

## Voltage Controlled Attenuator

### 0.1-40 GHz/40dB Attenuation Range

**Model: TLVA0.1G40G-40-10**

The TLVA0.1G40G-40-10 is an broadband voltage controlled electrical attenuator operating from 0.1 to 40 GHz. The attenuator exhibits 10 dB typical insertion loss and 0 to 40 dB nominal attenuation range across the frequency range of 0.1 to 40 GHz while applying 0 to +10 V DC control voltage. The RF input and output ports are female 2.92 mm coax connectors.

#### Features:

- Ultra Wide Band: 0.1-40GHz
- Attenuation Range: 40 dB Typ
- Insertion Loss: 10 dB Typ
- High Attenuator Accuracy

#### Applications:

- Radar Systems
- Communication Systems
- Testing Equipment

#### 电气特性 Electrical Characteristics:

| 参数 Parameter           | Min    | Typ | Max | 单位 Units |
|------------------------|--------|-----|-----|----------|
| 频率范围 Frequency range   | 0.1-40 |     |     | GHz      |
| 插损 Insertion Loss      |        | 10  |     | dB       |
| 衰减范围 Attenuation Range |        | 40  |     | dB       |
| 输入驻波 Input VSWR        |        | 2.5 |     | :1       |
| 输出驻波 Output VSWR       |        | 2.5 |     | :1       |
| 最大输入功率 Input Max Power |        |     | 26  | dBm      |
| 控制电压 Control Voltage   | 0      | 10  |     | V DC     |
| 直流电压 DC Voltage        |        | 5   |     | V DC     |
| 直流电流 DC Supply Current |        | 30  |     | mA       |
| 阻抗 Impedance           | 50     |     |     | Ohms     |

#### 机械特性 Mechanical Specifications:

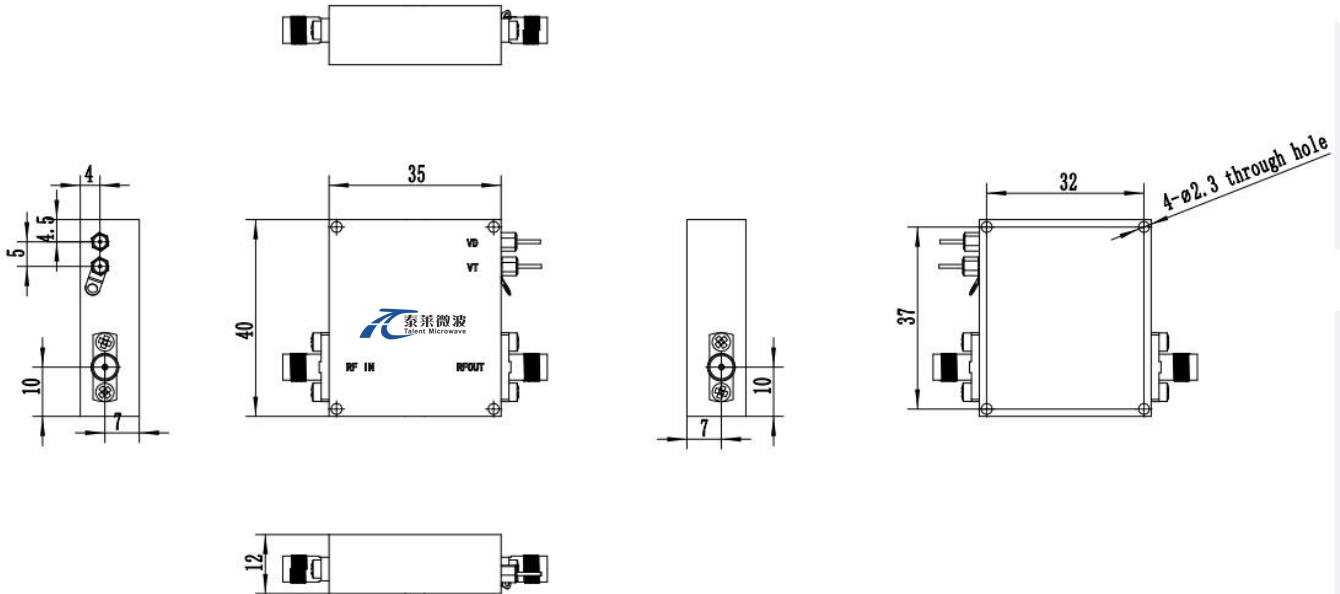
| 描述 Description                  | 参数 Parameter                | 单位 Units |
|---------------------------------|-----------------------------|----------|
| 输入/输出接口 Input /Output Connector | 2.92mm Female/2.92mm Female |          |
| 控制连接器 Control Connector         | Pin                         |          |
| 尺寸 Size                         | 35*40*12                    | mm       |
| 材质 Material                     | /                           |          |

## 绝对最大值 Absolute Maximum Ratings :

| 描述 Description               | 参数 Parameter         | 单位 Units |
|------------------------------|----------------------|----------|
| 供电偏置电压 Supply Bias Voltage   | TBD                  |          |
| 射频输入功率 RF Input Power        | 26 dBm               |          |
| ESD灵敏度 ESD sensitivity (HBm) | Class 0, passed 150V |          |

## 外形图 Outline Drawing:

Unit:mm



OBSERVE PRECAUTIONS  
ELECTROSTATIC SENSITIVE  
DEVICES

## 温度环境 Environmental Conditions:

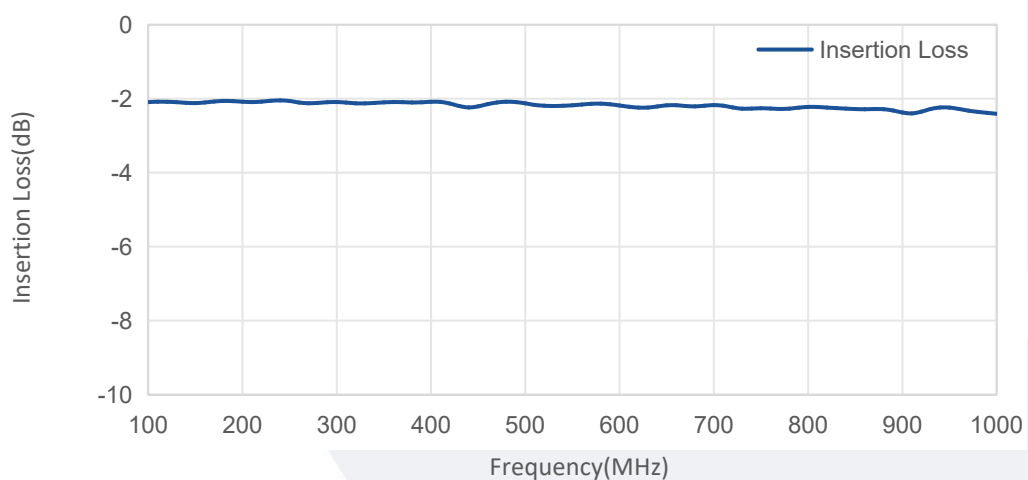
| 参数 Parameter                       | Min                                                 | Typ | Max | 单位 Units |
|------------------------------------|-----------------------------------------------------|-----|-----|----------|
| 操作温度 Operating Temperature         | -10                                                 |     | +65 | °C       |
| 存储温度 Non-operating Temperature     | -45                                                 |     | +85 | °C       |
| 相对湿度 Relative humidity             |                                                     | 95  |     | %        |
| 海拔 Altitude                        | 10,000                                              |     |     | 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 |
|-------------------|------------------------------------------------------------------------|--------------|
| TLVA0.1G40G-40-10 | Voltage Controlled Attenuator<br>0.1-40 GHz, 40 dB Range,2.92mm Female | Rev.1.1      |

