material	Copper
Flange Material	Brass
Finish	Black Painted Body; Gold Plated Waveguide Faces
Weight	1.6 Oz
Size	7.00" (L) x 1.13" (H)
Outline	WD-SWE-A-L1

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 cause performance degradation and may damage or destroy the unit.
- For 1 mm connectors proper torque should be applied:  $4.0 \pm 0.15$  inch-pounds ( $0.45 \pm 0.02$  Nm). Torque wrench model SCH-06004-S1 is highly recommended.
- For 1.35 mm, 1.85 mm, 2.4 mm, 2.92 mm, and SMA connectors proper torque should be applied:  $8.0 \pm 0.15$  inch-pounds ( $0.90 \pm 0.02$  Nm). Torque wrench model SCH-08008-S1 is highly recommended.

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