

## Power Amplifier

26.5-40GHz /47dB Gain/47 dBm Psat

Model: TLPA26.5G40G-47-47

TLPA26.5G40G-47-47 is a power amplifier with a typical gain of 47 dB and a nominal Psat of 47 dBm across the frequency range of 26.5 to 40 GHz. The DC power requirement for the amplifier is +22 VDC/30 A. The input and output port configuration offers coax adapter structure with 2.92mm Female/WR28.

### Features:

- Ultra Wide Band: 26.5-40GHz
- Gain: 47dB Min
- Output Power Psat: 47dBm 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   | 26.5-40 |      |     | GHz   |
| Gain              | 47      |      |     | dB    |
| Gain Flatness     |         | ±4.5 |     | dB    |
| Output Psat       | 47      |      |     | dBm   |
| Spurious          |         |      | -50 | dBc   |
| Input VSWR        |         | 2    | 2.5 | :1    |
| DC Voltage        |         | +22  | +24 | V DC  |
| DC Supply Current |         |      | 30  | A     |
| Impedance         | 50      |      |     | Ohms  |

## Mechanical Specifications:

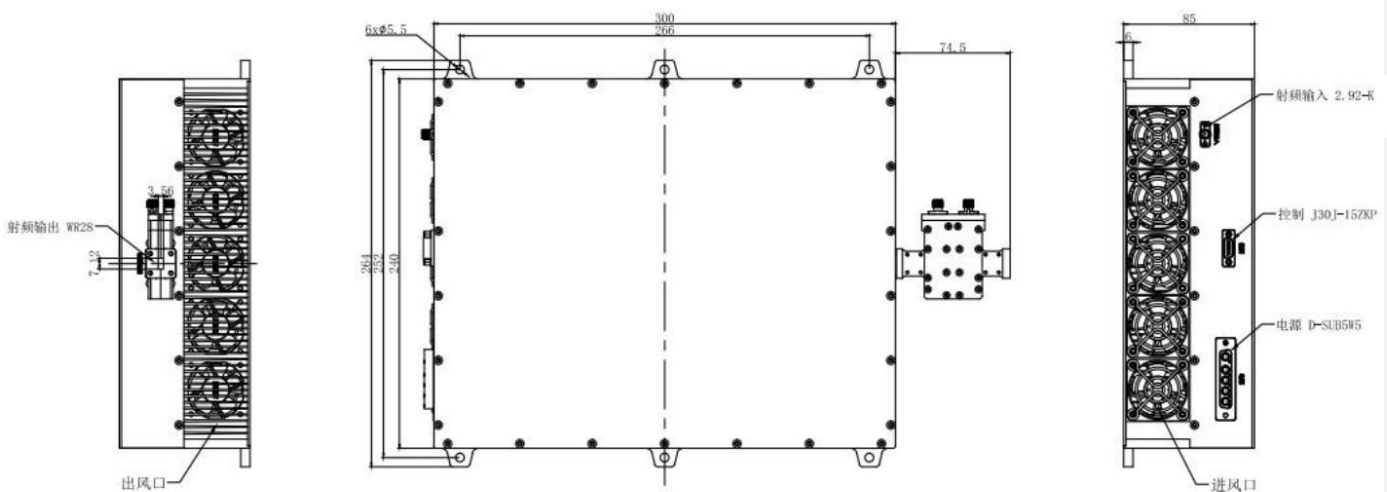
| Parameter                          | Value                   | Units |
|------------------------------------|-------------------------|-------|
| Input /Output Connector            | 2.92mm Female/WR28      |       |
| DC Power Interface                 | SUB-5W5                 |       |
| Control and Test Connector         | J30J-9ZKP               |       |
| Forward/Reverse Coupling Connector | 2.92 Female/2.92 Female |       |
| Size                               | 300*264*85              | mm    |
| Weight                             | 10                      | Kg    |

## Absolute Maximum Ratings:

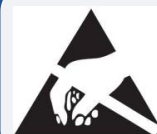
| Parameter             | Value                |
|-----------------------|----------------------|
| Supply Bias Voltage   | +24V                 |
| RF Input Power        | 10dBm                |
| ESD sensitivity (HBm) | Class 0, passed 150V |

