泰莱微波
Talent Microwave

Suzhou Talent Microwave,Inc
sales@talentmw.com
www.talentmw.com

Cryogenic Coax Directional Coupler

1-4GHz/30dB Coupling/SMA

Model: TC-1040-30S-Cryo

TC-1040-30S-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: 1-4GHz
- Max Power: 30W
- 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	1		4	GHz
VSWR			1.25	:1
Insertion Loss(Excl Coupling)		0.2	0.3	dB
Nominal coupling loss		0.004		dB
Coupling		30±1		dB
Directivity	20	22		dB
Power Handling			30	W
Impedance		50		Ohms

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

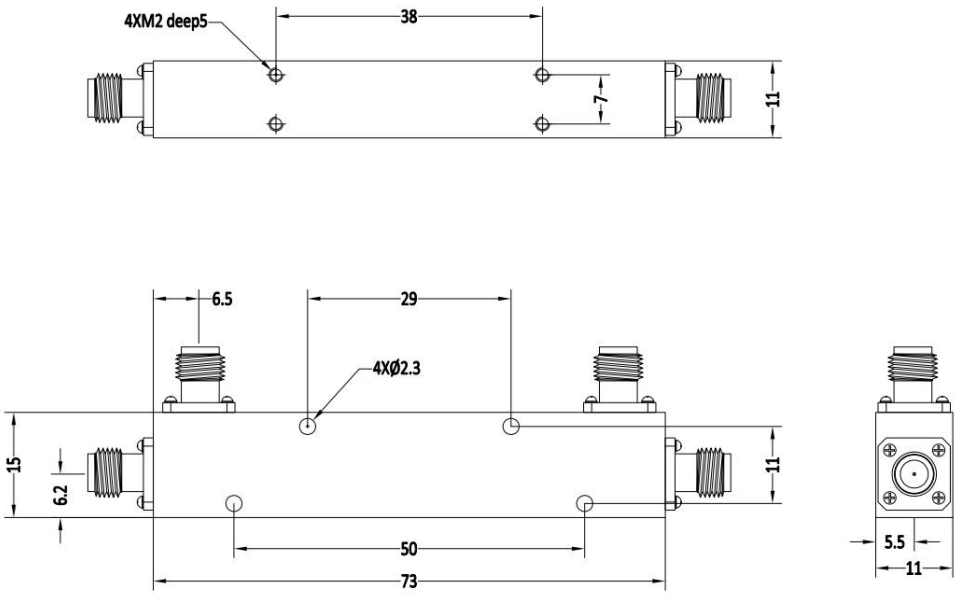
Mechanical Specifications:

Parameter	Value	Units
RF Connector	SMA Female	
Csae Material	OFHC Copper	
Finish	Gold plated	
Size	73*15*11	mm

Suzhou Talent Microwave,Inc
sales@talentmw.com
www.talentmw.com

Outline Drawing:

Unit:mm; Tolerance:±0.1mm



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

Environmental Conditions:

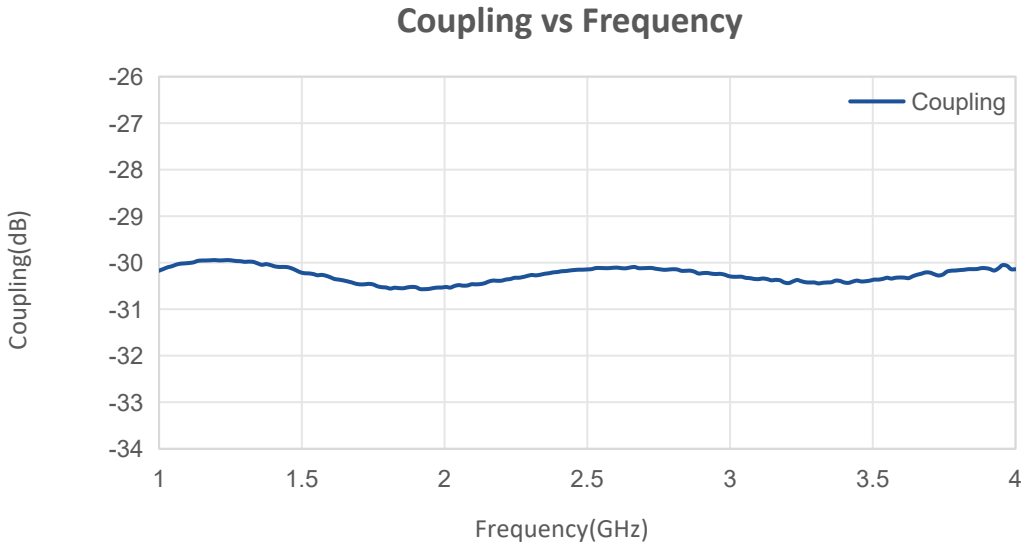
Parameter	Min	Typ	Max	Units
Operating Temperature	10mK		+85℃	
Non-operating Temperature	-45		+85	℃
Relative humidity	100% RH at 35c, 95%RH at 40℃			%
Altitude	50,000			feet
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
Shock(non operating)	20G for 11msc half sin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

