

## 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

#### Electrical Characteristics:

| Parameter         | Min    | Typ | Max | Units |
|-------------------|--------|-----|-----|-------|
| Frequency range   | 0.1-40 |     |     | GHz   |
| Insertion Loss    |        | 10  |     | dB    |
| Attenuation Range |        | 40  |     | dB    |
| Input VSWR        |        | 2.5 |     | :1    |
| Output VSWR       |        | 2.5 |     | :1    |
| Input Max Power   |        |     | 26  | dBm   |
| Control Voltage   | 0      | 10  |     | V DC  |
| DC Voltage        |        | 5   |     | V DC  |
| DC Supply Current |        | 30  |     | mA    |
| Impedance         | 50     |     |     | Ohms  |

#### Mechanical Specifications:

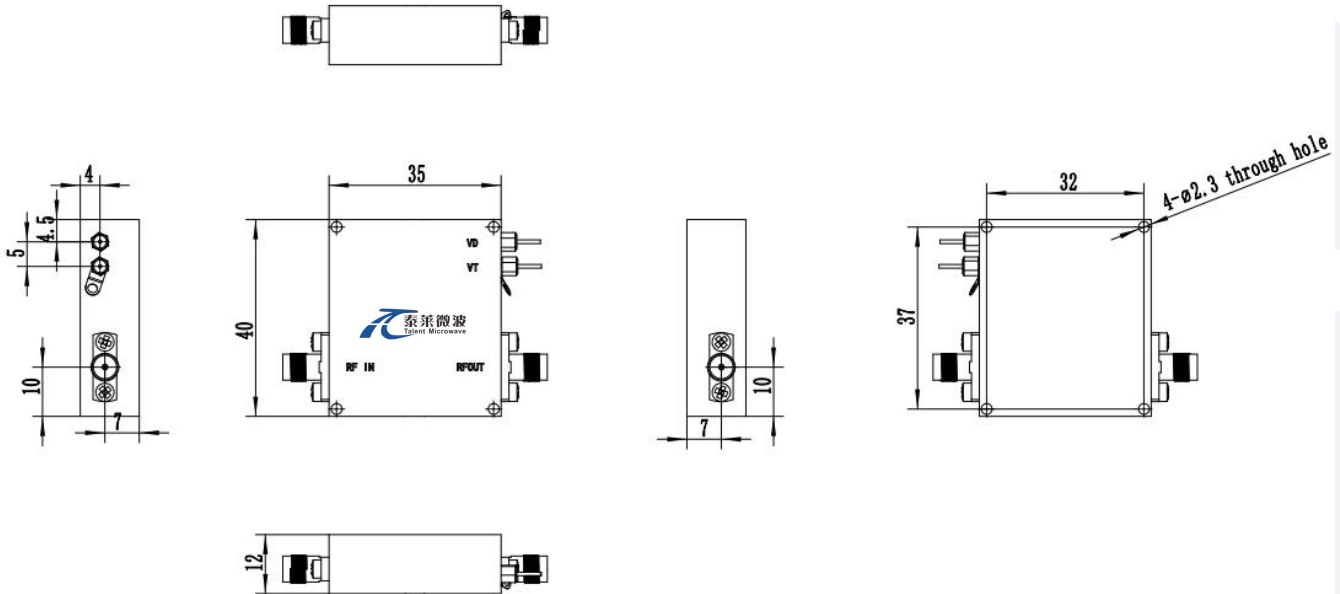
| Description             | Parameter                   | Units |
|-------------------------|-----------------------------|-------|
| Input /Output Connector | 2.92mm Female/2.92mm Female |       |
| Control Connector       | Pin                         |       |
| Size                    | 35*40*12                    | mm    |
| Material                | /                           |       |

## Absolute Maximum Ratings :

| Description           | Parameter            | Units |
|-----------------------|----------------------|-------|
| Supply Bias Voltage   | TBD                  |       |
| RF Input Power        | 26 dBm               |       |
| ESD sensitivity (HBm) | Class 0, passed 150V |       |

## Outline Drawing:

Unit:mm



OBSERVE PRECAUTIONS  
ELECTROSTATIC SENSITIVE  
DEVICES

### Environmental Conditions:

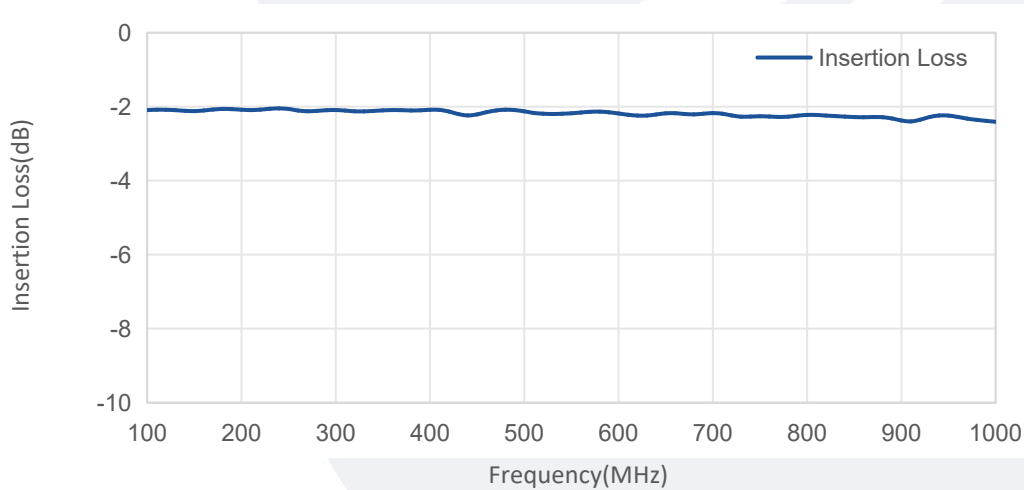
| Parameter                       | Min                                                 | Typ | Max | Units |
|---------------------------------|-----------------------------------------------------|-----|-----|-------|
| Operating Temperature           | -10                                         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

