

## Absorptive, Broadband MMIC Switch

0.5-40 GHz/SP6T/ 2.92 Female

Model: TLSP6T0.5G40GA

The TLSP6T0.5G40GA is an absorptive MMIC switch with a TTL driver that operates between 0.5-40 GHz. The SP6T switch offers 70 dB port-to-port isolation with a typical switching speed of 10 us. The input and output connectors of the switch are 2.92 female.

### Features:

- Ultra Wide Band: 0.5-40GHz
- Insertion Loss: 9.0 dB
- Power Handling : 25 dBm
- High Isolation
- Switch Type: Absorptive

### Applications:

- Communication Systems
- Automatic Test Equipment
- Switching Network

### 电气特性 Electrical Characteristics:

| 参数 Parameter           | Min        | Typ | Max | 单位 Units |
|------------------------|------------|-----|-----|----------|
| 频率范围 Frequency range   | 0.5-40     |     |     | GHz      |
| 插损 Insertion Loss      |            | 9   | 10  | dB       |
| 隔离 Isolation           | 60         | 70  |     | dB       |
| 切换速度 Switch Speed      |            | 10  |     | us       |
| 输入驻波 Input VSWR        |            | 2   | 3   | :1       |
| 输出驻波 Output VSWR       |            | 2   | 3   | :1       |
| 耐功率 Power Handling     |            |     | 25  | dBm      |
| 直流电压 DC Voltage        |            | 5   |     | V DC     |
| 直流电流 DC Supply Current |            | 300 |     | mA       |
| 开关类型 Switch type       | Absorptive |     |     |          |
| 阻抗 Impedance           | 50         |     |     | Ohms     |

## 绝对最大值 Absolute Maximum Ratings :

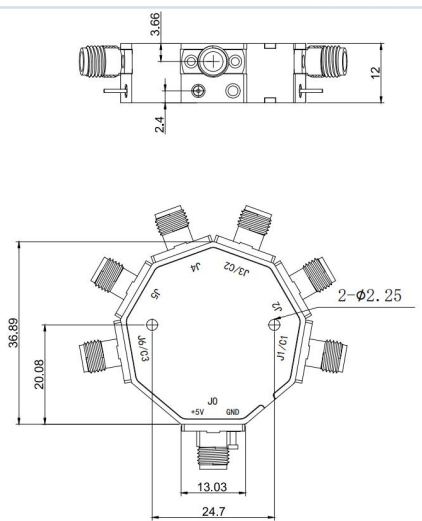
| 描述 Description               | 参数 Parameter         | 单位 Units |
|------------------------------|----------------------|----------|
| 供电偏置电压 Supply Bias Voltage   | ±5%                  | V        |
| 射频输入功率 RF Input Power        | 25                   | dBm      |
| ESD灵敏度 ESD sensitivity (HBm) | Class 0, passed 150V |          |

## 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 |          |
| 直流控制接口 Control Bias             | Solder Pin                  |          |
| 尺寸 Size                         | 36.89*36.89*12              | mm       |

## 外形图 Outline Drawing:

Unit:mm



| 真值表 Truth Table   |    |    |                   |
|-------------------|----|----|-------------------|
| TTL Control Input |    |    | Signal Path State |
| J1                | J3 | J6 |                   |
| 0                 | 0  | 0  | J0-J1             |
| 0                 | 0  | 1  | J0-J2             |
| 0                 | 1  | 0  | J0-J3             |
| 0                 | 1  | 1  | J0-J4             |
| 1                 | 0  | 0  | J0-J5             |
| 1                 | 0  | 1  | J0-J6             |
| 1                 | 1  | 0  | OFF               |

- 1.Dimensions are in mm [inches]  
2.Tolerances: Outline drawing  $\pm 0.2$  [0.008] Hole  $\pm 0.2$  [0.008]  
NOTE: ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME

| TTL Control Voltages &VDD |                 |
|---------------------------|-----------------|
| Stage                     | Bias Condition  |
| VDD                       | +5V (±5%)       |
| Low (0)                   | 0 to 0.8Vdc     |
| High (1)                  | +3.3 to +5.0Vdc |



