

**WR-12 Directional Waveguide Coupler 20 dB With UG-387/U Flange and E-Plane Coupled Port From 60 GHz to 90 GHz E Band**

The SMW12EC001-20 is a millimeter-wave directional waveguide coupler that operates in the frequency range of 60 to 90 GHz (E Band). This E band component offers a nominal coupling level of 20 dB, mean coupling accuracy of +/- 1, coupling flatness of 1.5 dB, and has a maximum VSWR level of 1.2:1. The design is made of gold plated brass copper and incorporates a multi-hole configuration that results in typical directivity of 30 dB. Common applications for this millimeter wave component involve test setups where power reflection measurements are required that might involve power sampling and frequency monitoring with minimal signal loss to the main transmission path. This E plane coupler uses integrated WR-12 waveguide ports with UG 387/U flanges. Fairview offers a complete family of waveguide millimeter wave directional couplers that are in-stock for same day shipment.



**Features:**

- 20 dB Nominal Coupling Level
- E-Plane Waveguide Coupler
- 60 GHz to 90 GHz Frequency Range
- Body and Flanges made of Brass Copper
- Gold Plated Waveguide
- 1.2:1 VSWR

**Electrical Specifications\***

Description	Min	Typ	Max	Units
Frequency Range	60		90	GHz
Directivity		30		dB
Insertion Loss			1	dB
Input VSWR			1.2:1	
Secondary Line VSWR			1.2:1	
Nominal Coupling Level		20		dB
Mean Coupling Accuracy			±1	dB
Coupling Flatness			±1.5	dB

\* Values at 25°C, sea level

**Mechanical Specifications**

**Size**

Length 5.5 in [139.7 mm]  
Width/Dia. 0.75 in [19.05 mm]  
Height 1.375 in [34.93 mm]