### Typical Performance Data:

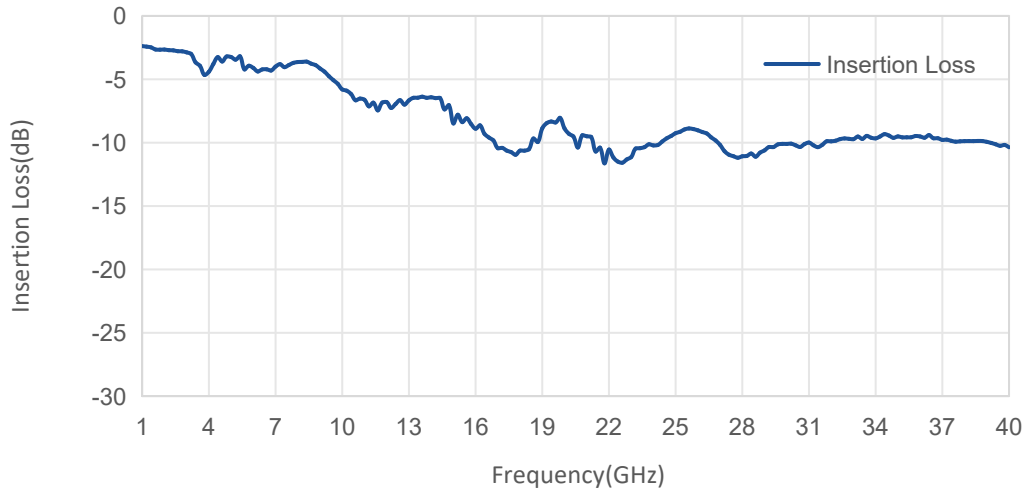
Insertion Loss vs Frequency@Pin=0dBm



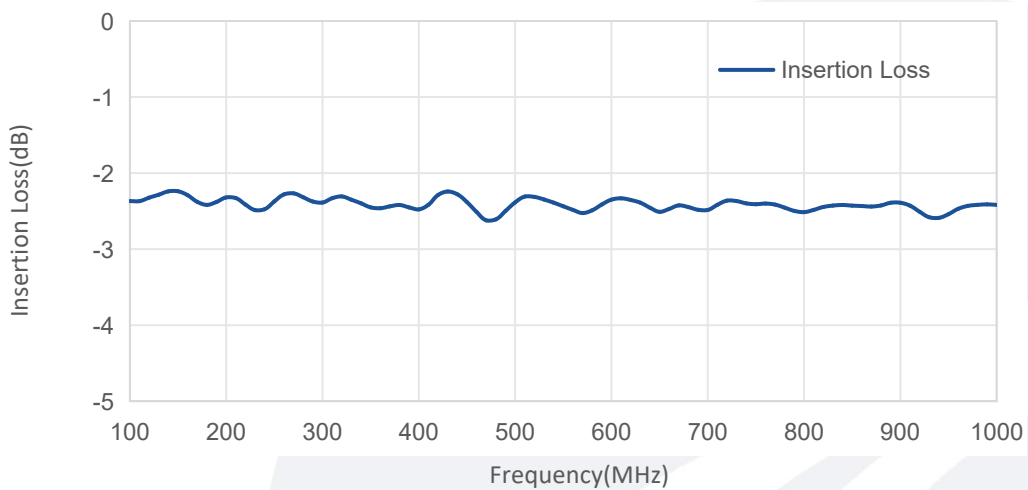
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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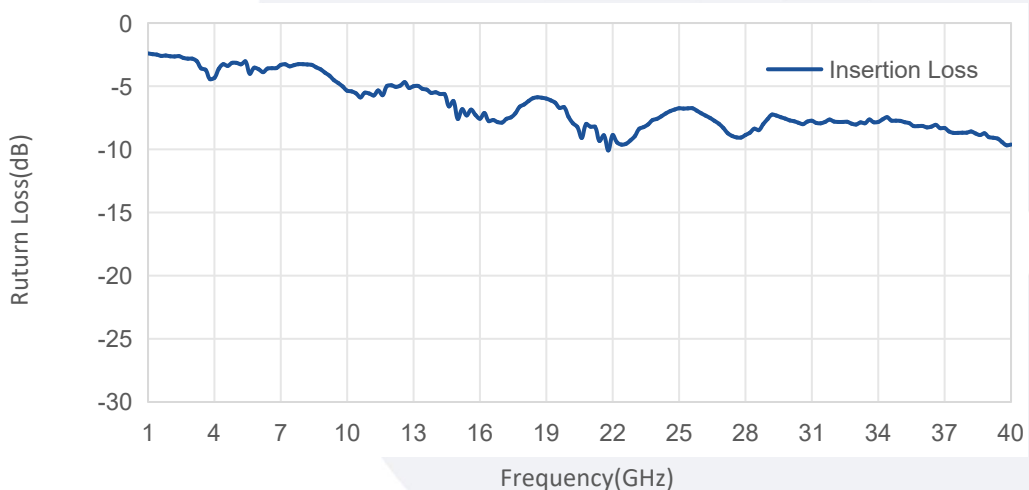
### Insertion Loss vs Frequency@Pin=0dBm



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



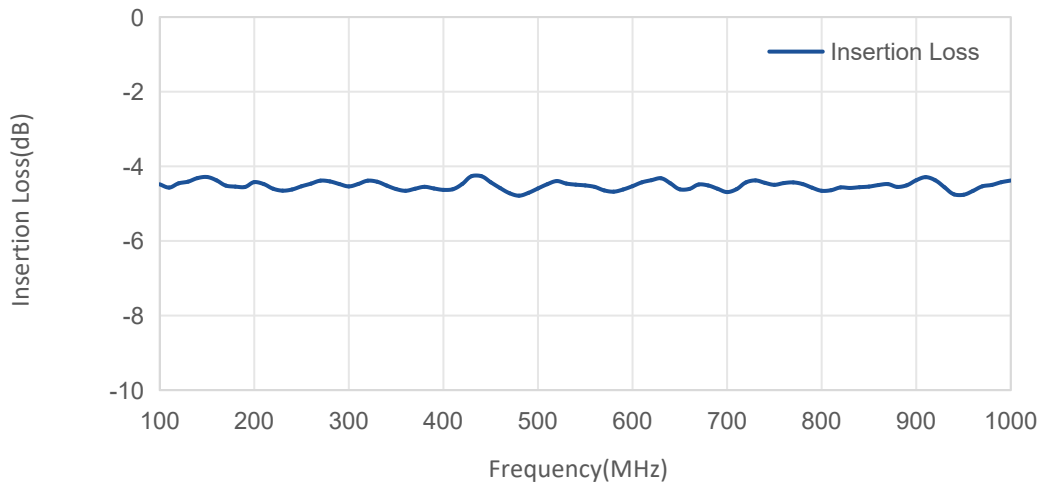
### Insertion Loss vs Frequency@Pin=5dBm



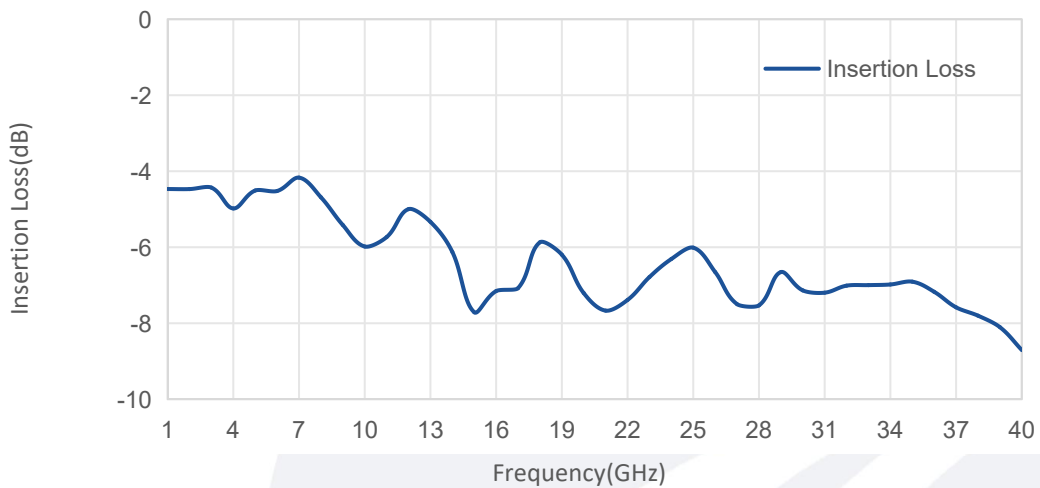
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

