

## W-band Waveguide Directional Coupler

### WR-10/20 dB Coupling

**Model: TC-075110-20-10**

TC-075110-20-10 is a W-band, three-port waveguide directional coupler that delivers a 20 dB nominal coupling level and 30 dB typical directivity across the full waveguide band from 75 to 110 GHz. The interfaces of the coupler are WR-10 waveguides with UG-387/U-M anti-cocking flanges.

#### Features:

- Operating Frequency: 75 to 110 GHz
- Full Band Operation
- Low Insertion Loss
- Moderate Directivity

#### Applications:

- Test Labs
- Instrumentations
- Sub-assemblies

#### Electrical Characteristics:

Parameter	Min	Typ	Max	Units
Frequency Range	75		110	GHz
Main road Return Loss		-30		dB
Branch road Return Loss		-30		dB
Insertion Loss		0.5		dB
Coupling		20		dB
Directivity		30		dB

#### Environmental And Physical Characteristics:

Description	Parameter	Units
RF Input/Output Connectors	WR-10/UG-387/U	
Coupled Port	WR-10/UG-387/U	
Size	56*22*22	mm

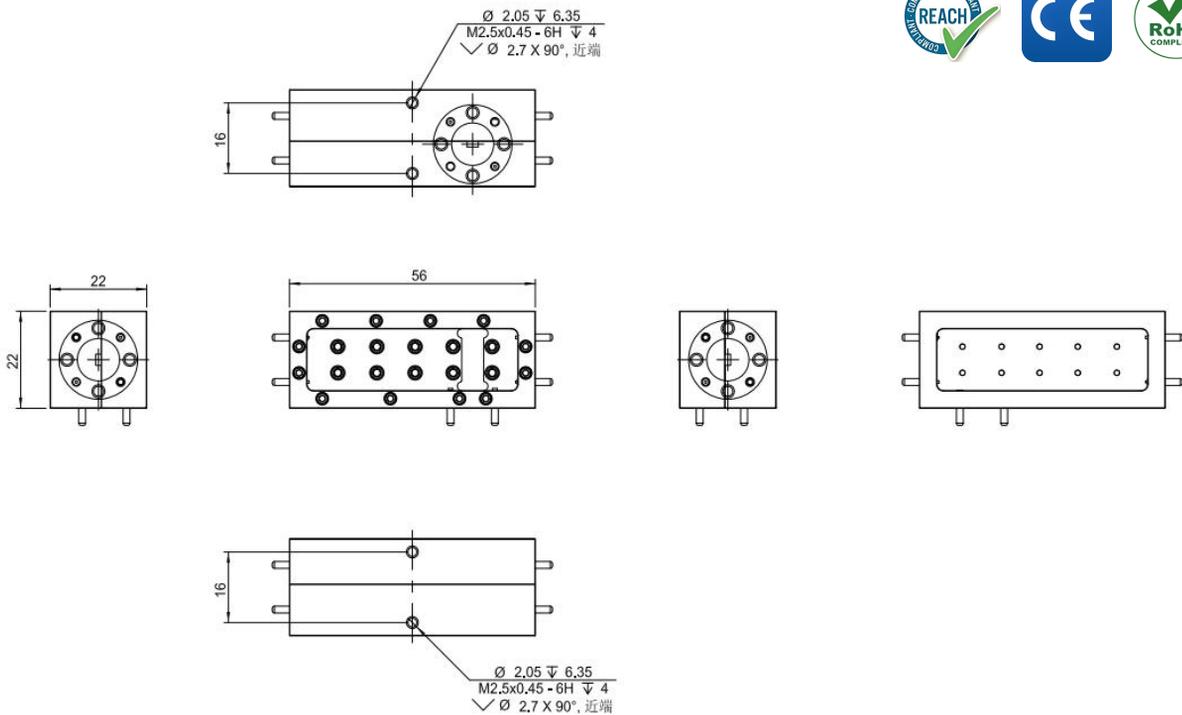
### Absolute Maximum Ratings:

Parameter	Value
RF Input Power	TBD
ESD sensitivity (HBm)	Class 0, passed 150V

### Outline Drawing:

Unit:mm

### Regulatory Compliance:



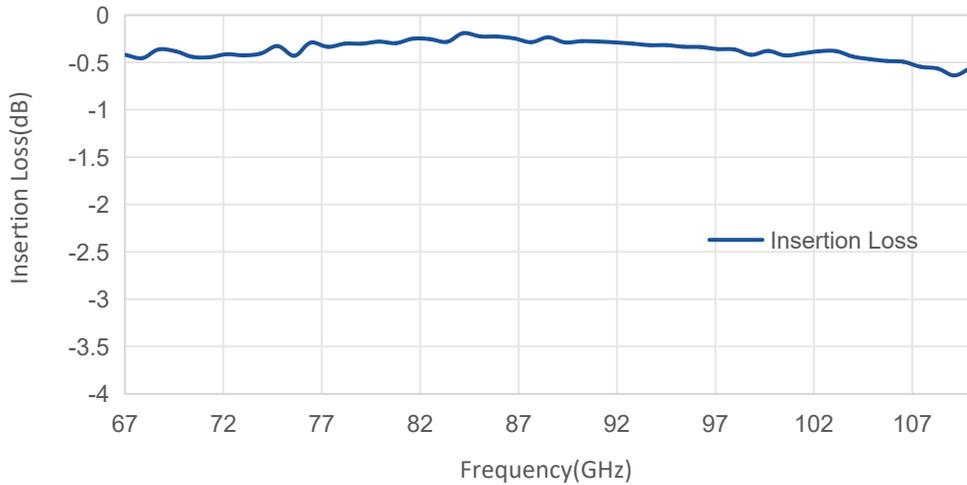
ESD Protection: Strictly adhere to ESD precautions to prevent electrostatic damage.

### Ordering Information:

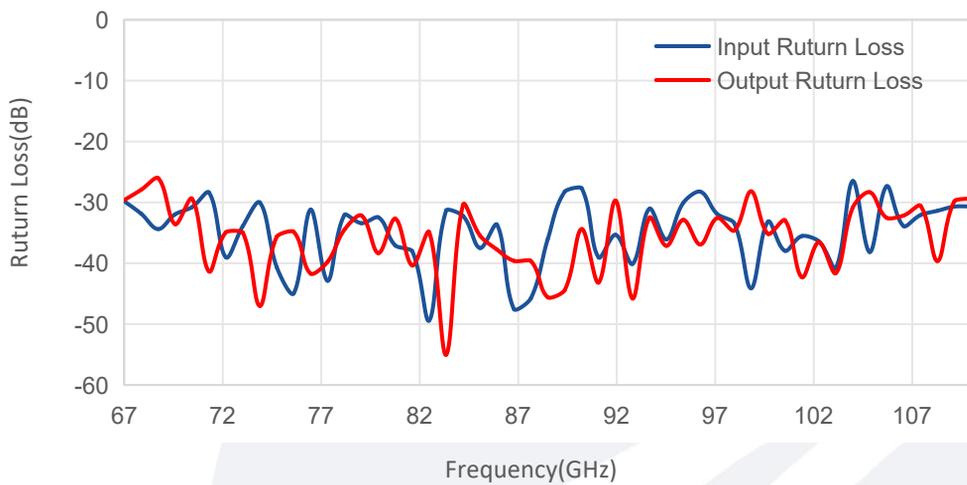
Base Number	Description	Revision
TC-075110-20-10	W-band Waveguide Directional Coupler, 75-110GHz, Insertion Loss: 0.5dB Typ, Coupling: 20dB Typ, WR-10	Rev.1.0

