

## Power Amplifier

8-12.4GHz /30dB Gain/25 dBm Psat

Model: TLPA8G12.4G-30-23

TLPA8G12.4G-30-23 is a power amplifier with a typical small signal gain of 30 dB and Psat of 25 dBm across the frequency range of 8 to 12.4 GHz. The DC power requirement for the amplifier is +12 VDC/0.2 A. The input and output port configuration offers coax adapter structure with SMA female.

### Features:

- Ultra Wide Band: 8-12.4 GHz
- Gain: 30dB Typ
- Output Power Psat: 25dBm Min
- 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   | 8-12.4 |     |     | GHz   |
| Small Signal Gain |        | 30  |     | dB    |
| Gain Flatness     |        | ±1  |     | dB    |
| Output P1dB       | 23     |     |     | dBm   |
| Output Psat       | 25     |     |     | dBm   |
| Spurious          |        |     | -50 | dBc   |
| Harmonic          |        |     | -10 | dBc   |
| Input VSWR        |        | 2.0 |     | :1    |
| Output VSWR       |        | 2.0 |     |       |
| DC Voltage        |        | 12  |     | V DC  |
| DC Supply Current |        | 0.2 |     | A     |
| Impedance         | 50     |     |     | Ohms  |

## Mechanical Specifications:

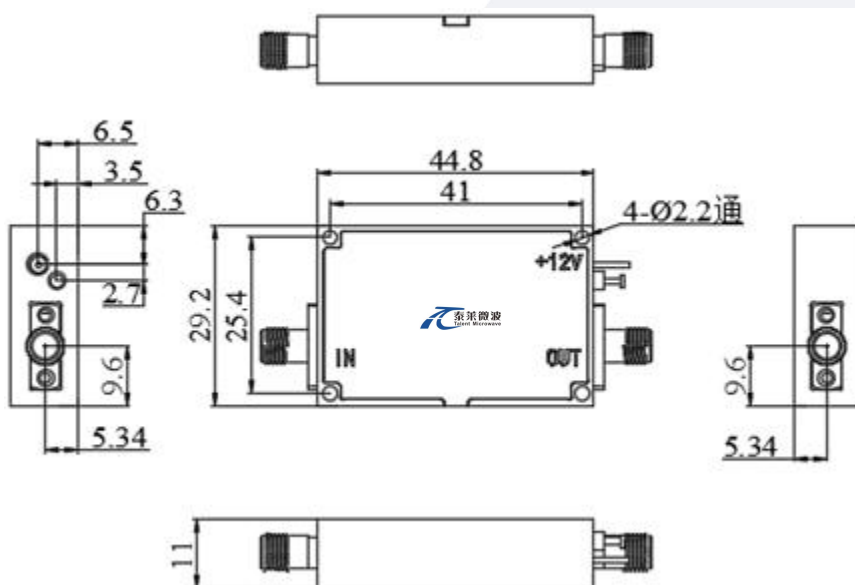
| Parameter               | Value        | Units |
|-------------------------|--------------|-------|
| Input /Output Connector | SMA female   |       |
| DC Bias                 | Solder Pin   |       |
| Size                    | 44.8*29.2*11 | mm    |
| Weight                  | 40           | g     |

## Absolute Maximum Ratings:

| Parameter             | Value                |
|-----------------------|----------------------|
| Supply Bias Voltage   | +15 V                |
| RF Input Power        | +12 dBm              |
| ESD sensitivity (HBM) | Class 0, passed 150V |