OBSERVE PRECAUTIONS  
ELECTROSTATIC SENSITIVE  
DEVICES

## 温度环境 Environmental Conditions:

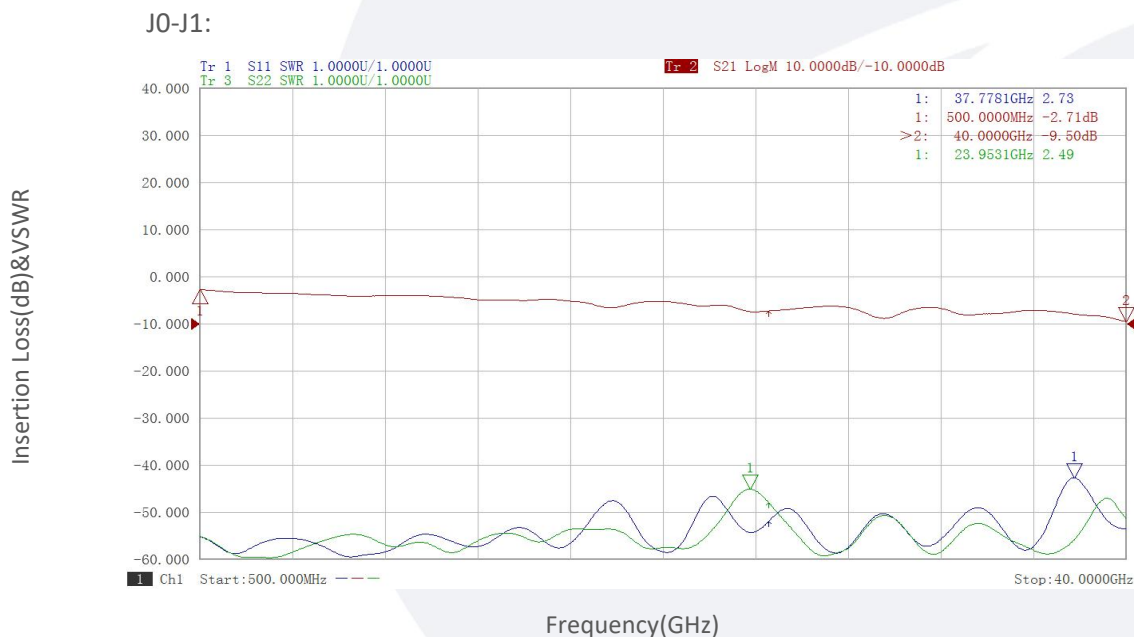
| 参数 Parameter                       | Min                                                 | Typ | Max | 单位 Units |
|------------------------------------|-----------------------------------------------------|-----|-----|----------|
| 操作温度 Operating Temperature         | -10                                                 |     | +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 |
|------------------|-------------------------------------------------------------------|--------------|
| TLSP6T0.5G40GA   | Absorptive,Broadband MMIC Switch<br>0.5-40 GHz,SP6T,2.92mm Female | Rev.1.1      |

