

## Low Noise Amplifier

2-40GHz/5.5dB NF/30dB Gain/19dBm P1dB

Model: TLLA2G40G-30-45

TLLA2G40G-30-45 is a low noise amplifier with a minimum small signal gain of 30 dB and a nominal noise figure of 5.5 dB across the frequency range of 2 to 40 GHz. The DC power requirement for the amplifier is +12 V DC/240 mA. The input and output port configuration offers coax adapter structure with 2.92mm female.

### Features:

- Frequency range: 2-40GHz
- Gain: 30dB Min
- Noise Figure: 5.5dB Typ
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

### Applications:

- Communication systems

### 电气特性 Electrical Characteristics:

| 参数 Parameter            | Min | Typ  | Max  | 单位 Units |
|-------------------------|-----|------|------|----------|
| 频率范围 Frequency range    | 2   |      | 40   | GHz      |
| 小信号增益 Small Signal Gain | 30  | 33   |      | dB       |
| 增益平坦度 Gain Flatness     |     | ±2.5 | ±5.5 | dB       |
| 噪声系数 Noise Figure       |     | 5.5  | 6    | dB       |
| 线性输出功率 Output P1dB      | 15  | 19   |      | dBm      |
| 饱和输出功率 Output Psat      |     | 20   |      | dBm      |
| 杂散 Spurious             |     | -60  |      | dBc      |
| 输入驻波 Input VSWR         |     | 1.8  | 2.2  | :1       |
| 输出驻波 Output VSWR        |     | 1.8  | 2.5  | :1       |
| 直流电压 DC Voltage         |     | +12  |      | V DC     |
| 直流电流 DC Supply Current  |     | 240  |      | mA       |
| 阻抗 Impedance            |     | 50   |      | Ohms     |

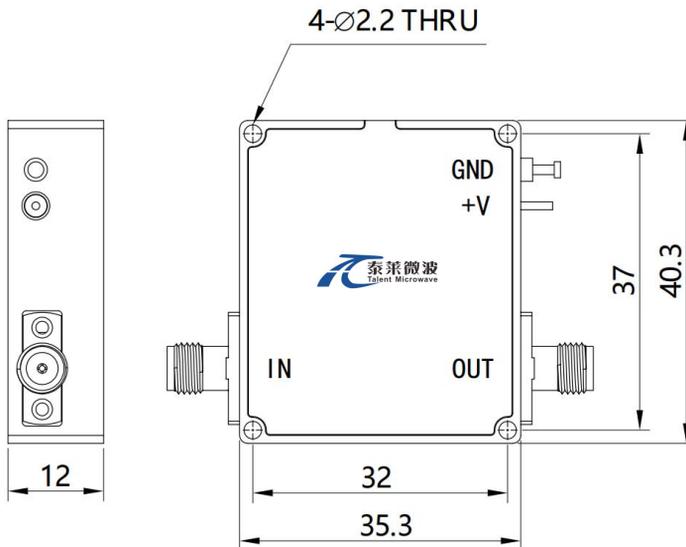
### 机械特性 Mechanical Specifications:

| 参数 Parameter                    | 指标 Value                    | 单位 Units |
|---------------------------------|-----------------------------|----------|
| 输入/输出接口 Input /Output Connector | 2.92mm Female/2.92mm Female |          |
| 直流偏置 DC Bias                    | Solder Pin                  |          |
| 尺寸 Size                         | 35.3*40.3*12                | mm       |

### 绝对最大值 Absolute Maximum Ratings:

| 参数 Parameter                 | 指标 Value             |
|------------------------------|----------------------|
| 供电偏置电压 Supply Bias Voltage   | TBD                  |
| 输入功率 RF Input Power          | 0 dBm                |
| ESD灵敏度 ESD sensitivity (HBm) | Class 0, passed 150V |

