

## Cryogenic Coax Attenuators

### DC-18GHz/2W/SMA/Non-Magnetic

Model: TAXXA2-SKYK-18-Cryo

TAXXA2-SKYK-18-Cryo is working to customize and optimize fixed attenuators for use in cryogenic cooling systems to support quantum computing. Eliminating thermal noise in a quantum computing installation demands a high degree of innovation and reliability. TAXXA2-SKYK-18-Cryo's experience delivering custom components for use in harsh environments and high reliability requirements, is the foundation supporting our work in cryogenic technology.

### Features:

- Frequency: DC to 18 GHz
- Max Power: 2W
- Capable of operation at 10 mK
- Non-Magnetic
- 50 Ohm Matched Input / Output

### Applications:

- Dilution refrigerators/Cryogenic devices
- Quantum Computing

### 电气特性 Electrical Characteristics:

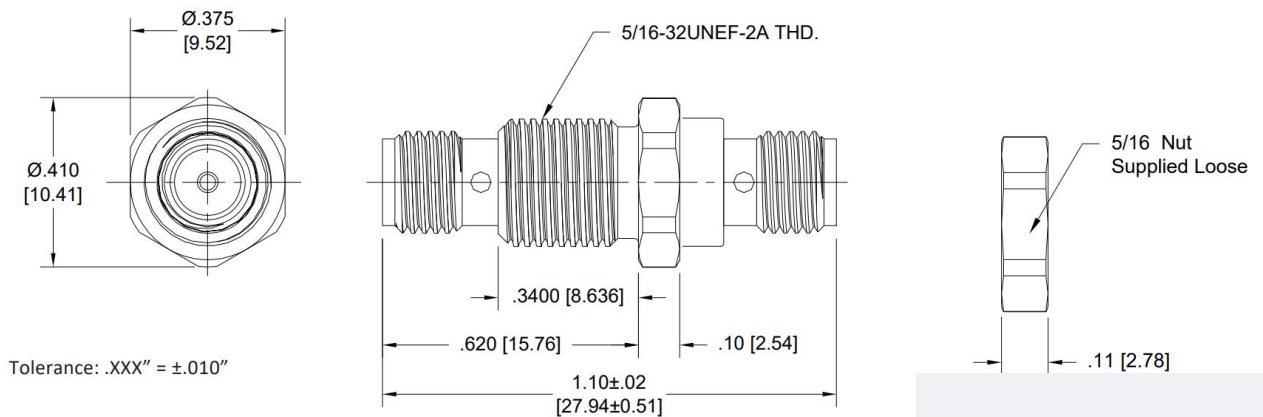
参数 Parameter	Min	Typ	Max	单位 Units
频率范围 Frequency range	DC-18			GHz
标准衰减值 Standard dB Values	0~10/12/15/20/30			dB
衰减精度 Attenuation Accuracy	0dB		±0.4	dB
	1-6dB		±0.3	
	10-20dB		±0.5	
	30dB		±0.8	
驻波 VSWR	DC-4GHz		1.15	:1
	4-12.4GHz		1.25	
	12.4-18GHz		1.35	
	12.4-18GHz @0dB only		1.45	
输入功率 Input Power			2	W
阻抗 Impedance	50			Ohms

## 机械特性 Mechanical Specifications:

描述 Description	参数 Parameter	单位 Units
输入/输出接口 Input /Output Connector	SMA Female/SMA Female	
外壳材质 Case Material	OFHC Copper	
表面 Finish	Gold Plated	
电阻材料 Resistor Material	Proprietary Thin Film	

## 外形图 Outline Drawing:

Unit:mm



## 温度环境 Environmental Conditions:

参数 Parameter	Min	Typ	Max	单位 Units
操作温度 Operating Temperature	10mK		+85	°C
存储温度 Non-operating Temperature	-55		+125	°C
相对湿度 Relative humidity	100% RH at 35c, 95%RH at 40°C			%
海拔 Altitude	50,000			feet
震动 Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
冲击 Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

## 订货信息 Ordering Information:

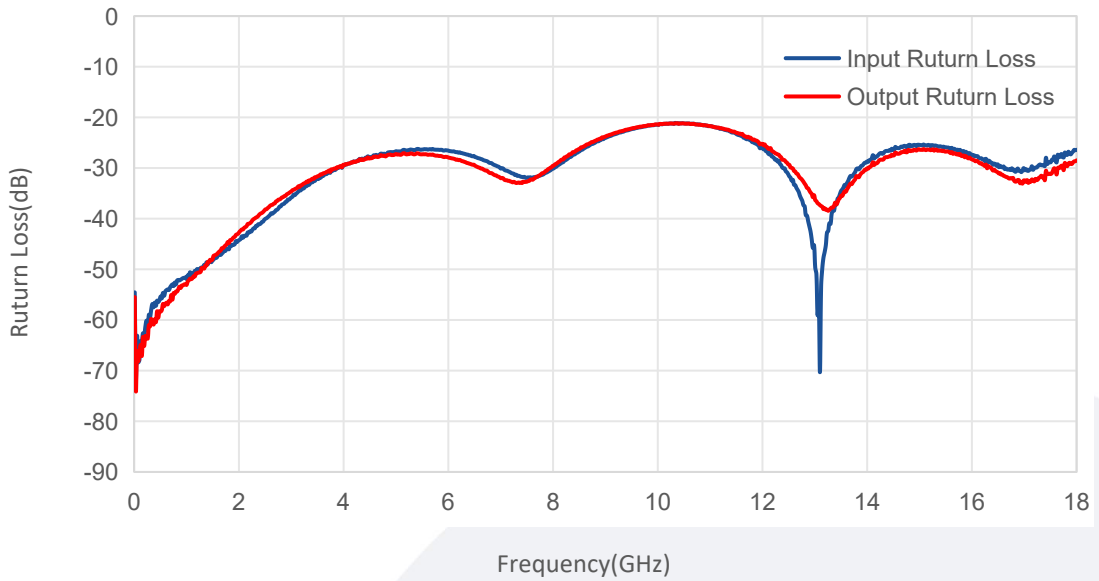
标准型号 Base Number	描述 Description	版本号 Revision
TA00A2-SKYK-18-Cryo	0dB	Rev.1.1
TA01A2-SKYK-18-Cryo	1dB	Rev.1.1
TA02A2-SKYK-18-Cryo	2dB	Rev.1.1
TA03A2-SKYK-18-Cryo	3dB	Rev.1.1
TA04A2-SKYK-18-Cryo	4dB	Rev.1.1
TA05A2-SKYK-18-Cryo	5dB	Rev.1.1
TA06A2-SKYK-18-Cryo	6dB	Rev.1.1
TA07A2-SKYK-18-Cryo	7dB	Rev.1.1
TA08A2-SKYK-18-Cryo	8dB	Rev.1.1
TA09A2-SKYK-18-Cryo	9dB	Rev.1.1
TA10A2-SKYK-18-Cryo	10dB	Rev.1.1
TA12A2-SKYK-18-Cryo	12dB	Rev.1.1
TA15A2-SKYK-18-Cryo	15dB	Rev.1.1
TA20A2-SKYK-18-Cryo	20dB	Rev.1.1
TA30A2-SKYK-18-Cryo	30dB	Rev.1.1

