

## Power Amplifier

43-52GHz /37dB Gain/40 dBm Psat

Model: TLPA43G52G-37-40

TLPA43G52G-37-40 is a power amplifier with power gain of 37 dB and Psat of 40 dBm across the frequency range of 43 to 52 GHz. The DC power requirement for the amplifier is +18 VDC/500 W. The input and output port configuration offers coax adapter structure with 1.85mm female.

### Features:

- Ultra Wide Band: 43-52GHz
- Gain: 37dB Min
- Output Power Psat: 40dBm Min
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

### Applications:

- Cellular
- PCN
- GSM
- ISM
- Lab Test

### 电气特性 Electrical Characteristics:

| 参数 Parameter         | Min   | Typ | Max | 单位 Units |
|----------------------|-------|-----|-----|----------|
| 频率范围 Frequency range | 43-52 |     |     | GHz      |
| 功率增益 Power Gain      | 37    |     |     | dB       |
| 增益平坦度 Gain Flatness  |       | ±5  |     | dB       |
| 饱和输出功率 Output Psat   | 40    |     |     | dBm      |
| 杂散 Spurious          |       |     | -50 | dBc      |
| 输入驻波 Input VSWR      |       | 2   |     | :1       |
| 直流电压 DC Voltage      |       | 18  |     | V DC     |
| 功耗 Power Consumption |       |     | 500 | W        |
| 阻抗 Impedance         | 50    |     |     | Ohms     |

## 机械特性 Mechanical Specifications:

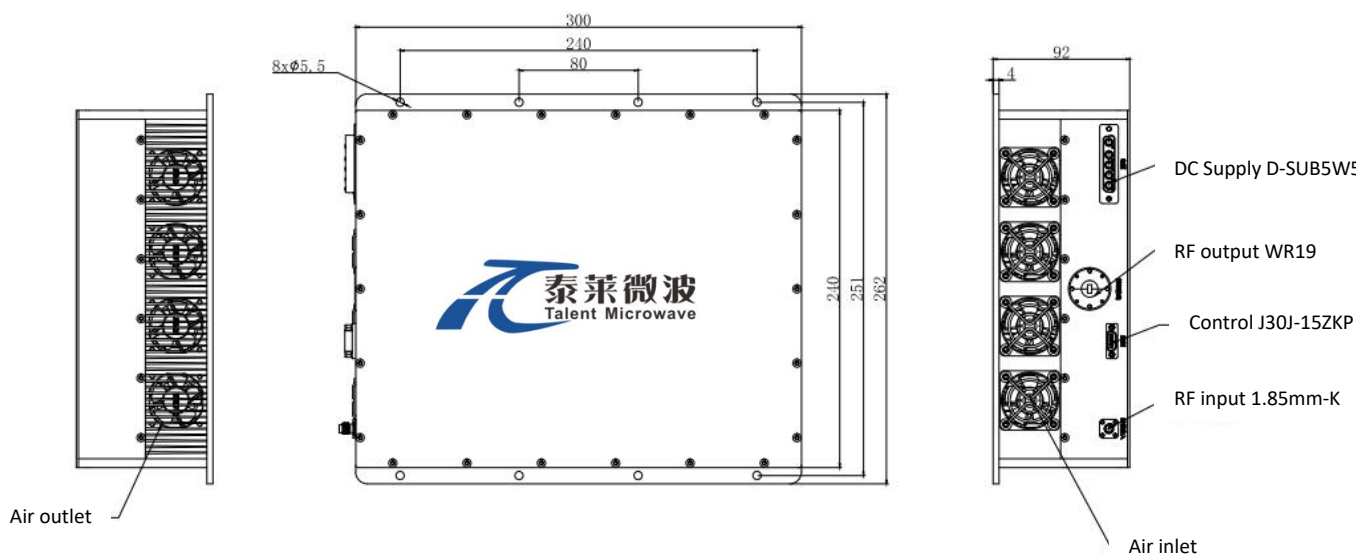
| 参数 Parameter                    | 指标 Value         | 单位 Units                                  |
|---------------------------------|------------------|-------------------------------------------|
| 输入/输出接口 Input /Output Connector | 1.85 Female/WR19 |                                           |
| 直流供电 DC Supply                  | DSUB-5W5         | A1~3:+18V<br>A4~5:GND                     |
| 控制接口 Control Connector          | J30J-15ZKP       | 1:TTL(power switch)<br>2~5:GND<br>6~15:NC |
| 尺寸 Size                         | 300*262*92       | mm                                        |
| 重量 Weight                       | ≤20              | Kg                                        |

