



WR-51 Waveguide 30 dB Crossguide Coupler, Square Cover  
Flange, SMA Female Coupled Port, 15 GHz to 22 GHz, Bronze

Waveguide Couplers Assemblies Technical Data

PEWCT1053

The PEWCT1053 is a 30 dB WR-51 four port crossguide coupler with one coupled port terminated (making it a three port coupler) and a coax adapter on the opposite coupled port. This coupler can be mounted directly into the waveguide signal path, connected via coax to allow signal sampling /monitoring. The coupler has a typical VSWR of 1.05:1 and are made of bronze with brass Square Cover flanges. The PEWCT1053 is part of a family of cross guide couplers offered by Pasternack with coupling values ranging from 20 to 50 dB. There is also a full family of top wall (broad wall) couplers. For the three port version of this coupler (terminated but no coax adapter) please see the PEWCT1009. For the four port version of this coupler (no termination, no coax adapter) please see the PEWCP1044.

**Features**

- Three Port
- Crossguide Waveguide Coupler
- Terminated
- 30 dB Nominal Coupling Level
- SMA Female Coax Adapter
- 15 GHz to 22 GHz Frequency Range
- Waveguide Body made of Bronze with Brass Flanges
- Low VSWR

**Applications**

- Test Benches
- Radar
- Satellite
- Microwave Radio
- Attenuation Measurements
- Power Measurements
- Source Leveling

**Electrical Specifications**

| Description                       | Minimum | Typical | Maximum | Units |
|-----------------------------------|---------|---------|---------|-------|
| Frequency Range                   | 15      |         | 22      | GHz   |
| Impedance                         |         | 50      |         | Ohms  |
| <b>Coupler</b>                    |         |         |         |       |
| Nominal Coupling Level            |         | 30      |         | dB    |
| Directivity                       |         | 30      |         | dB    |
| Insertion Loss                    |         | 0.1     |         | dB    |
| Main Line VSWR                    |         | 1.05:1  |         |       |
| <b>Termination</b>                |         |         |         |       |
| Input Power (CW)                  |         |         | 1       | Watts |
| <b>Waveguide to Coax Adapters</b> |         |         |         |       |
| VSWR                              |         | 1.25:1  |         |       |

**Mechanical Specifications**

**Interface**

Waveguide Size WR-51

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [WR-51 Waveguide 30 dB Crossguide Coupler, Square Cover Flange, SMA Female Coupled Port, 15 GHz to 22 GHz, Bronze PEWCT1053](#)



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|                                       |              |
|---------------------------------------|--------------|
| Flange Type                           | Square Cover |
| Flange Material and Plating           | Brass        |
| RF Connector Type                     | SMA Female   |
| Coupler Body Material and Plating     | Bronze       |
| Termination Body Material and Plating | Bronze       |

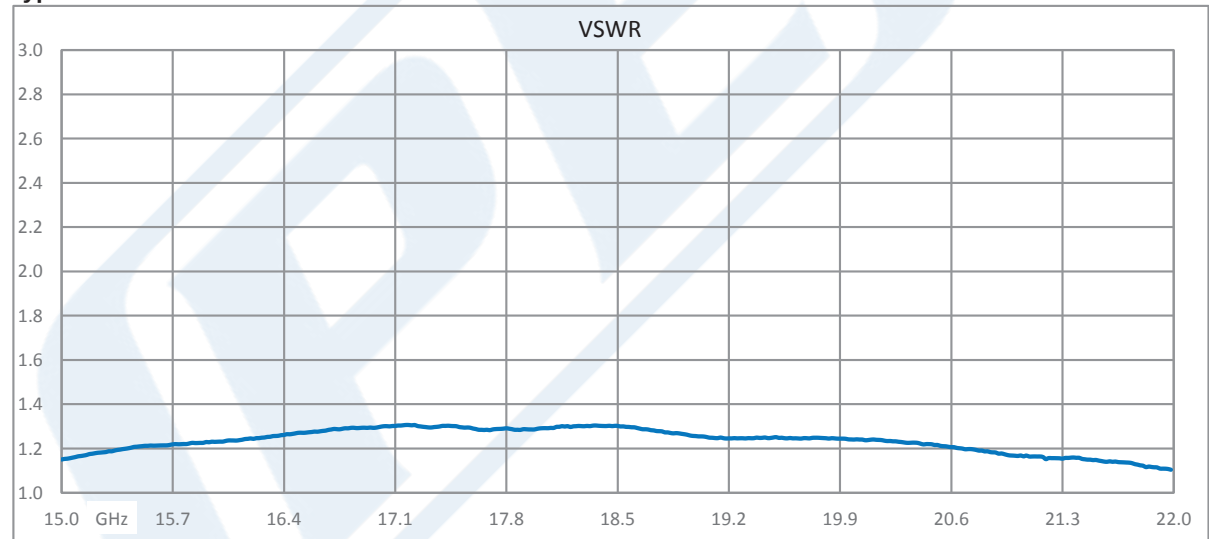
### Environmental Specifications

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

### Plotted and Other Data

Notes:

#### Typical Performance Data



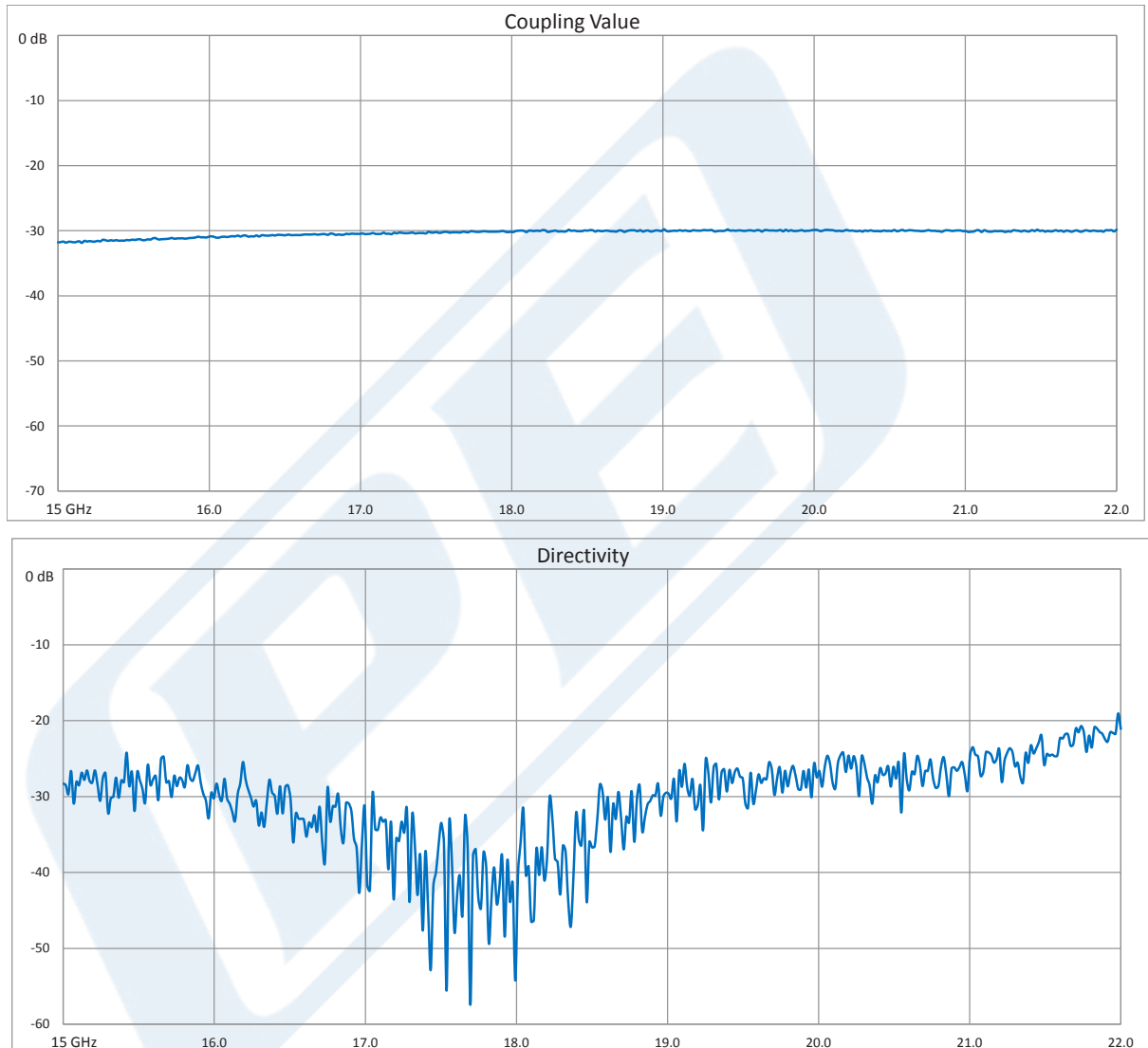
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PEWCT1053

WR-51 Waveguide 30 dB Crossguide Coupler, Square Cover Flange, SMA Female Coupled Port, 15 GHz to 22 GHz, Bronze from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