**典型曲线 Typical Performance Data:**

**TA00A2-SKYK-18-Cryo:**

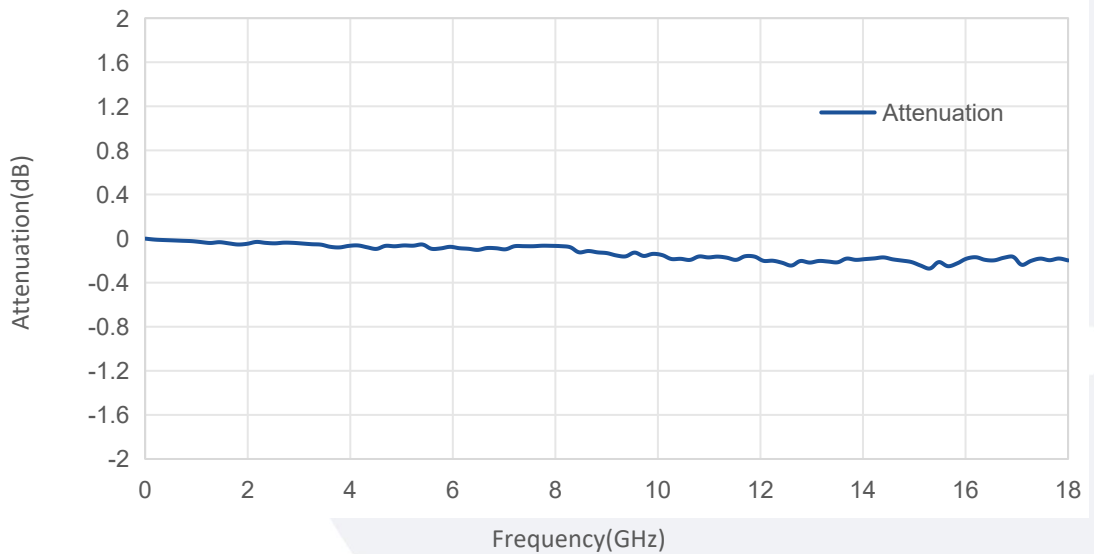
**298K:**

**Return Loss vs Frequency**



**298K:**

**Attenuation vs Frequency**



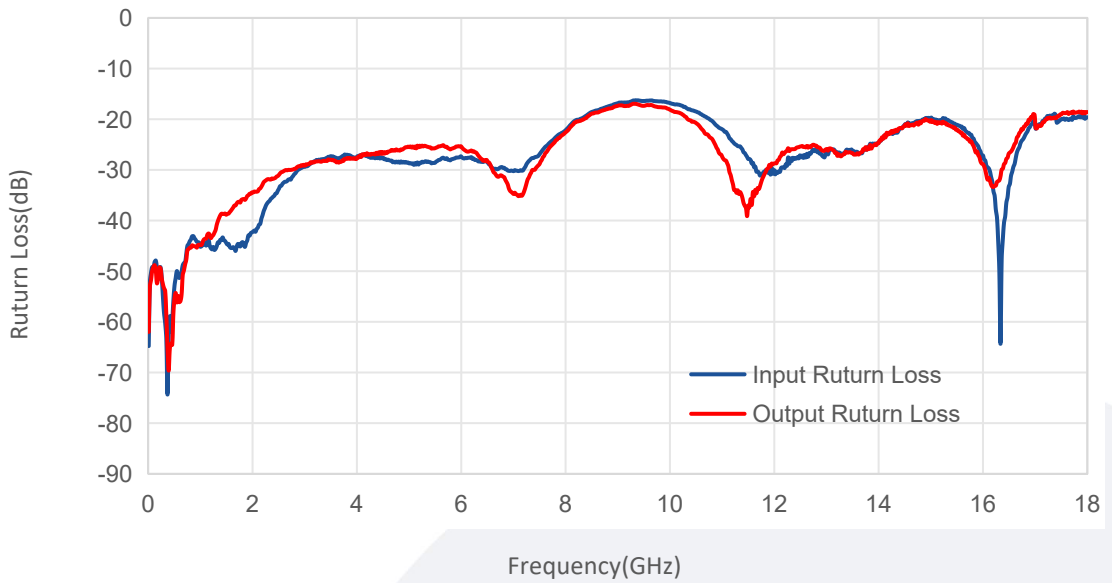
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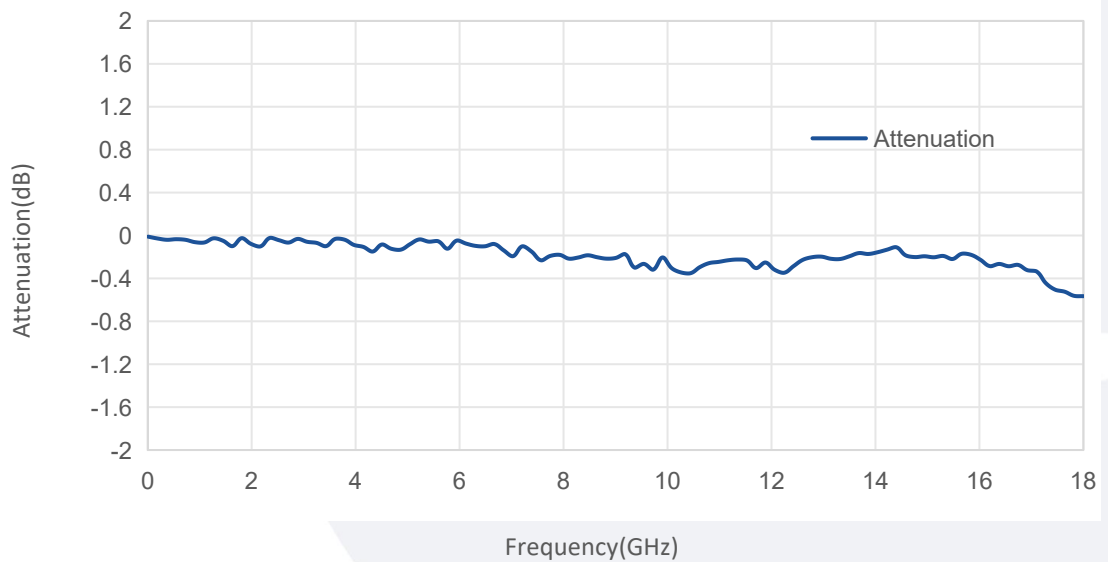
**77K:**

**Return Loss vs Frequency**



**77K:**

**Attenuation vs Frequency**



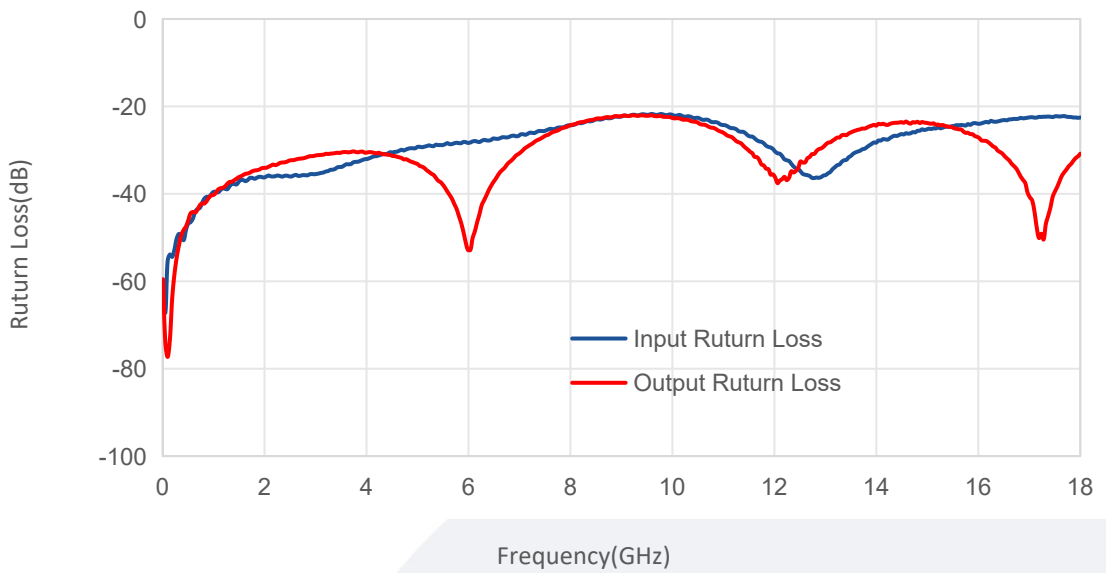
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**典型曲线 Typical Performance Data:**