## Outline Drawing:

Unit:mm



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



OBSERVE PRECAUTIONS  
ELECTROSTATIC SENSITIVE  
DEVICES

| SUB-2W2 Define |                                  |
|----------------|----------------------------------|
| Pin            | Function                         |
| A1-A2          | +24V                             |
| A3-A5          | +24V                             |
| Pin1           | TTL(high for open,low for close) |
| Pin2           | Current Monitor                  |
| Pin3           | Temperature Monitor              |
| Pin4           | 0.5dB Attenuation                |
| Pin5           | 1dB Attenuation                  |
| Pin6           | 2dB Attenuation                  |
| Pin7           | 4dB Attenuation                  |
| Pin8           | 8dB Attenuation                  |
| Pin9           | 16dB Attenuation                 |
| Pin10-15       | GND                              |

### Environmental Conditions:

| Parameter                       | Min                                                | Typ | Max | Units |
|---------------------------------|----------------------------------------------------|-----|-----|-------|
| Operating Temperature*          | 0                                                  |     | +40 | °C    |
| Non-operating Temperature*      | -45                                                |     | +65 | °C    |
| Relative humidity               |                                                    | 95  |     | %     |
| Altitude                        | 10,000                                             |     |     | feet  |
| Shock / Vibration(MIL-STD-810F) | 20g,11ms,saw-tooth                                 |     |     |       |
| Shock(non operating)            | 20G for 11msc half sin wave,3 axis both directions |     |     |       |

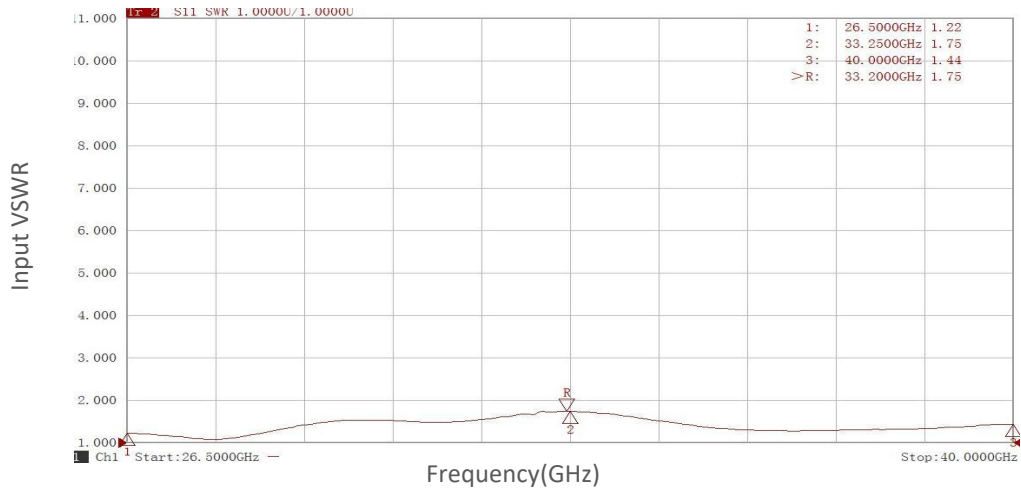
\*Note: For a wider temperature range, please consult the manufacturer.

