

## D-band Directional Waveguide Coupler

### WR-6.5/20dB Coupling

**Model: TC-110170-20-06**

TC-110170-20-06 is a D-band, 3-port waveguide directional coupler that delivers a 20 dB nominal coupling level and 30 dB typical directivity across the full waveguide band from 110 to 170 GHz. The interfaces of the coupler are WR-6.5 waveguides with UG-387/U-M anti-cocking flanges.

#### Features:

- Operating Frequency 110 to 170 GHz
- Full Band Operation
- Low Insertion Loss
- Moderate Directivity

#### Applications:

- Test Labs
- Instrumentations
- Sub-assemblies

#### Electrical Characteristics:

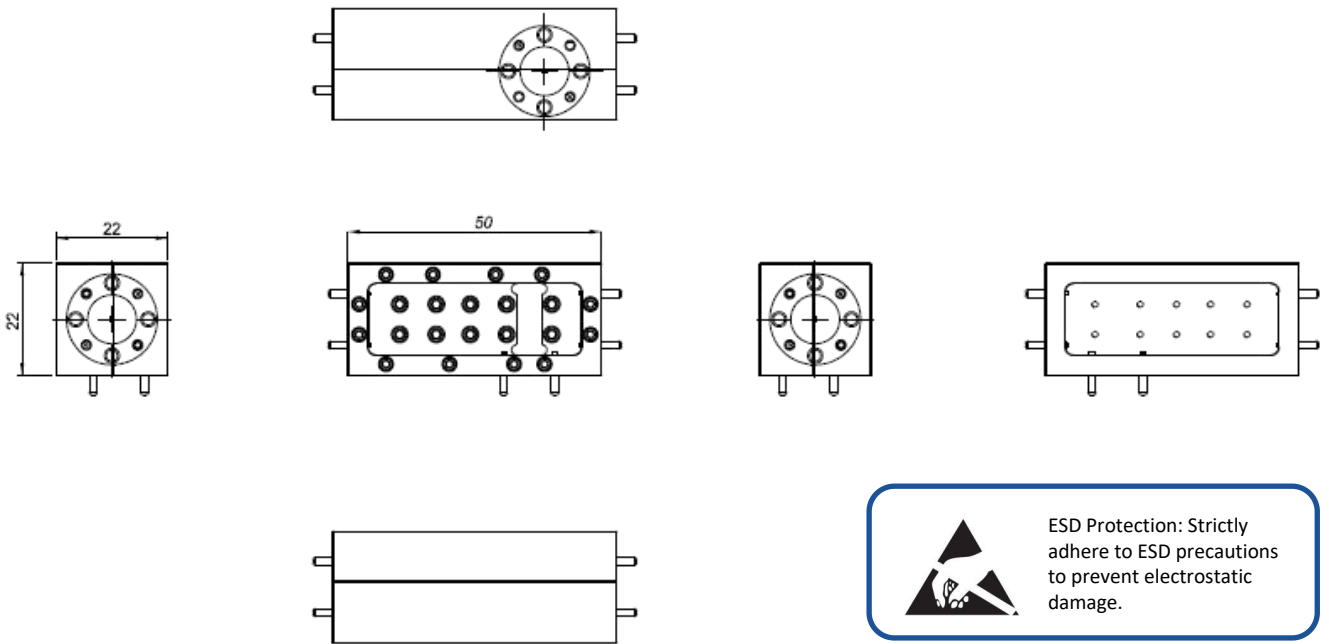

Parameter	Min	Typ	Max	Units
Frequency Range	110		170	GHz
Insertion Loss		1		dB
Coupling		20		dB
Coupling Accuracy		±2		dB
Isolation		50		dB
Directivity		30		dB
Main Line VSWR		1.1		:1
Coupling Port VSWR		1.1		:1

#### Environmental And Physical Characteristics:

Description	Parameter	Units
Operating Temperature	-40 To +85	°C
Storage Temperature	-40 to +85	°C
Input/Output Connectors	WR-6.5/U-387/U	
Isolation/Coupling Port	WR-6.5/U-387/U	
Size	50*22*22	mm

**Outline Drawing:**

Unit:mm; Tolerance:±0.1mm

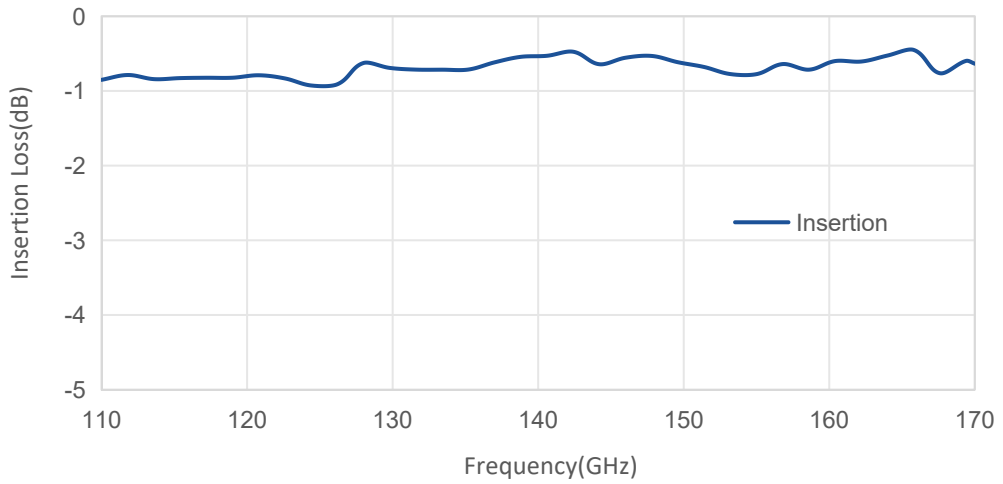
ESD Protection: Strictly adhere to ESD precautions to prevent electrostatic damage.