**TA01A2-SKYK-18-Cryo:**

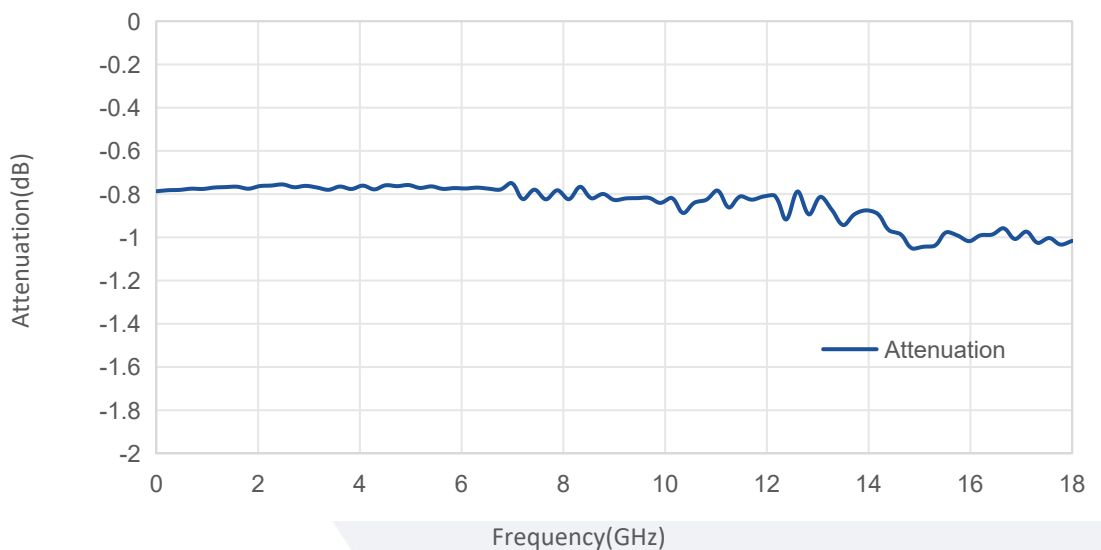
**298K:**

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**298K:**

**Attenuation vs Frequency**



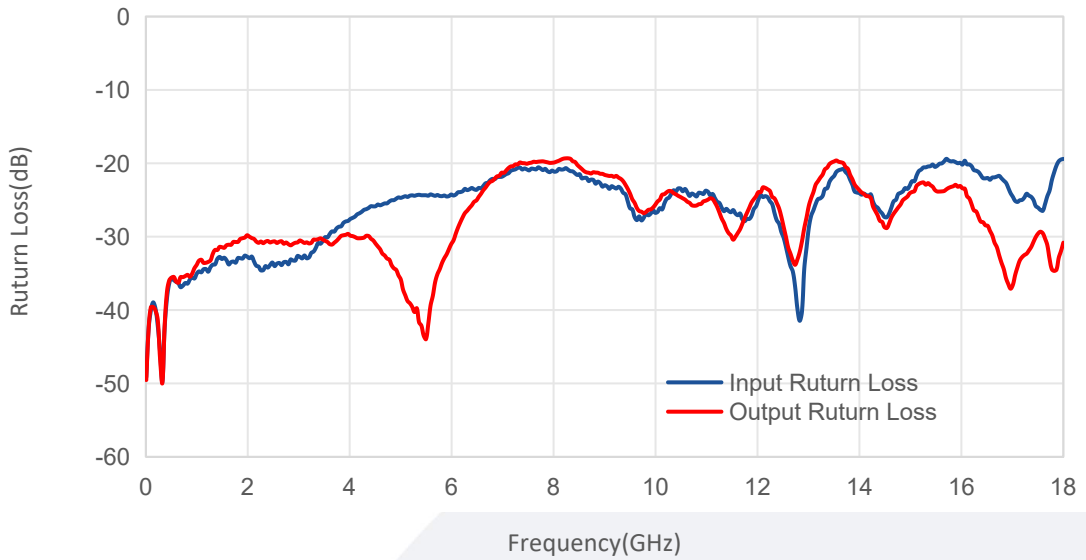
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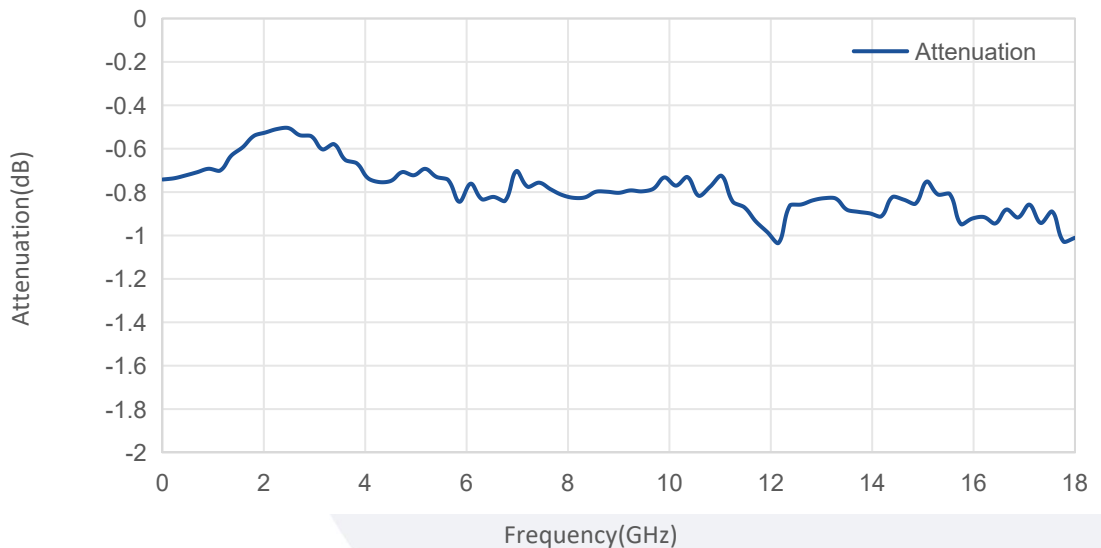
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**77K:**

**Attenuation vs Frequency**



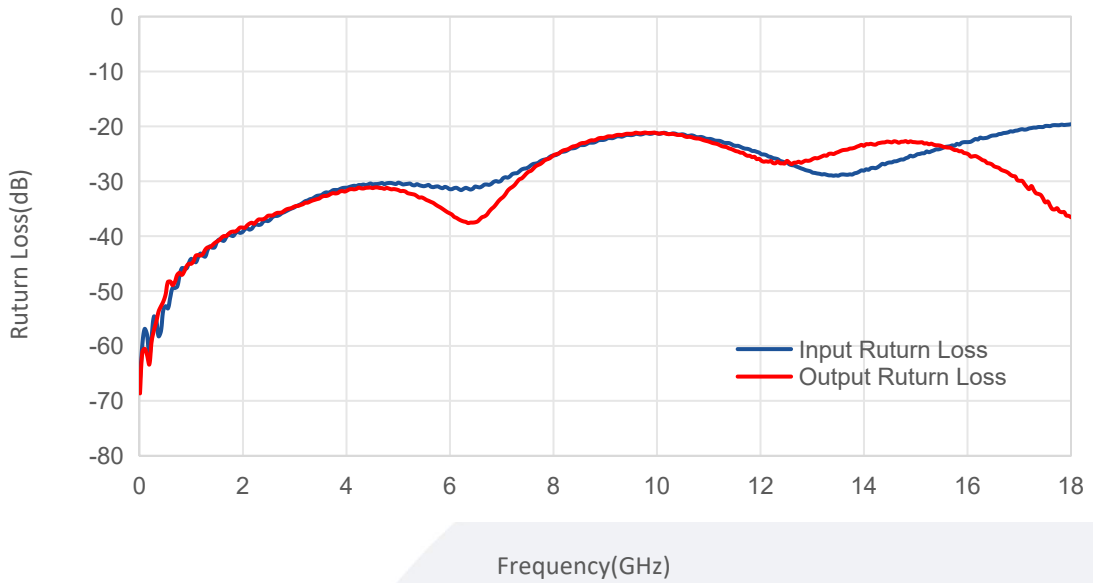
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**典型曲线 Typical Performance Data:**

**TA02A2-SKYK-18-Cryo:**

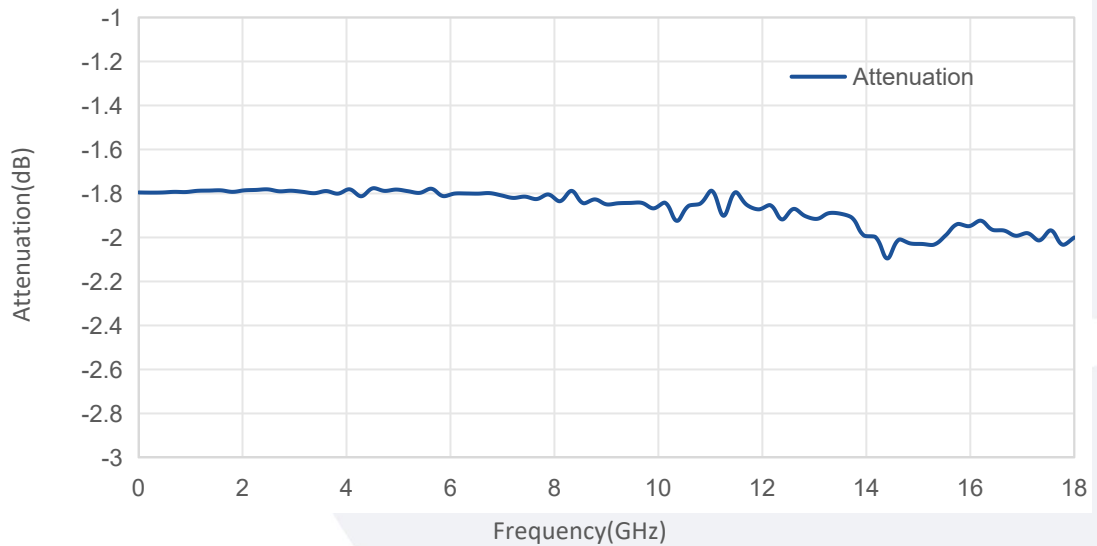
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**Return Loss vs Frequency**



**298K:**

**Attenuation vs Frequency**



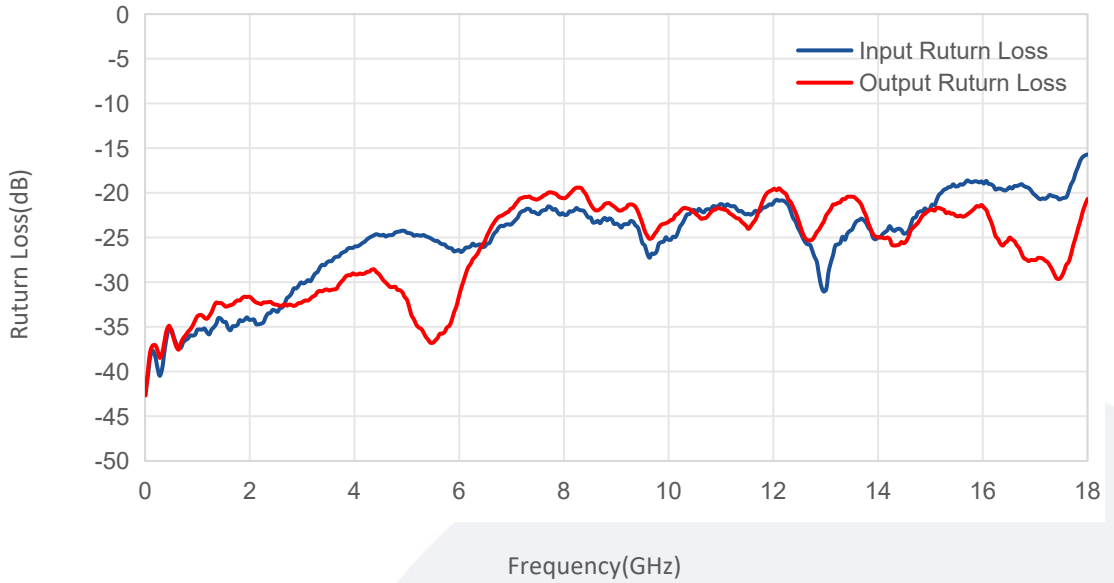
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**TA02A2-SKYK-18-Cryo:**