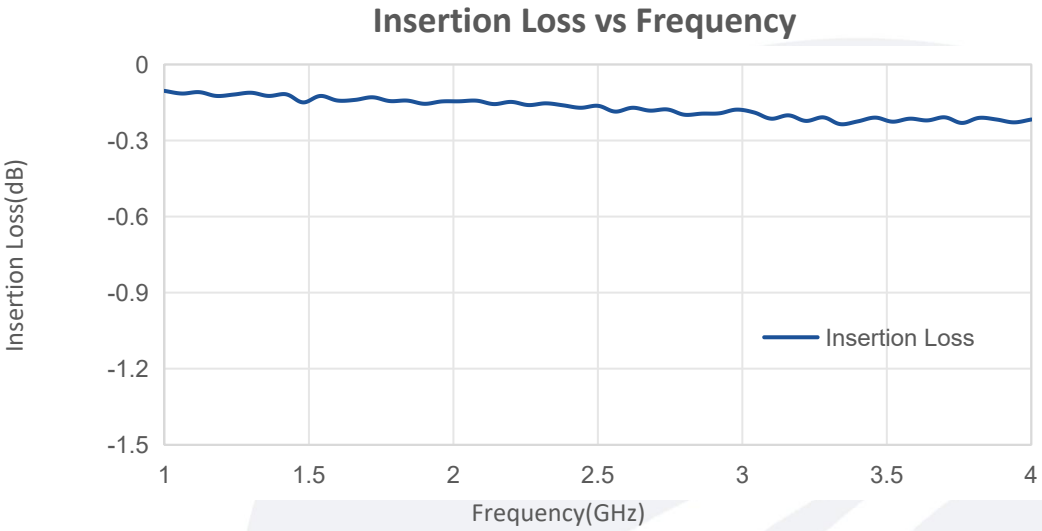
Ordering Information:

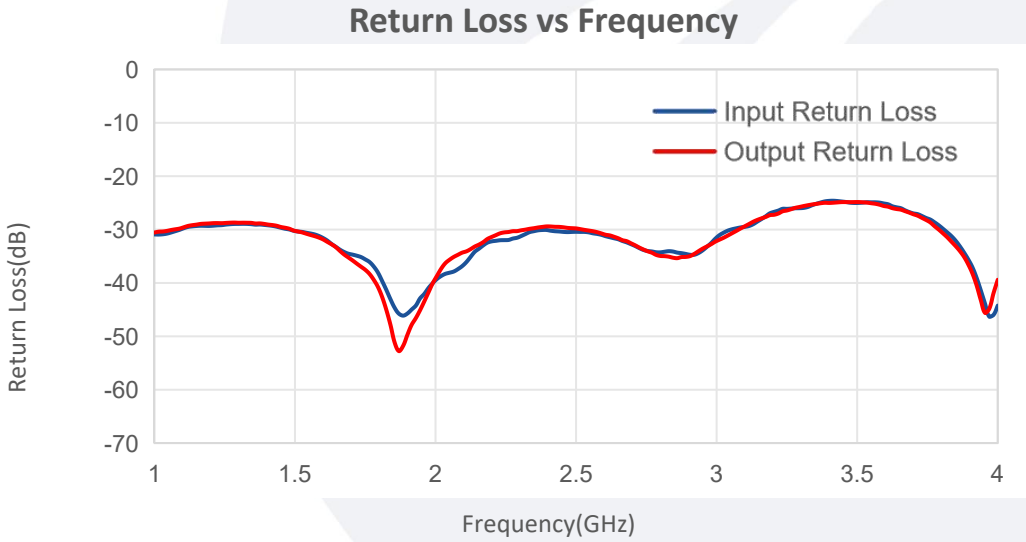
Base Number	Description	Revision
TC-1040-30S-Cryo	Cryogenic Coax Directional Coupler 1-4 GHz, Coulping:30dB, SMA Female	Rev.1.1