## 典型曲线 Typical Performance Data:

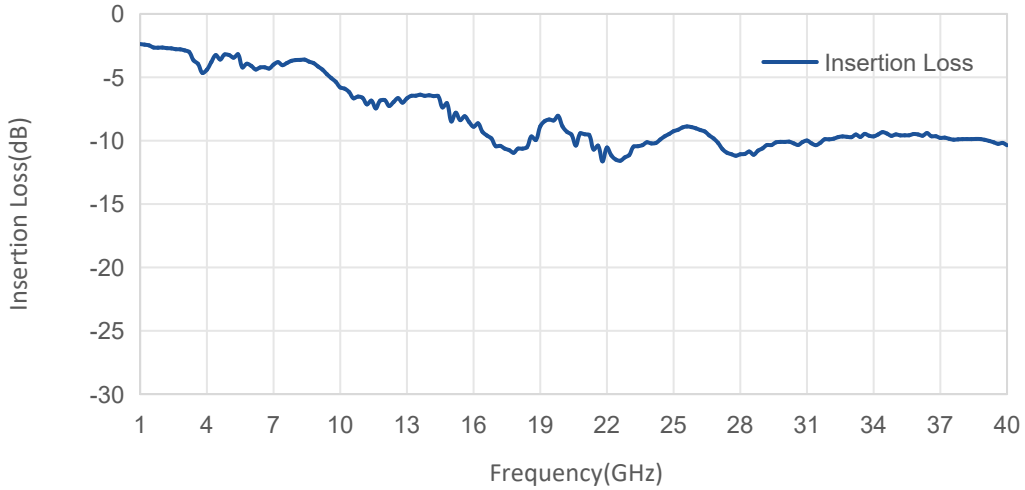
Insertion Loss vs Frequency@Pin=0dBm



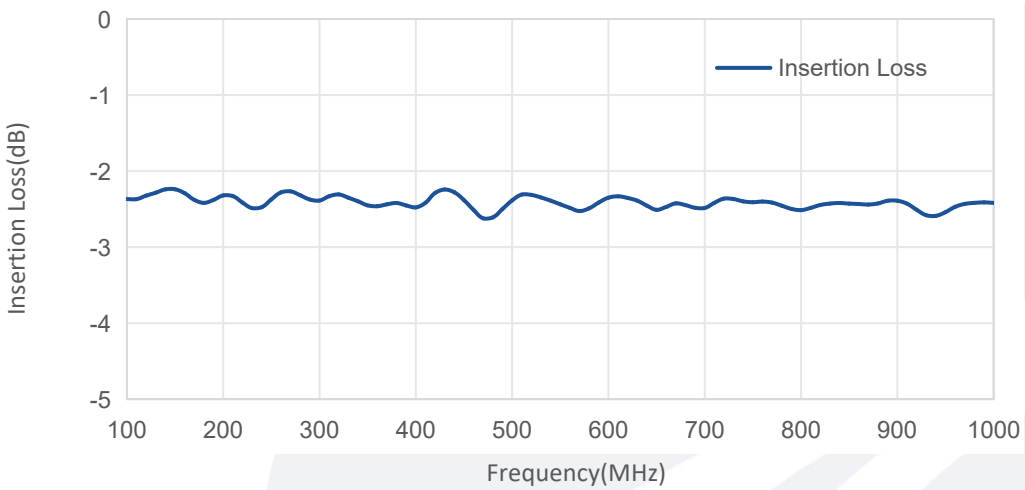
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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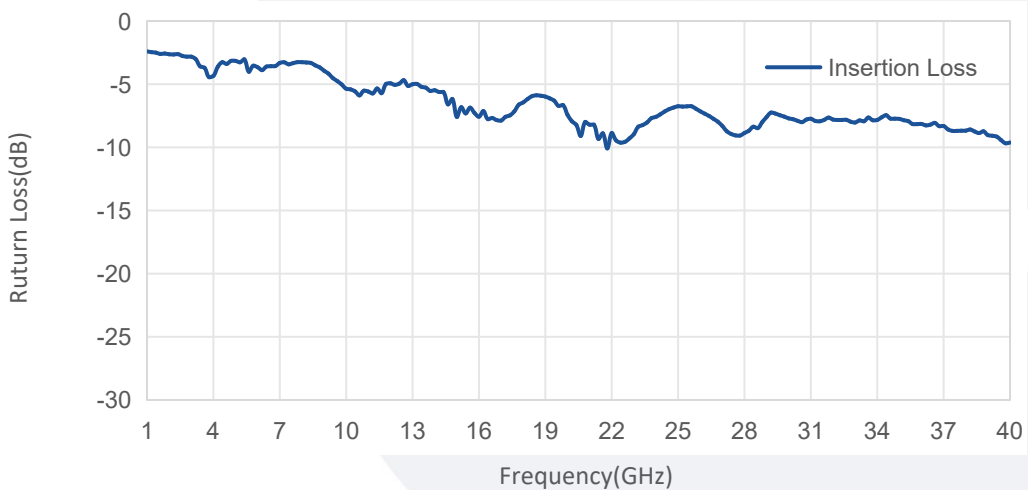
Insertion Loss vs Frequency@Pin=0dBm