## 典型曲线 Typical Performance Data:

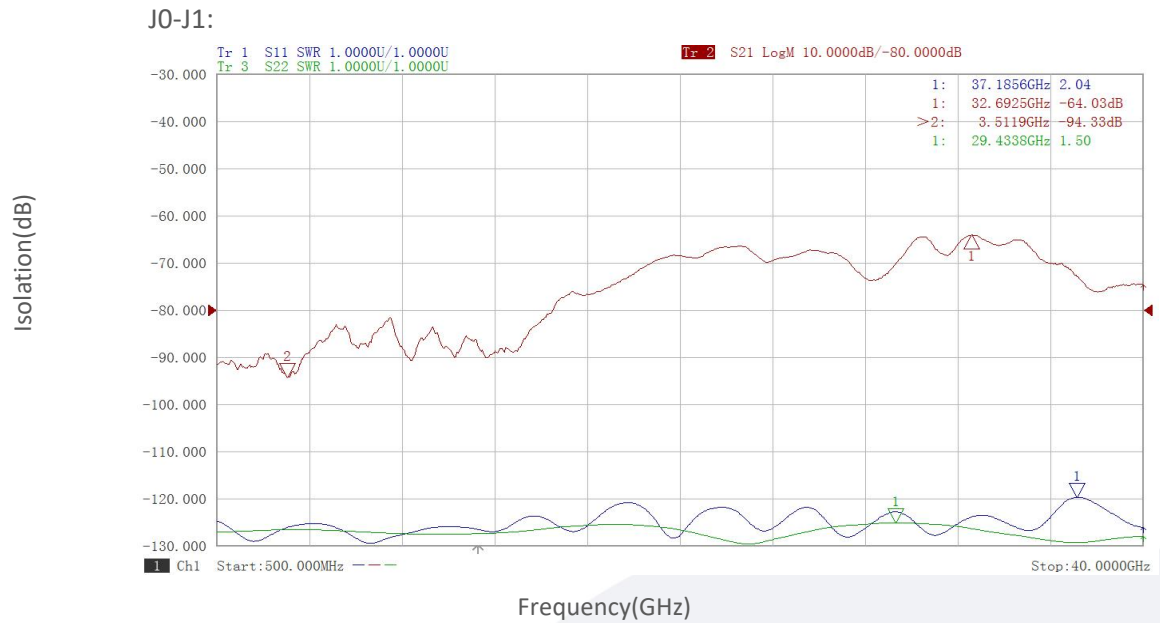
### Insertion Loss&VSWR vs Frequency



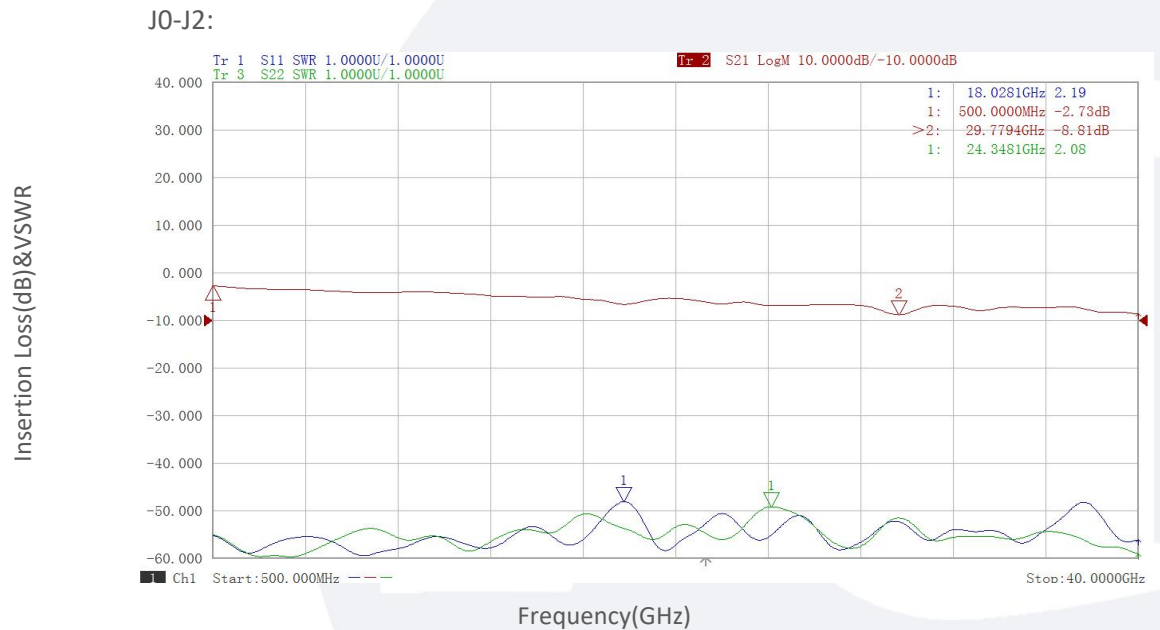
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