Suzhou Talent Microwave,Inc
sales@talentmw.com
www.talentmw.com

Typical Performance Data(TEM=298K):



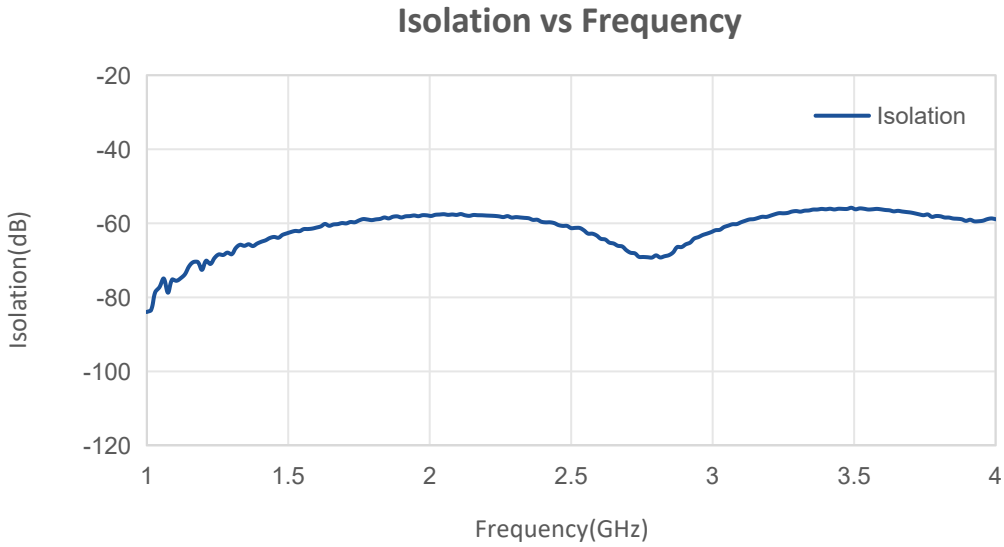


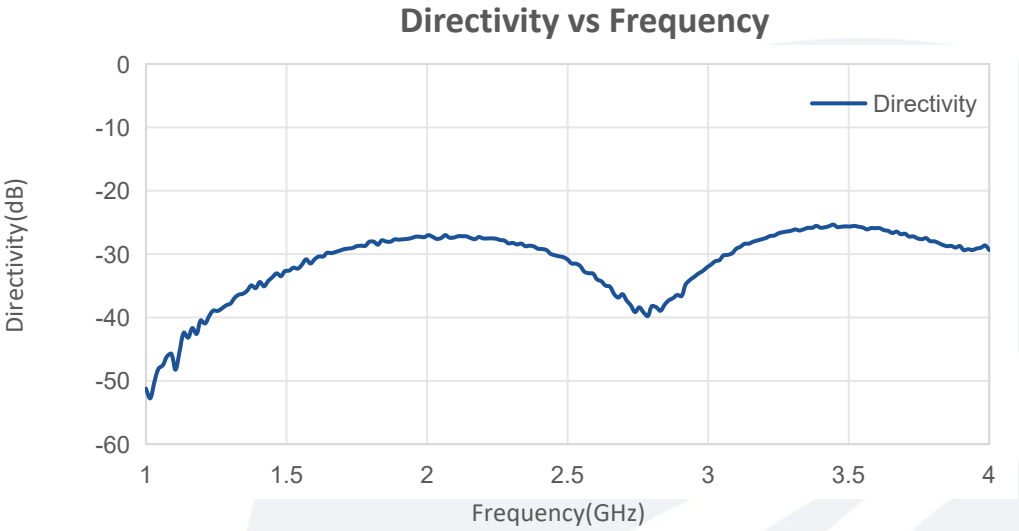


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Suzhou Talent Microwave,Inc
sales@talentmw.com
www.talentmw.com

Typical Performance Data(TEM=298K):