**Waveguide**

Size WR-12  
Material Brass Copper  
Plating Gold  
Color Gold

**Flange 1**

Interface UG-387/U  
Material Brass Copper  
Plating Gold  
Color Gold

**Flange 2**

Interface UG-387/U  
Material Brass Copper  
Plating Gold  
Color Gold

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**Flange 3**

Interface	UG-387/U
Material	Brass Copper
Plating	Gold
Color	Gold

**Compliance Certifications** (visit [www.FairviewMicrowave.com](http://www.FairviewMicrowave.com) for current document)

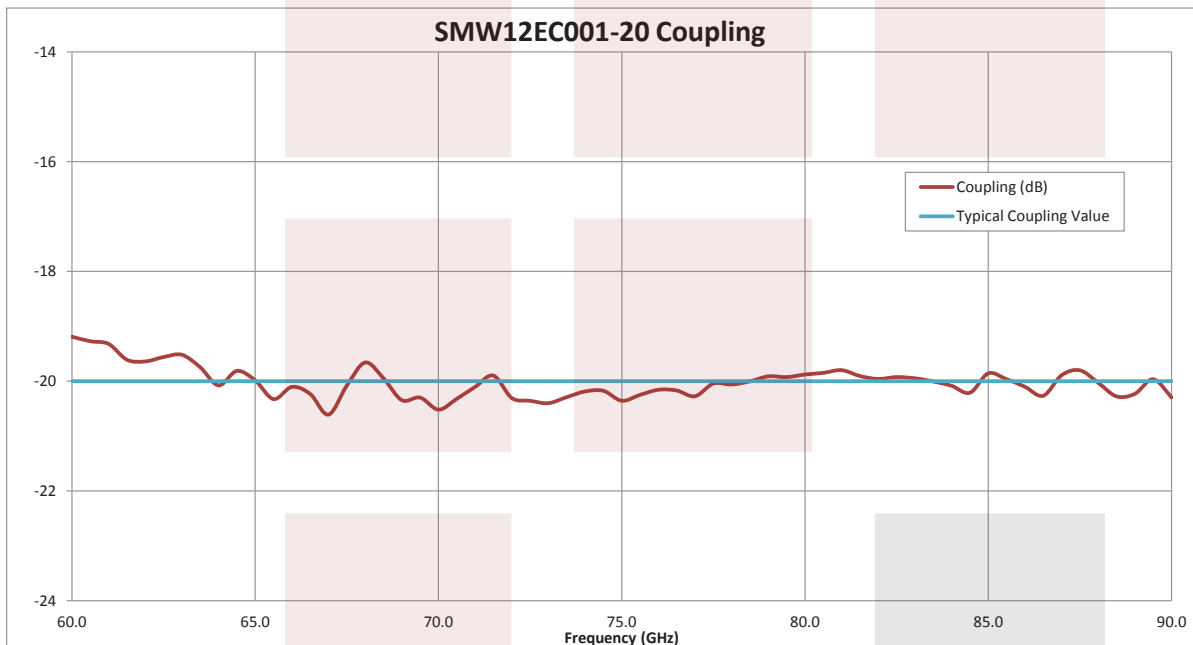
RoHS Compliant	Yes
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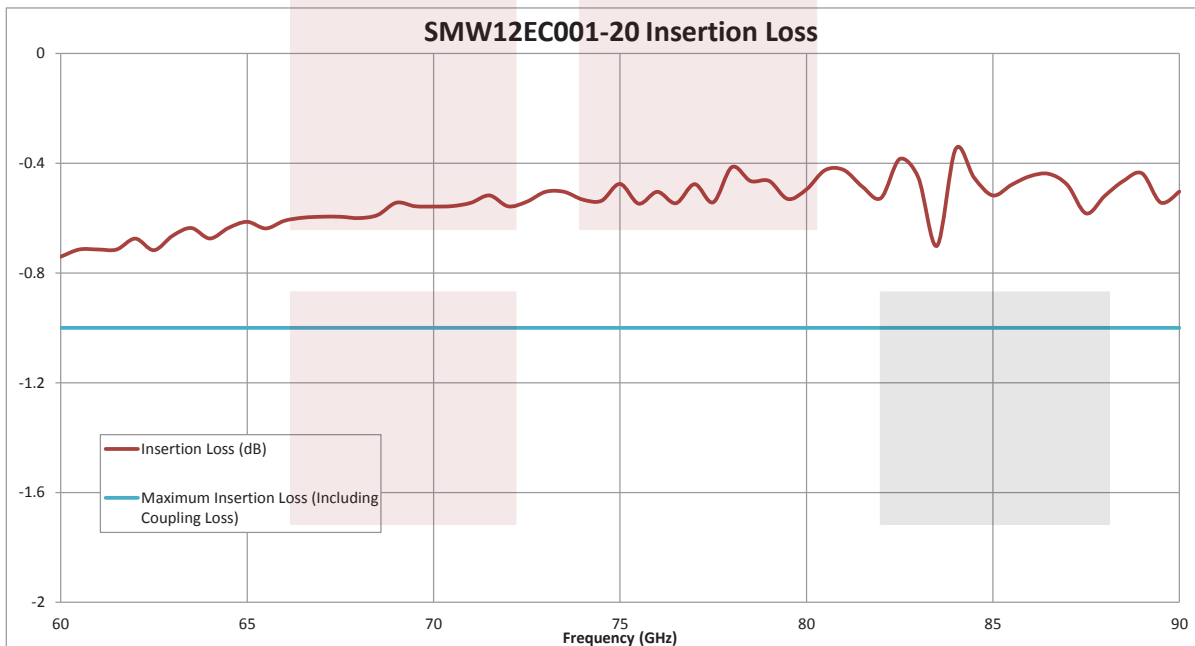
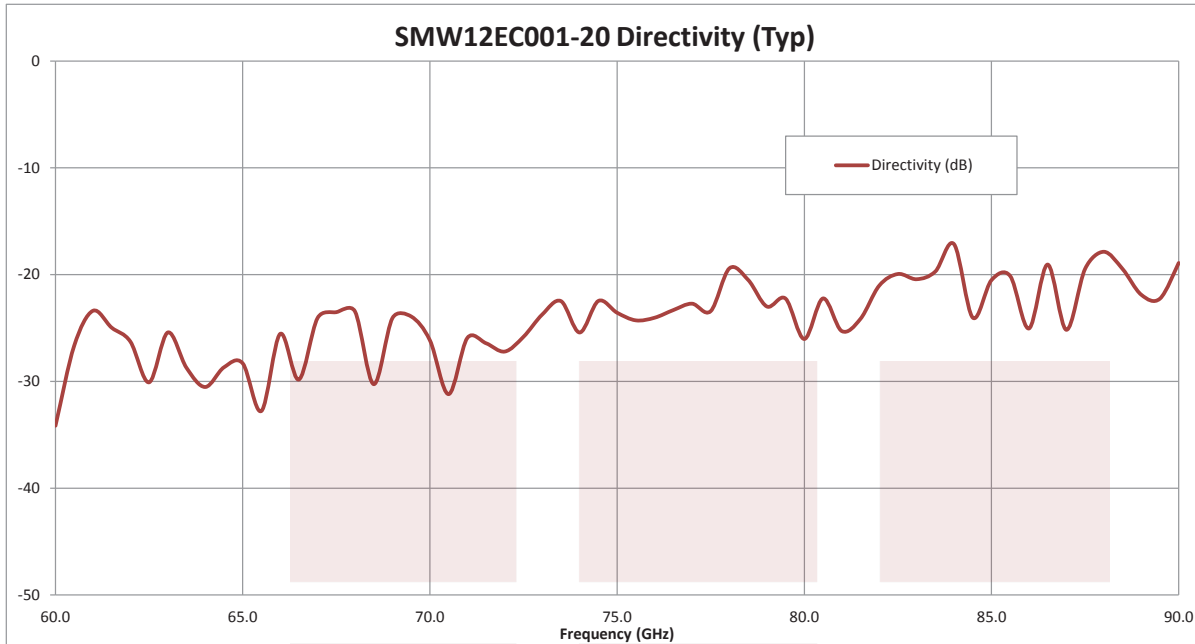
**Plotted and Other Data**