## Outline Drawing:

Unit:mm



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



OBSERVE PRECAUTIONS  
ELECTROSTATIC SENSITIVE  
DEVICES

## Environmental Conditions:

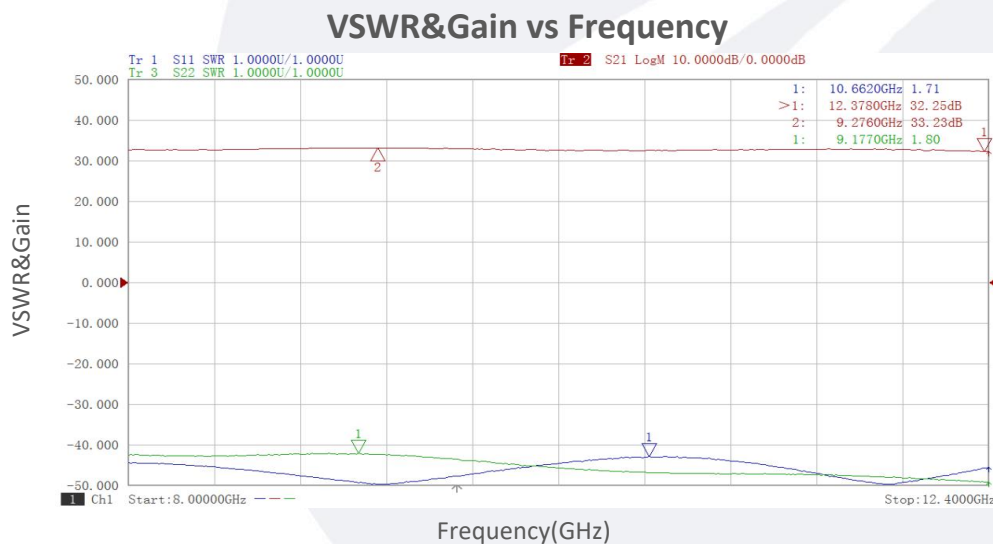
| Parameter                       | Min                                                 | Typ | Max | Units |
|---------------------------------|-----------------------------------------------------|-----|-----|-------|
| Operating Temperature*          | -40                                                 |     | +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 |
|----------------------|------------------------------------------------------------------------------|----------|
| TLPA8G12.4G-30-23    | Power amplifier 8-12.4 GHz,Gain:30dB,Psat:25dBm,<br>+12V DC,Without Heatsink | Rev.1.1  |
| TLPA8G12.4G-30-23-HS | Power amplifier 8-12.4GHz,Gain:30dB,Psat:25dBm,<br>+12V DC,With Heatsink     | Rev.1.1  |

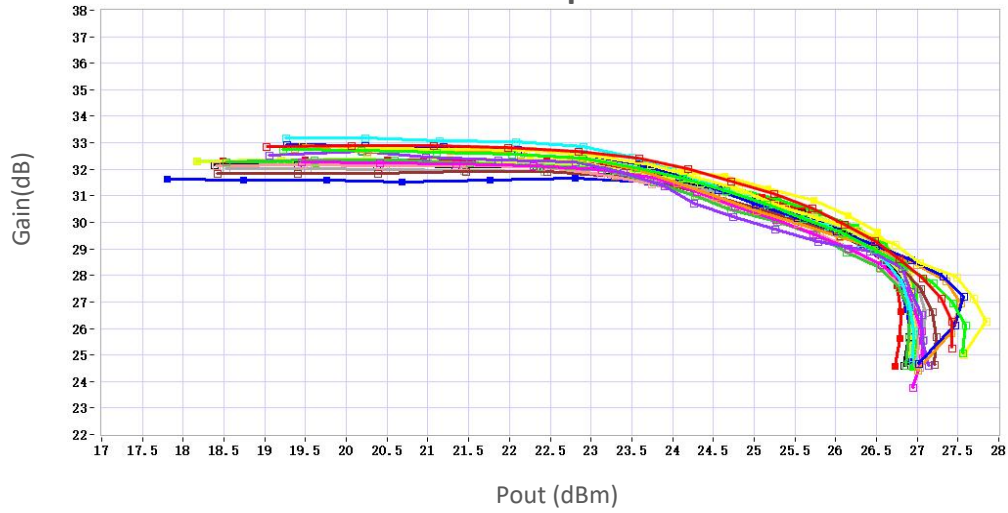
## Typical Performance Data:



