

## WR-51 Waveguide Section 9 Inch Length Straight Using UG Square Cover Flange With a 15 GHz to 22 GHz Frequency Range in Instrumentation Grade

Fairview Microwave carries a wide variety of waveguide sections ranging from WR-12 to WR-137. These waveguide sections include grooved and non-grooved designs. Standard lengths of our waveguide sections include 3", 6", 9", and 12" (custom lengths available upon request). For ease of identification, our commercial grade waveguide sections are painted grey while our instrumentation grade waveguide sections are gold plated. Our instrumentation grade waveguide sections were designed with precision tolerances as tight as  $\pm 0.001"$  and were constructed of a high grade oxygen free copper to ensure repeatable RF performance.



### Electrical Specifications\*

Description	Min	Typ	Max	Units
Frequency Range	15		22	GHz
VSWR			1.06:1	
Insertion Loss			0.11 [0.36]	dB/ft [dB/m]

\* Values at 25°C, sea level

### Mechanical Specifications

Waveguide Size	WR-51
Waveguide Design	Instrumentation Grade
Section Length	9 in [228.6 mm]
<b>Flange 1</b>	
Flange Type	Square Cover
Flange Designation	None
Material	Oxygen Free Hard Copper
Plating	Hard Gold over Copper Flash
<b>Waveguide</b>	
Interface	WR-51
Material	Oxygen Free Hard Copper
Plating	Hard Gold over Copper Flash
<b>Flange 2</b>	
Flange Type	Square Cover
Flange Designation	None
Material	Oxygen Free Hard Copper
Plating	Hard Gold over Copper Flash
<b>Size</b>	
Weight	0.4509 lbs [204.52 g]

**Compliance Certifications** (see [product page](#) for current document)

### Plotted and Other Data

Notes:

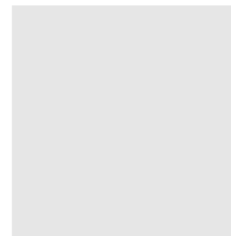
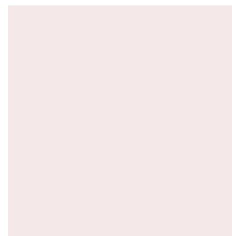
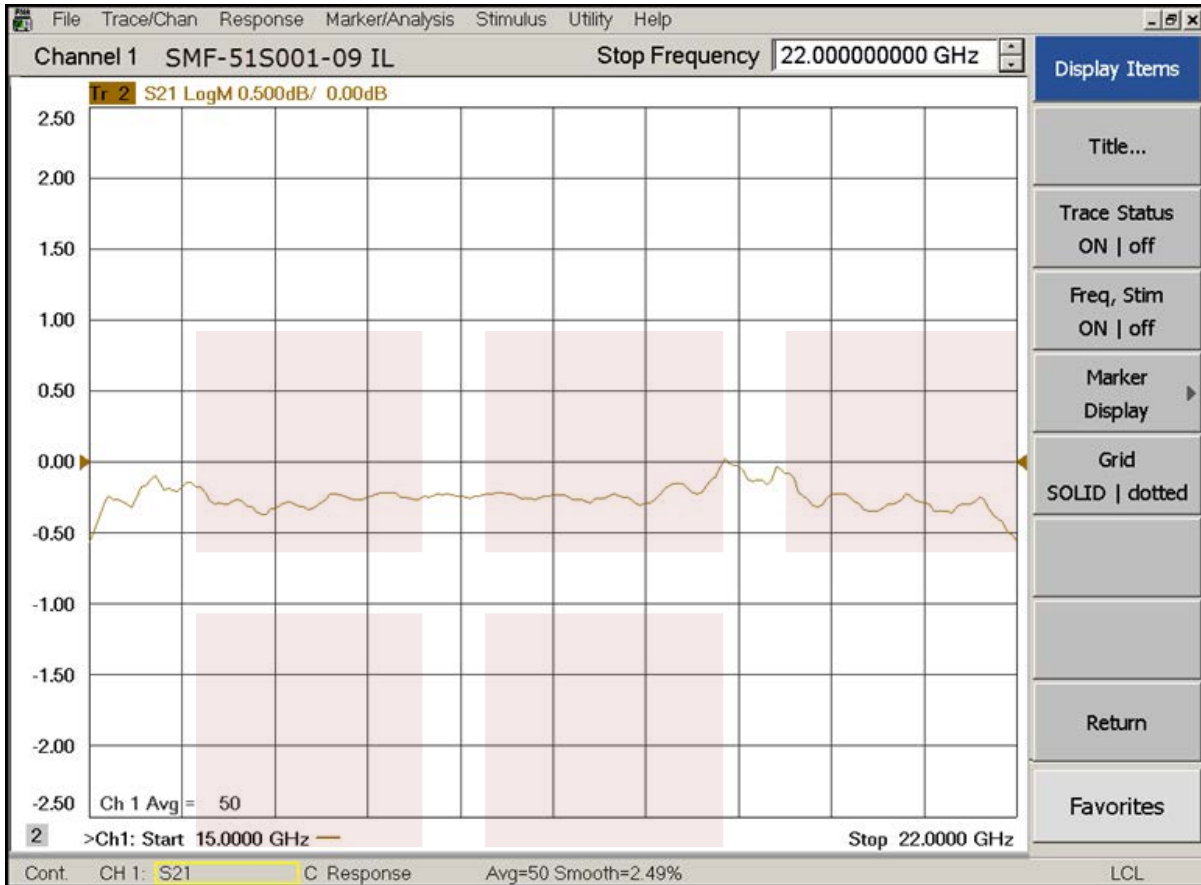
- Values at 25 °C, sea level

