泰莱微波
Talent Microwave

Suzhou Talent Microwave,Inc
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Cryogenic Coax Directional Coupler

2-18GHz/20dB Coupling/SMA

Model: TC-20180-20S-Cryo

TC-20180-20S-Cryo is a cryogenic coax directional coupler is a microwave device used to sample high-frequency signals in cryogenic environments. It is a four-port passive device that can couple a portion of the power from the main transmission line to the auxiliary line in a directional manner.

Features:

- Output Frequency: 2-18GHz
- Max Power: 2W
- Capable of operation at 10 mK
- Stackable mechanical design
- Machined OFHC block
- 50 Ohm Matched Input / Output

Applications:

- Cryogenic systems
- Quantum computer
- Dilution refrigerator

Electrical Characteristics:

Parameter	Min	Typ	Max	Units
Frequency Range	2		18	GHz
VSWR			1.6	:1
Insertion Loss			1.0	dB
Coupling		20±1.5		dB
Directivity	10			dB
Power Handling			2	W
Impedance		50		Ohms

Note: The isolation port is equipped with the Talent microwave standard low-temperature load:TT2-18-SM-Cryo.

Mechanical Specifications:

Parameter	Value	Units
RF Connector	SMA Female	
Csae Material	OFHC Copper	
Finish	Gold plated	
Size	45*15*11	mm

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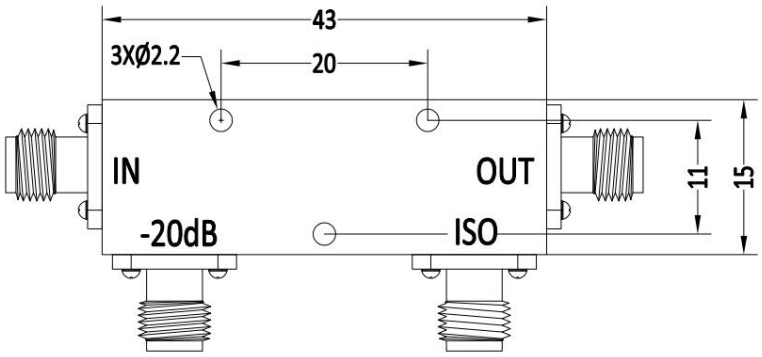
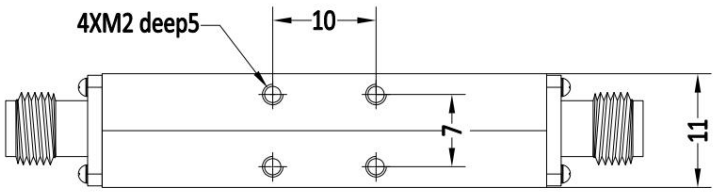
Outline Drawing:

Unit:mm





Regulatory Compliance:

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

Environmental Conditions:

Parameter	Min	Typ	Max	Units
Operating Temperature	10mK		+85℃	
Non-operating Temperature	-45		+85	℃
Relative humidity	100% RH at 35c, 95%RH at 40℃			%
Altitude	50,000			feet
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

Ordering Information:

Base Number	Desciption	Revision
TC-20180-20S-Cryo	Cryogenic Coax Directional Coupler 2-18 GHz, Coulping:20dB, SMA Female	Rev.1.1