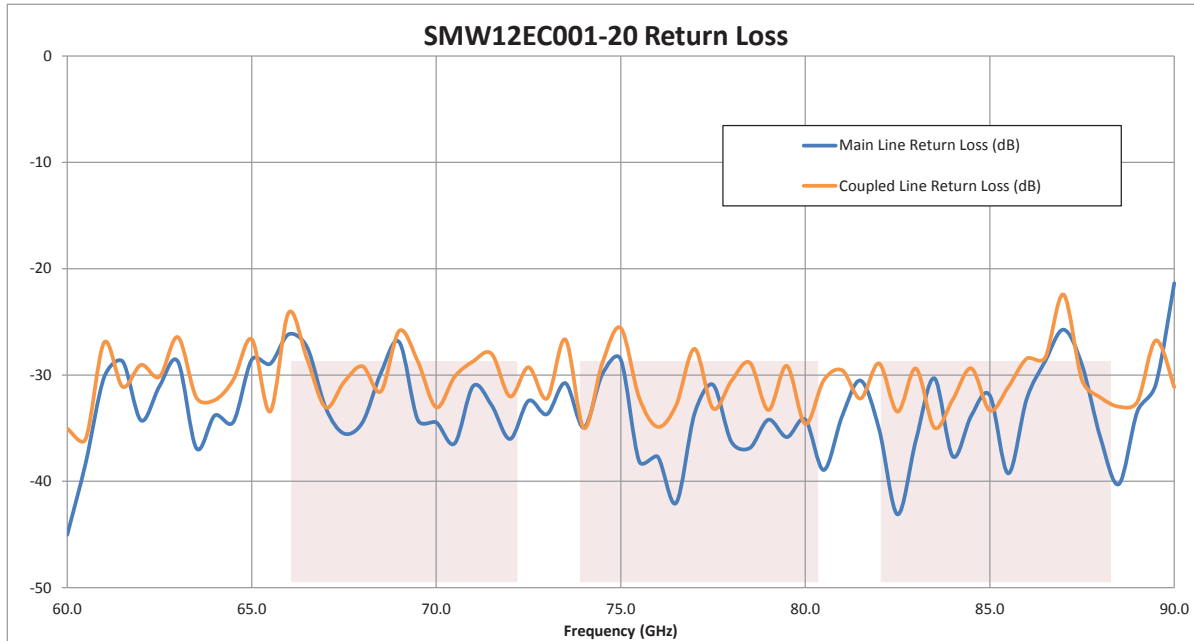
Notes:

- Values at 25 °C, sea level

**Typical Performance Data**





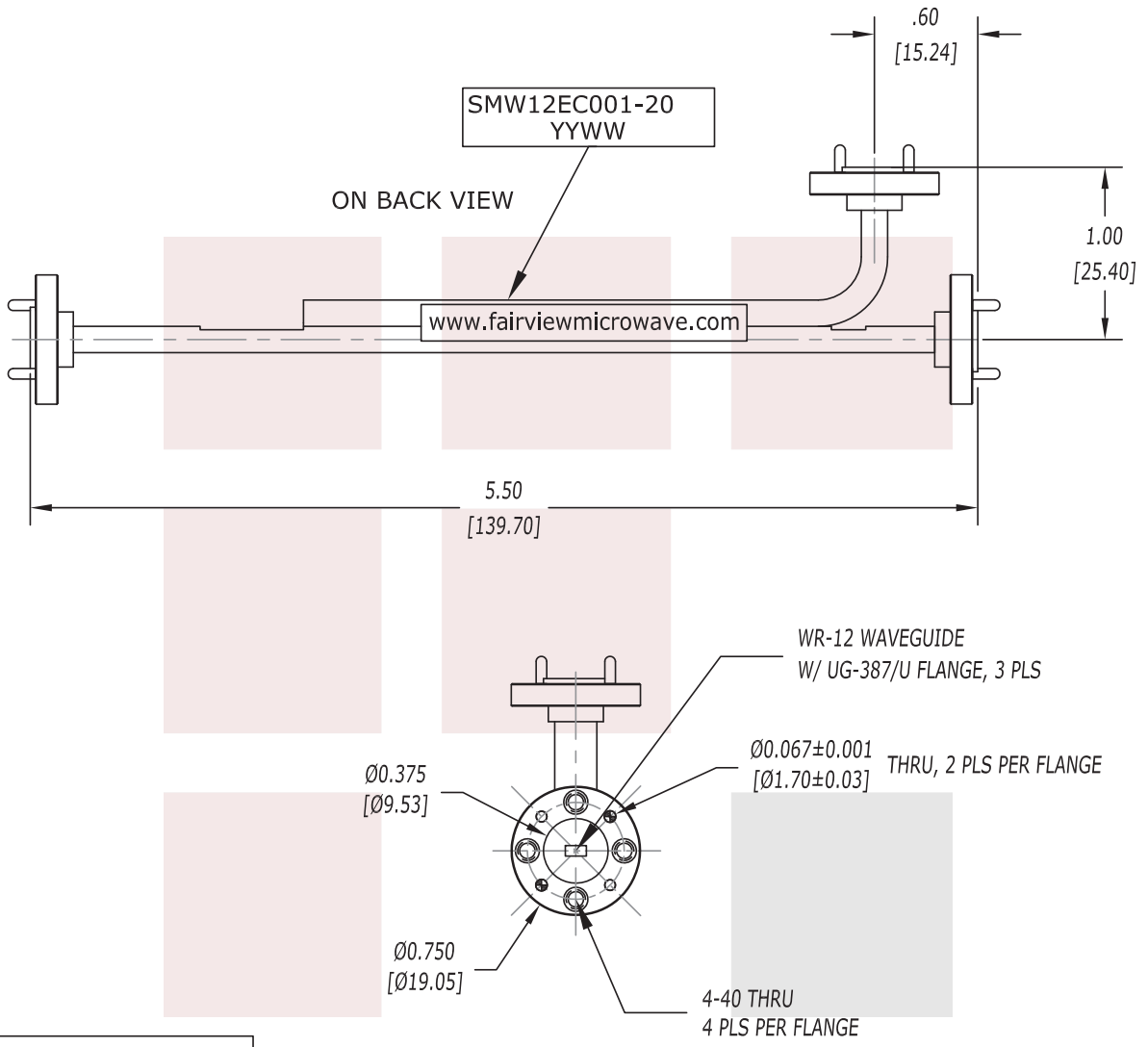


WR-12 Directional Waveguide Coupler 20 dB With UG-387/U Flange and E-Plane Coupled Port From 60 GHz to 90 GHz E Band from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [WR-12 Directional Waveguide Coupler 20 dB With UG-387/U Flange and E-Plane Coupled Port From 60 GHz to 90 GHz E Band SMW12EC001-20](http://www.fairviewmicrowave.com/wr-12-directional-waveguide-coupler-20db-ug-387-e-bend-smw12ec001-20-p.aspx)

URL: <http://www.fairviewmicrowave.com/wr-12-directional-waveguide-coupler-20db-ug-387-e-bend-smw12ec001-20-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.



UNLESS OTHERWISE SPECIFIED:  
 DIMENSIONS ARE IN: inches  
 TOLERANCES ARE: [mm]  
 .XX ± .02 [±.51]  
 .XX ± .005 [±.13]

\* THESE DIMENSIONS AND TOLERANCES  
 SUPERSEDE NOTE #1 ON TITLE BLOCK.

<b>FAIRVIEW MICROWAVE INC.</b> ALLEN, TX 75013 WWW.FAIRVIEWMICROWAVE.COM		NOTES: 1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL. 2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME. 3. DIMENSIONS ARE IN INCHES [mm].			
TITLE WR-12 Directional Waveguide Coupler 20 dB With UG-387/U Flange and E-Plane Coupled Port From 60 GHz to 90 GHz E Band	DWG NO SMW12EC001-20	CAGE CODE 3FKR5			
CAD FILE 041715	SHEET	SCALE N/A	SIZE A	2233	