## 典型曲线 Typical Performance Data:

### Isolation vs Frequency



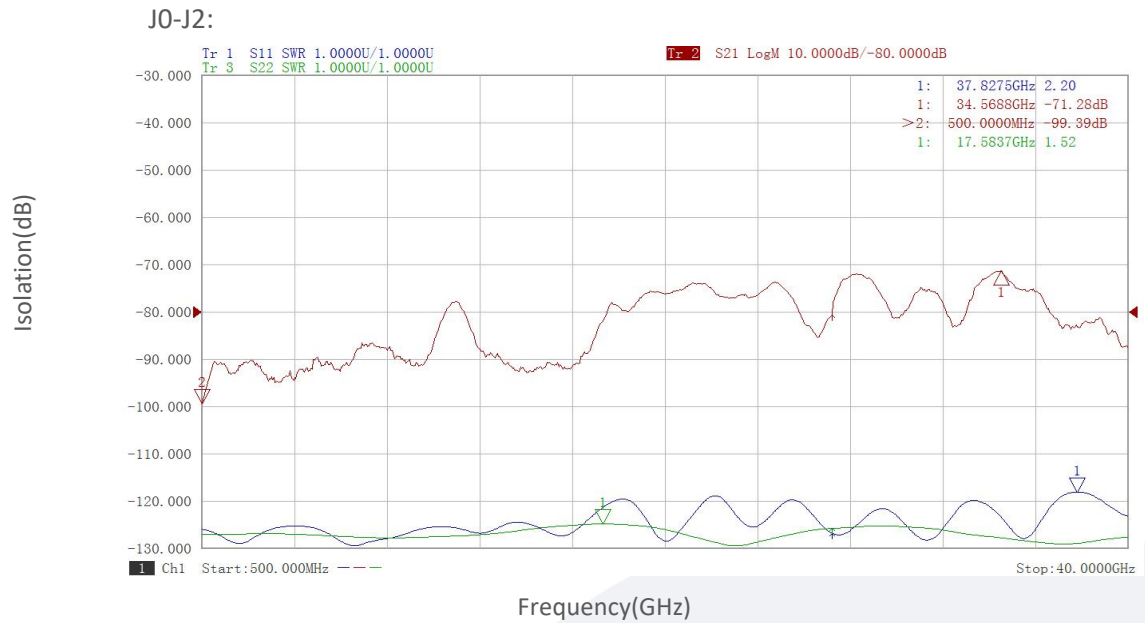
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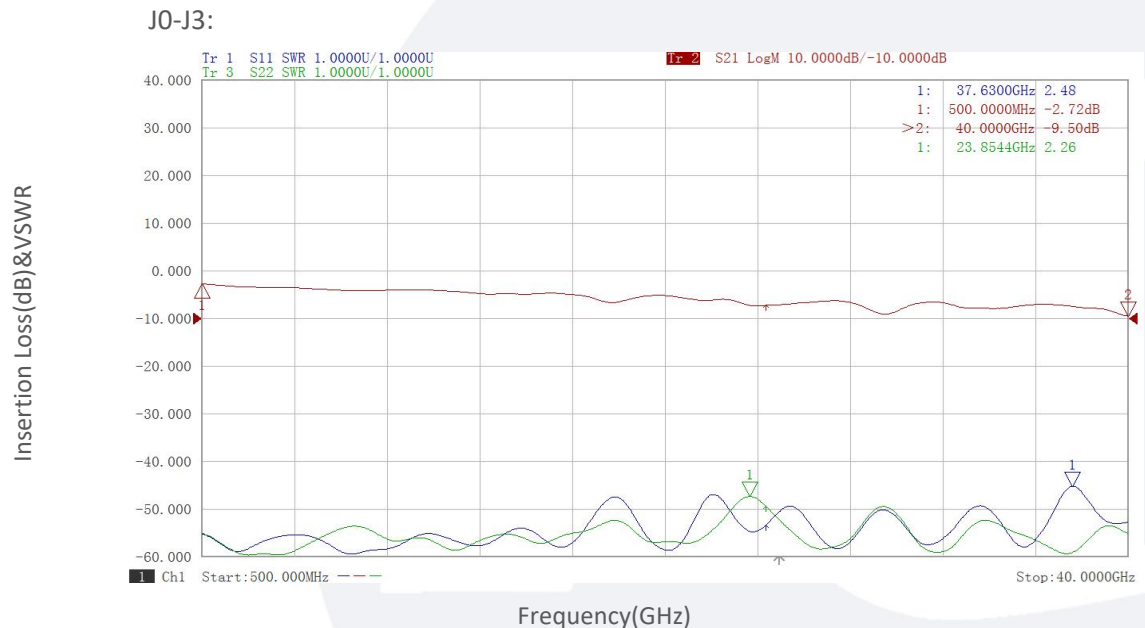
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### Isolation vs Frequency