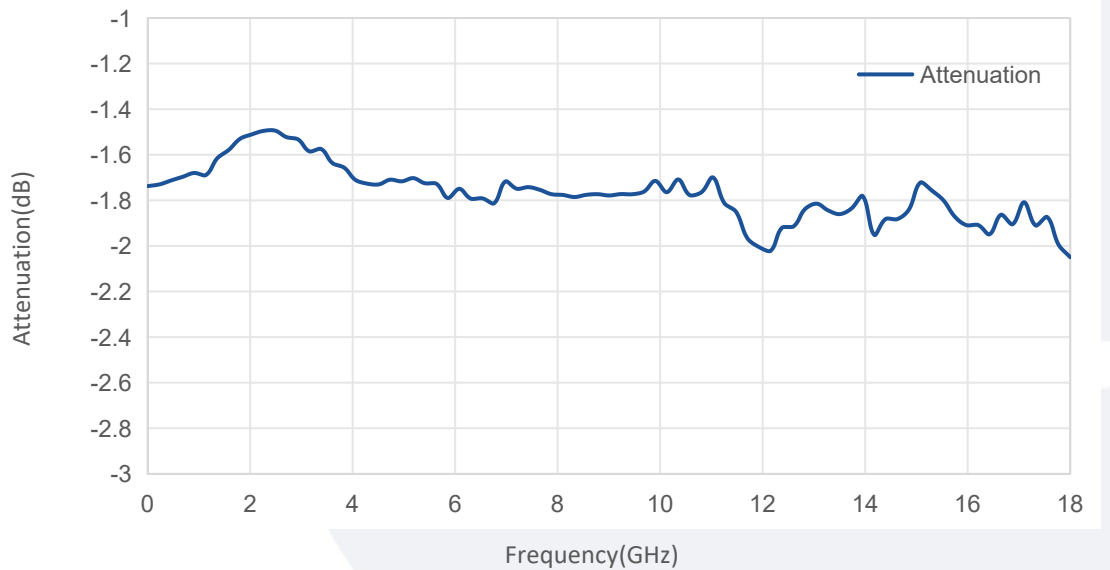
**77K:**

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**77K:**

**Attenuation vs Frequency**



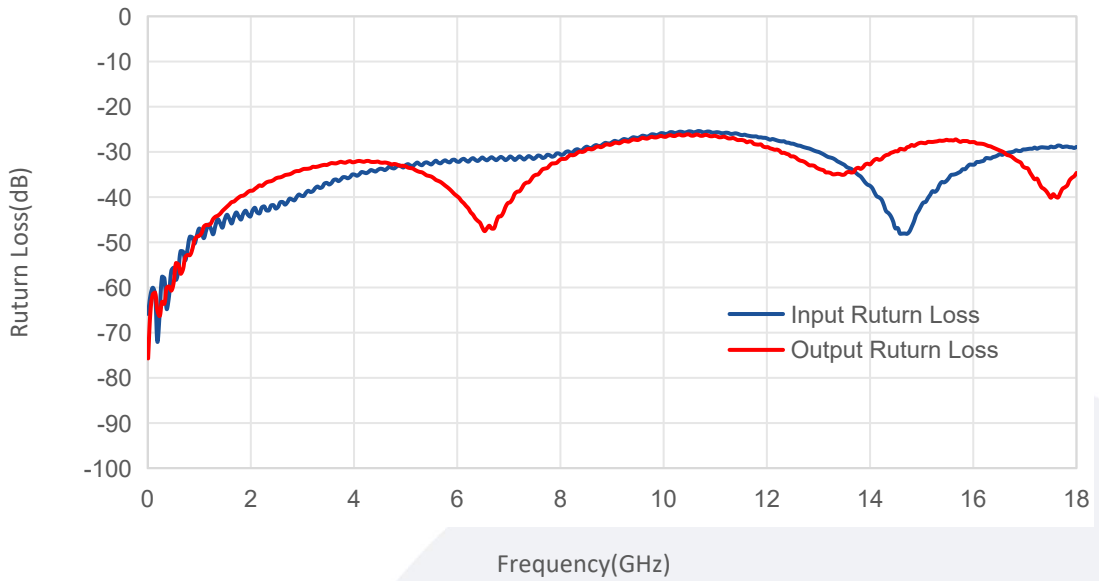
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**典型曲线 Typical Performance Data:**

**TA03A2-SKYK-18-Cryo:**

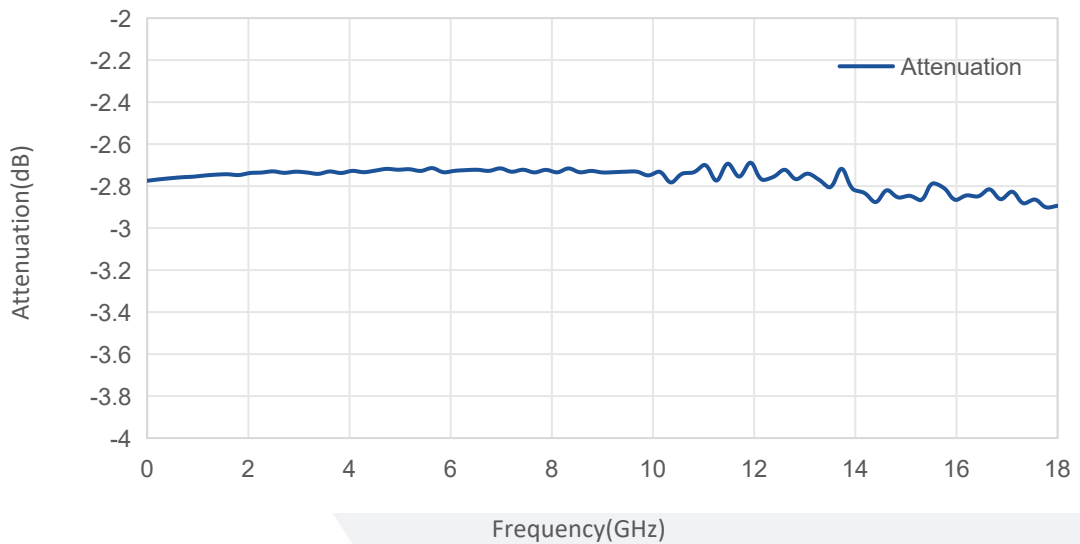
**298K:**

**Return Loss vs Frequency**



**298K:**

**Attenuation vs Frequency**



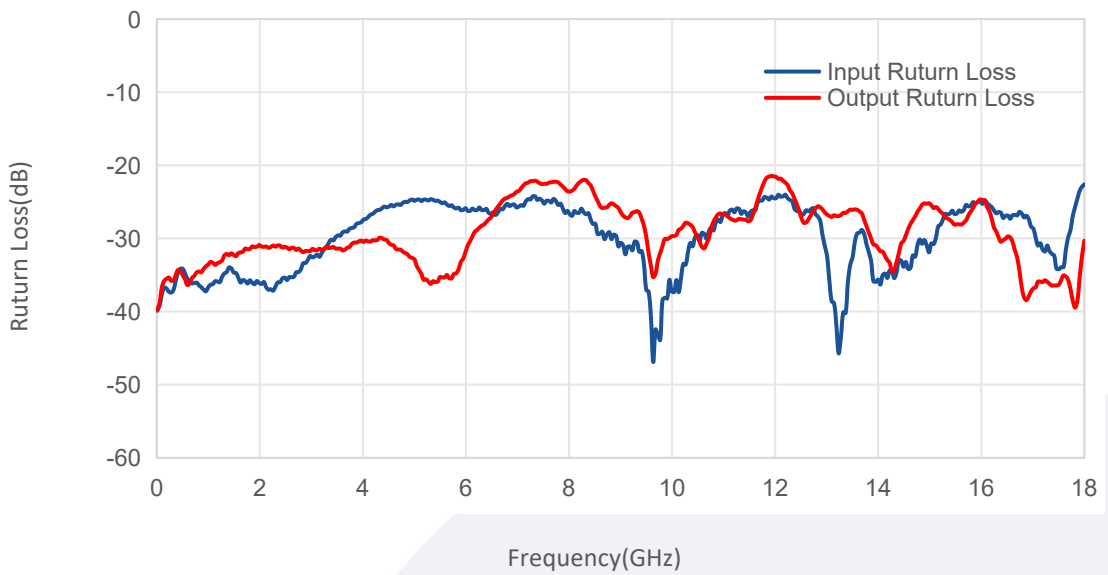
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**TA03A2-SKYK-18-Cryo:**