Insertion Loss vs Frequency@Pin=5dBm



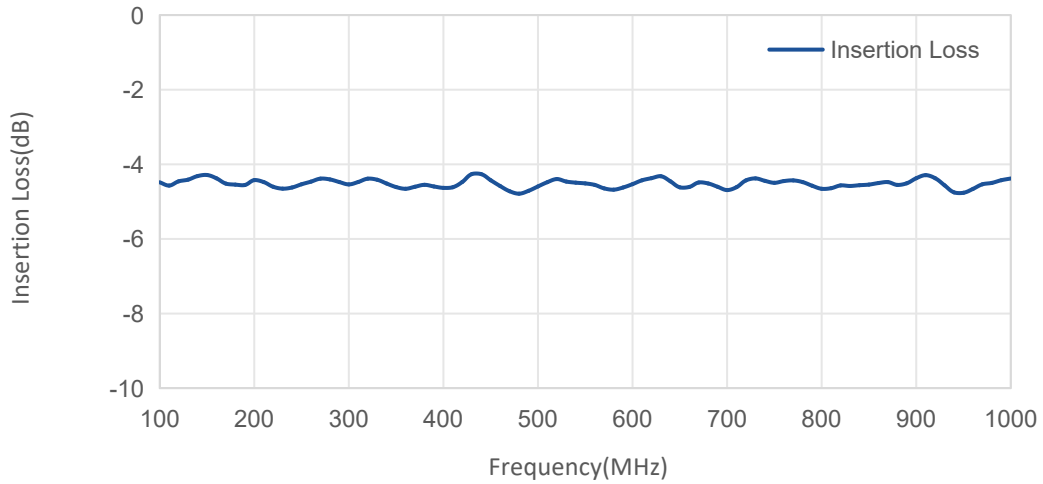
Insertion Loss vs Frequency@Pin=5dBm



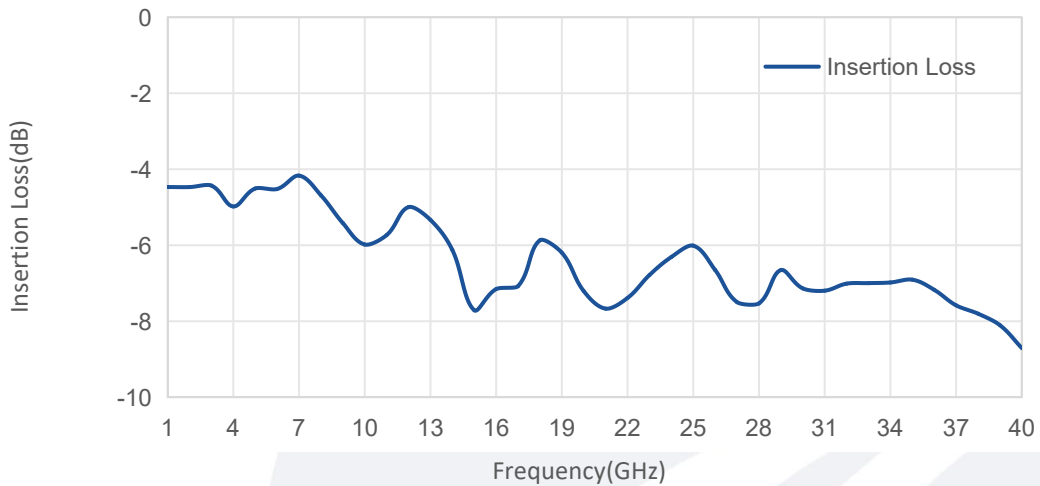
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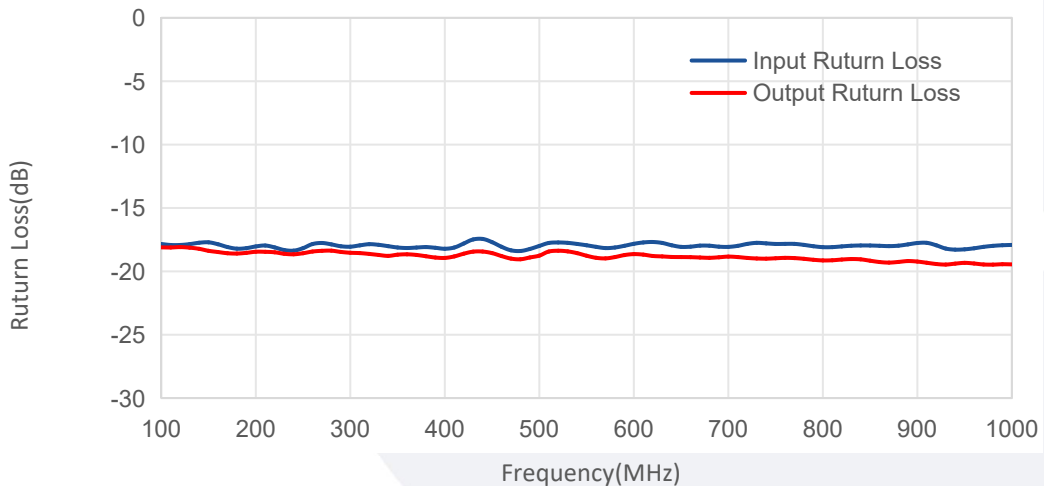
### Insertion Loss vs Frequency@Pin=10dBm



### Insertion Loss vs Frequency@Pin=10dBm



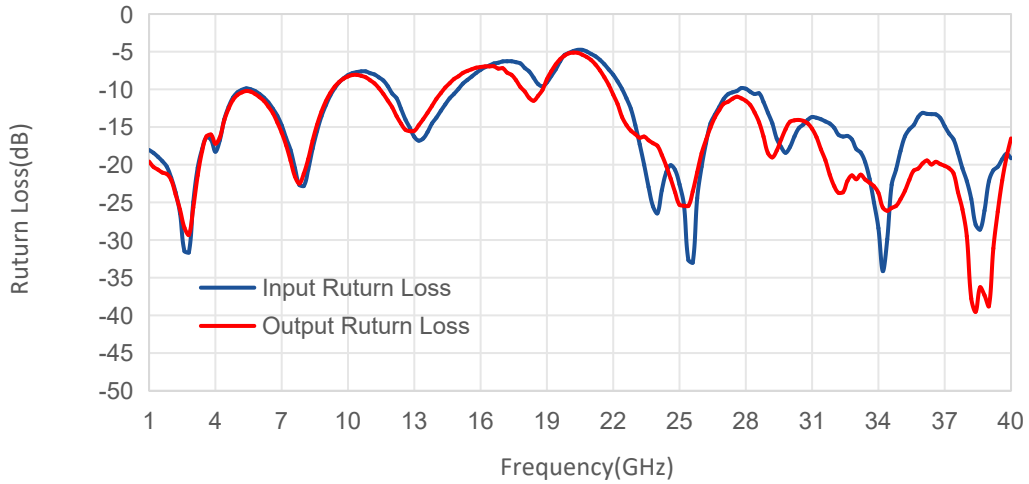
### Return Loss vs Frequency@Pin=0dBm



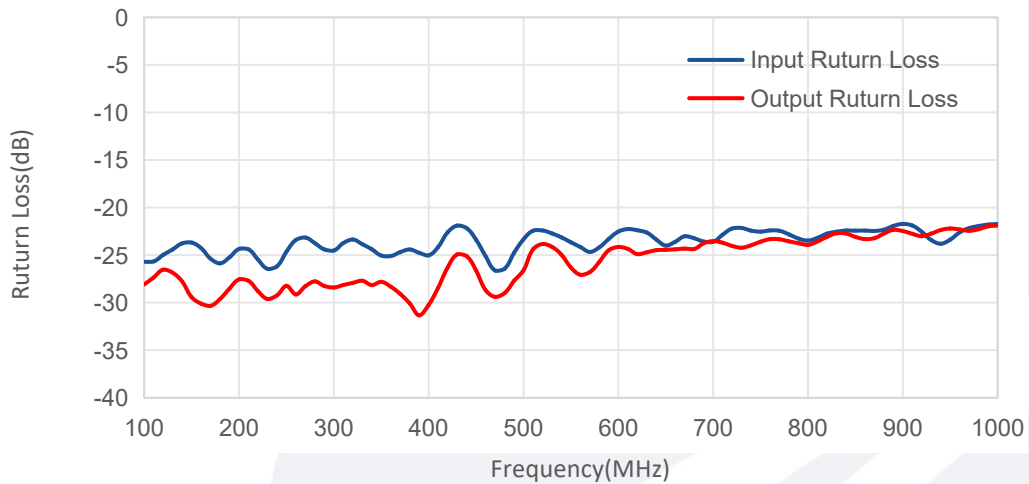
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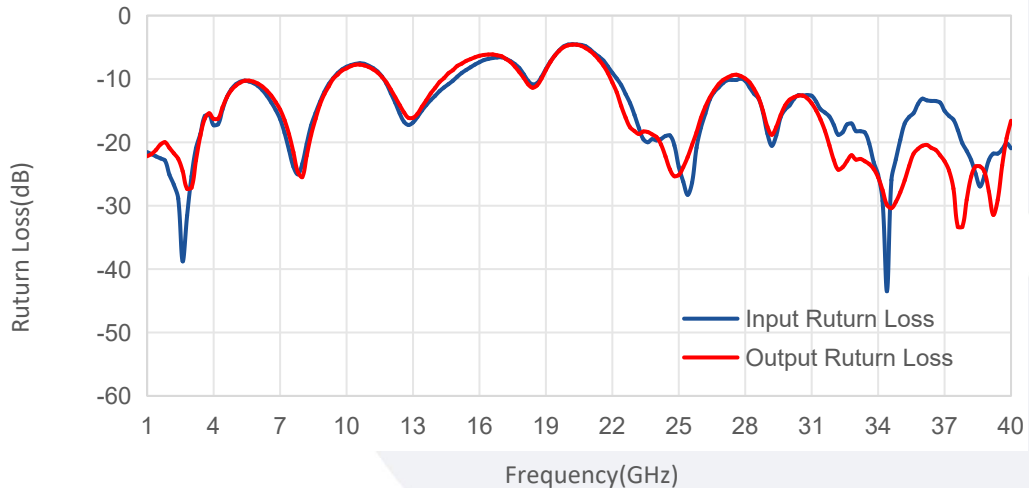
### Return Loss vs Frequency@Pin=0dBm