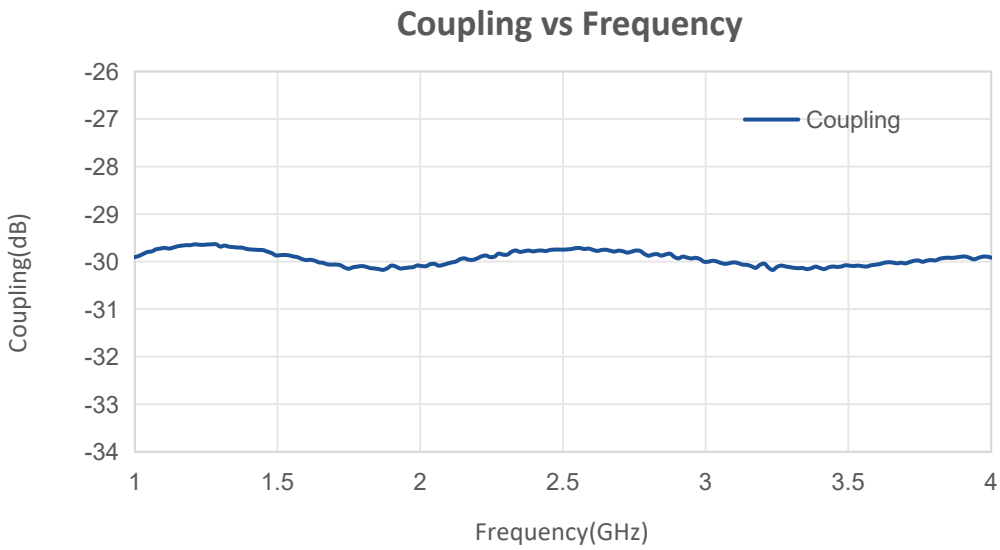


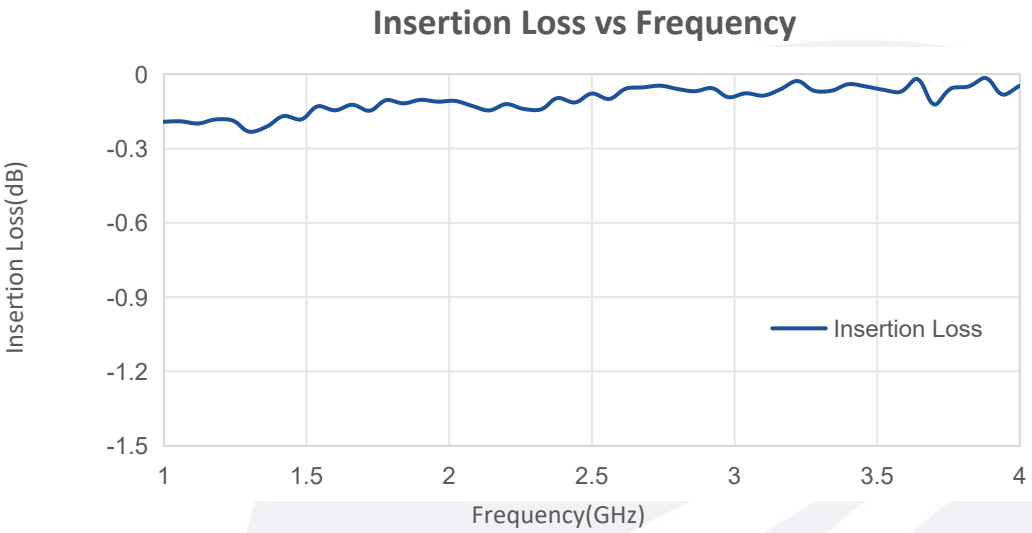


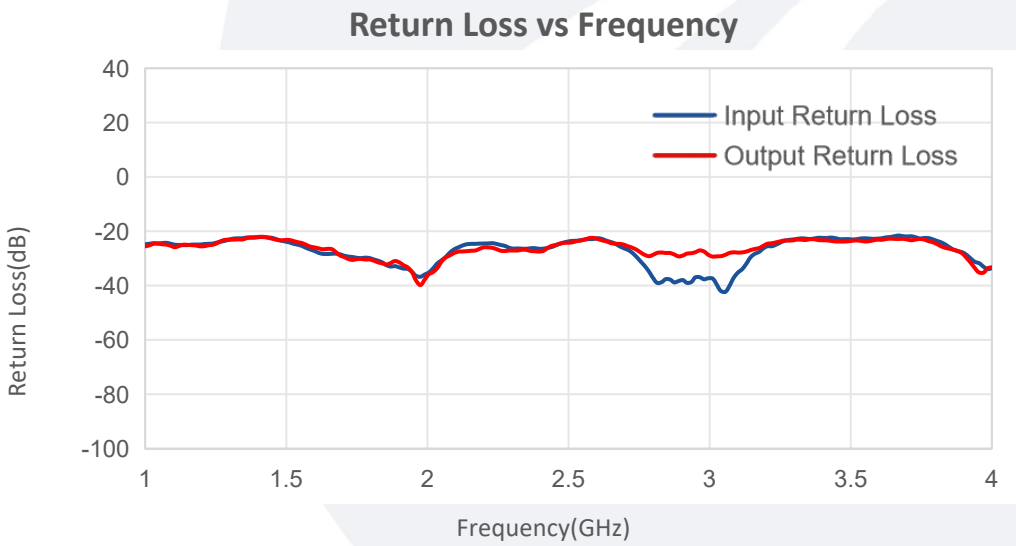
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Suzhou Talent Microwave,Inc
sales@talentmw.com
www.talentmw.com