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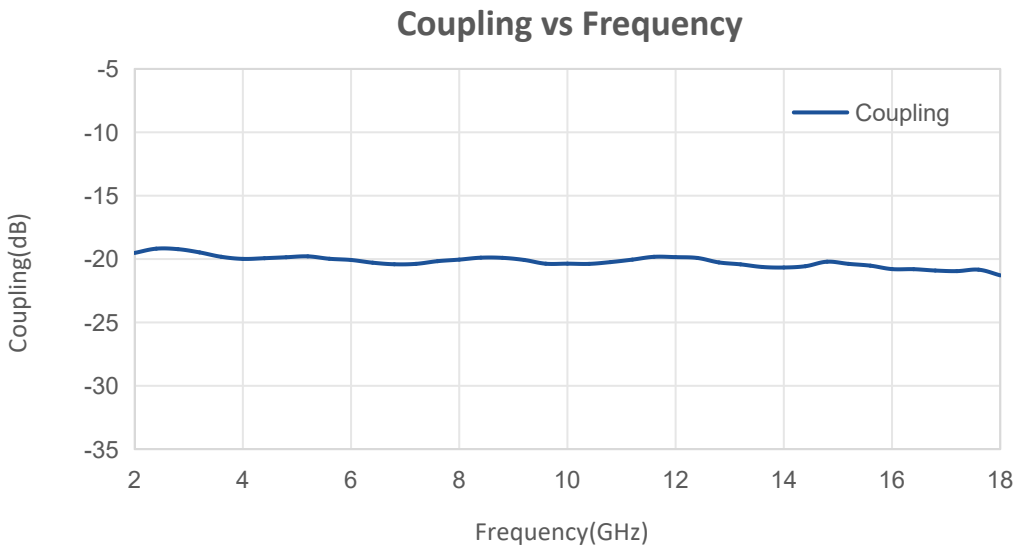
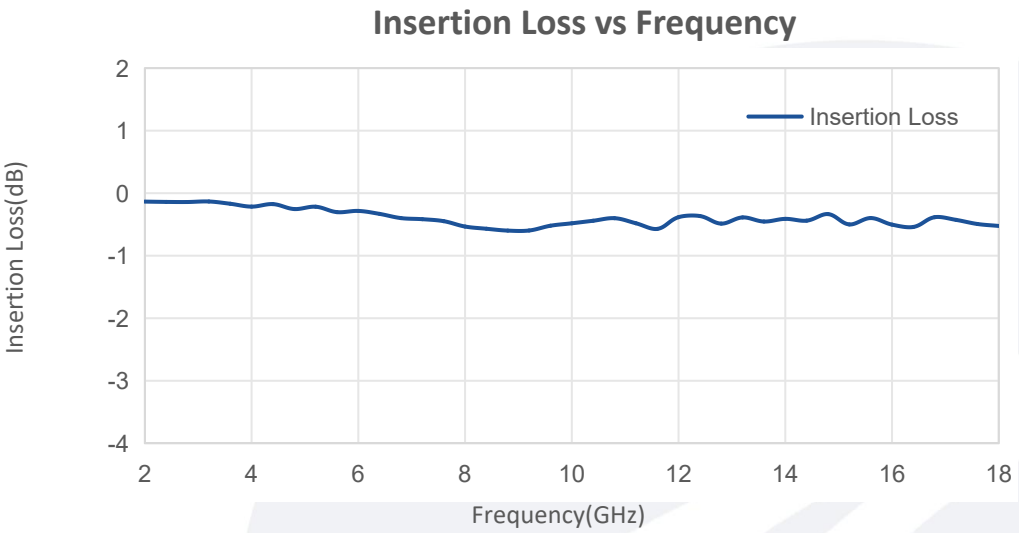
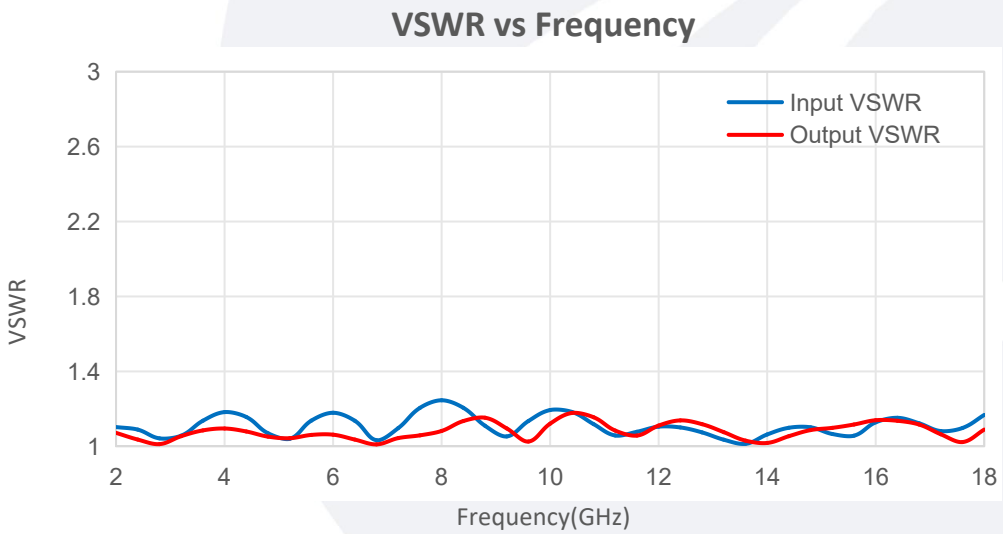
Typical Performance Data(TEM=298K):