**Ordering Information:**

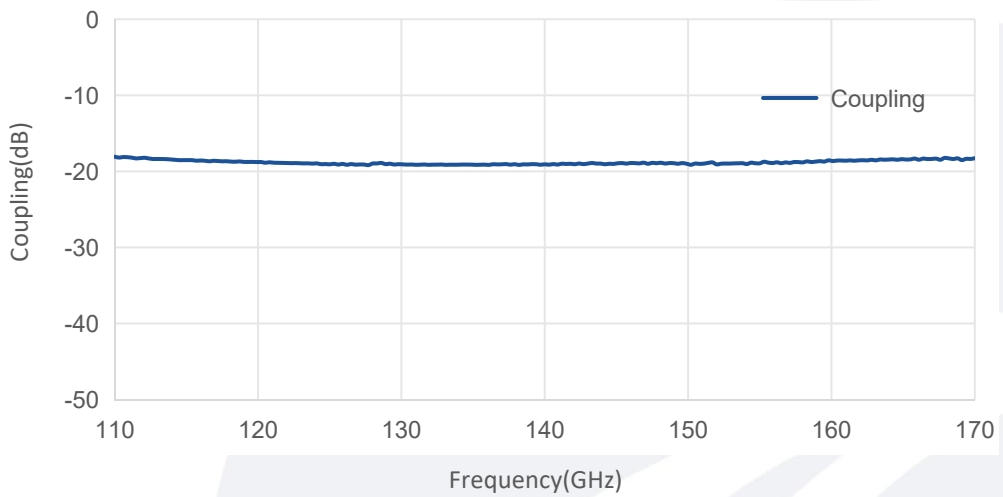
Base Number	Description	Revision
TC-110170-20-06	D-band Directional Waveguide Coupler,110-170GHz, Insertion Loss:1dB Typ, Coupling:20dB Typ,WR-6.5	Rev.1.0

## Typical Performance Data:

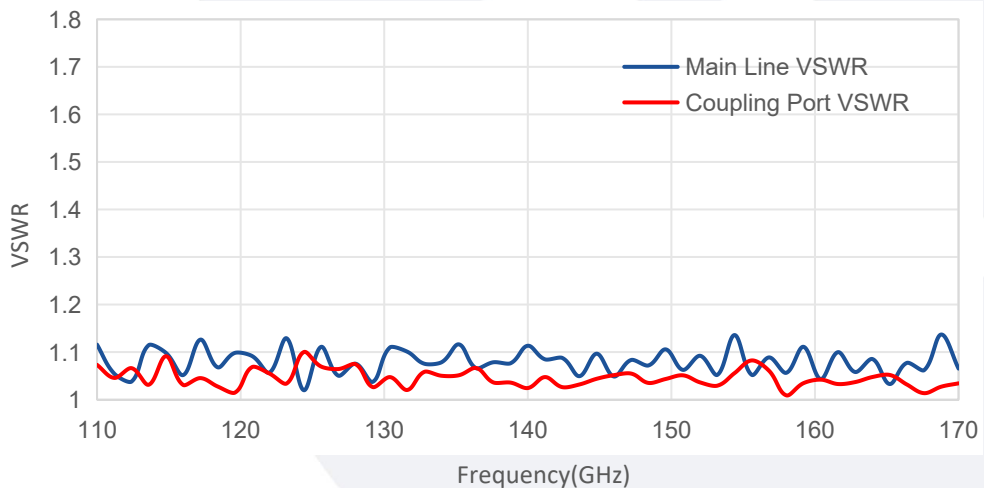
### Insertion Loss vs Frequency



### Coupling vs Frequency

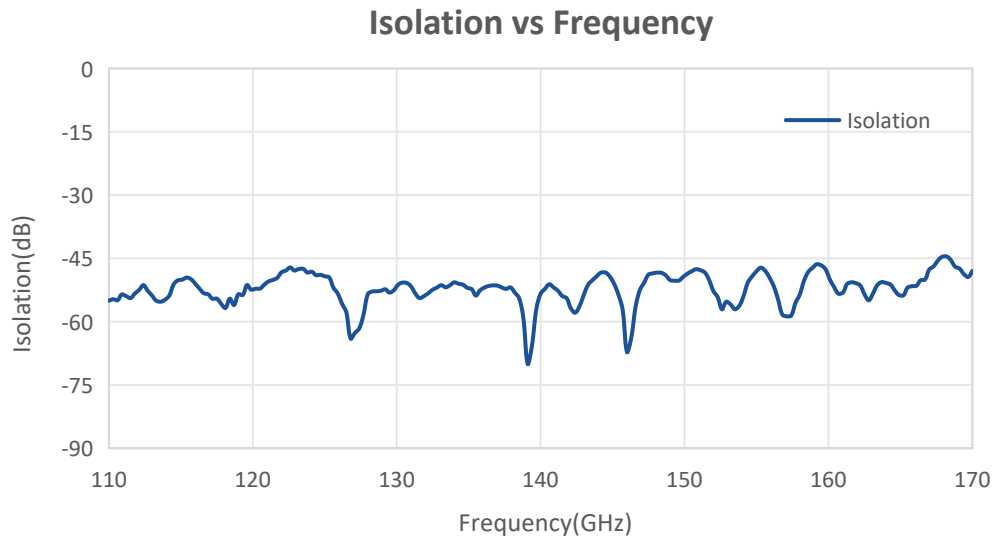


### VSWR vs Frequency



Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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