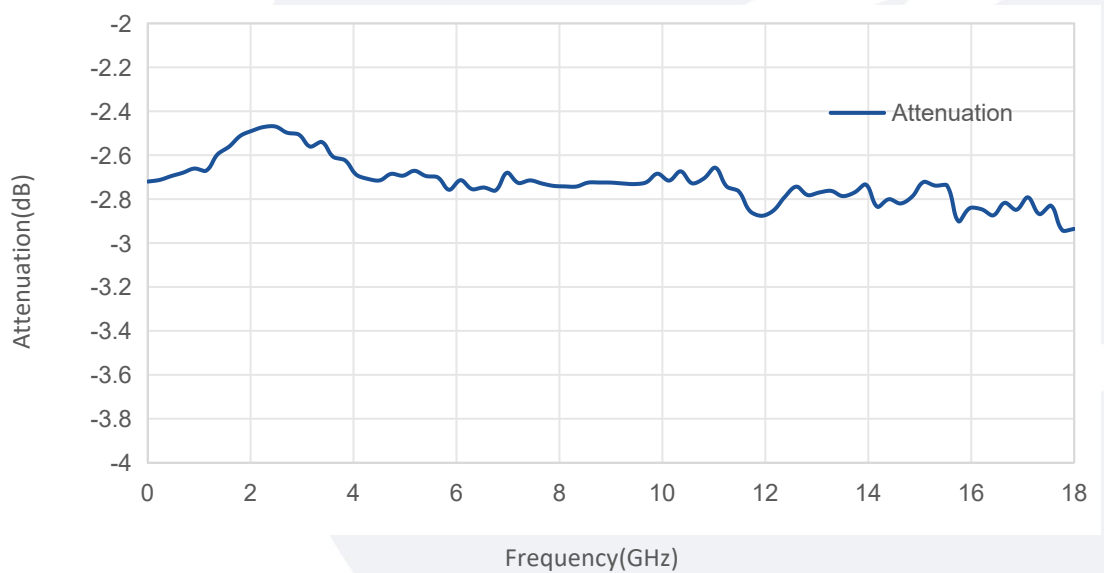
**77K:**

**Return Loss vs Frequency**



**77K:**

**Attenuation vs Frequency**



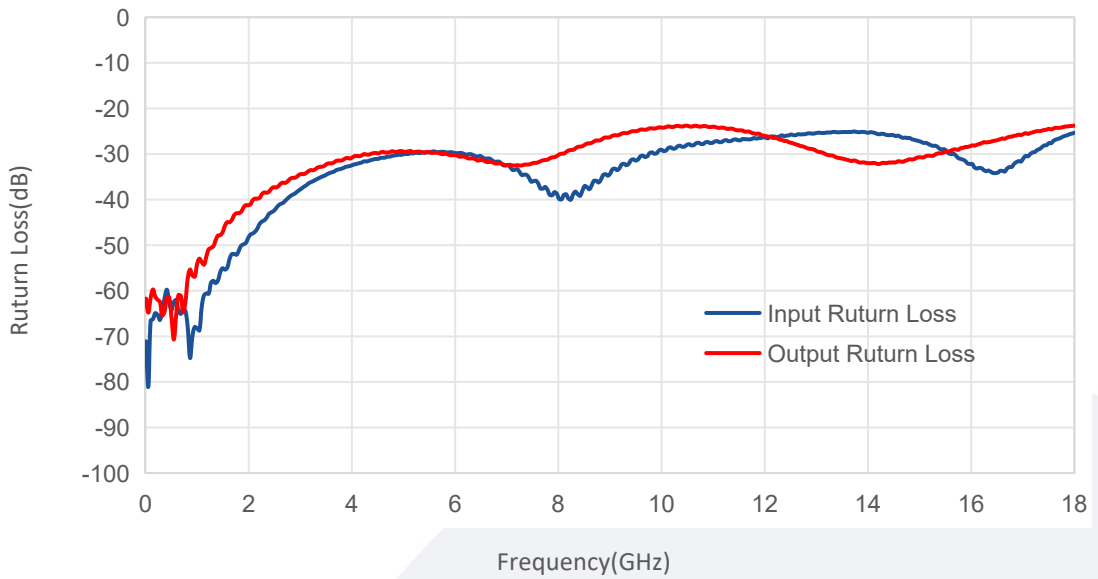
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**典型曲线 Typical Performance Data:**

**TA04A2-SKYK-18-Cryo:**

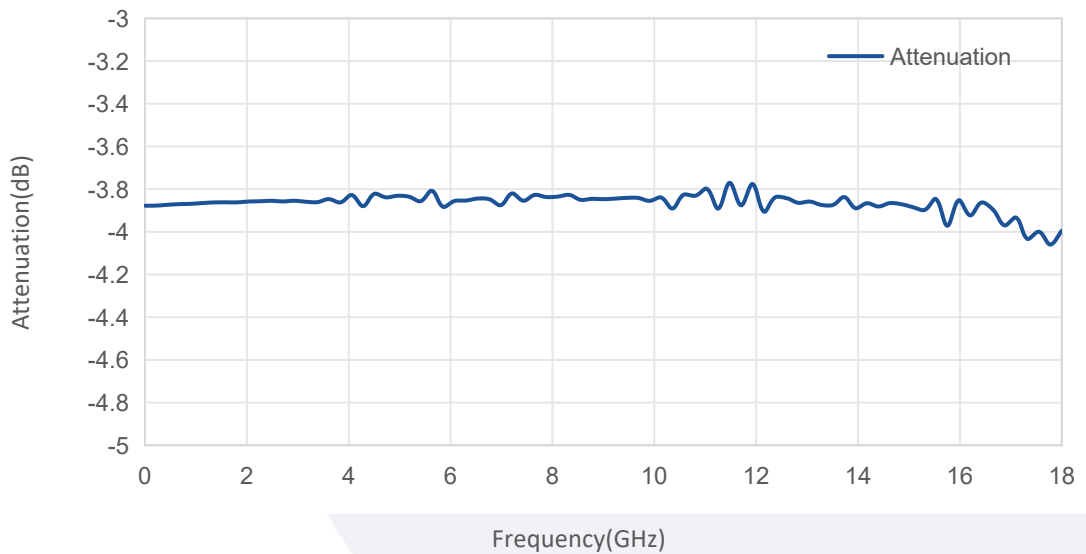
**298K:**

**Return Loss vs Frequency**



**298K:**

**Attenuation vs Frequency**



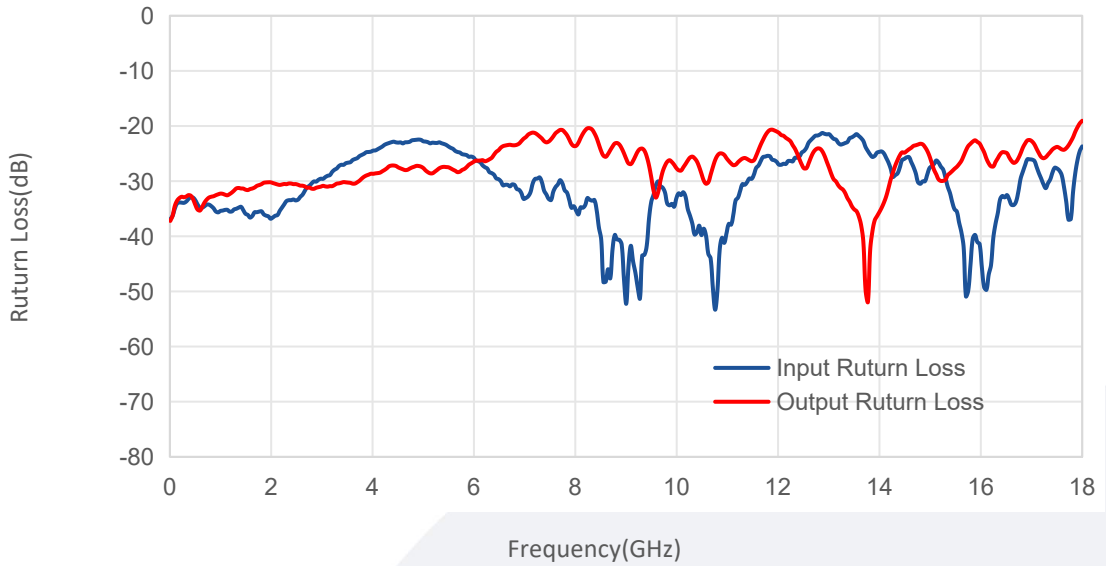
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