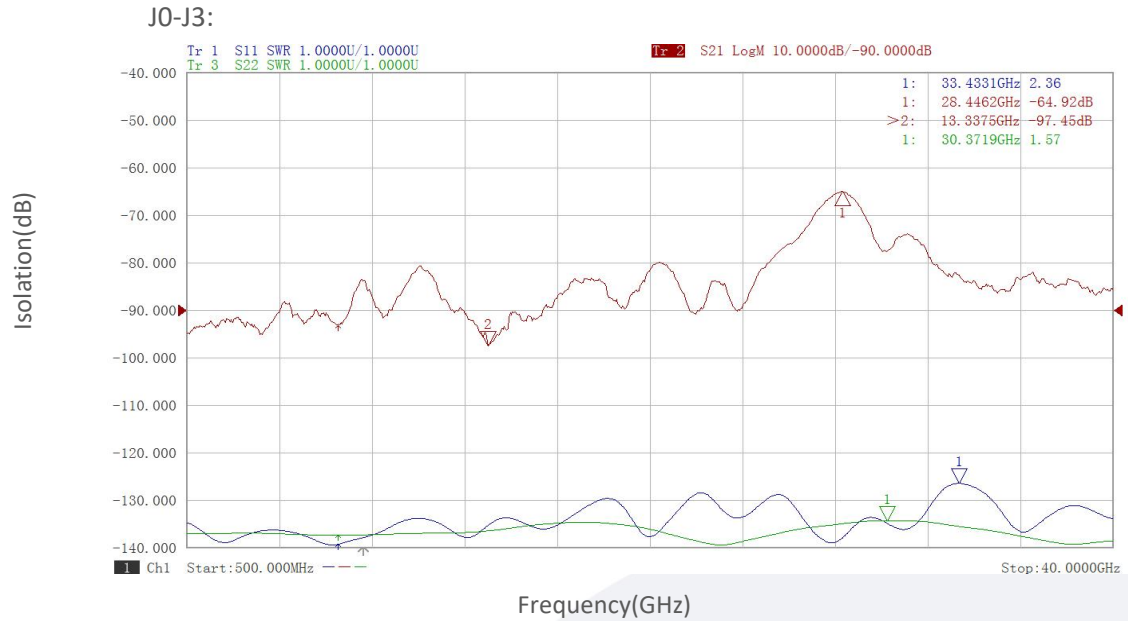
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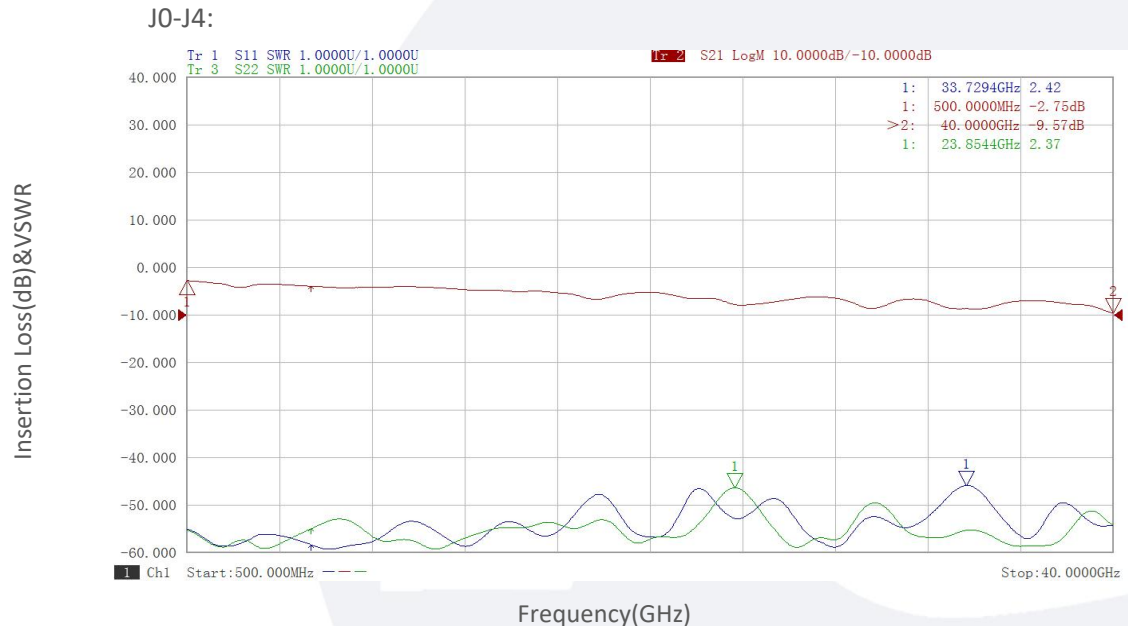
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### Isolation vs Frequency