### Ordering Information:

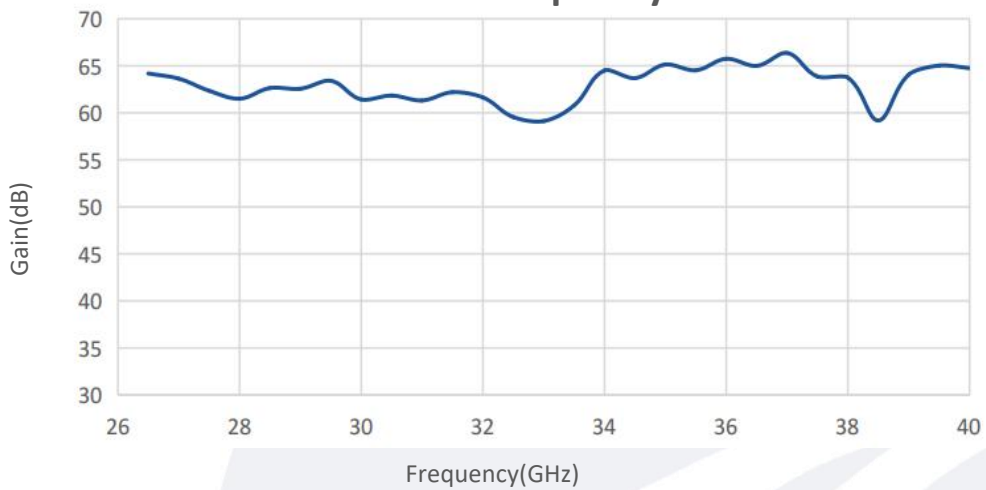
| Base Number           | Description                                                                  | Revision |
|-----------------------|------------------------------------------------------------------------------|----------|
| TLPA26.5G40G-47-47    | Power amplifier 26.5-40GHz,Gain:47dB,Psat:47dBm,<br>+24V DC,Without Heatsink | Rev.1.1  |
| TLPA26.5G40G-47-47-HS | Power amplifier 26.5-40GHz,Gain:47dB,Psat:47dBm,<br>+24V DC,With Heatsink    | Rev.1.1  |