## 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          | +10 dBm              |
| ESD灵敏度 ESD sensitivity (HBm) | Class 0, passed 150V |

## 外形图 Outline Drawing:

Unit:mm



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



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*        | -40                                                 |     | +60 | °C       |
| 存储温度 Non-operating Temperature*    | -50                                                 |     | +70 | °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  |     |     |          |

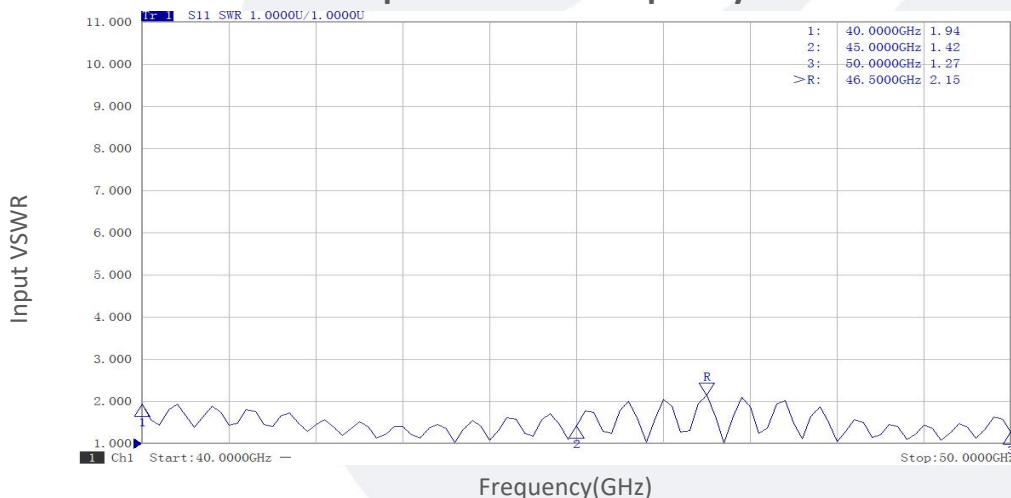
\*Note: For a wider temperature range, please consult the manufacturer.

## 订货信息 Ordering Information:

| 标准型号 Base Number    | 描述 Description                                                             | 版本号 Revision |
|---------------------|----------------------------------------------------------------------------|--------------|
| TLPA43G52G-37-40    | Power amplifier 43-52GHz,Gain:37dB,Psat:40dBm,<br>+18V DC,Without Heatsink | Rev.1.1      |
| TLPA43G52G-37-40-HS | Power amplifier 43-52GHz,Gain:37dB,Psat:40dBm,<br>+18V DC,With Heatsink    | Rev.1.1      |