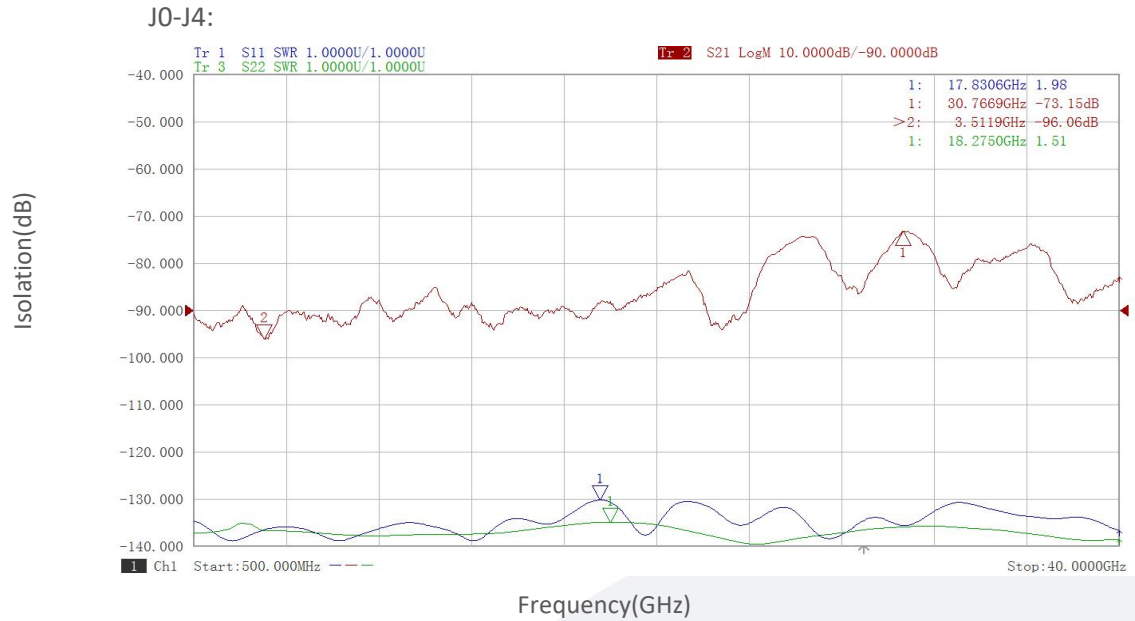
### Insertion Loss&VSWR vs Frequency



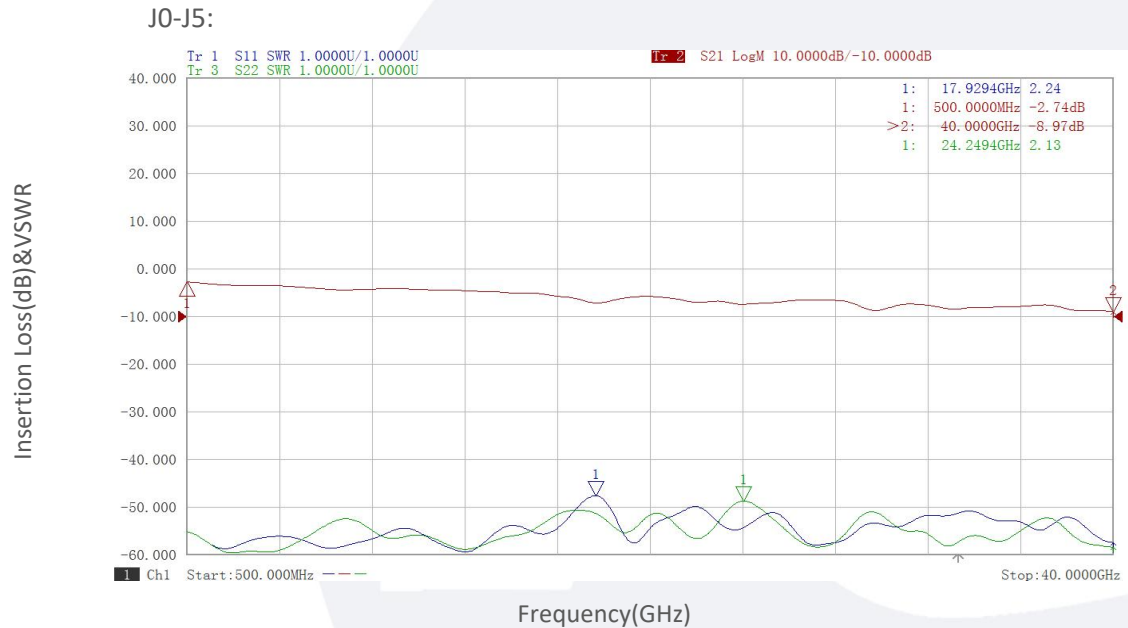
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### Isolation vs Frequency