## Typical Performance Data:

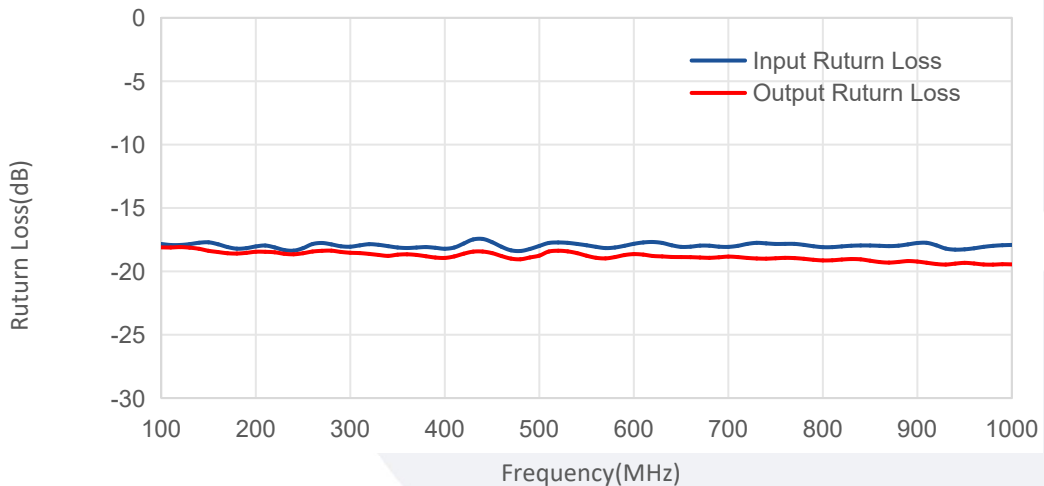
### Insertion Loss vs Frequency@Pin=10dBm



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



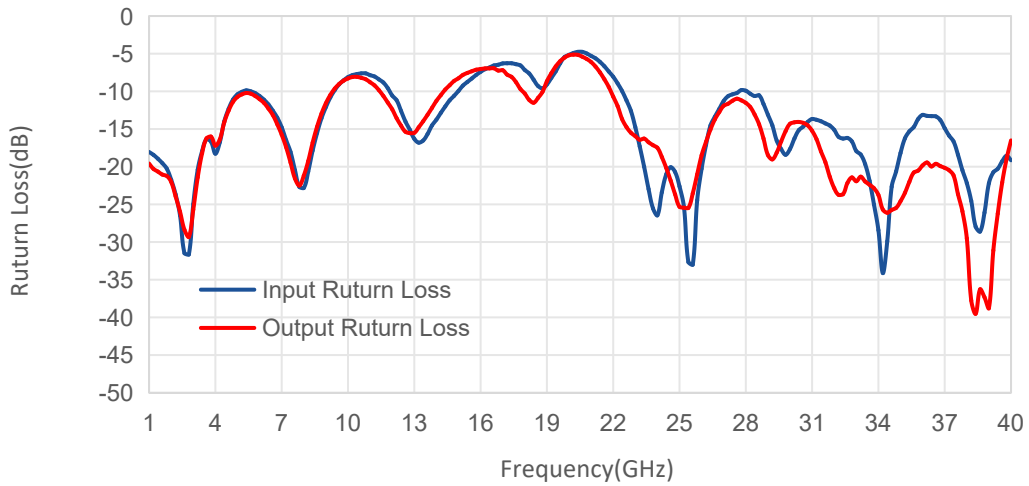
### Return Loss vs Frequency@Pin=0dBm



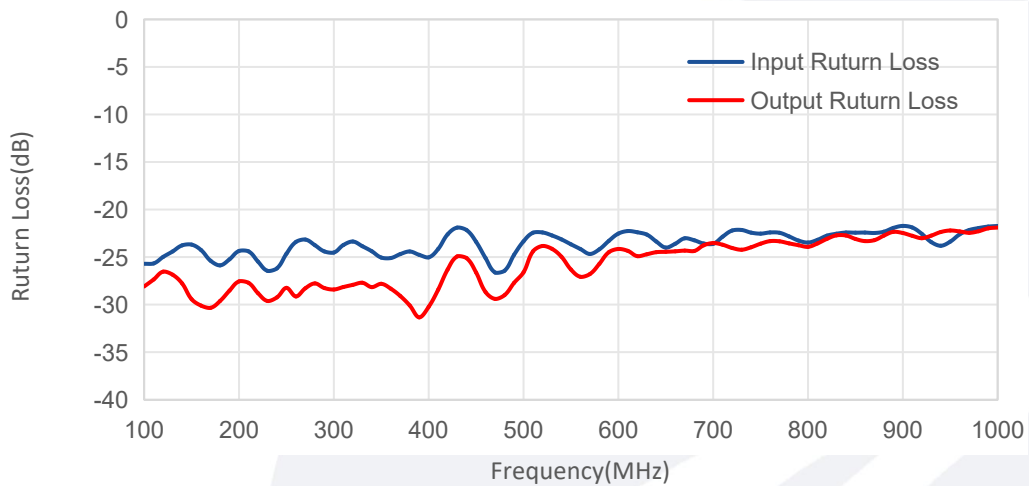
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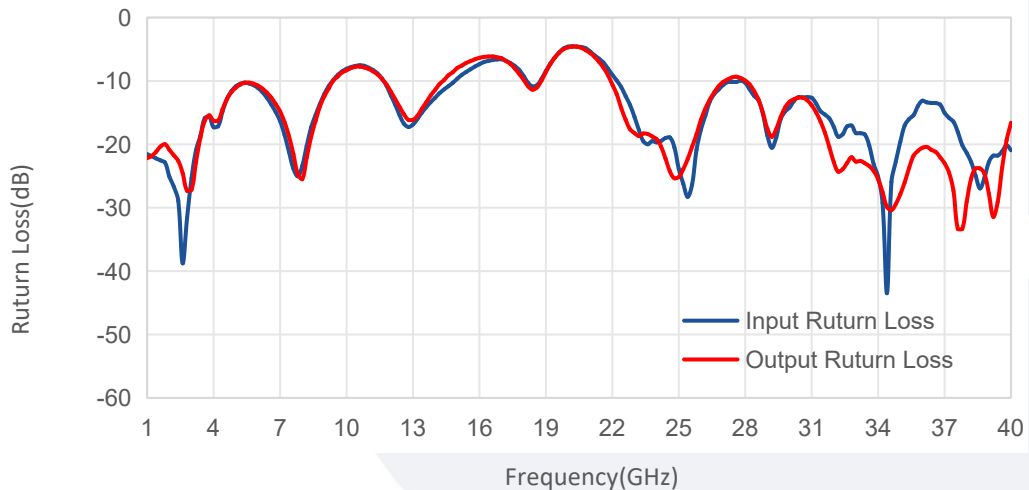
### Return Loss vs Frequency@Pin=0dBm