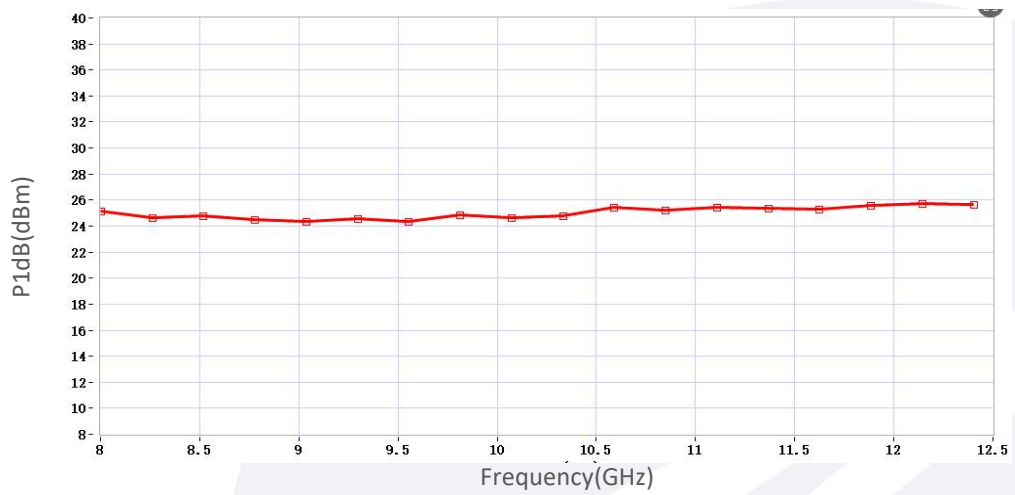
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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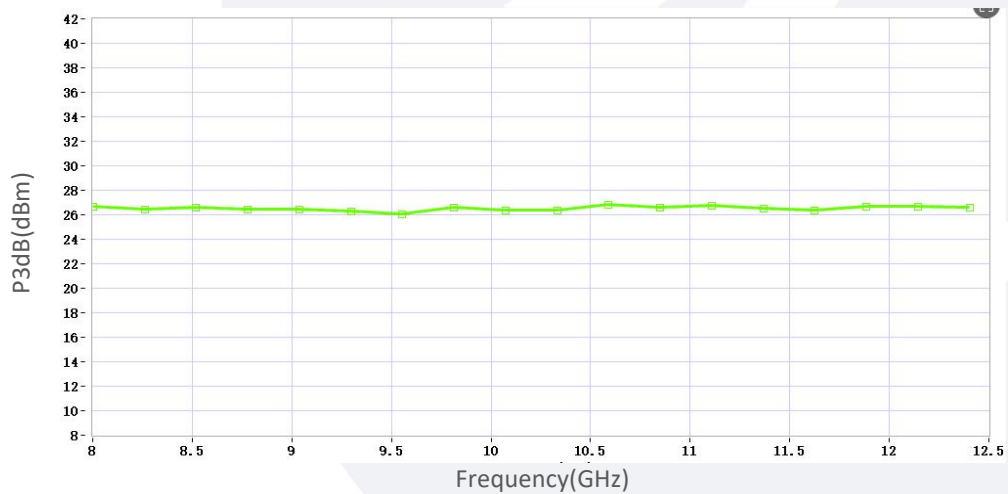
### Gain vs Output Power



### P1dB vs Frequency

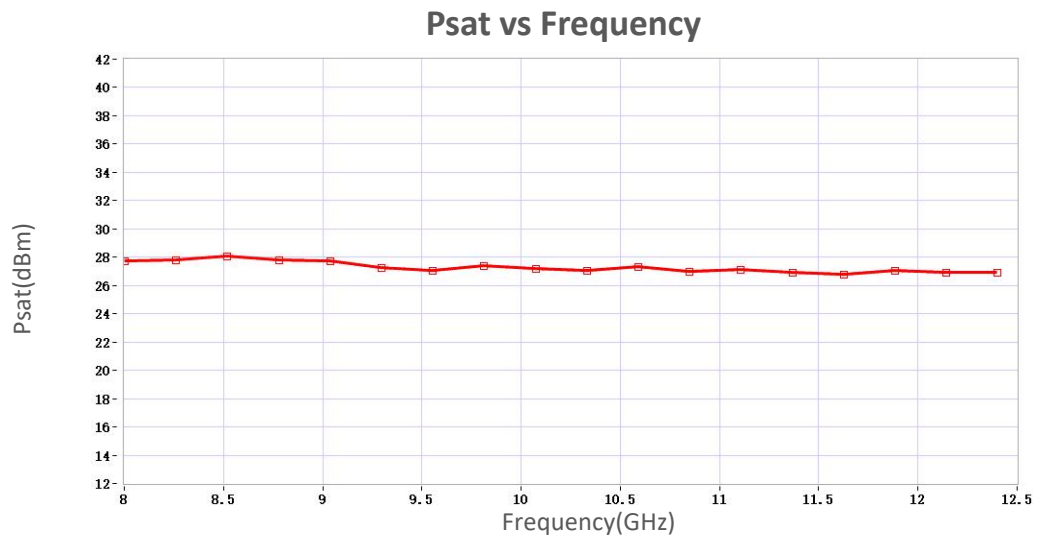


### P3dB vs Frequency



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