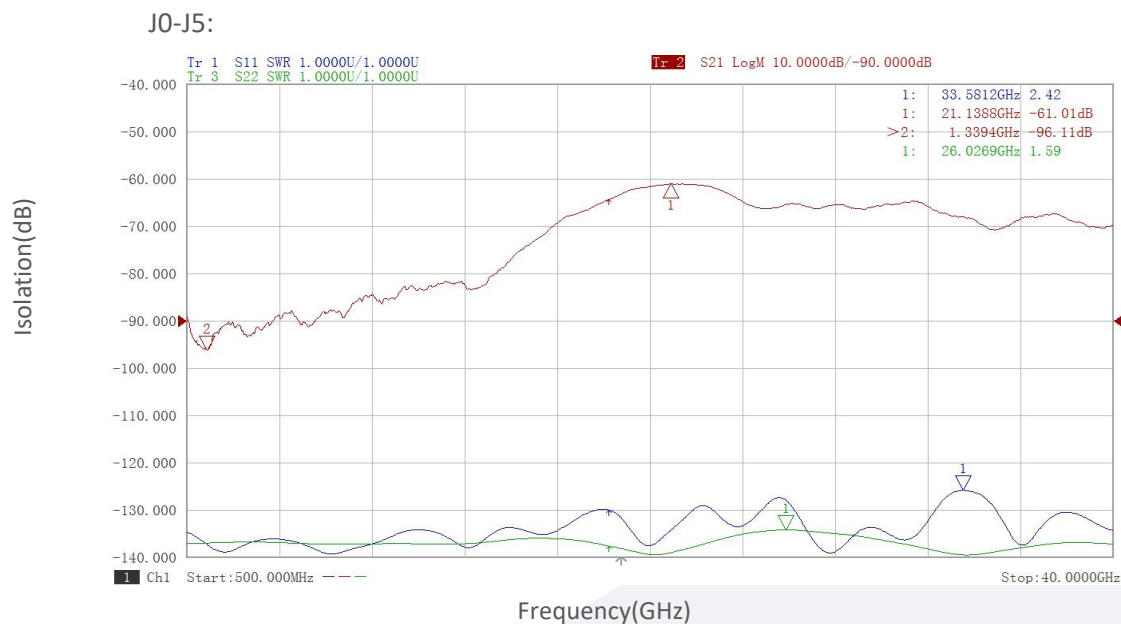
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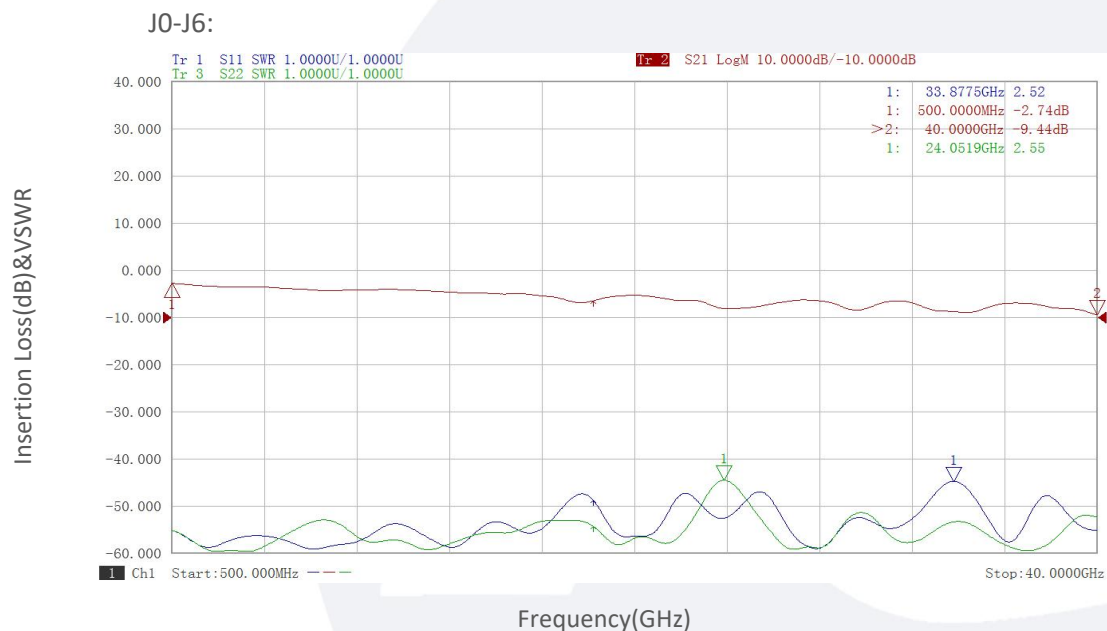