### Return Loss vs Frequency@Pin=5dBm



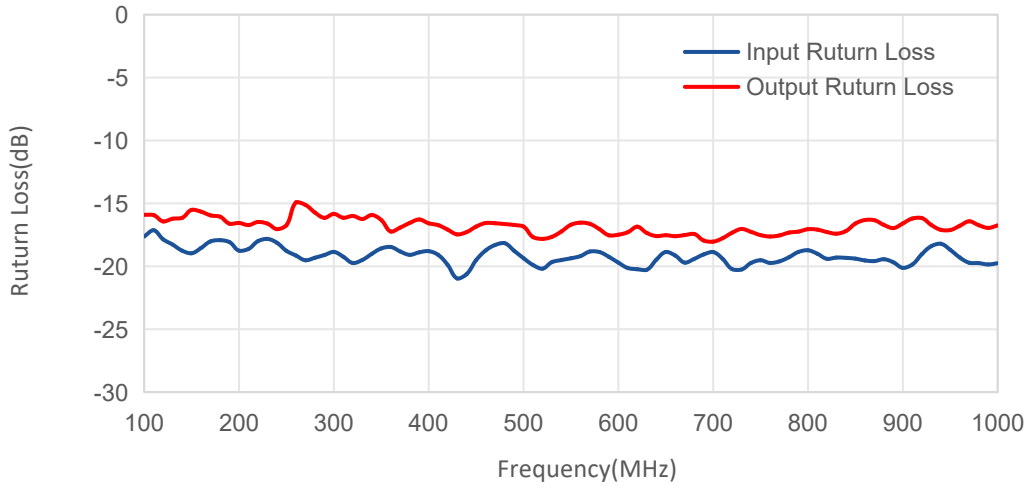
### Return Loss vs Frequency@Pin=5dBm



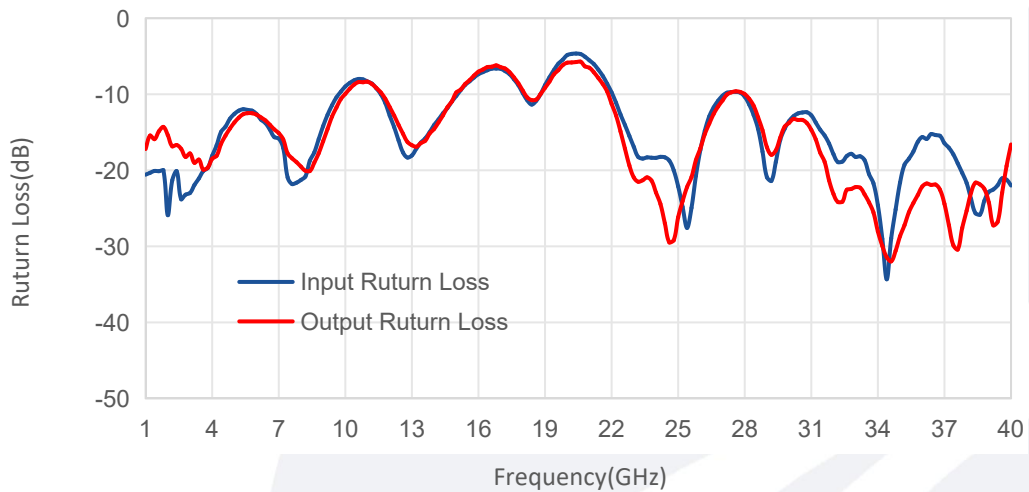
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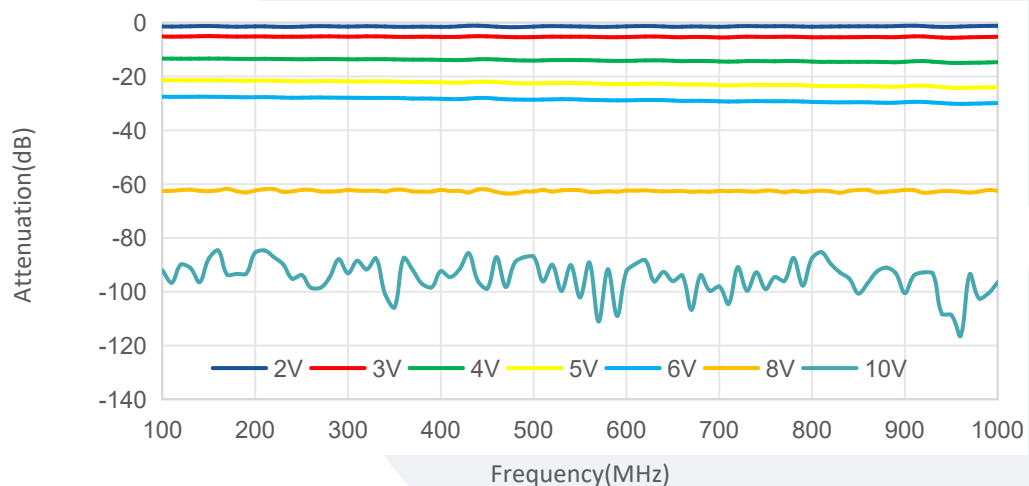
### Ruturn Loss vs Frequency@Pin=10dBm



