

## Power Amplifier

18-40GHz /50dB Gain/37 dBm Psat

Model: TLPA18G40G-40-37-V2

TLPA18G40G-40-37-V2 is a power amplifier with a typical small signal gain of 50 dB and a minimum Psat of 37dBm @18~39GHz across the frequency range of 18 to 39 GHz. The DC power requirement for the amplifier is +24 VDC/1.7 A. The input and output port configuration offers coax adapter structure with 2.92mm female.

### Features:

- Frequency range: 18-40GHz
- Gain: 50dB Typ
- Output Power Psat: 37dBm Typ
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

### Applications:

- Cellular
- PCN
- GSM
- ISM
- Lab Test

### Electrical Characteristics:

| Parameter         |           | Min | Typ | Max | Units |
|-------------------|-----------|-----|-----|-----|-------|
| Frequency range   |           | 18  |     | 40  | GHz   |
| Small Signal Gain |           |     | 50  |     | dB    |
| Gain Flatness     |           |     | ±5  |     | dB    |
| Output P1dB       |           | 34  | 35  |     | dBm   |
| Output Psat       | @18-39GHz | 37  | 38  |     | dBm   |
|                   | @39-40GHz | 36  |     |     |       |
| Spurious          |           |     |     | -60 | dBc   |
| Harmonic          |           |     |     | -20 | dBc   |
| Input VSWR        |           |     |     | 2.0 | :1    |
| DC Voltage        |           |     | 24  |     | V DC  |
| DC Supply Current |           |     | 1.7 |     | A     |
| Impedance         |           |     | 50  |     | Ohms  |

## Mechanical Specifications:

| Parameter               | Value   | Units |
|-------------------------|---|-------|
| Input /Output Connector | 2.92mm Female/2.92mm Female                             |       |
| DC Bias                 | Solder Pin  |       |
| Size                    | 50*80*12(Without heatsink)<br>200*100*56(With heatsink) | mm    |

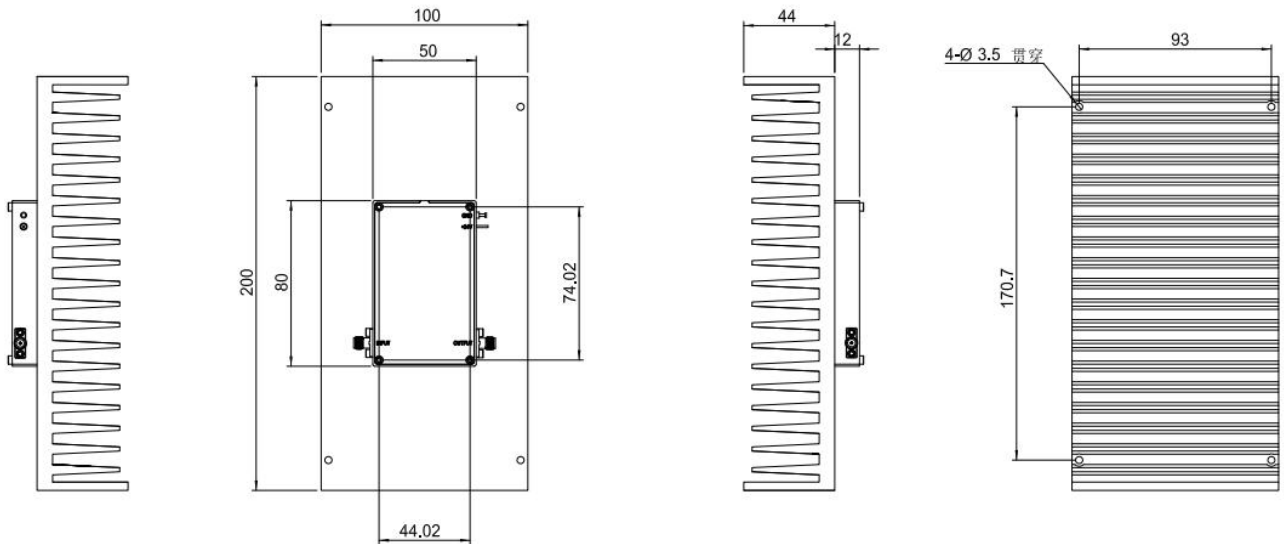
## Absolute Maximum Ratings:

| Parameter             | Value                |
|-----------------------|----------------------|
| Supply Bias Voltage   | +26 V                |
| RF Input Power        | +10 dBm              |
| ESD sensitivity (HBm) | Class 0, passed 150V |



