# SWG-42059-FB-FT-G

Rev 1.0

## WR-42 Flexible Waveguide Section, 5.91” (150 mm) Long

### Description:



**Model SWG-42059-FB-FT-G** is a 5.91” (150 mm) long, K-band flexible and twistable waveguide section with a WR-42 waveguide and UG-595/U grooved square flange. It also has a vulcanized silicone rubber jacket for robustness applications. The waveguide features a flexible bend with a static twist to be long-term stress free when it is integrated in the system. The flanges of the waveguide are grooved to accepting rubber rings to be watertight for outdoor applications. The waveguide is manufactured with a precision manufacturing process to ensure high quality. The waveguide has low insertion loss in the frequency range of 18 to 26.5 GHz. Various standard and custom length options are available under different model numbers.

### Features:

- High Quality
- Flexible Bending and Static Twisting
- Comparable Cost to the Rigid Waveguide

### Applications:

- 5G Systems
- Communication Systems
- Various Outdoor Equipment

### Electrical Specifications:

| Parameter | Minimum | Typical | Maximum |
|---|---|---|---|
| Frequency | 18 GHz | | 26.5 GHz |
| Insertion Loss | | 0.35 dB | |
| Return Loss | | 23 dB | |
| Power Handling | | | 100 W (CW) |
| Specification Temperature | | +25 ˚C | |
| Operation Temperature | -40 ˚C | | +85 ˚C |

### Mechanical Specifications:

| Item | Specification |
|---|---|
| Waveguide Size | WR-42 Waveguide with UG-595/U Grooved Flange |
| Minimum Bending Radius (Static) | E-plane: 1.5” (38 mm); H-plane: 3” (76 mm) |
| Minimum Bending Radius (Dynamic) | E-plane: 4.7” (120 mm); H-plane: 9.4” (240 mm) |
| Maximum Torsion Angle (Static) | 465˚/meter |
| Maximum Torsion Angle (Dynamic) | 157˚/meter |
| Material | Brass |
| Flange Finish | Nickel Plated |
| Waveguide Finish | Silver Plated |
| Waveguide Jacket Material | Vulcanized Silicone Rubber |
| Weight | 18 Oz |
| Insertion Length | 5.91” (150 mm) (±3%) |
| Outline | WG-FK-FT-G-L |

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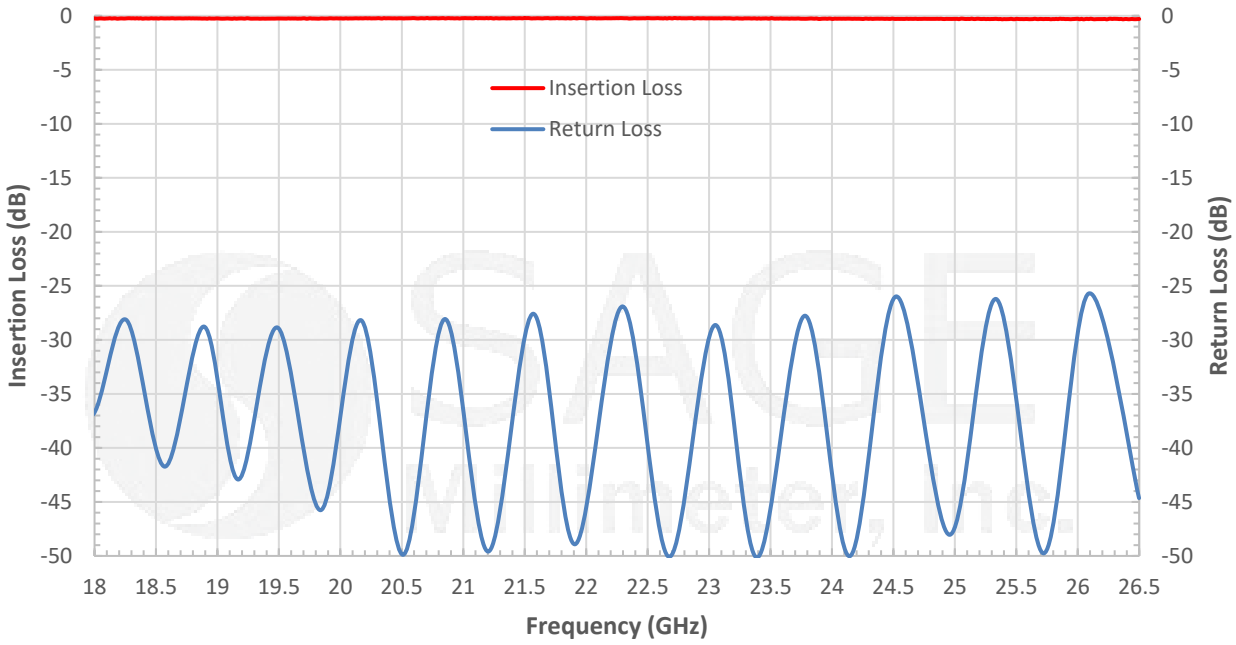
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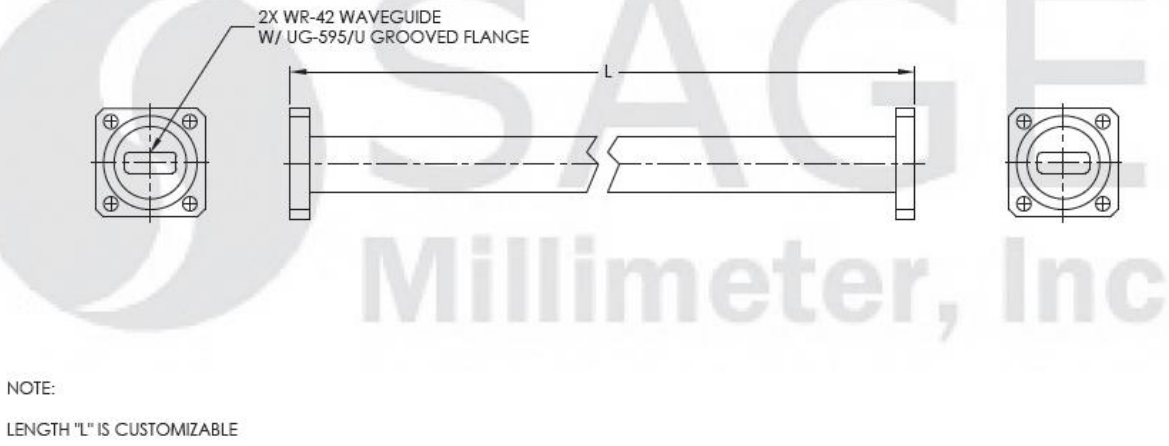
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### Typical Performance vs. Frequency




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




**Note:**

- All data presented is collected from a sample lot. Actual data may vary unit to unit.
- All testing was performed under +25 ˚C case temperature.
- Other mechanical configurations are available under different model numbers.
- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.

**Caution:**

- Exceeding absolute maximum ratings shown will damage the device.
- Any foreign objects in the waveguide will cause performance degradation and possible device damage.

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