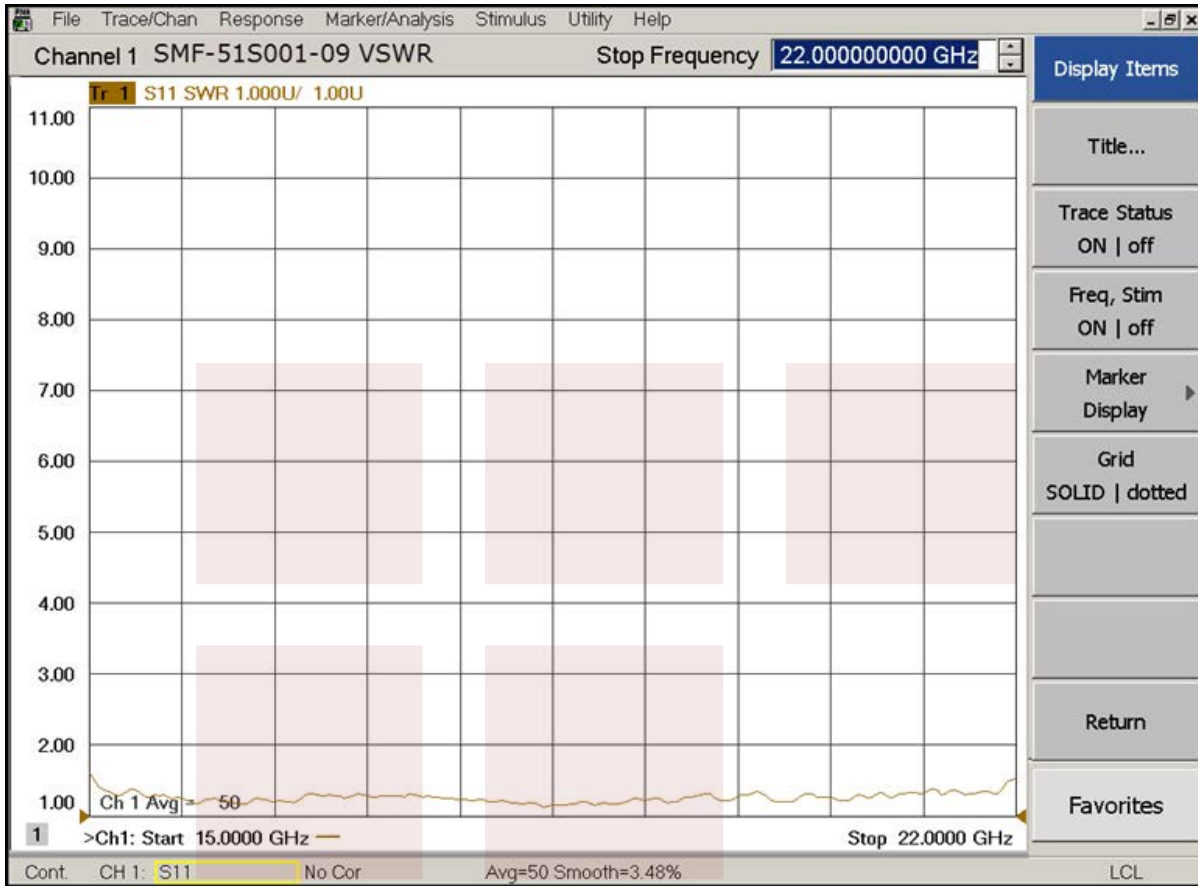
### Features:

- Commercial grade and instrumentation grade sections and bends covering frequency ranges from 5.8 GHz to 90 GHz
- Wide variety of flange types, including grooved and non-grooved designs
- Custom lengths available upon request
- Precision waveguide mechanical tolerances as tight as  $\pm 0.001"$
- Comprehensive waveguide offering also includes Bends, Filters, Terminations, and Waveguide to Coaxial Adapters

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[sales@fairviewmicrowave.com](mailto:sales@fairviewmicrowave.com)