## Outline Drawing:

Unit:mm



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

### Environmental Conditions:

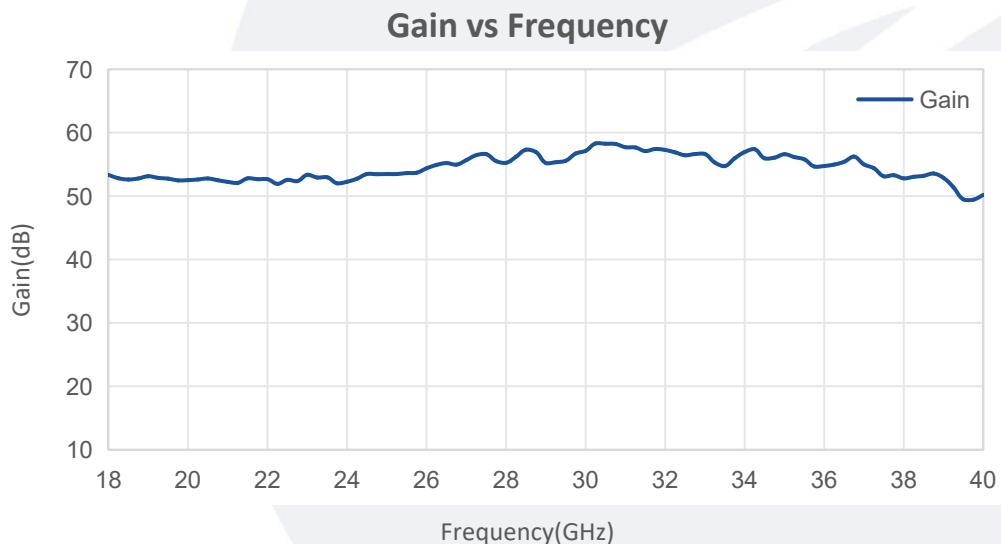
| Parameter                       | Min   | Typ | Max | Units |
|---------------------------------|---|-----|-----|-------|
| Operating Temperature*          | -40   |     | +60 | °C    |
| Non-operating Temperature*      | -50   |     | +70 | °C    |
| Relative humidity               |   | 95  |     | %     |
| 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  |     |     |       |

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

### Ordering Information:

| Base Number         | Description   | Revision |
|---------------------|---|----------|
| TLPA18G40G-40-37-V2 | Power amplifier 18-40GHz,Gain:50dB,Psat:37dBm,<br>+24V DC,With Heatsink | Rev.1.2  |

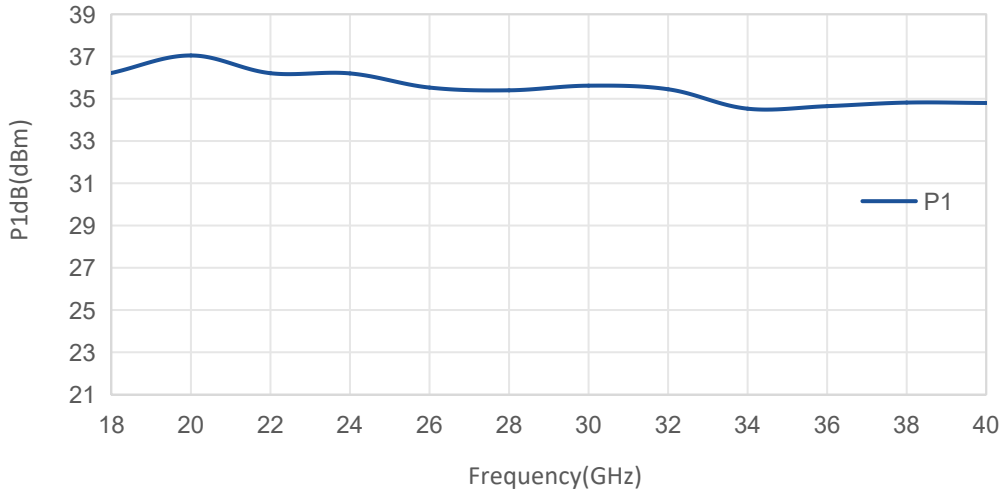
### Typical Performance Data:



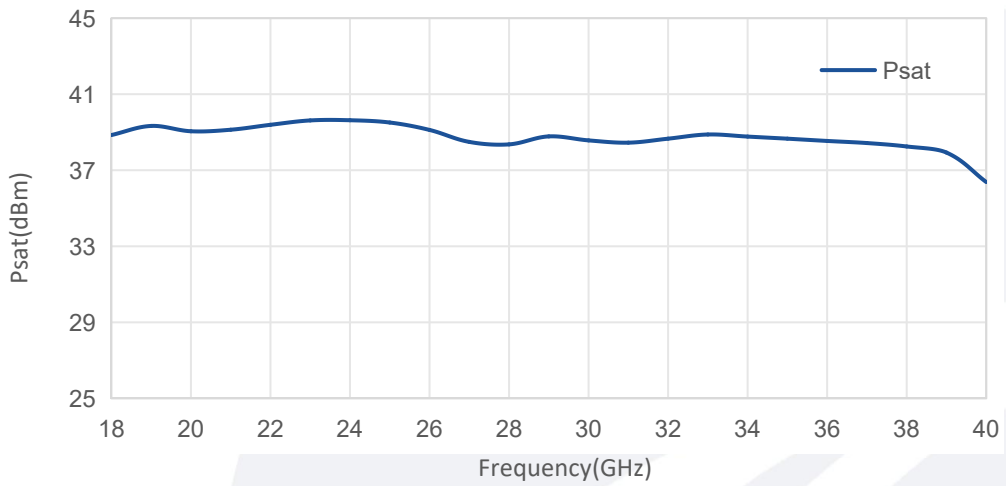
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

**Typical Performance Data:**

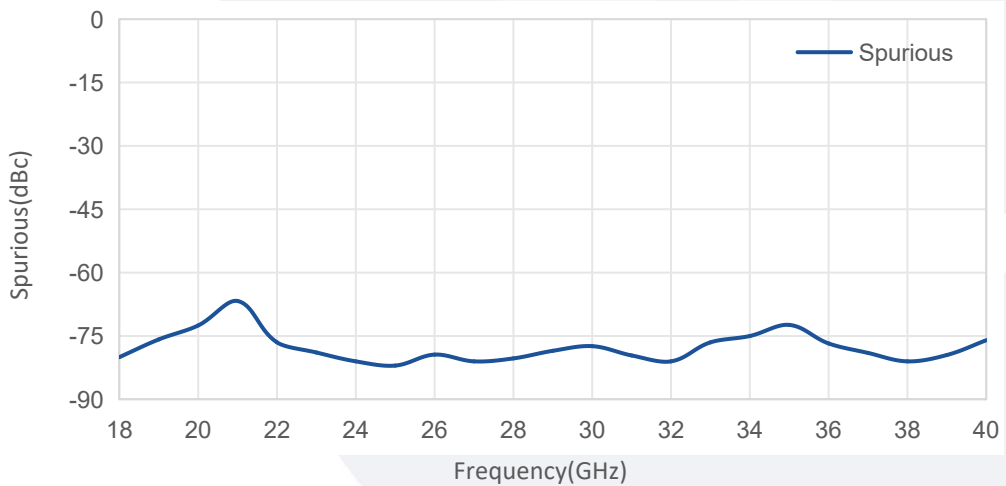
**P1dB vs Frequency**



**Psat vs Frequency**



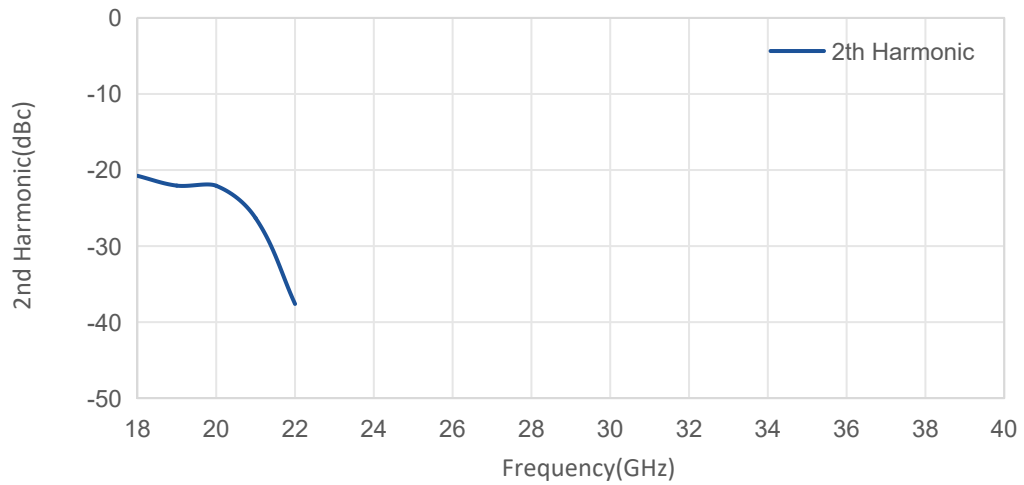
**Spurious vs Frequency**



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## Typical Performance Data:

### 2nd Harmonic vs Frequency



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