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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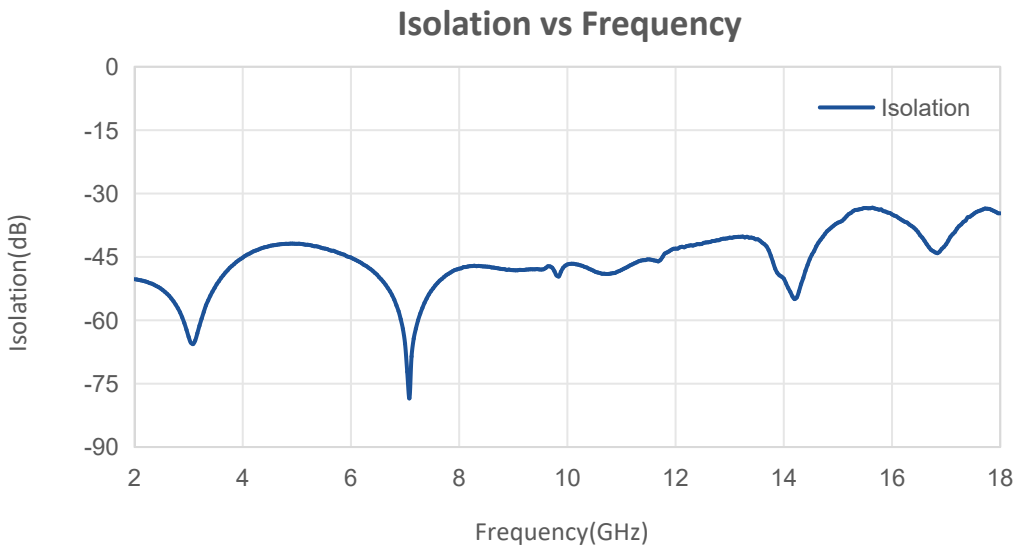

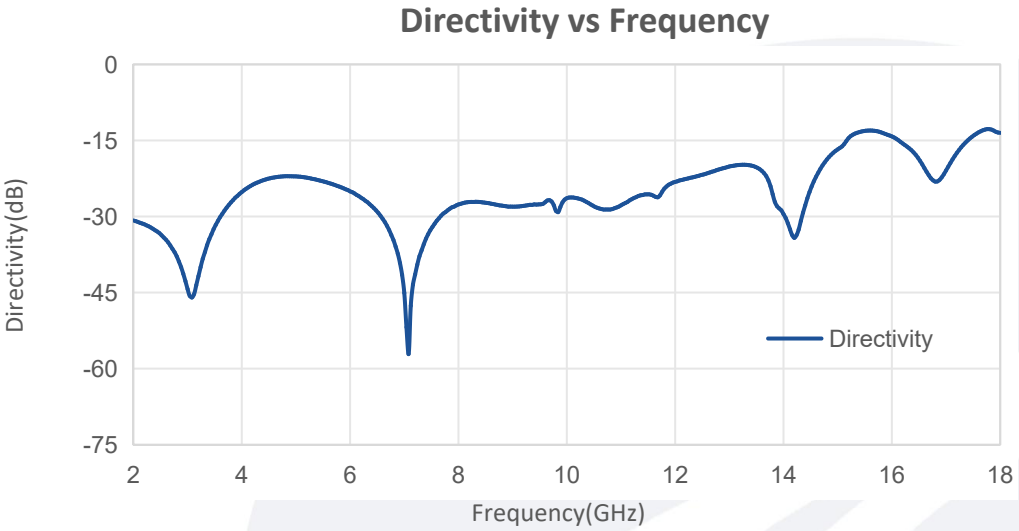

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