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



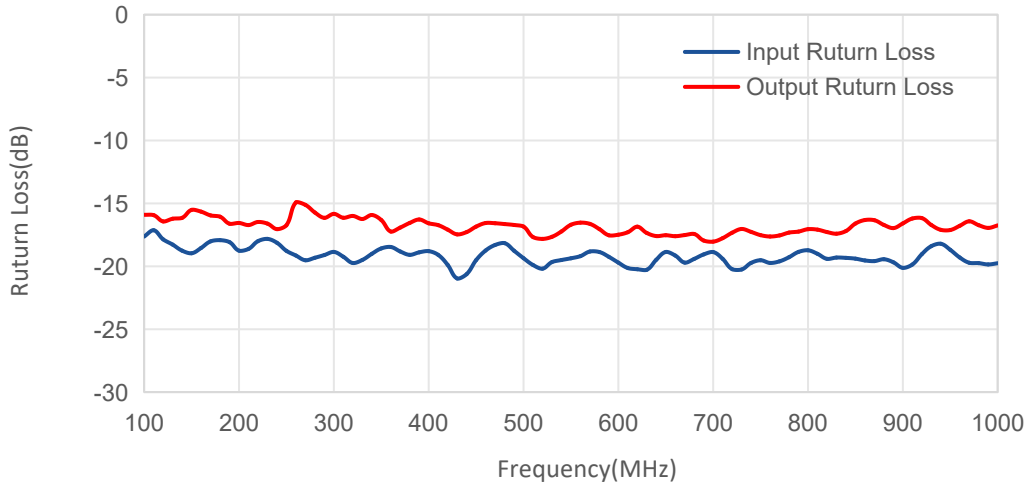
### Return Loss vs Frequency@Pin=5dBm



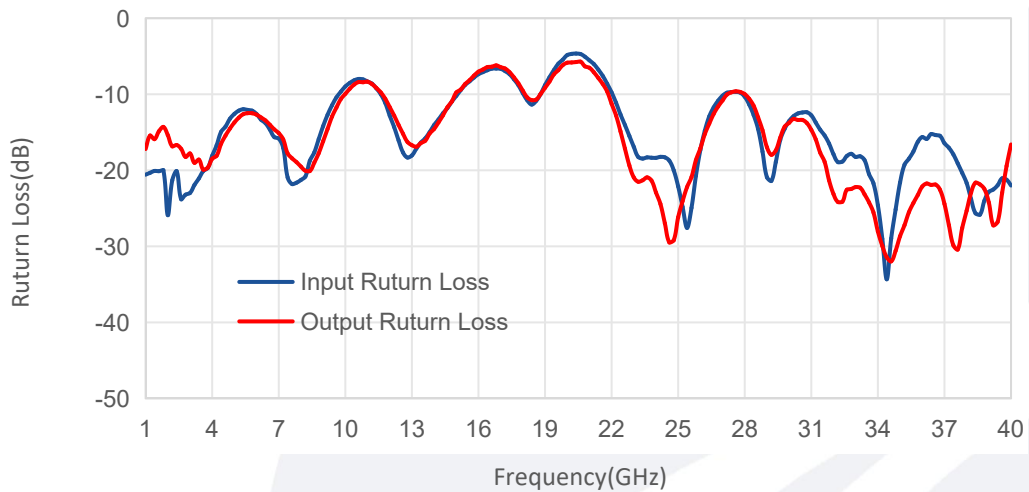
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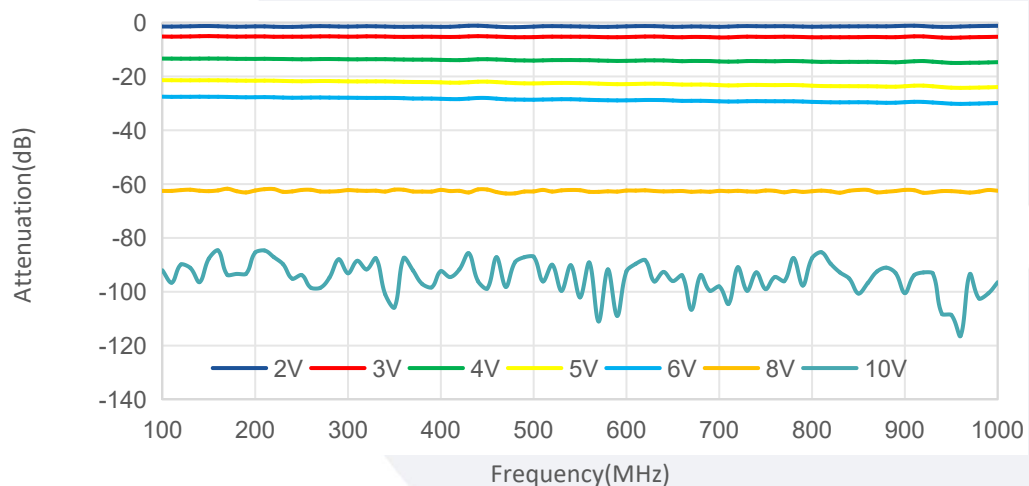
### Return Loss vs Frequency@Pin=10dBm