### Ruturn Loss vs Frequency@Pin=10dBm

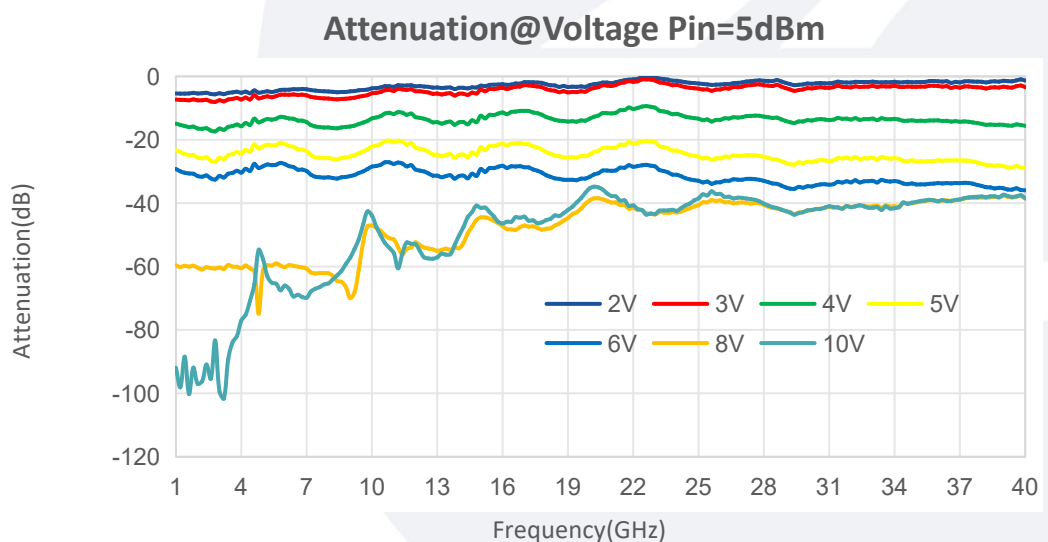
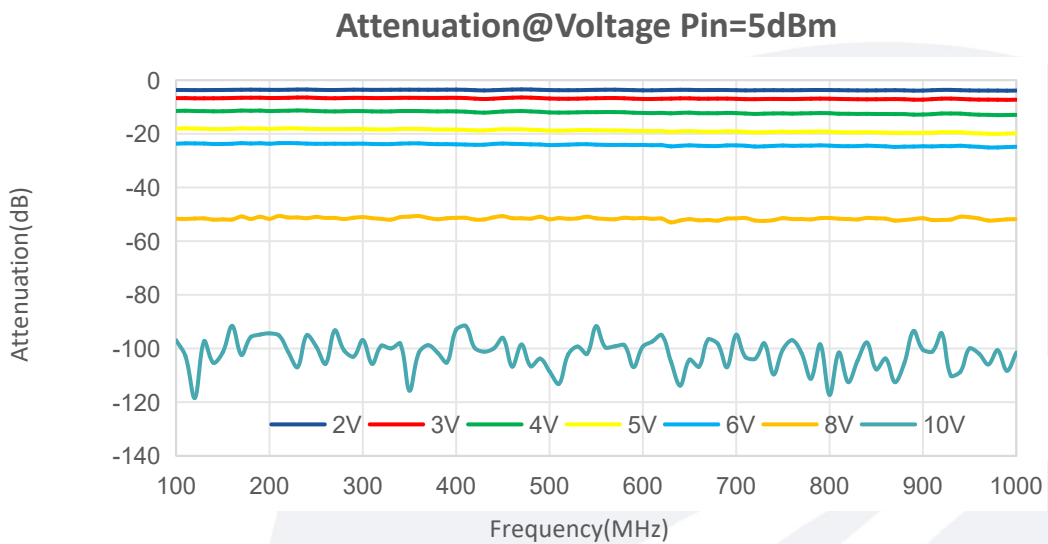
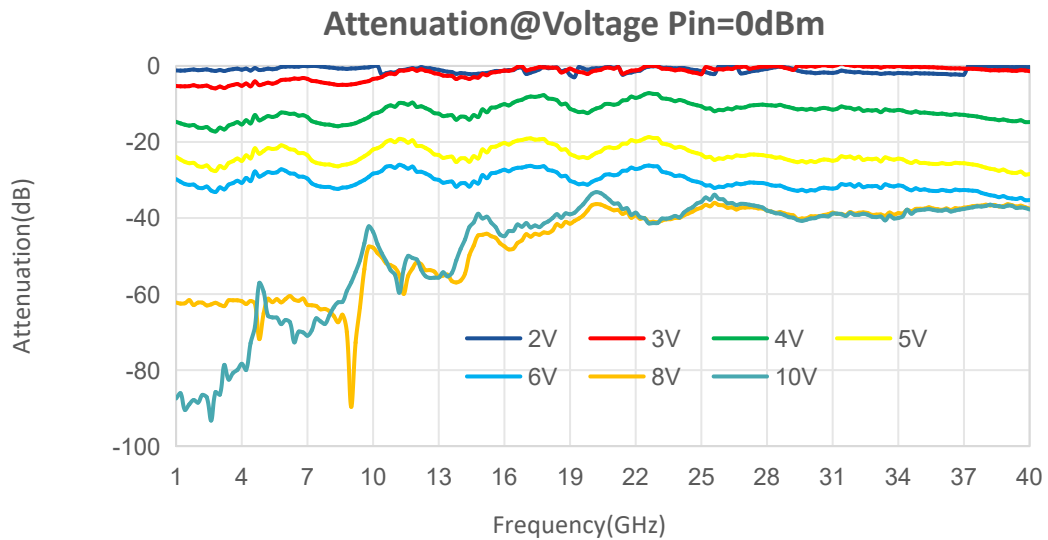


### Attenuation@Voltage Pin=0dBm



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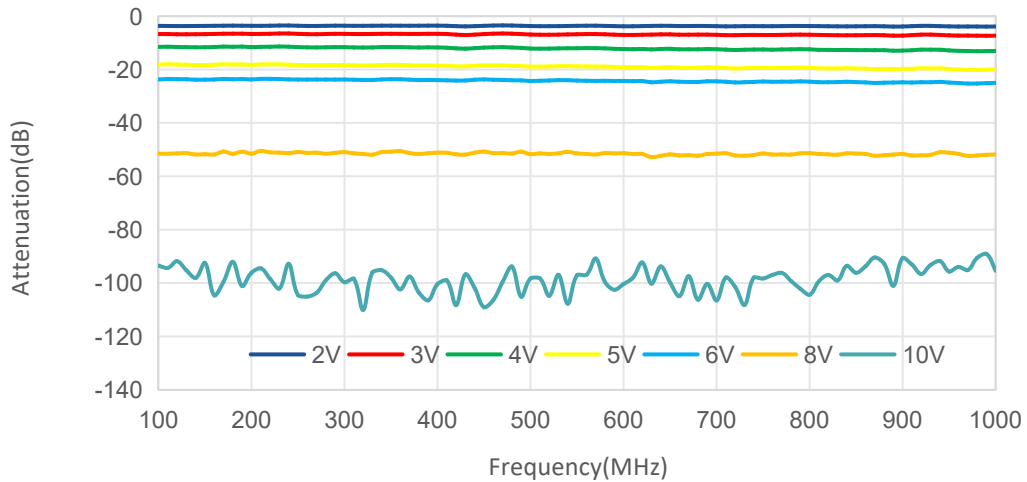