## 典型曲线 Typical Performance Data:

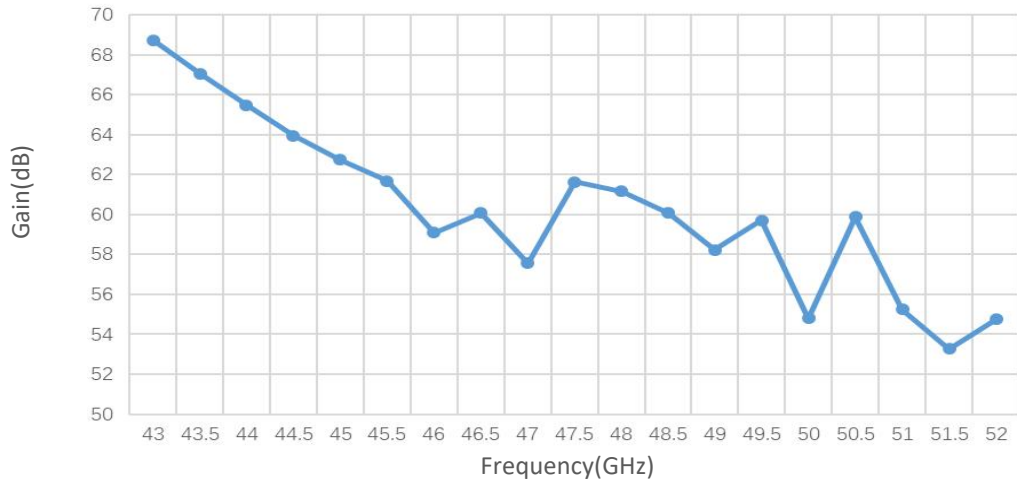
Input VSWR vs Frequency



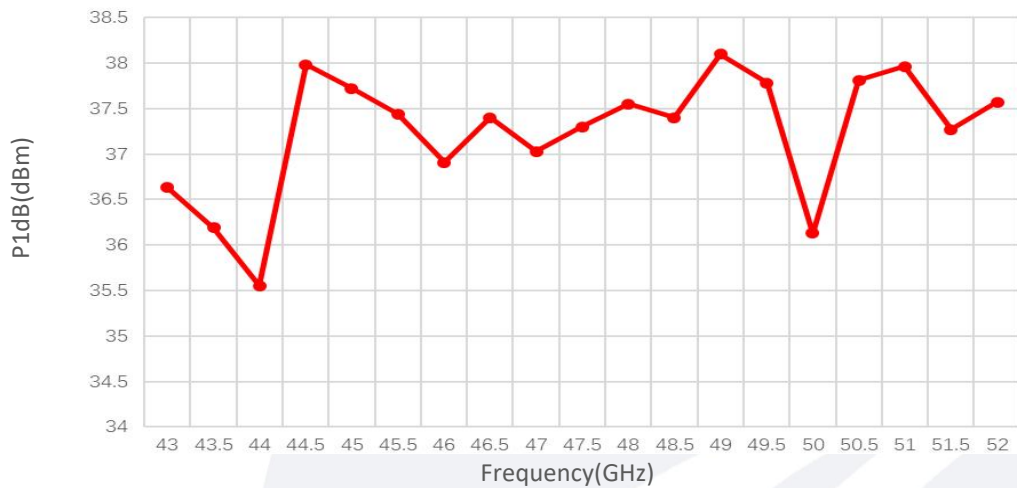
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