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

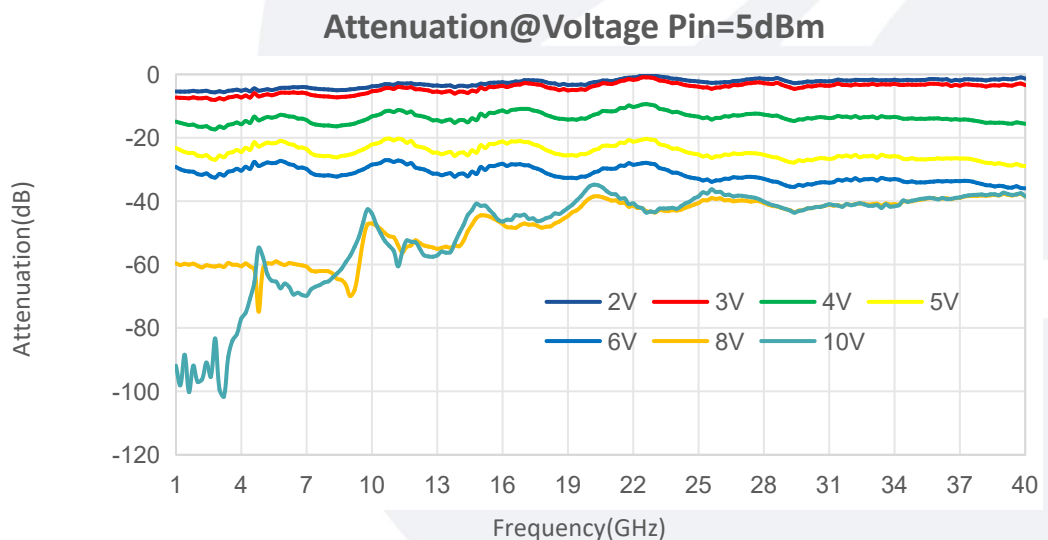
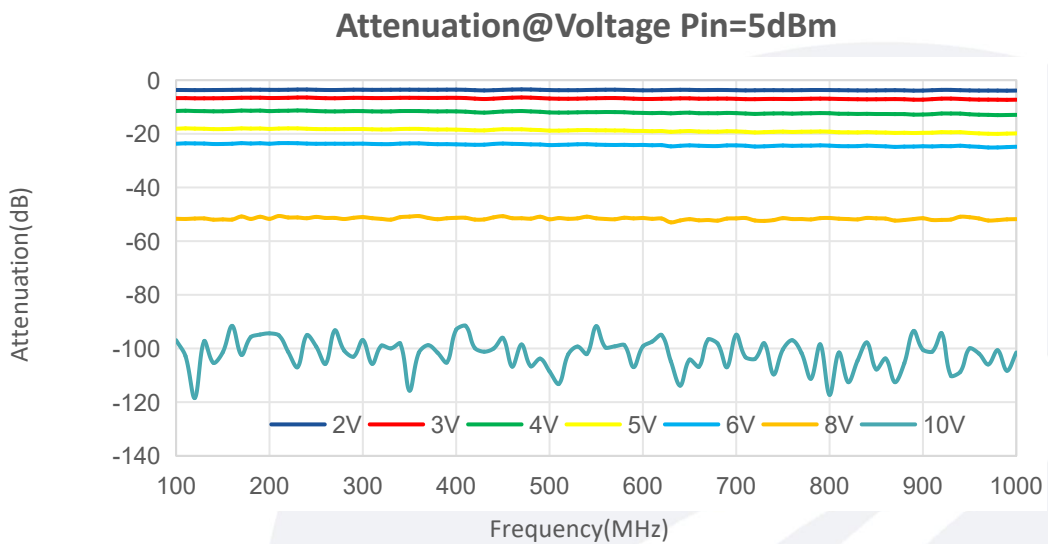
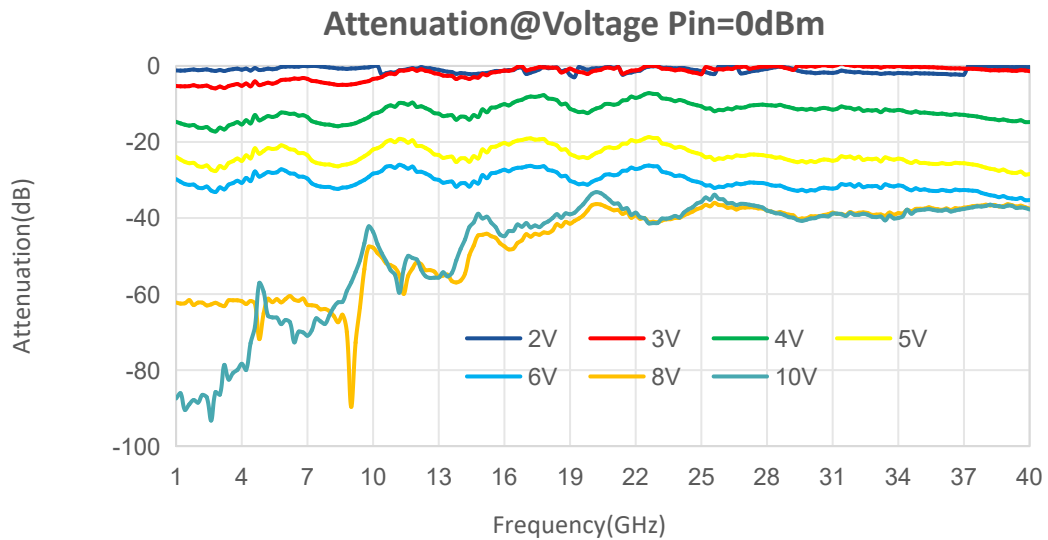


### Attenuation@Voltage Pin=0dBm



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## Typical Performance Data:

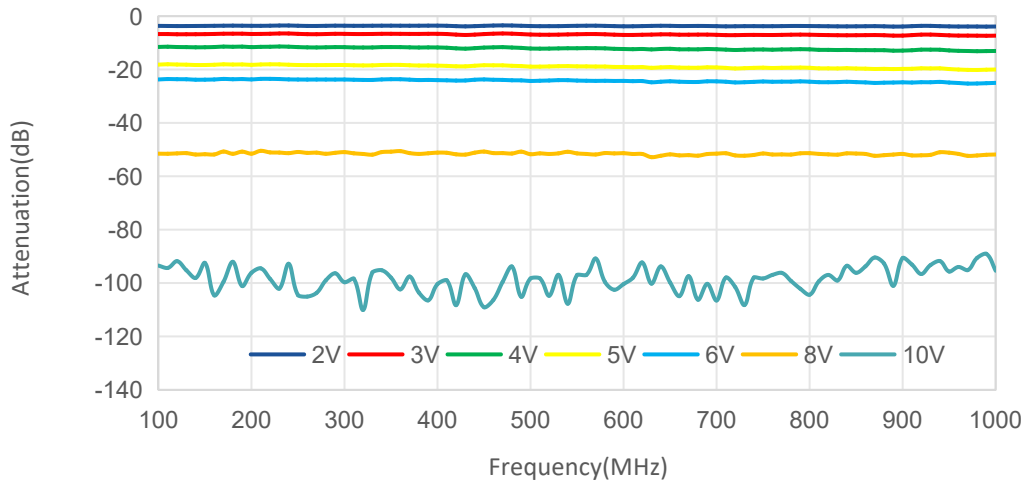


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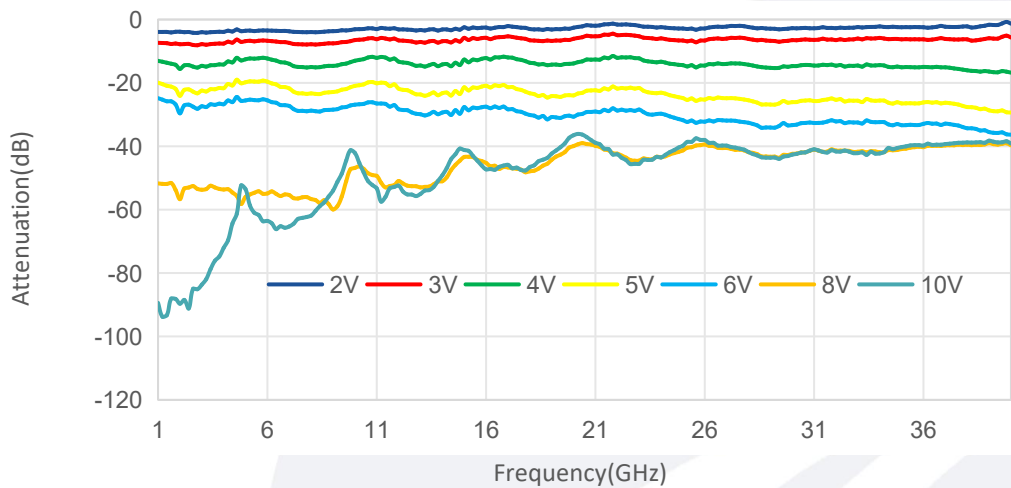