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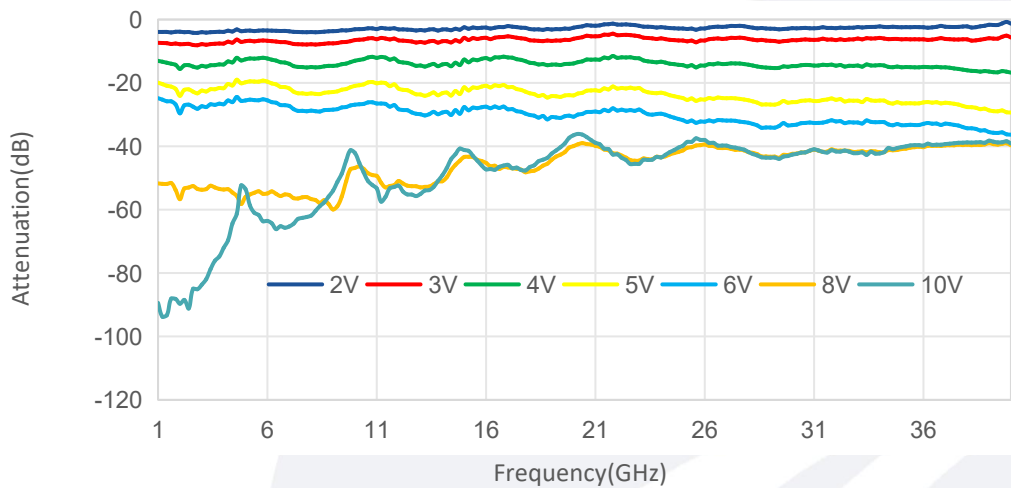


## 典型曲线 Typical Performance Data:

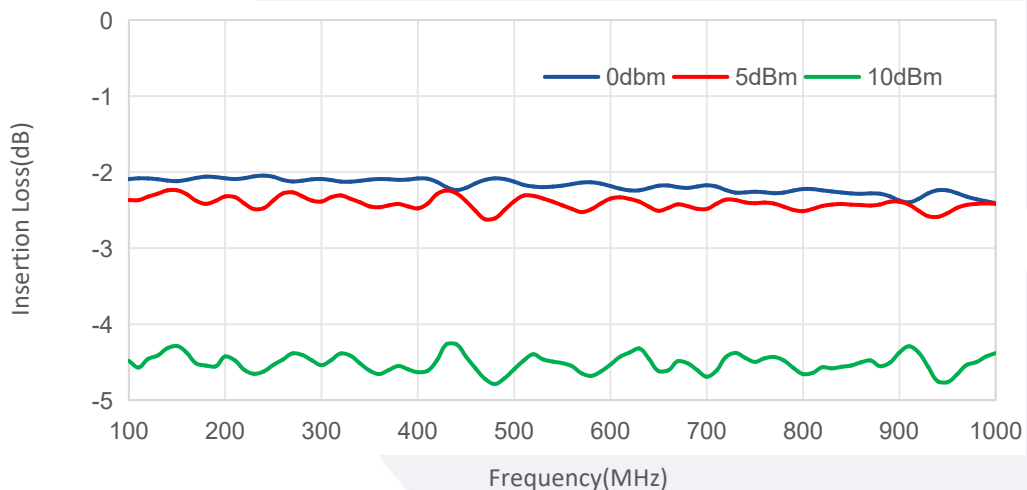
**Attenuation@Voltage Pin=10dBm**



**Attenuation@Voltage Pin=10dBm**



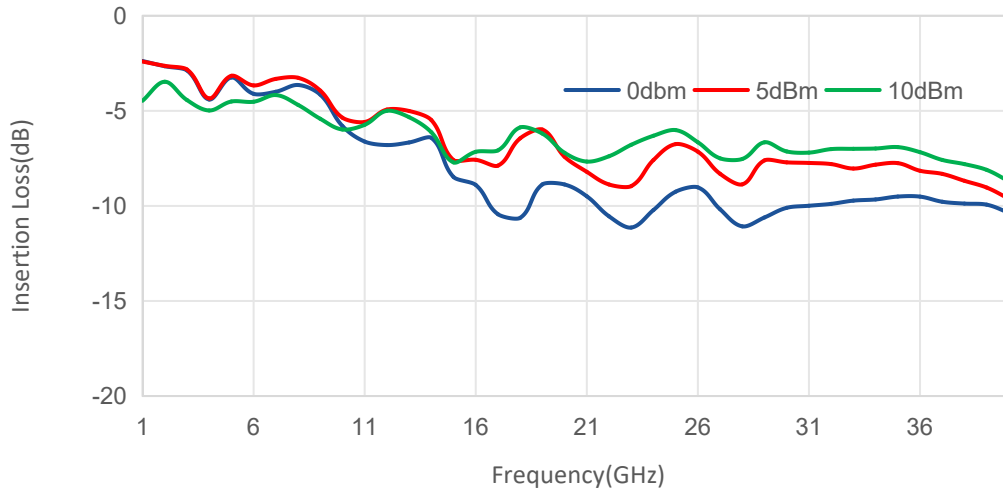
**Insertion Loss@Pin  $V_T=0V$**



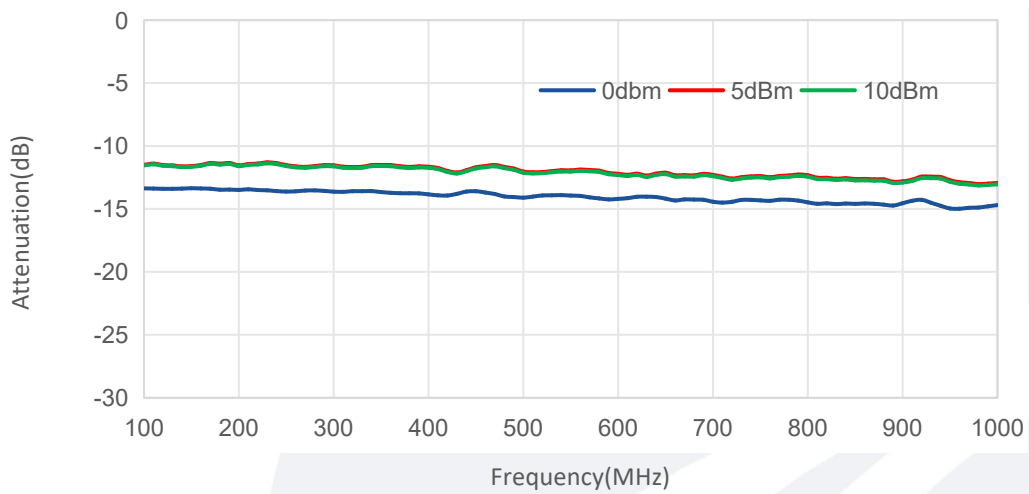
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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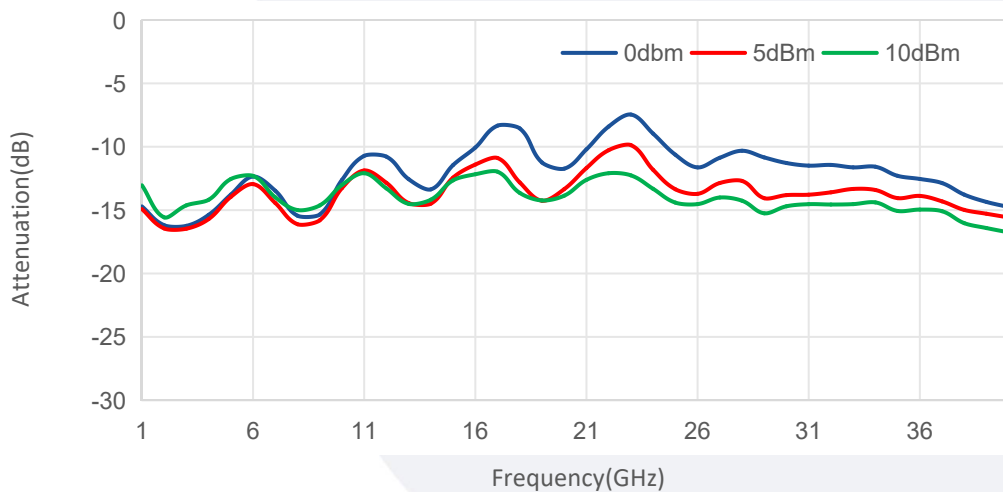
Insertion Loss@Pin  $V_T=0V$