## Typical Performance Data:

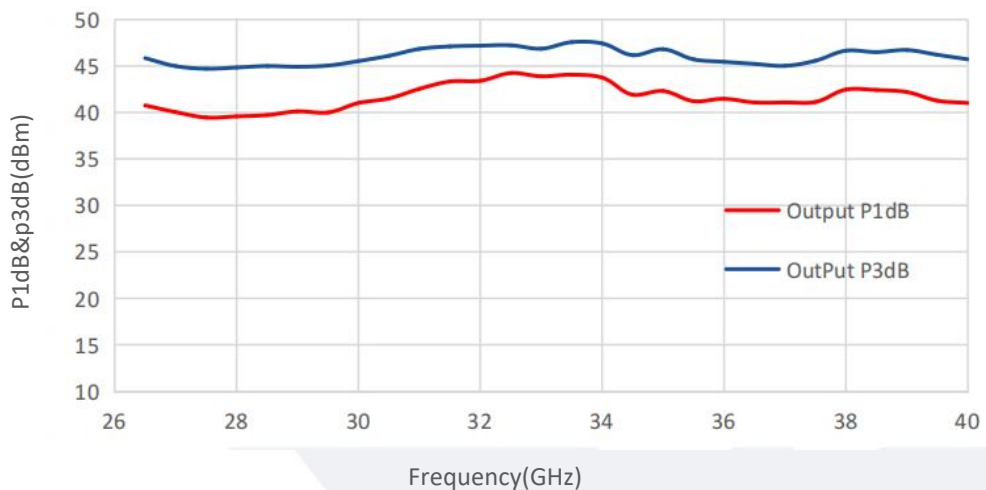
### Input VSWR vs Frequency



### Gain vs Frequency



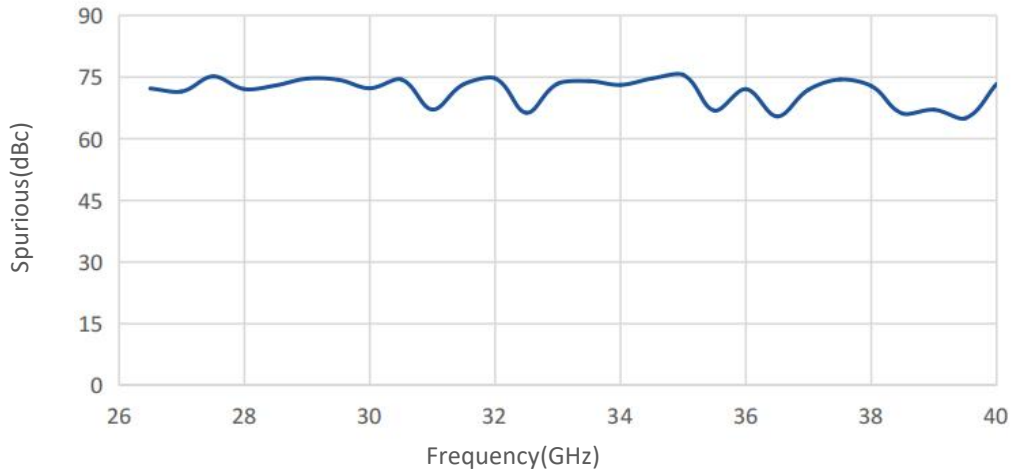
### P1dB&P3dB vs Frequency



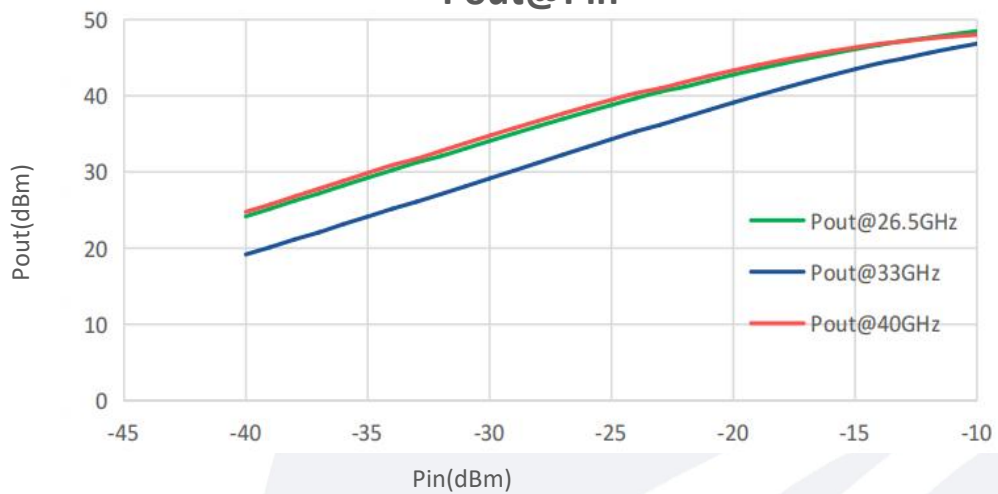
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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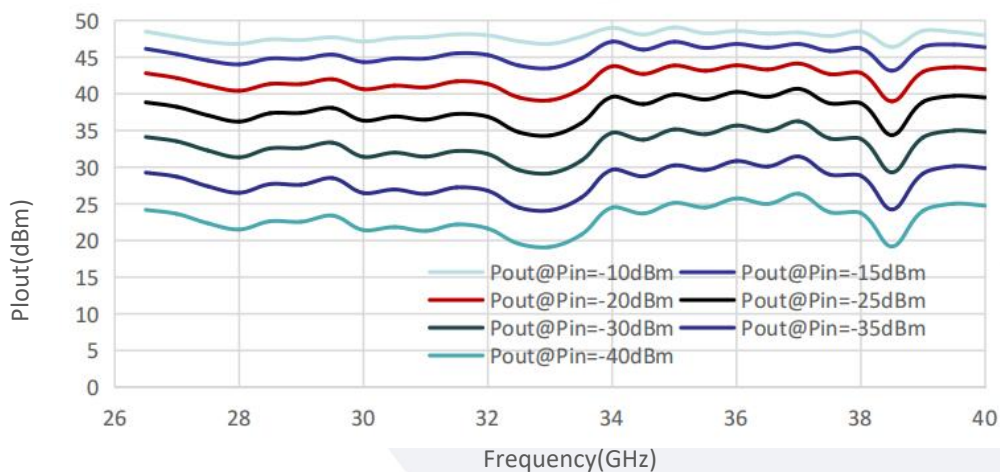
### Spurious vs Frequency



### Pout@Pin



### Pout@Equal\_Pin



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