## Typical Performance Data:

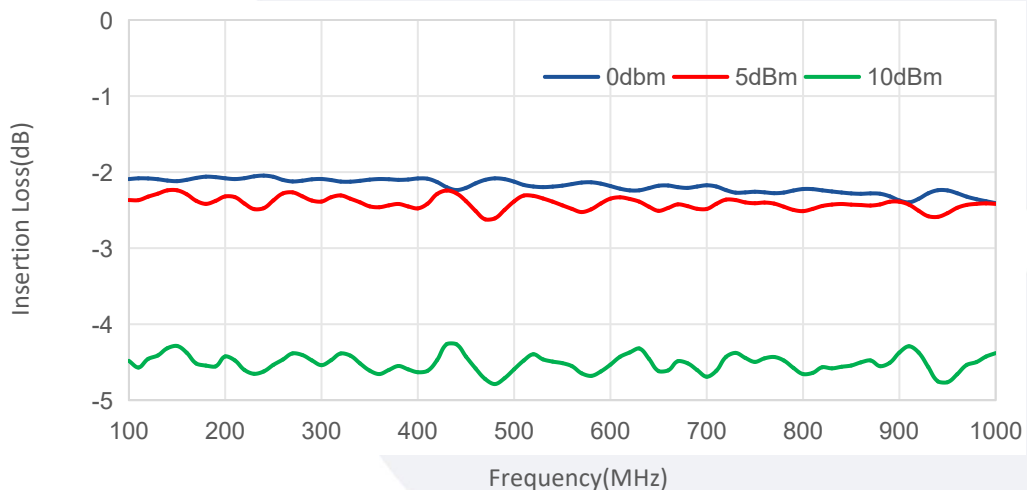
**Attenuation@Voltage Pin=10dBm**



**Attenuation@Voltage Pin=10dBm**



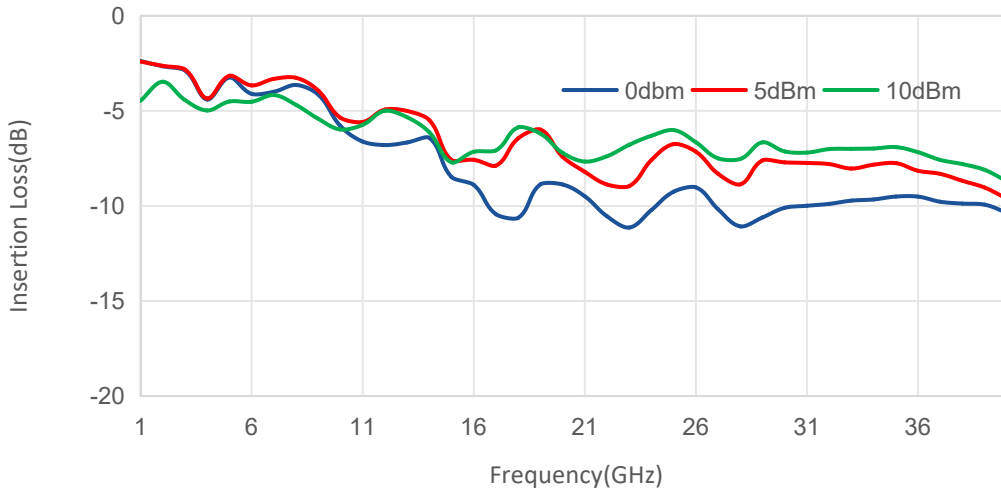
**Insertion Loss@Pin  $V_T=0V$**



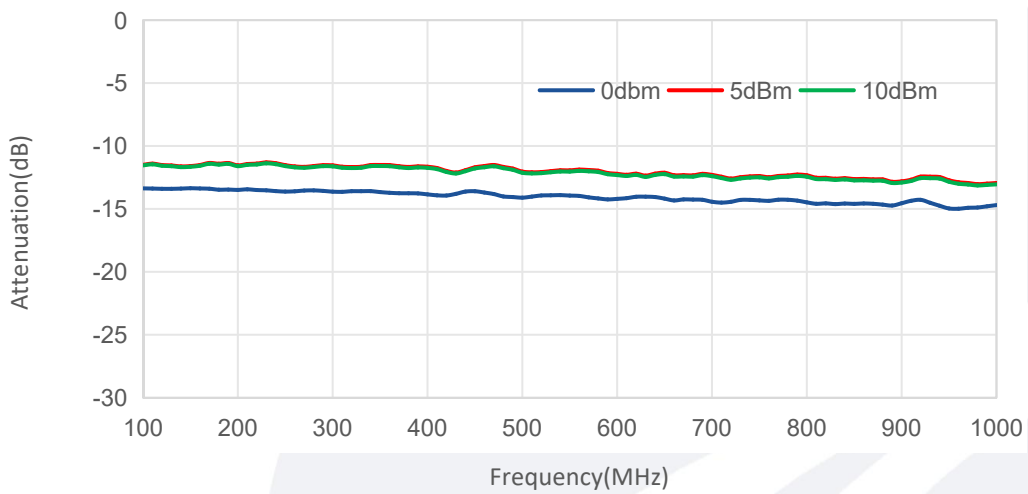
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