### 外形图 Outline Drawing: Unit:mm



**\*\*\*Heat Sink Required During Operation**



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

### 温度环境 Environmental Conditions:

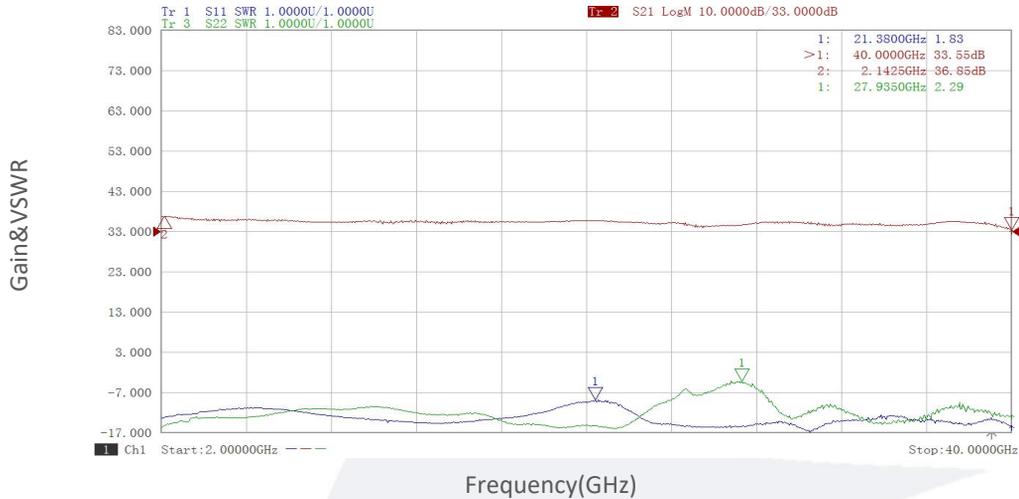
| 参数 Parameter                       | Min   | Typ | Max  | 单位 Units |
|------------------------------------|---|-----|------|----------|
| 操作温度 Operating Temperature         | -25   |     | +85  | °C       |
| 存储温度 Non-operating Temperature     | -55   |     | +125 | °C       |
| 相对湿度 Relative humidity             |   | 95  |      | %        |
| 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:

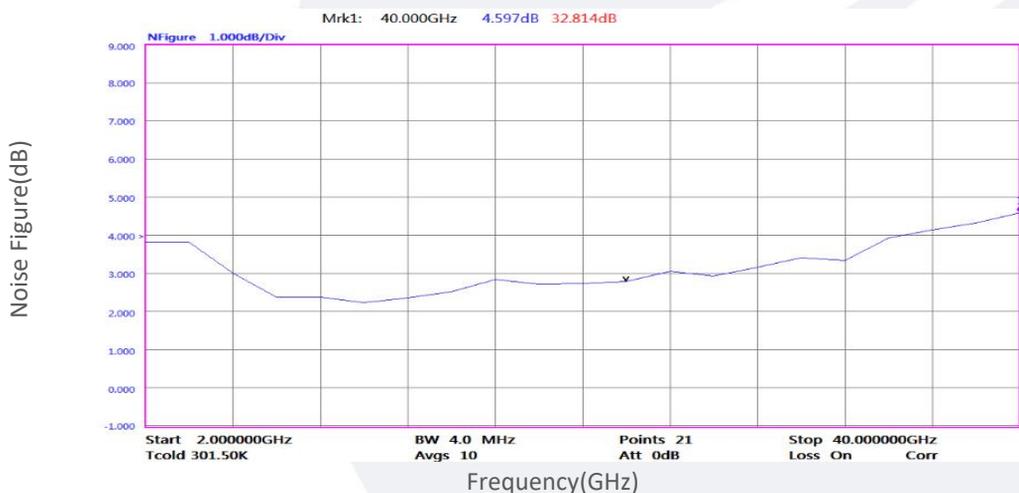
| 标准型号 Base Number   | 描述 Description   | 版本号 Revision |
|--------------------|--|--------------|
| TLLA2G40G-30-45    | Low Noise Amplifier, 2-40GHz, Noise Figure:5.5dB, Gain:30 dB,P1dB:19dBm,+12V DC,Without Heatsink | Rev.1.1      |
| TLLA2G40G-30-45-HS | Low Noise Amplifier, 2-40GHz, Noise Figure:5.5dB, Gain:30 dB,P1dB:19dBm,+12V DC,With Heatsink    | Rev.1.1      |