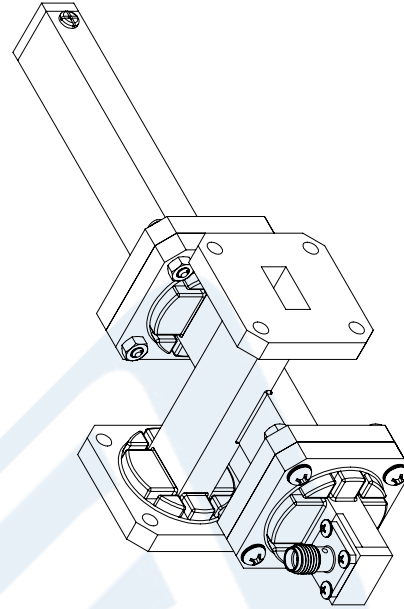
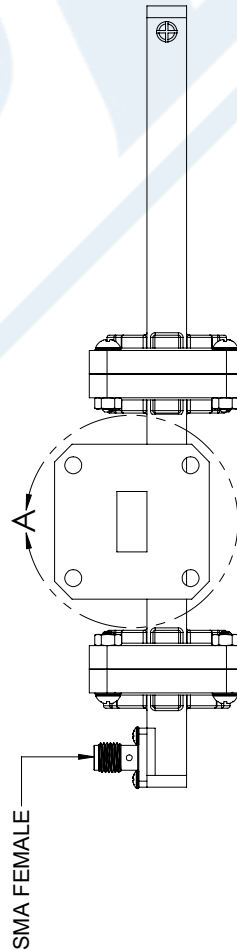
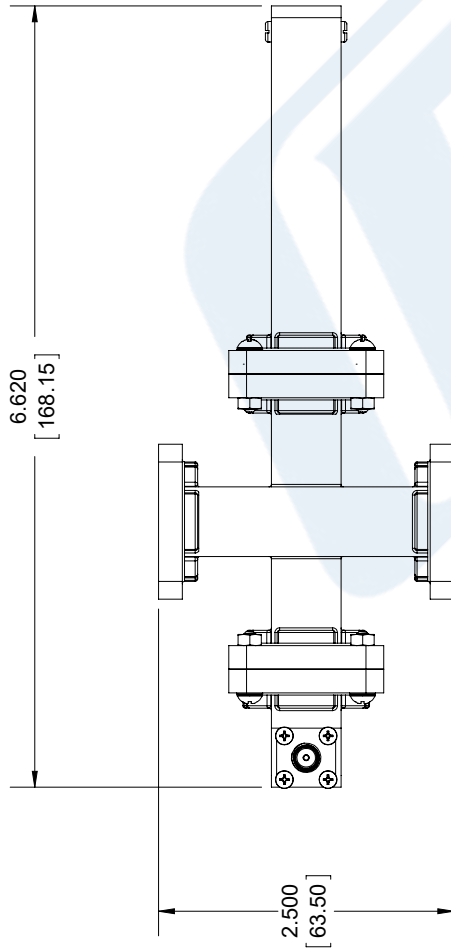
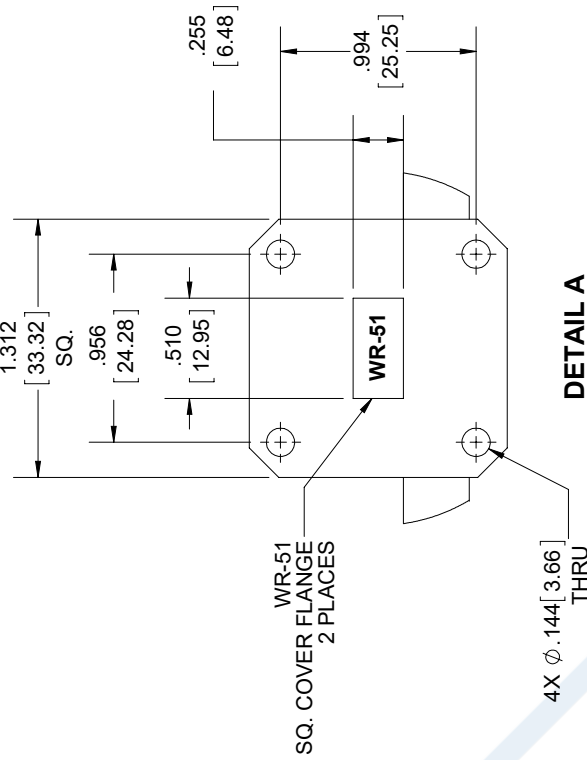
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [WR-51 Waveguide 30 dB Crossguide Coupler, Square Cover Flange, SMA Female Coupled Port, 15 GHz to 22 GHz, Bronze PEWCT1053](https://www.pasternack.com/wr51-waveguide-30db-crossguide-coupler-square-sma-22-ghz-pewct1053-p.aspx)

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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. Pasternack reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Pasternack does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Pasternack does not assume any liability arising out of the use of any part or documentation.

# PEWCT1053 CAD Drawing

WR-51 Waveguide 30 dB Crossguide Coupler, Square Cover Flange,  
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## STANDARD TOLERANCES

.X ±0.2  
.XX ±0.01  
.XXX ±0.005

\*STANDARD TOLERANCES APPLY  
ONLY TO DIMENSIONS IN INCHES



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DWG TITLE

PEWCT1053

CAGE CODE 53919

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].

CAD FILE 062617

SCALE N/A

SIZE A

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