Attenuation@Pin  $V_T=4V$



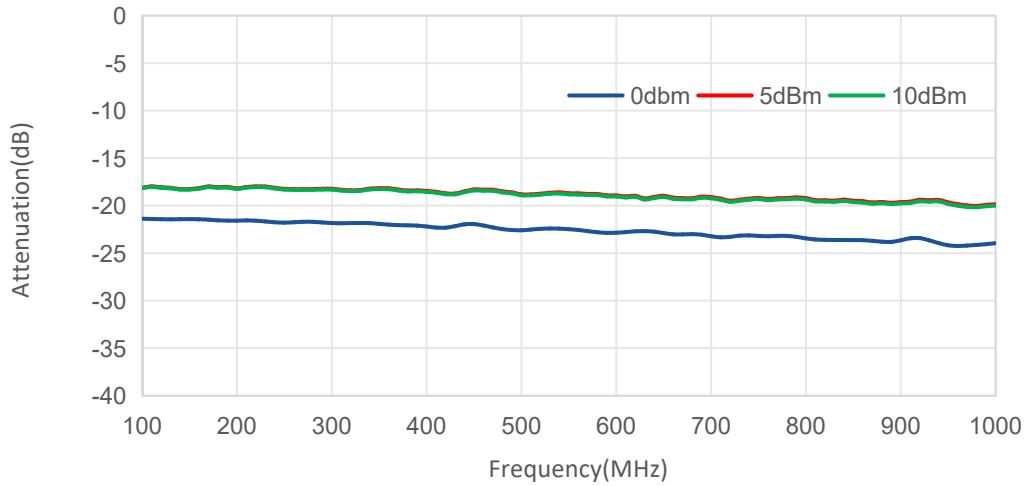
Attenuation@Pin  $V_T=4V$



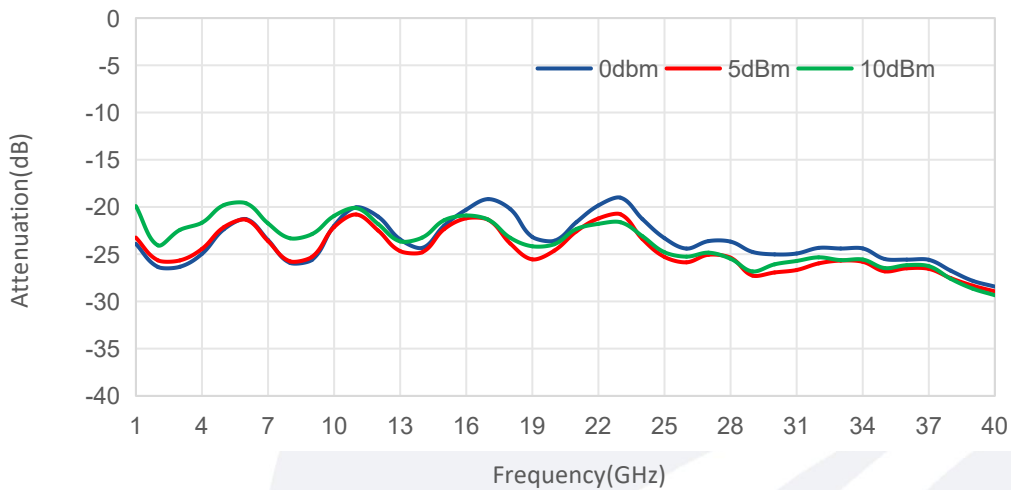
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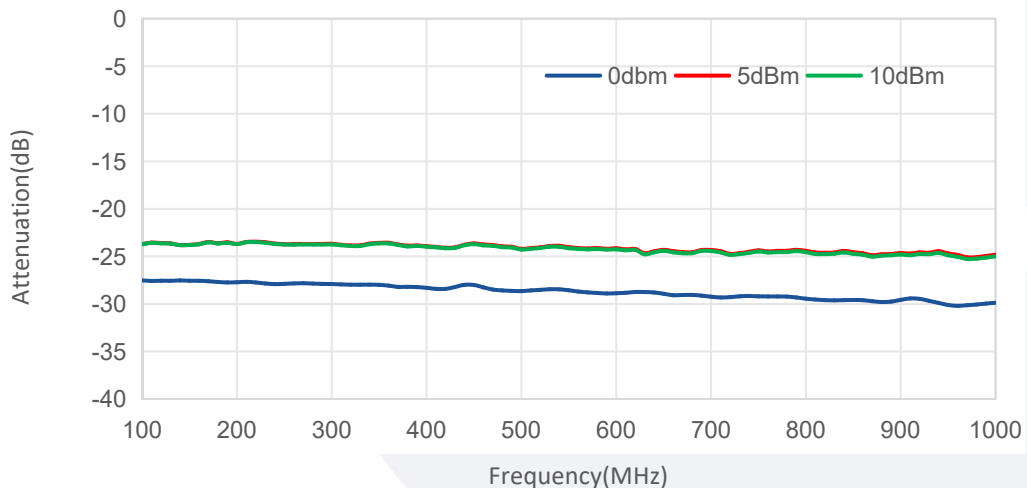
**Attenuation@Pin  $V_T=5V$**