**典型曲线 Typical Performance Data:**

**TA04A2-SKYK-18-Cryo:**

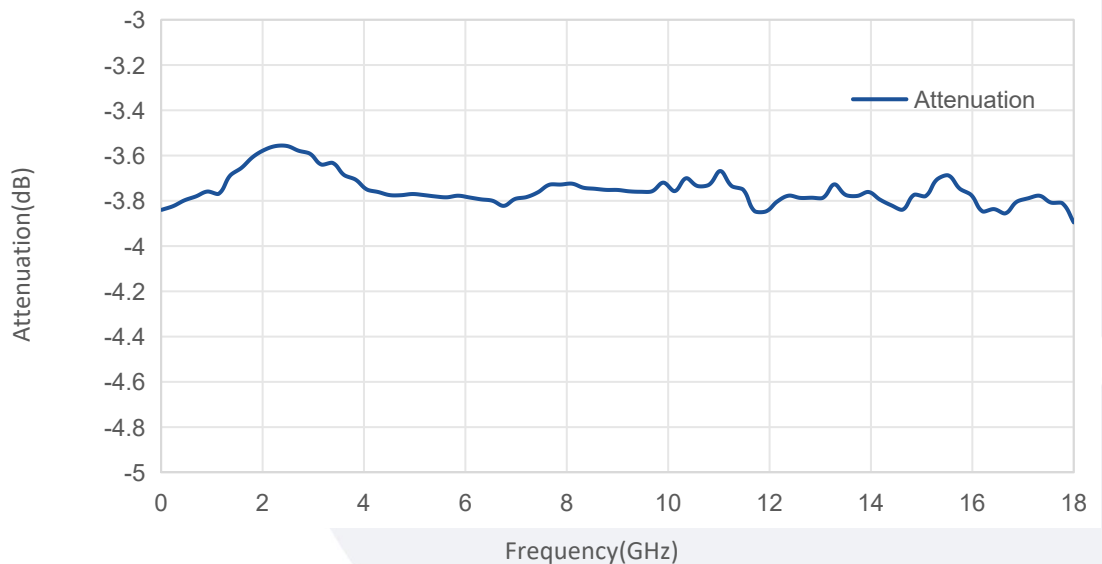
**77K:**

**Return Loss vs Frequency**



**77K:**

**Attenuation vs Frequency**



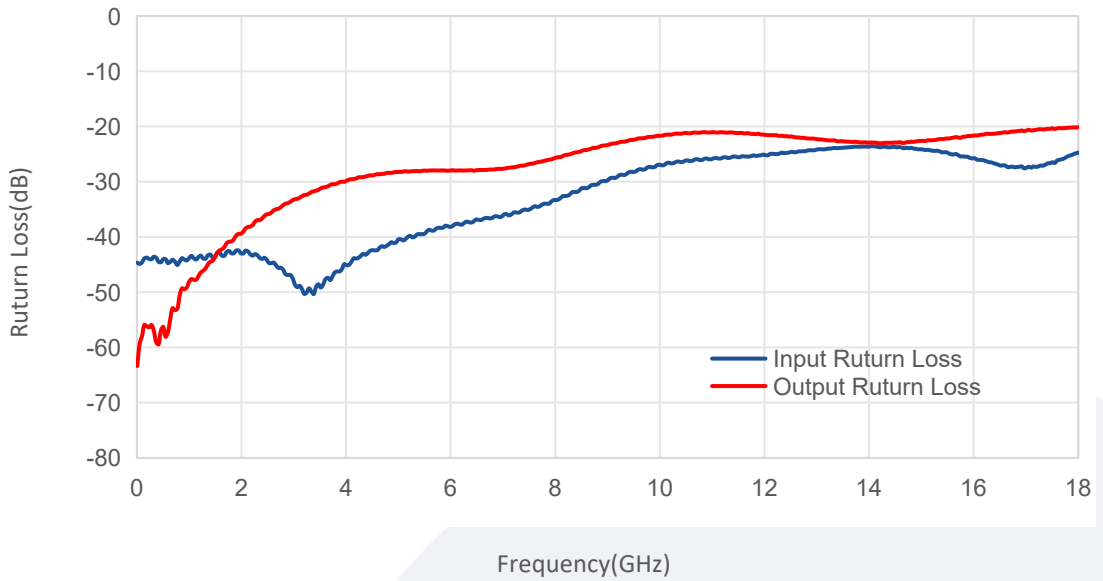
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**TA05A2-SKYK-18-Cryo:**

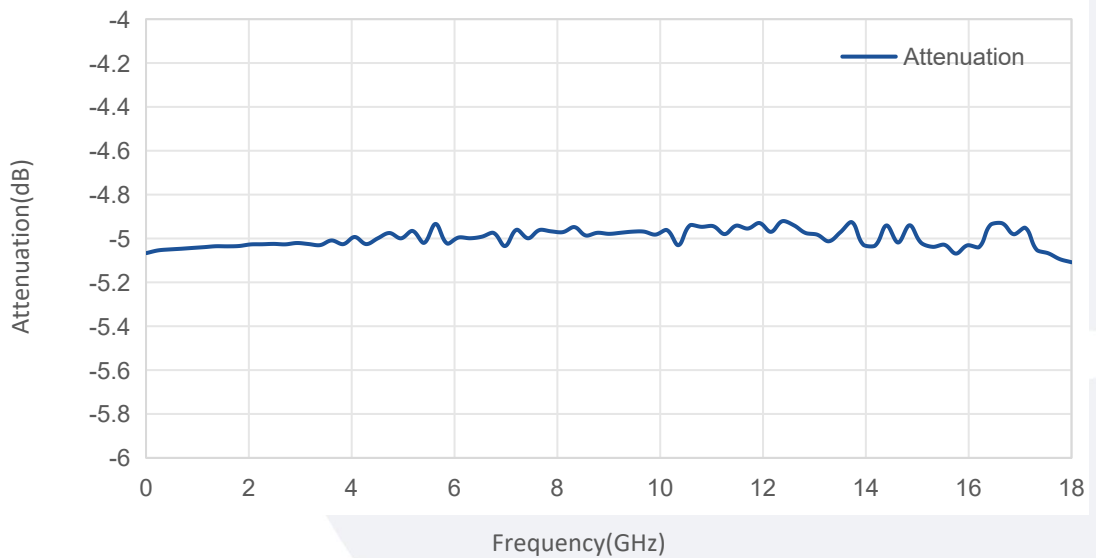
**298K:**

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**298K:**

**Attenuation vs Frequency**



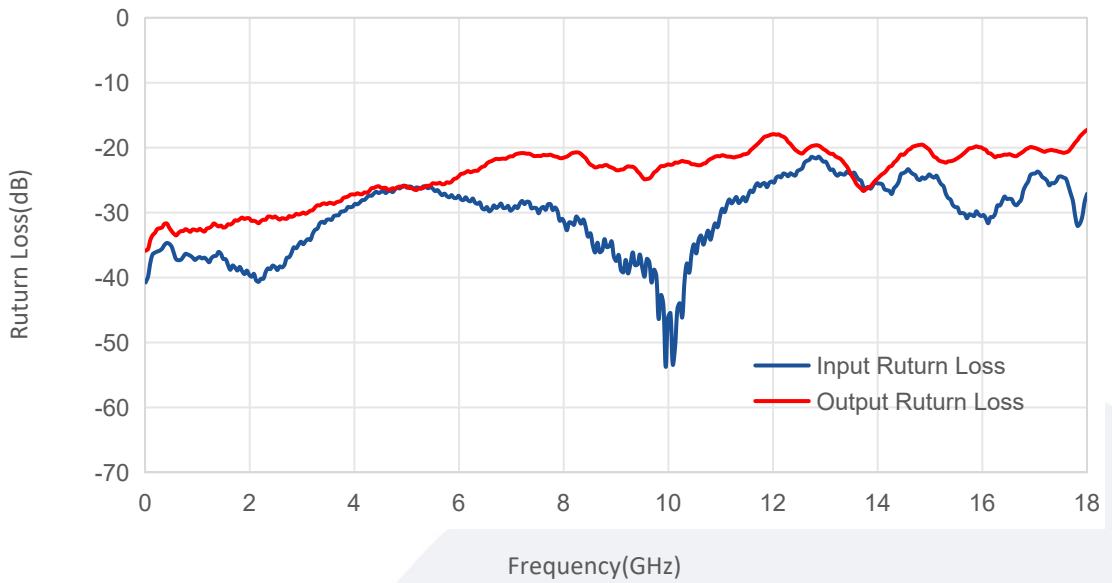
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**TA05A2-SKYK-18-Cryo:**