Typical Performance Data(TEM=77K):



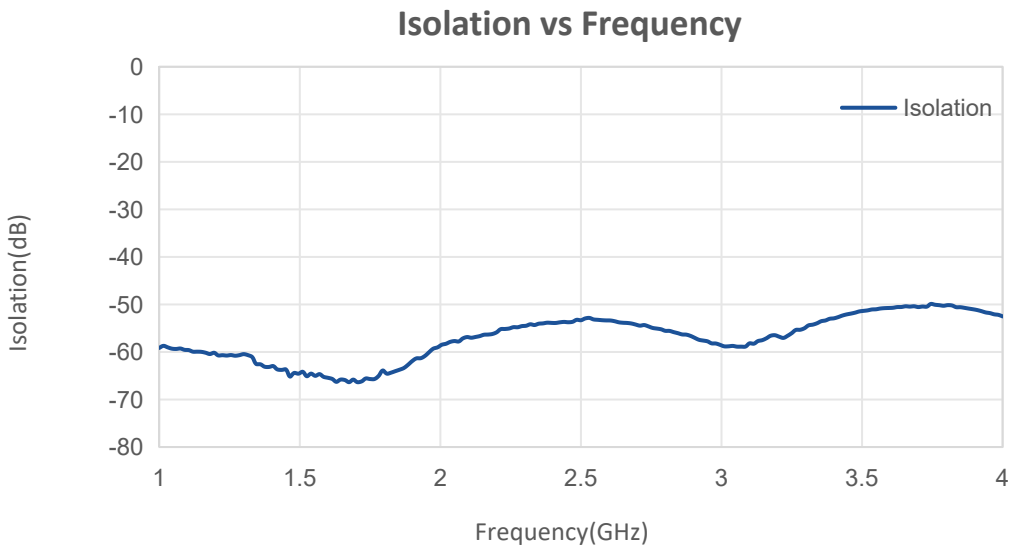


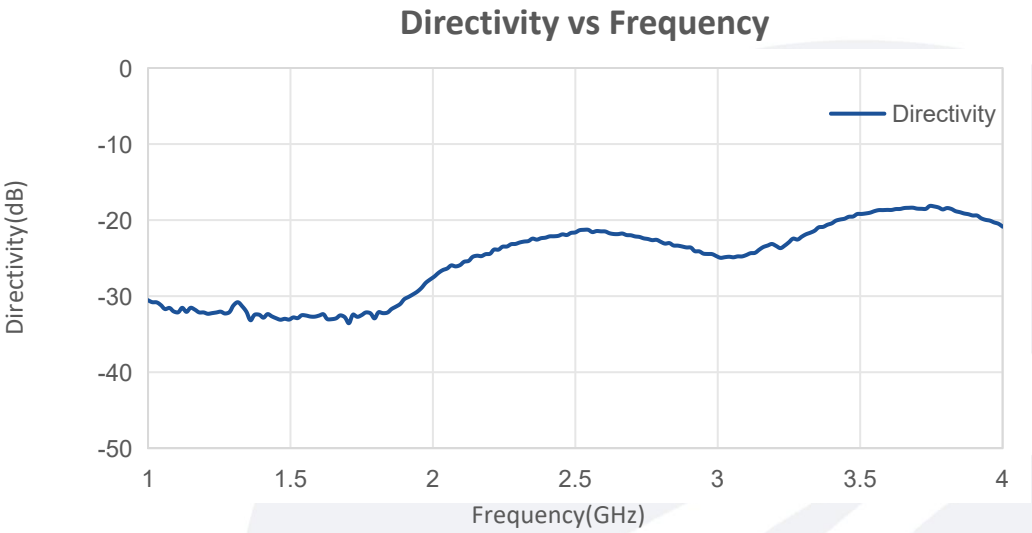


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Suzhou Talent Microwave,Inc
sales@talentmw.com
www.talentmw.com

Typical Performance Data(TEM=77K):





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.