

## Q-Band Waveguide Directional Coupler, 30 dB

**SWD-3030E-22-SW7** is a Q 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 33 to 50 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-22 waveguides with UG-383/U anti-cocking flanges. Custom coupling levels are available under different model numbers.



## Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency Range	33 GHz		50 GHz
Insertion Loss*		0.7 dB	
Coupling*		30 dB	
Directivity*		30 dB	
Return Loss		20 dB	
Specification Temperature		+25°C	
Operating Temperature	-40°C		+85°C

\*The definition of the insertion loss, coupling and directivity is shown as following.

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

## ECCN

EAR99

## FEATURES

- Full Band Operation
- Low Insertion Loss
- Light Weight

## APPLICATIONS

- Test Lab
- Instrumentations
- Sub-assemblies

## SUPPLEMENTAL DETAILS

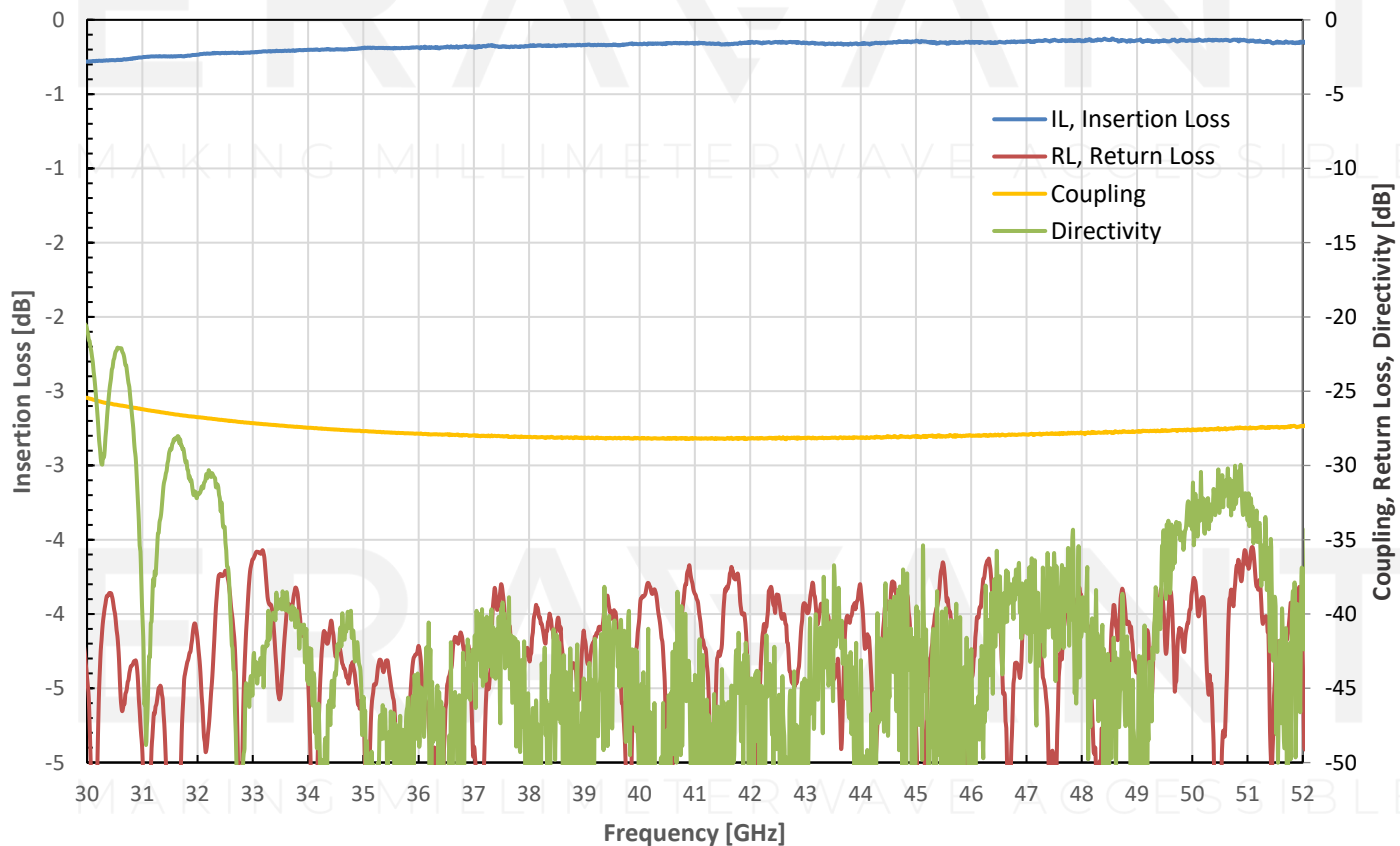


## SWD-3030E-22-SW7

### Mechanical Specifications:

Item	Specification
Through Port	WR-22 Waveguide with UG-383/U Anti-Cocking Flange
Coupled Port	WR-22 Waveguide with UG-383/U Anti-Cocking Flange
Coupling Plane	E-Plane
Housing Material	Brass
Finish	Gold Plated
Weight	3.8 Oz.
Size	6.30" (L) x 1.38" (H)
Outline	WD-SWE-Q-A-X1

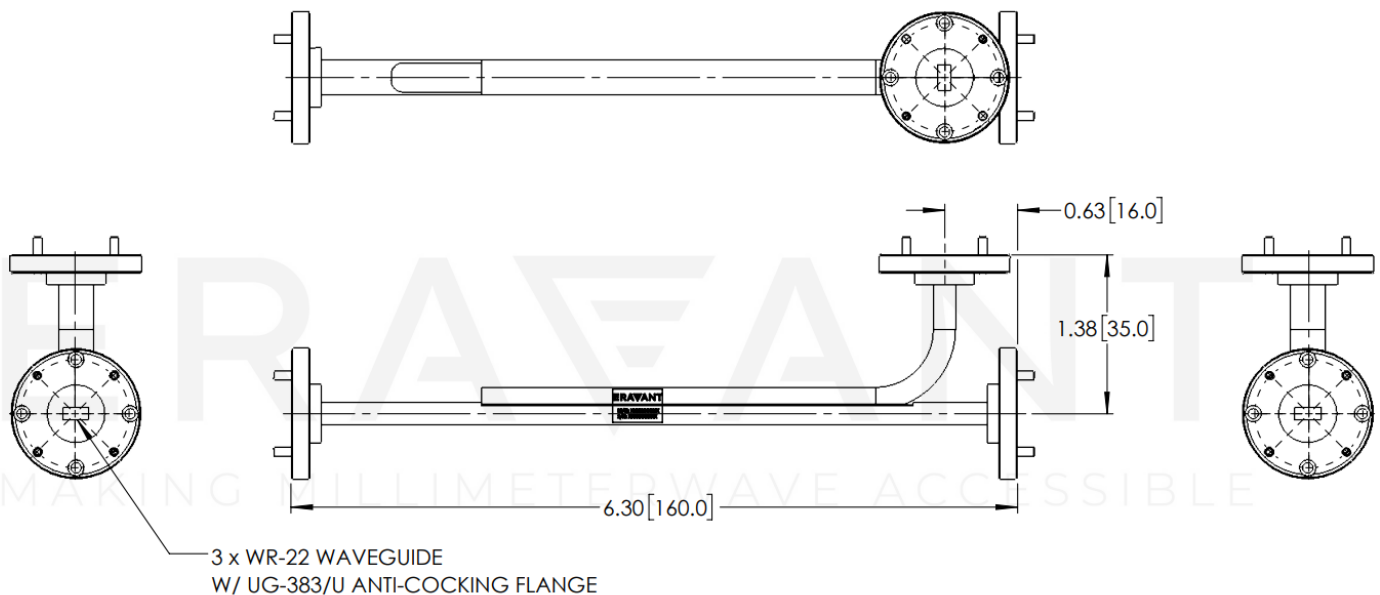
### Typical Performance vs. Frequency



## SWD-3030E-22-SW7

### Mechanical Outline:

Unless otherwise specified, all dimensions are in inches [millimeters]



### NOTE:

- All data provided is collected from a sample lot. Actual data may vary slightly from unit to unit. All testing is performed under +25 °C room temperature.
- 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.