## 典型曲线 Typical Performance Data:

### Gain&VSWR vs Frequency



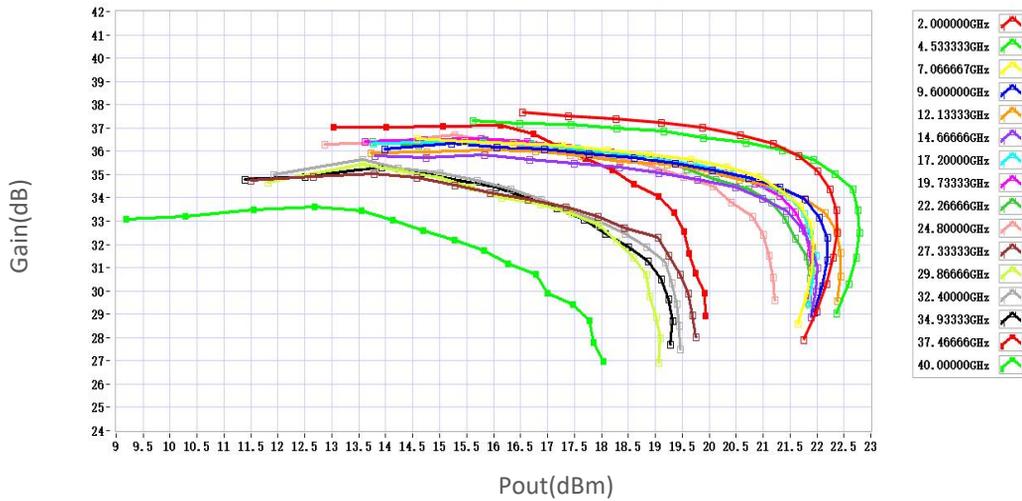
### Noise Figure vs Frequency



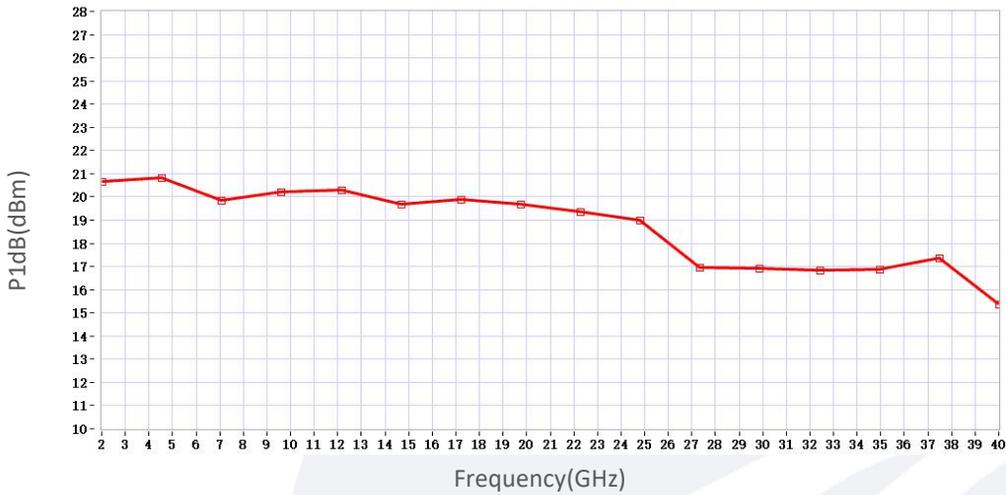
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

典型曲线 Typical Performance Data:

Gain vs Output Power



P1dB vs Frequency



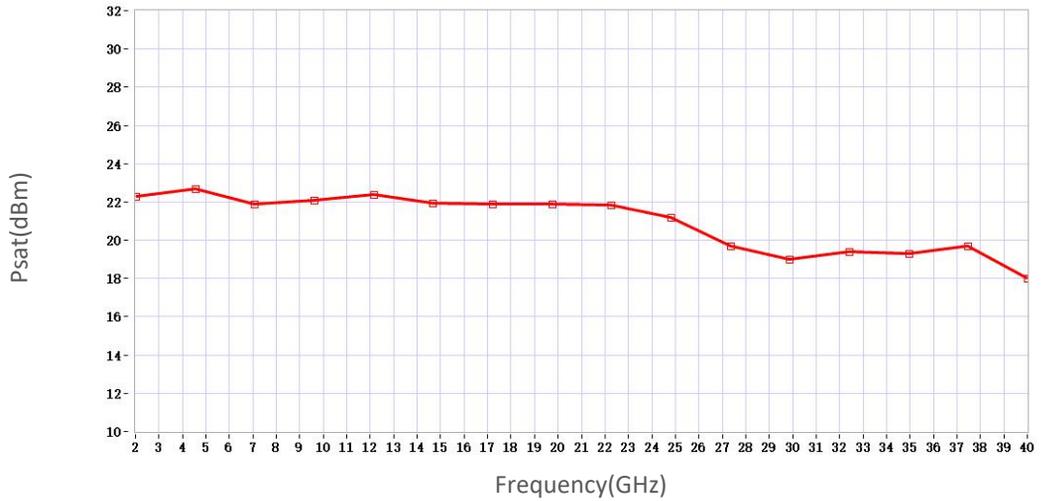
P3dB vs Frequency



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:

### Psat 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.