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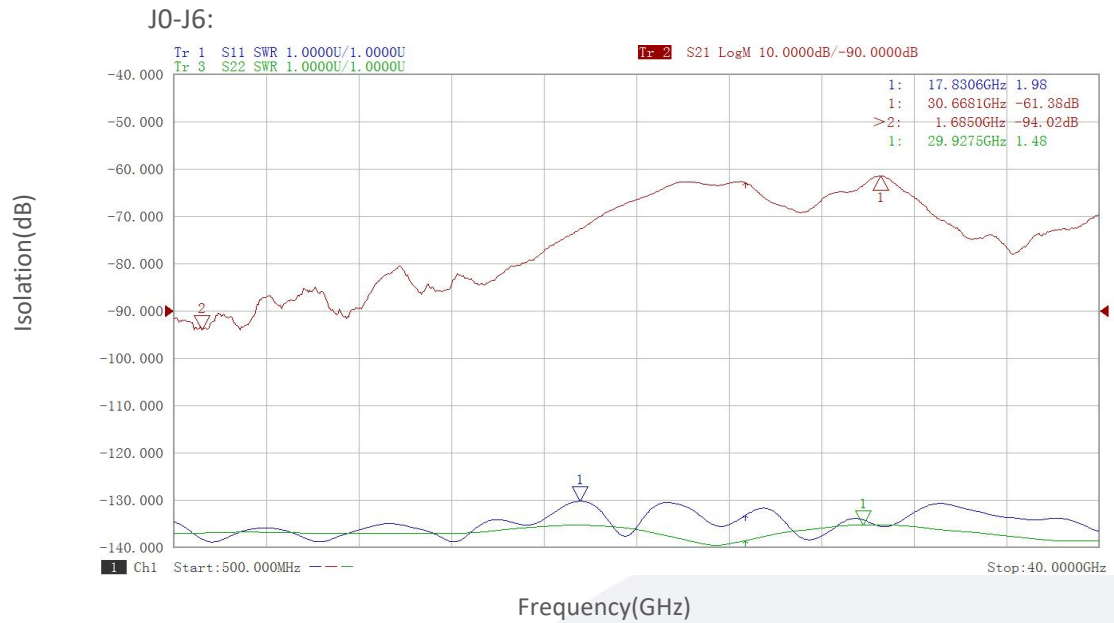
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