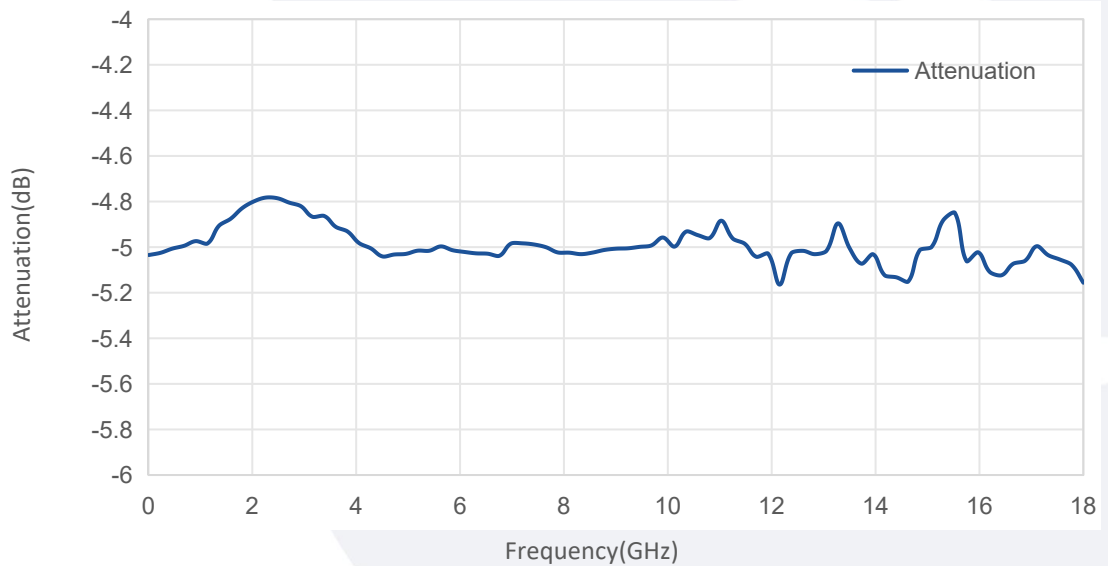
**77K:**

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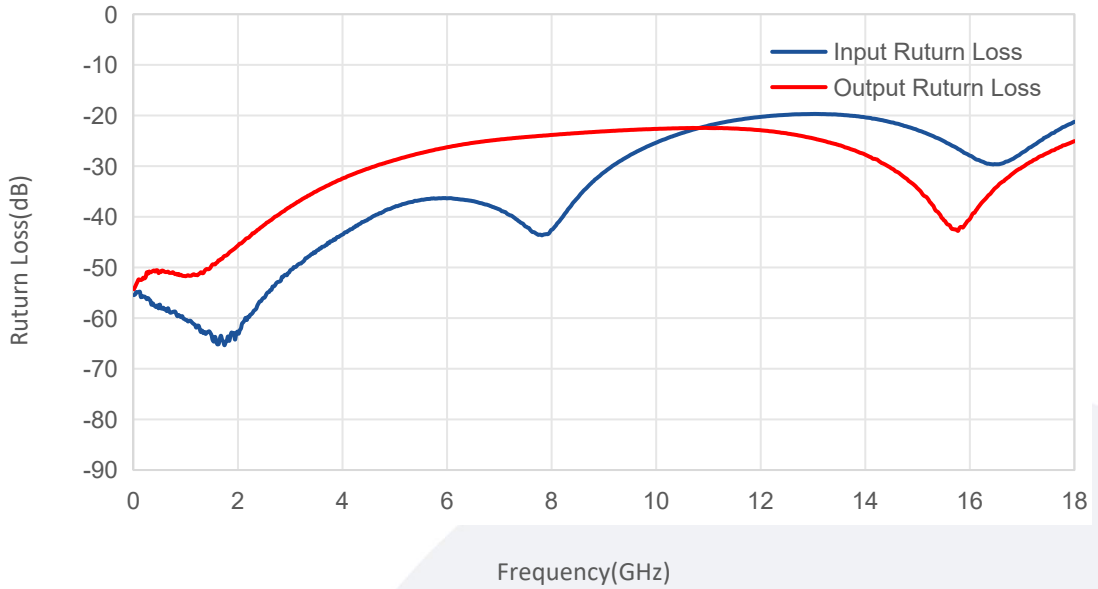
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**TA10A2-SKYK-18-Cryo:**

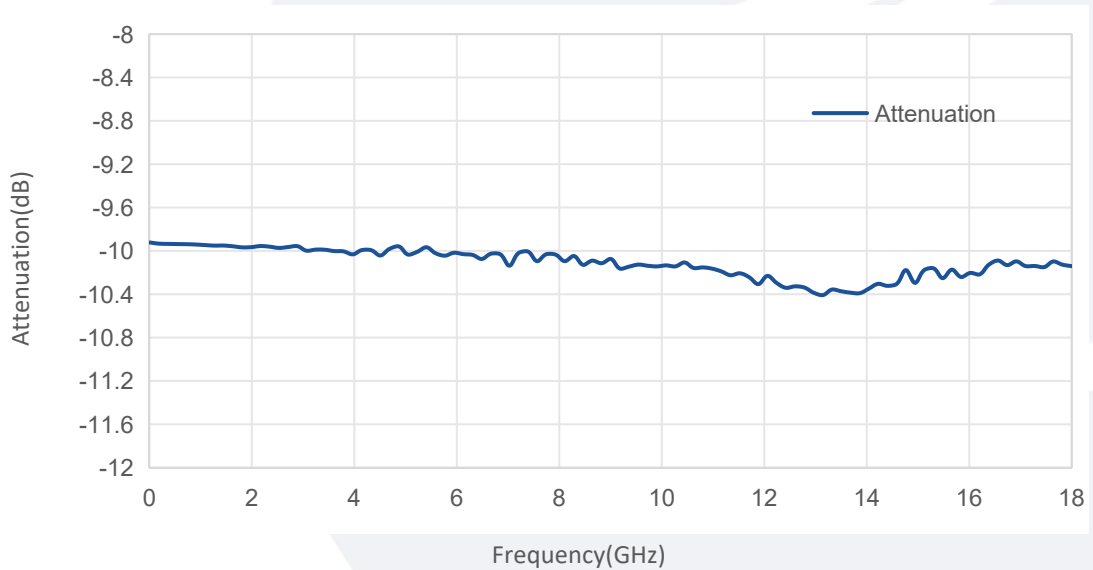
**298K:**

**Return Loss vs Frequency**



**298K:**

**Attenuation vs Frequency**



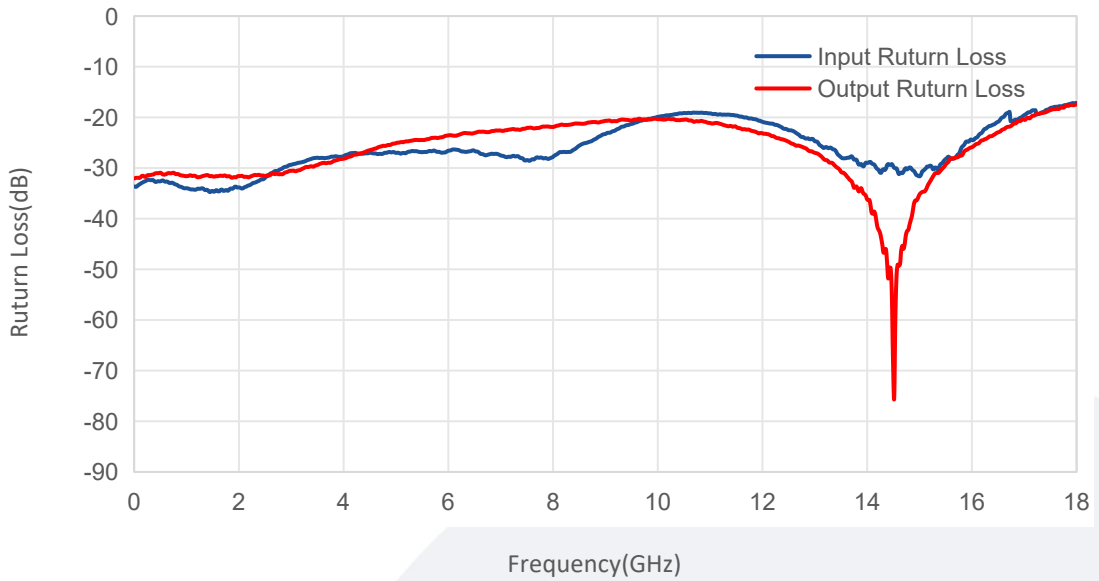
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**TA10A2-SKYK-18-Cryo:**