**Typical Performance Data**





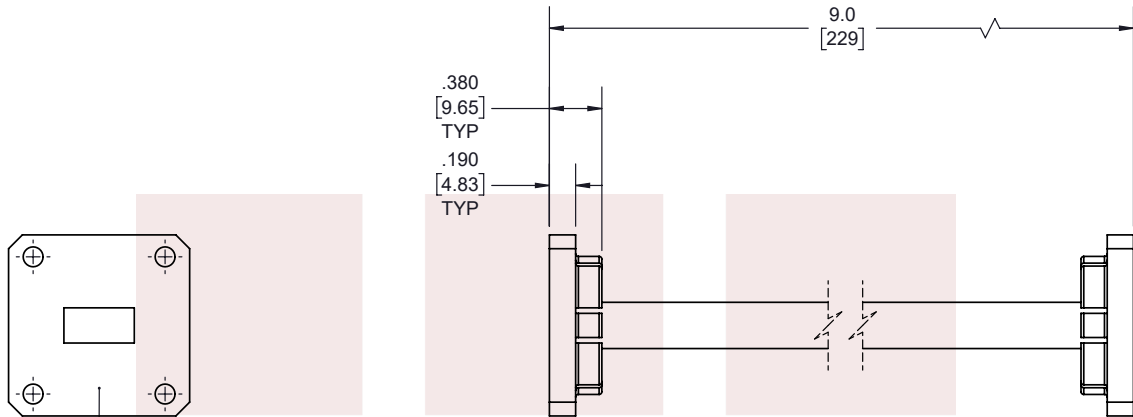
WR-51 Waveguide Section 9 Inch Length Straight Using UG Square Cover Flange With a 15 GHz to 22 GHz Frequency Range in Instrumentation Grade from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [WR-51 Waveguide Section 9 Inch Length Straight Using UG Square Cover Flange With a 15 GHz to 22 GHz Frequency Range in Instrumentation Grade SMF-51S001-09](https://www.fairviewmicrowave.com/wr-51-waveguide-section-straight-square-instrumentation-smf-51s001-09)

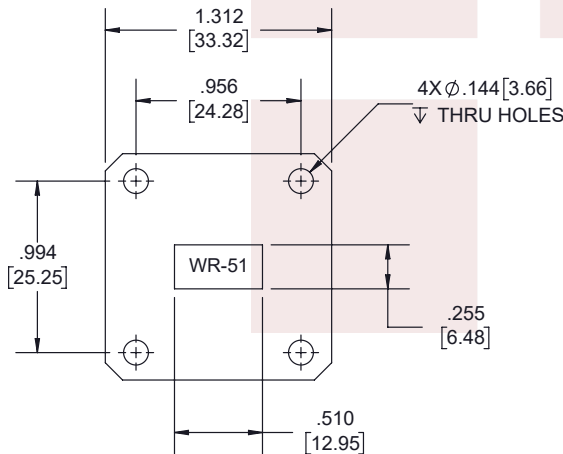
URL: <https://www.fairviewmicrowave.com/wr-51-waveguide-section-straight-square-instrumentation-smf-51s001-09-p.aspx>

The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Fairview Microwave reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Fairview Microwave does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Fairview Microwave does not assume any liability arising out of the use of any part or documentation.

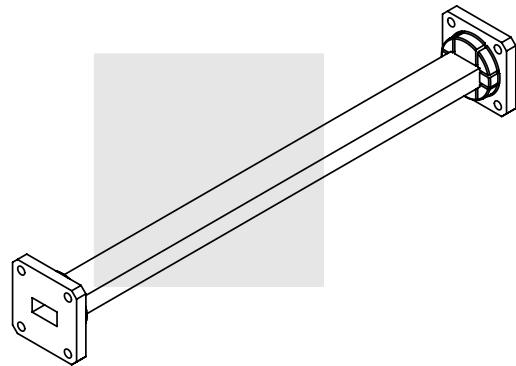
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
B	PE-W51S001-9 20220912	09/14/2022	S. PONG



WR-51  
UG SQUARE COVER FLANGE  
TYP



FLANGE DETAIL



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TITLE

WR-51 Waveguide Section 9 Inch Length Straight  
Using UG Square Cover Flange With a 15 GHz to 22  
GHz Frequency Range in Instrumentation Grade

UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES  
DIMENSIONS IN [ ] ARE MILLIMETERS

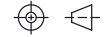
TOLERANCES:

.X = ±.2 [5.08] FRACTIONS  
.XX = ±.02 [.51] ± 1/32  
.XXX = ±.005 [.13] ANGLES ± 1°

CABLE LENGTH (L) TOLERANCES:

L ≤ 12 [305] = +1 [25] / -0  
12 [305] < L ≤ 60 [1524] = +2 [51] / -0  
60 [1524] < L ≤ 120 [3048] = +4 [102] / -0  
120 [3048] < L ≤ 300 [7620] = +6 [152] / -0  
300 [7620] < L = +5%L / -0

THIRD-ANGLE PROJECTION



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SHEET 1 OF 1

ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.

SCALE

N/A

SIZE A	CAGE CODE 3FKR5	DRAWN BY K.DANG	ITEM NO. SMF-51S001-09	REV B
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T-Rev.D