## Typical Performance Data:

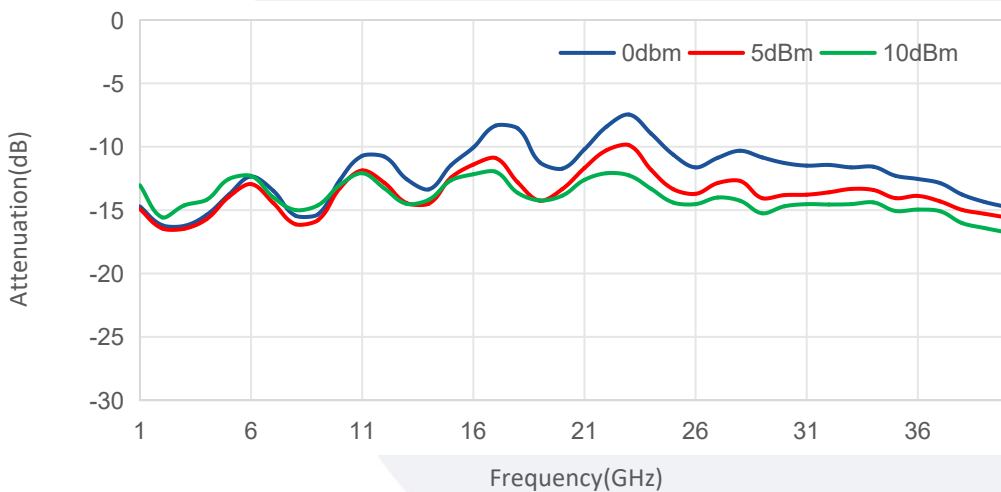
**Insertion Loss@Pin  $V_T=0V$**



**Attenuation@Pin  $V_T=4V$**



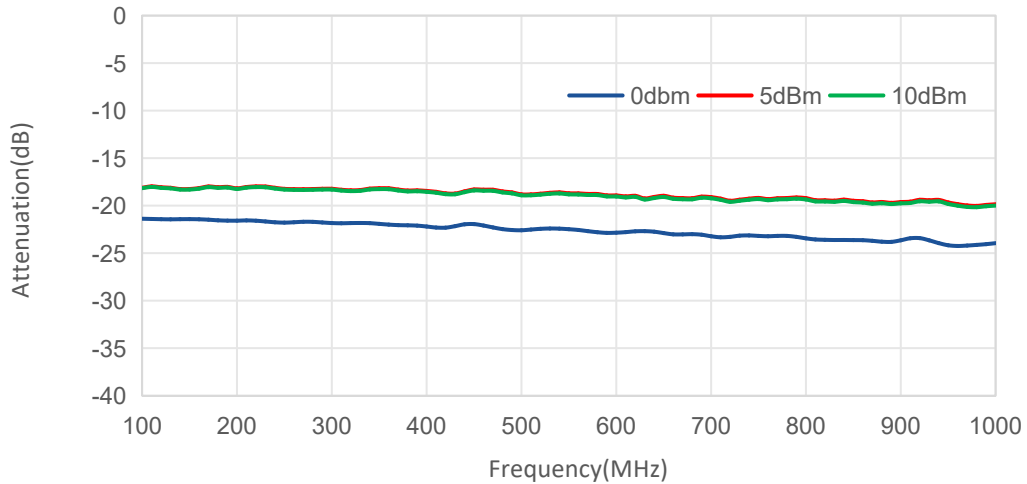
**Attenuation@Pin  $V_T=4V$**



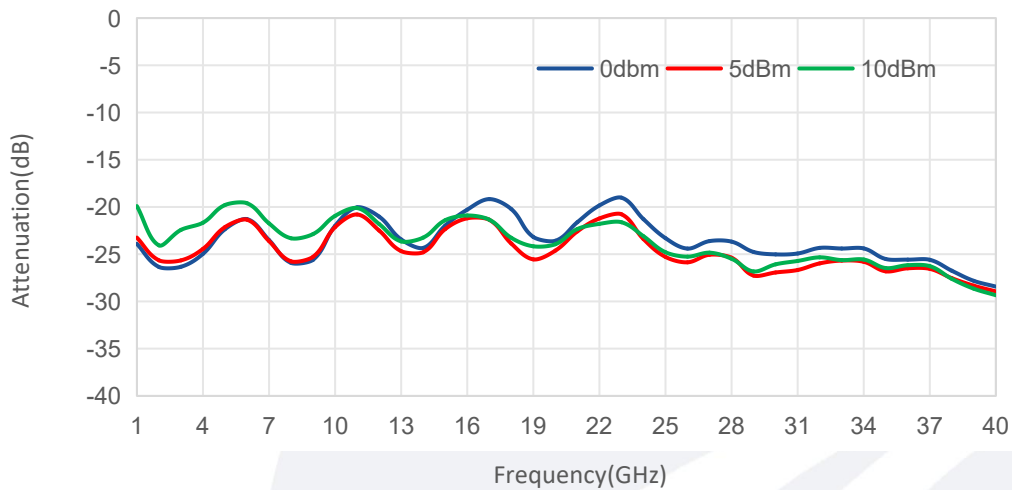
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