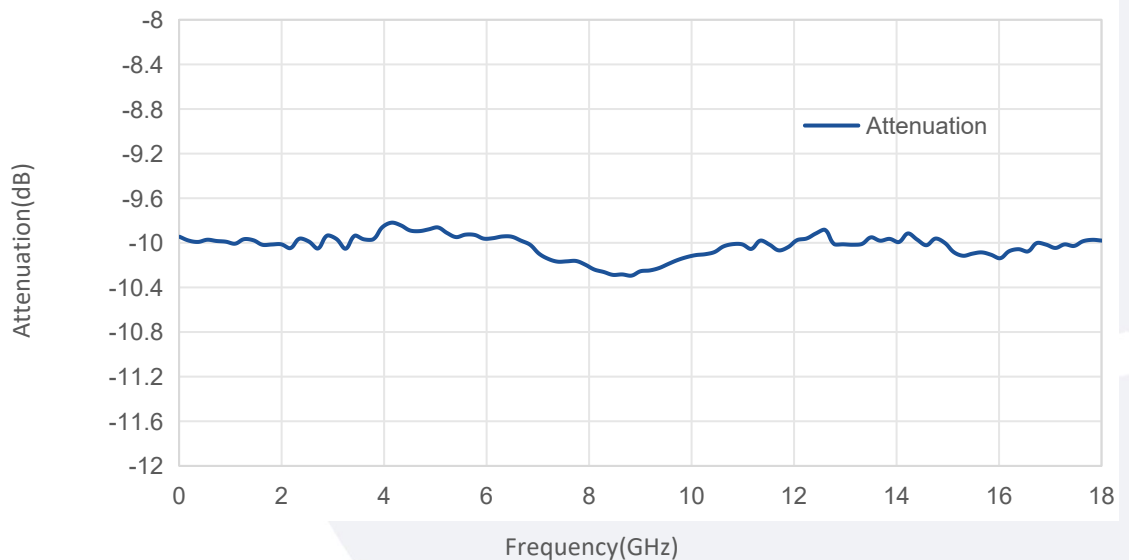
**77K:**

**Return Loss vs Frequency**



**77K:**

**Attenuation vs Frequency**



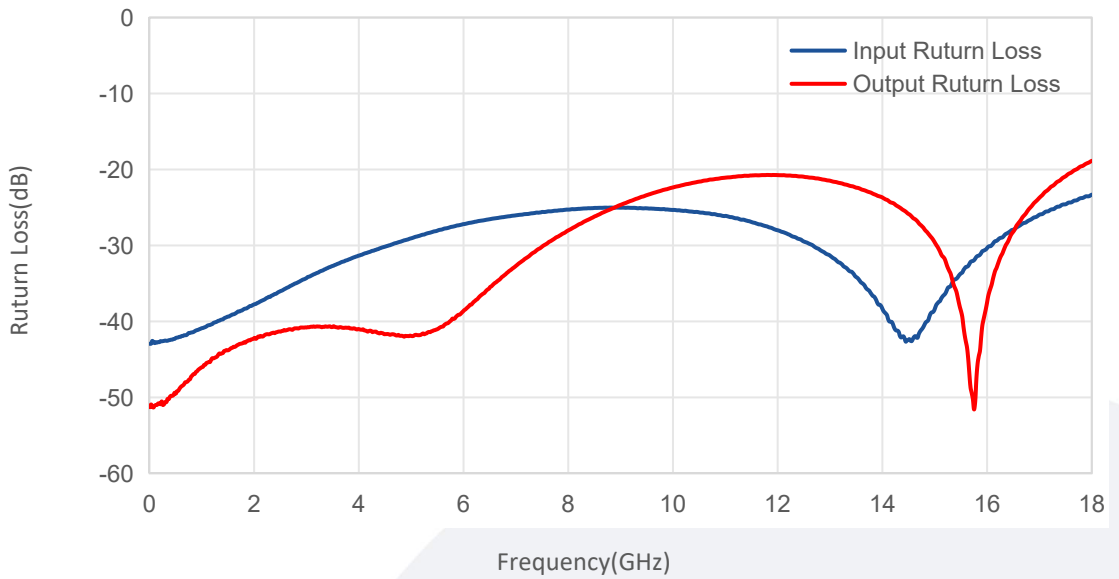
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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**TA20A2-SKYK-18-Cryo:**

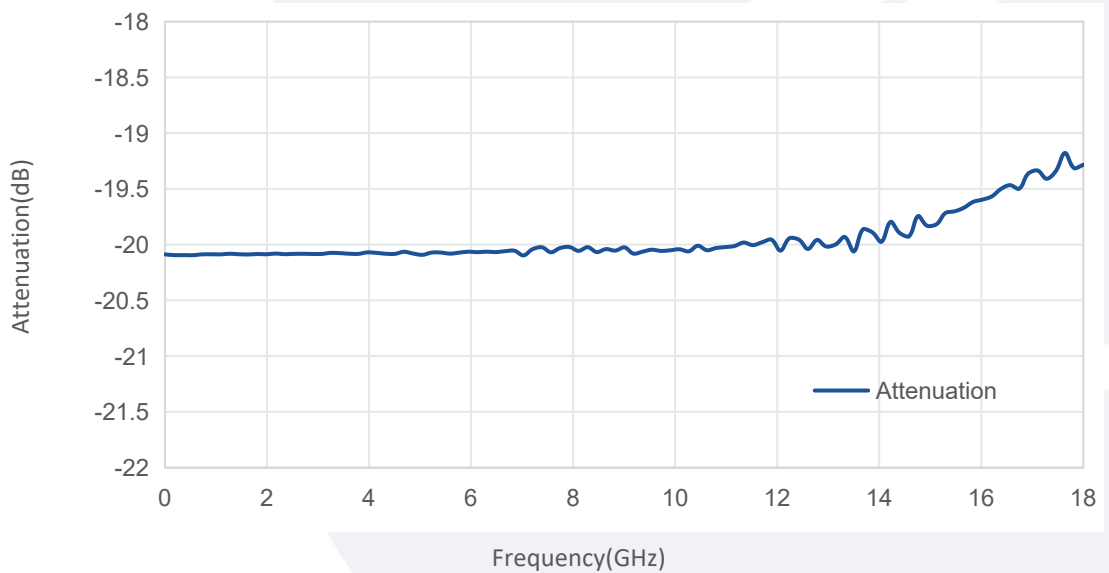
**298K:**

**Return Loss vs Frequency**



**298K:**

**Attenuation vs Frequency**



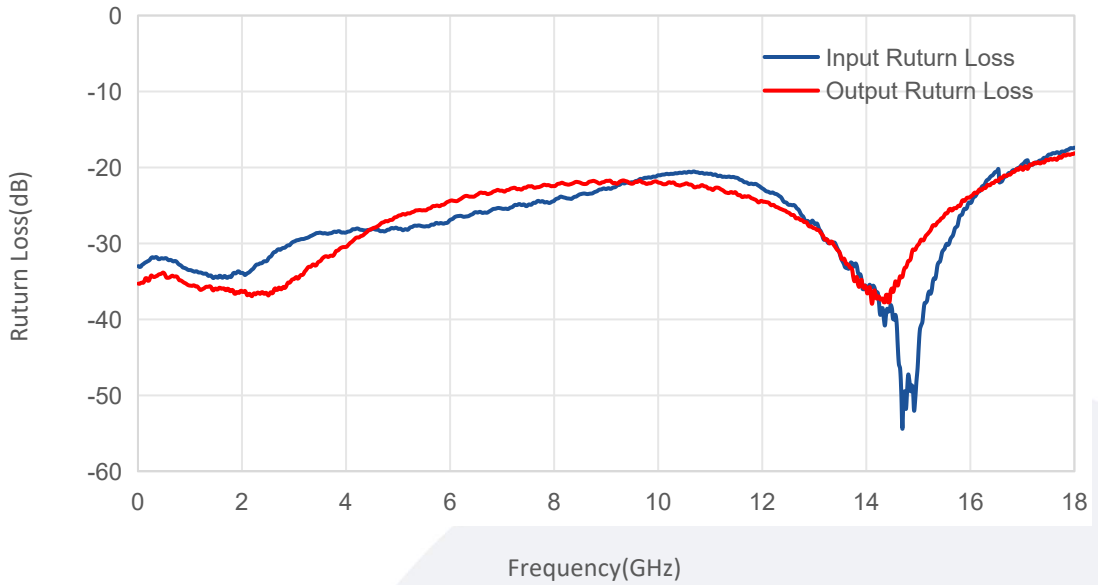
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**TA20A2-SKYK-18-Cryo:**

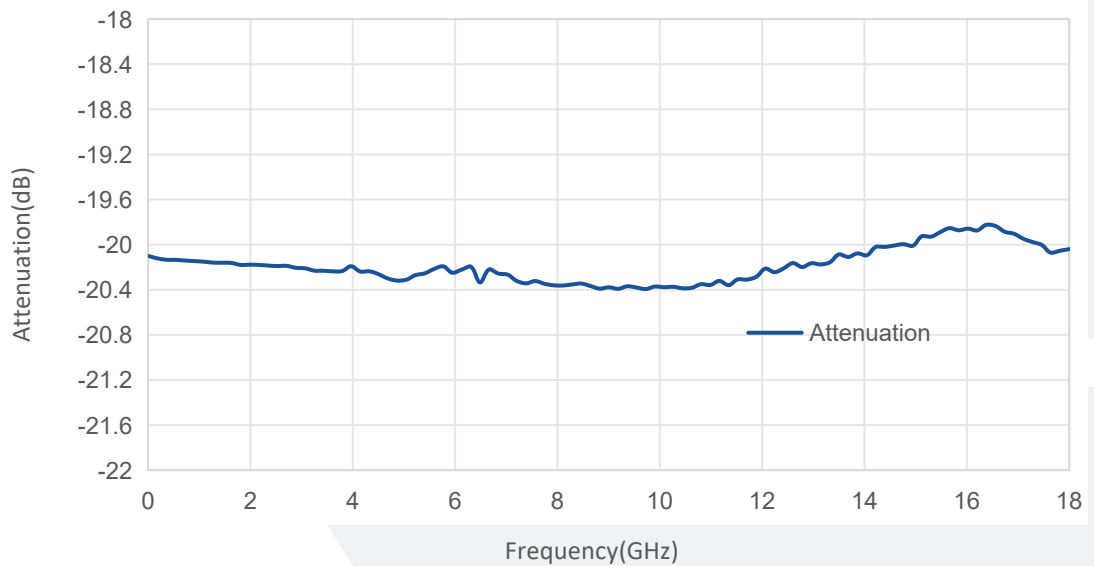
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