**Typical Performance Data:**

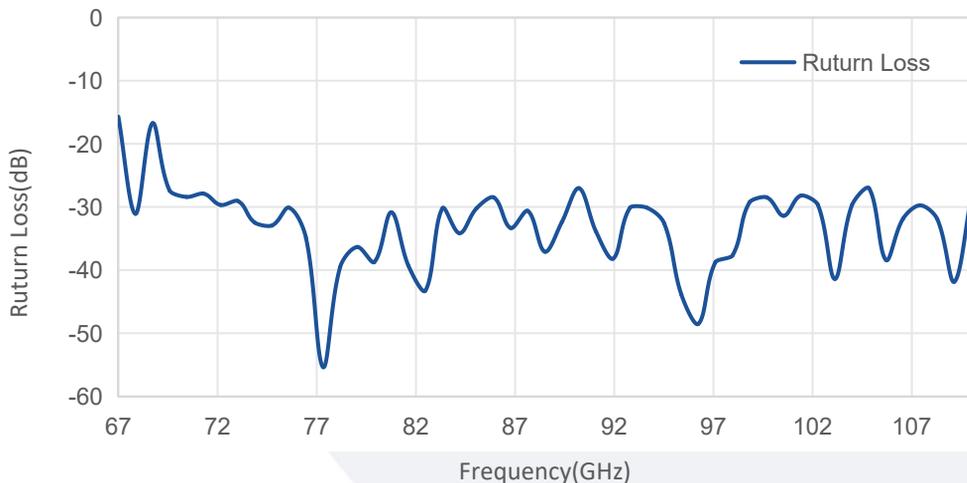
**Insertion Loss vs Frequency**



**Main road Return Loss vs Frequency**



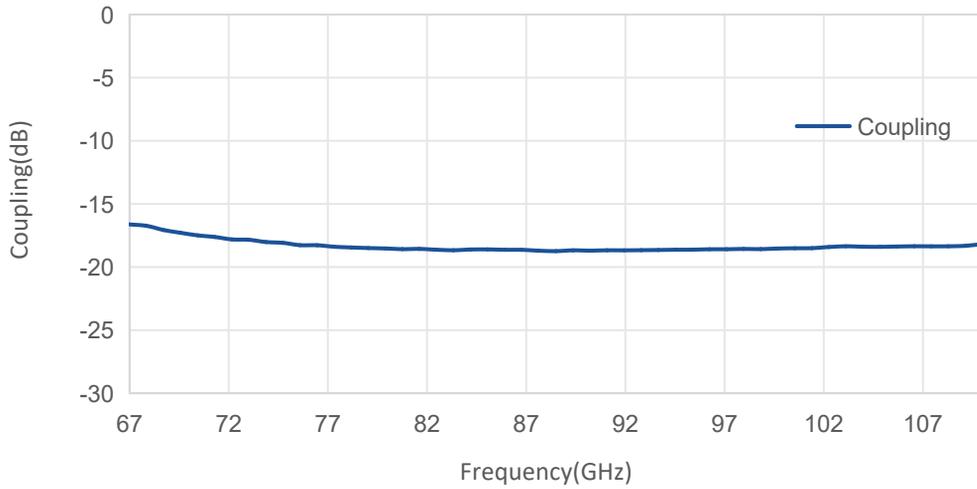
**Branch road Return Loss vs Frequency**



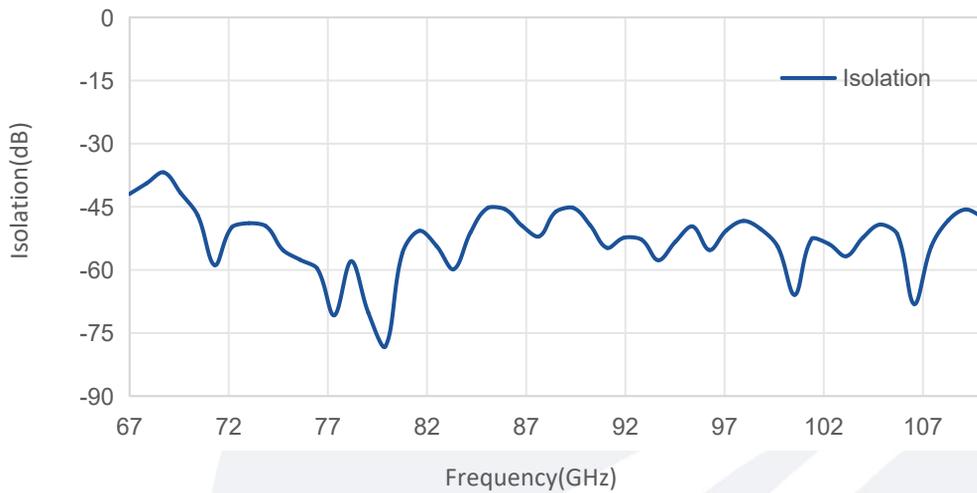
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

## Typical Performance Data:

### Coupling vs Frequency



### Isolation 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.