## 典型曲线 Typical Performance Data:

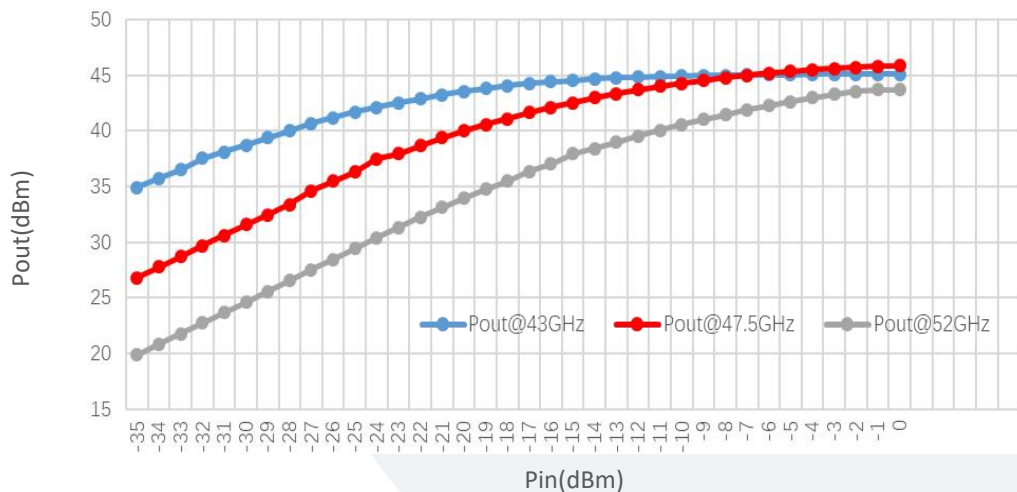
### Small Signal Gain vs Frequency



### P1dB vs Frequency



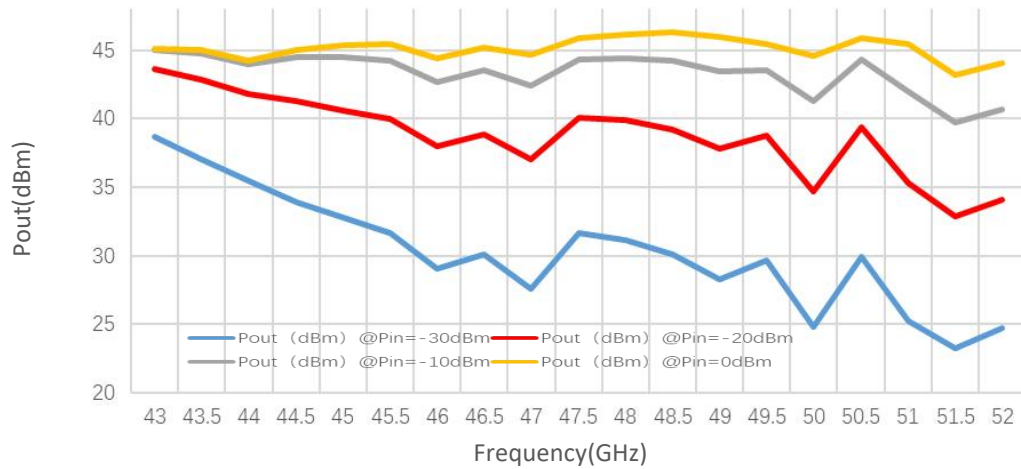
### Pout@Pin



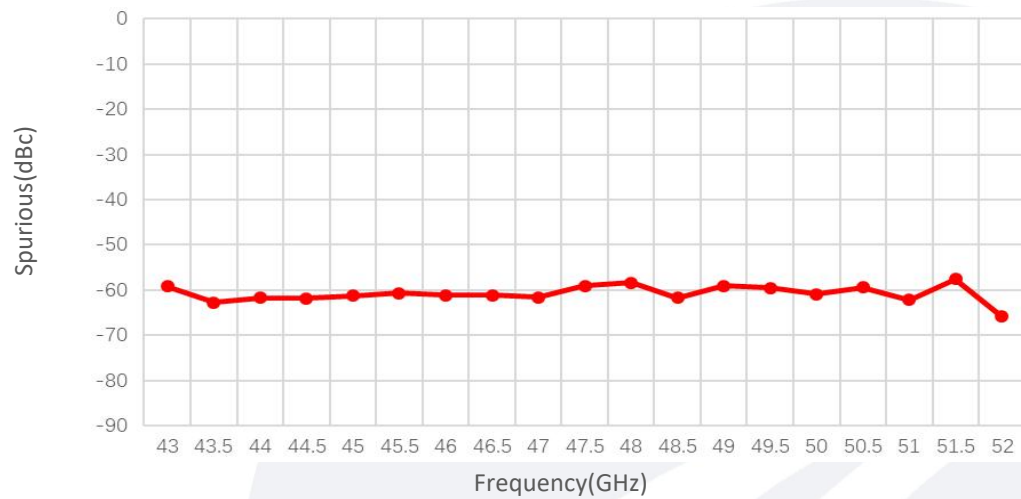
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## 典型曲线 Typical Performance Data:

Pout@Equal\_Pin



Spurious vs Frequency



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