**Attenuation@Pin  $V_T=5V$**



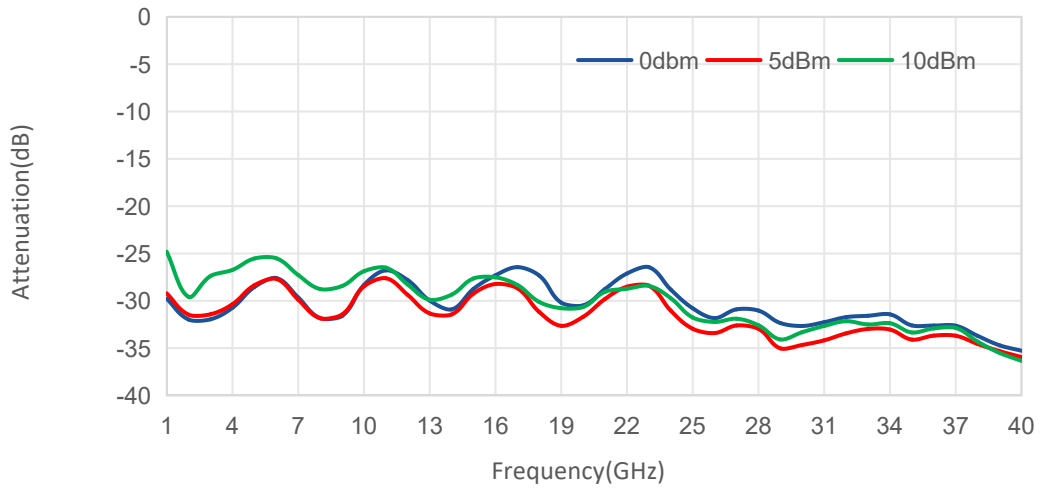
**Attenuation@Pin  $V_T=6V$**



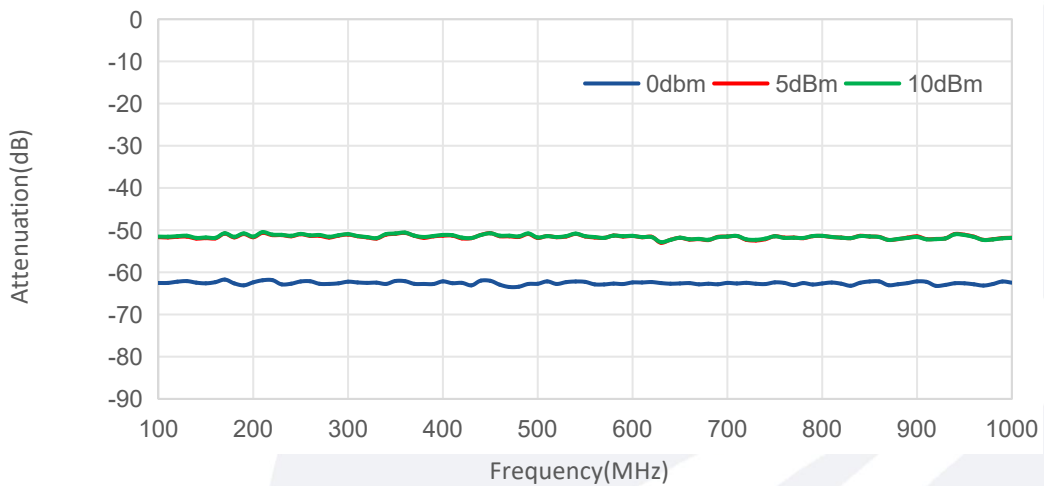
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## 典型曲线 Typical Performance Data:

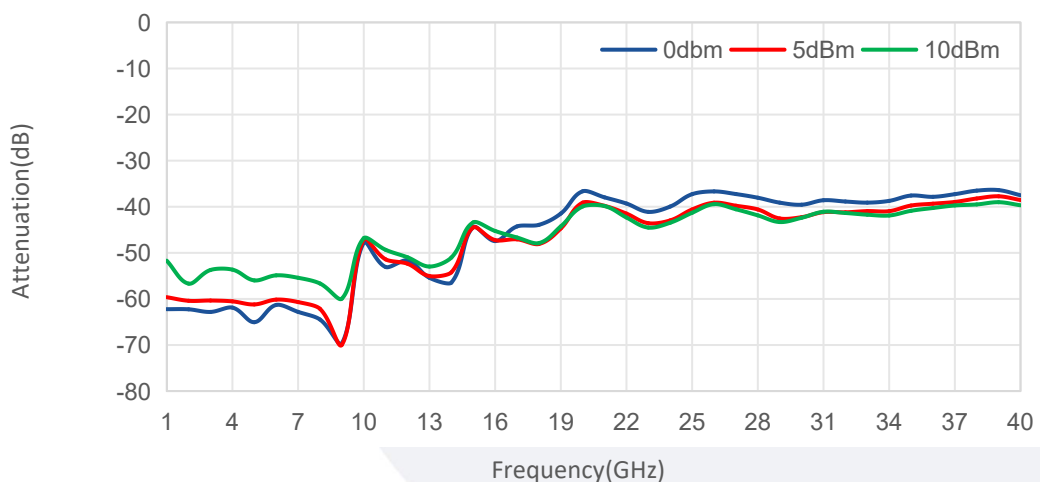
**Attenuation@Pin  $V_T=6V$**



**Attenuation@Pin  $V_T=8V$**



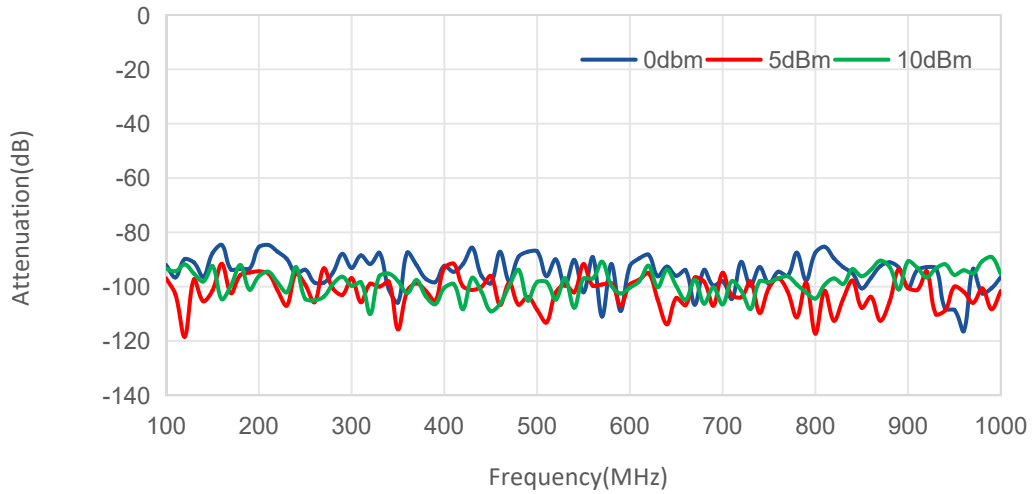
**Attenuation@Pin  $V_T=8V$**



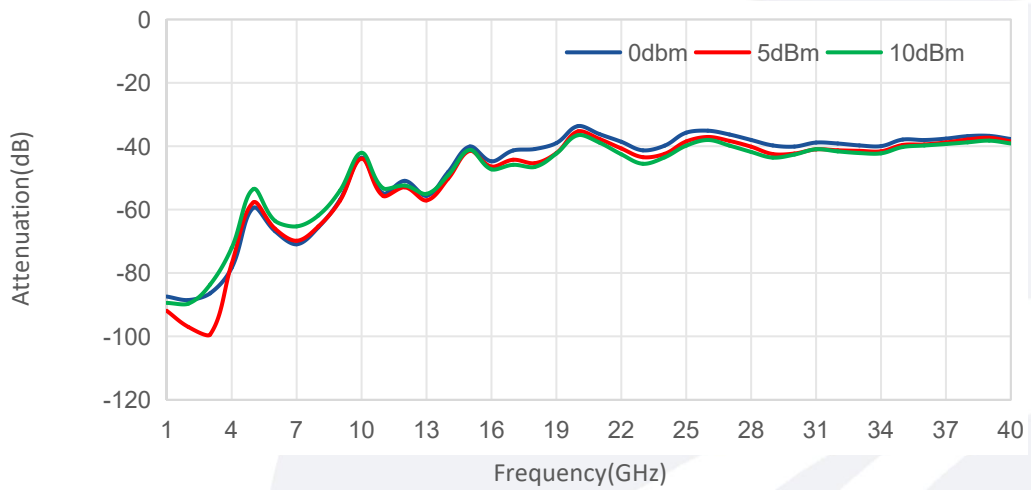
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## 典型曲线 Typical Performance Data:

Attenuation@Pin  $V_T=10V$



Attenuation@Pin  $V_T=10V$



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