## Typical Performance Data:

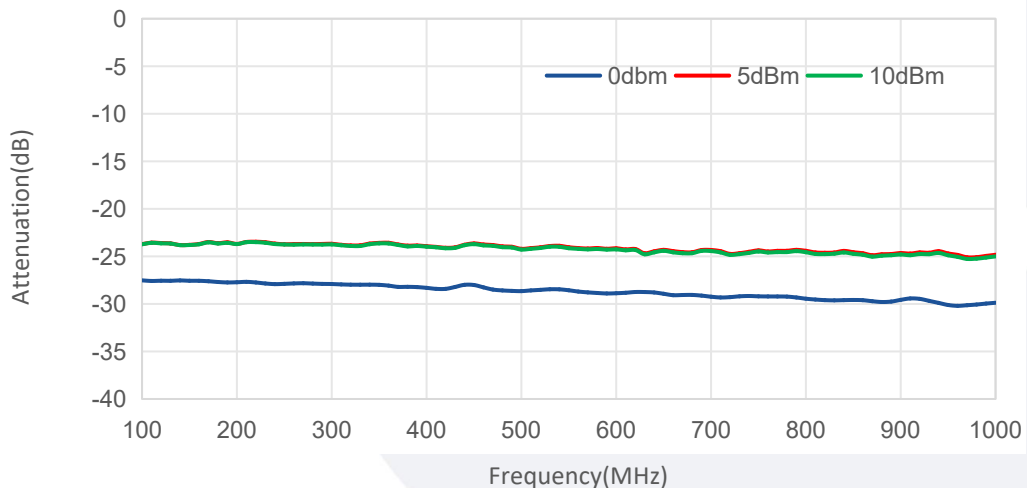
**Attenuation@Pin  $V_T=5V$**



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



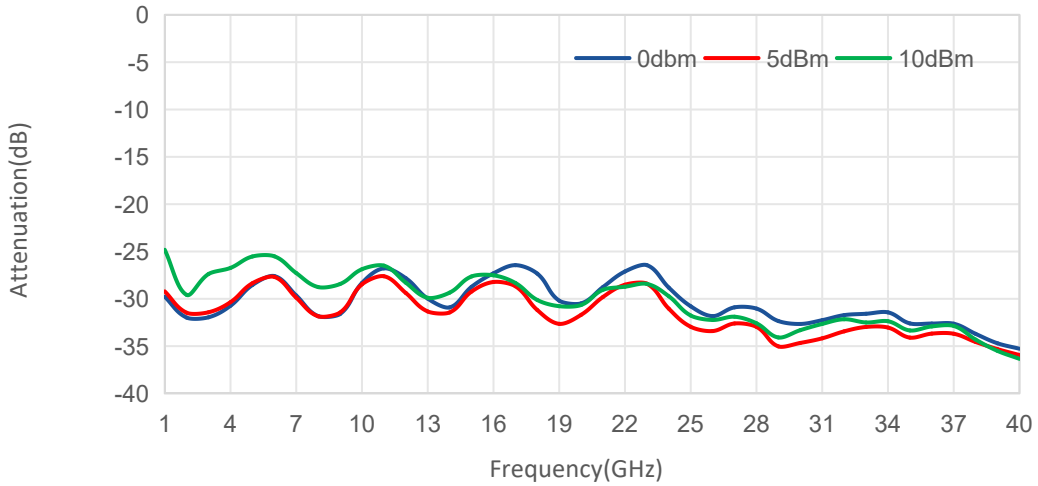
**Attenuation@Pin  $V_T=6V$**



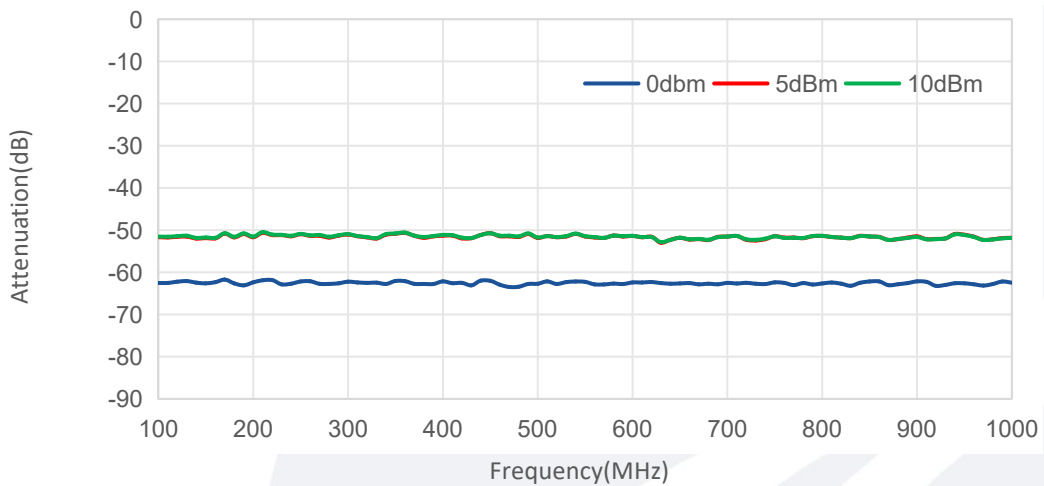
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

## Typical Performance Data:

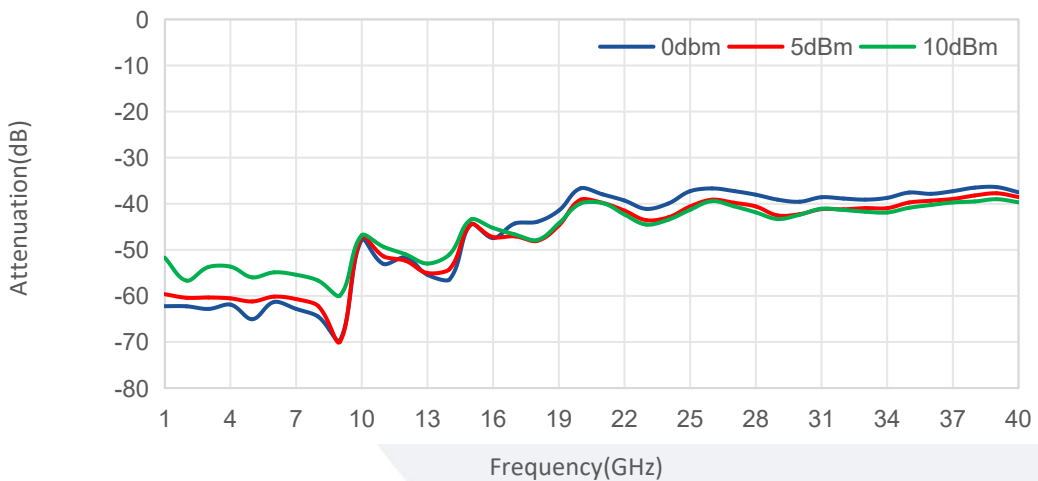
**Attenuation@Pin  $V_T=6V$**



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



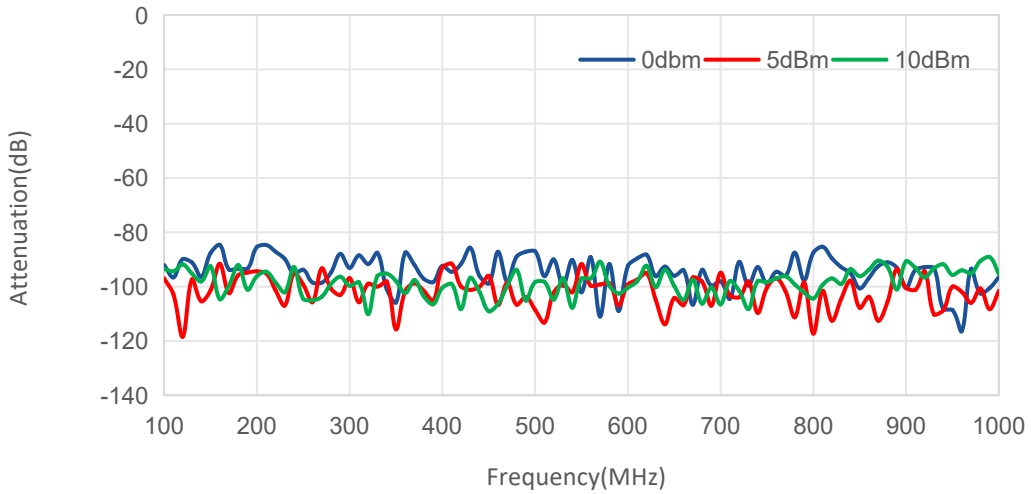
**Attenuation@Pin  $V_T=8V$**



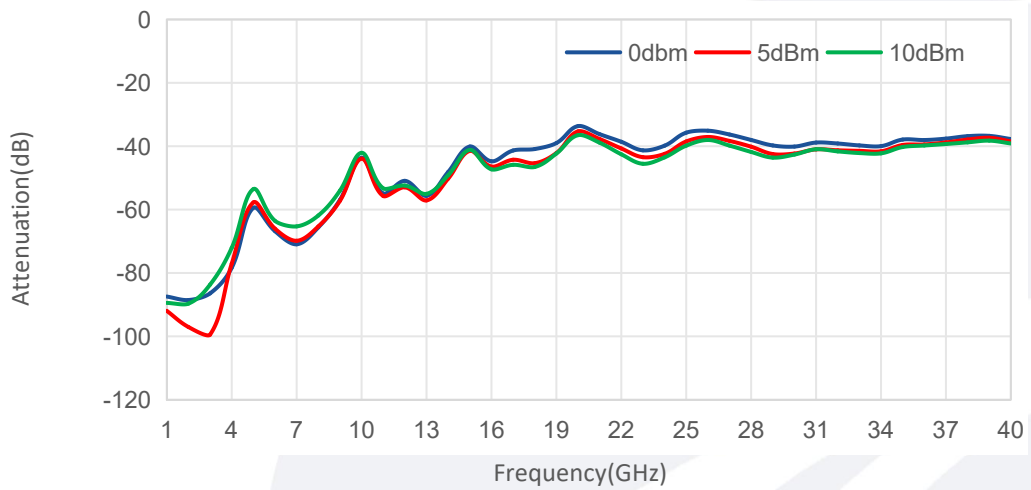
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

## 典型曲线 Typical Performance Data:

Attenuation@Pin  $V_T=10V$



Attenuation@Pin  $V_T=10V$



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.