

Ka-Band Waveguide Directional Coupler, 6 dB

SWD-0630E-28-SW5 is a Ka band, three-port waveguide directional coupler that delivers a 6 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.



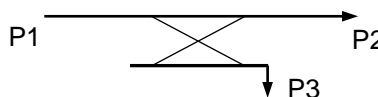
Electrical Specifications:

| Parameter | Minimum | Typical | Maximum |
|---------------------------|----------|---------|---------|
| Frequency | 26.5 GHz | | 40 GHz |
| Insertion Loss | | 0.7 dB | |
| Coupling* | | 6 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.

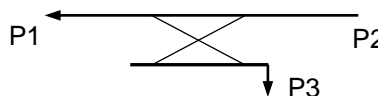
$$\text{Insertion Loss} = -10 \log_{10}[(P2+P3)/P1]$$

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



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

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



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FEATURES

- Full Band Operation
- Low Insertion Loss
- Light Weight

APPLICATIONS

- Test Lab
- Instrumentations
- System Integration

SUPPLEMENTAL DETAILS

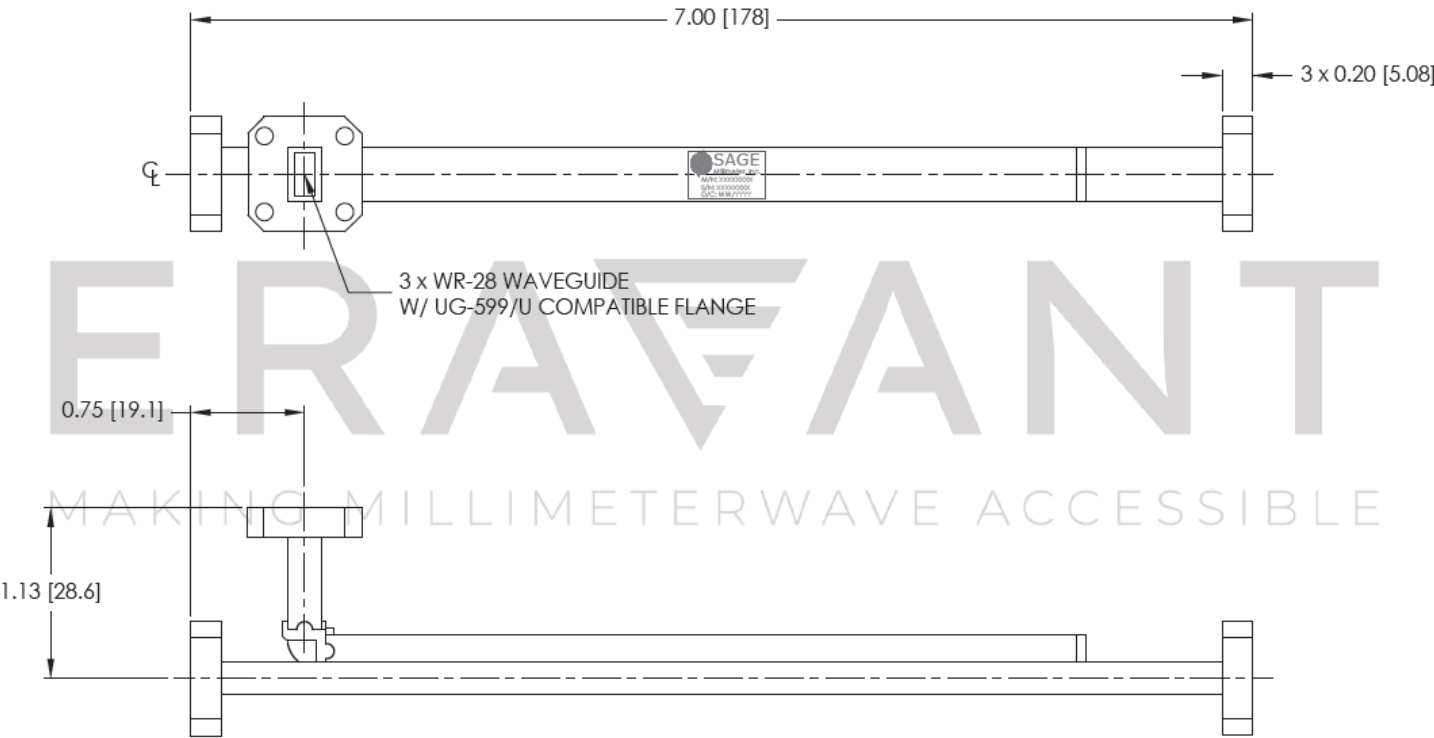


SWD-0630E-28-SW5

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 ± 0.15 inch-pounds (0.45 ± 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 ± 0.15 inch-pounds (0.90 ± 0.02 Nm). Torque wrench model SCH-08008-S1 is highly recommended.

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