

## Power Amplifier

42-46GHz/47dB Gain/47dBm Psat

Model: TLPA42G46G-47-47

TLPA42G46G-47-47 is a power amplifier with a minimum power gain of 47 dB and a nominal Psat of 47 dBm across the frequency range of 42 to 46 GHz. The DC power requirement for the amplifier is +24 VDC. The input port configuration offers coax adapter structure with 2.4mm female and output port configuration offers WR22.

### Features:

- Frequency range: 42-46GHz
- Gain: 47dB Min
- Output Power Psat: 47dBm 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         | 42  |     | 46  | GHz   |
| Power Gain              | 47  |     |     | dB    |
| Gain Flatness           |     | ±3  |     | dB    |
| Output Psat             | 46  | 47  |     | dBm   |
| Output IM3*             |     | -25 |     | dBc   |
| Spurious@Pout=46dBm     |     |     | -60 | dBc   |
| 2nd Harmonic@Pout=46dBm |     |     | -30 | dBc   |
| Input VSWR              |     |     | 2   | :1    |
| DC Voltage              |     | 24  | 25  | V DC  |
| Power Consumption       |     |     | 420 | W     |
| Impedance               |     | 50  |     | Ohms  |

\*Note:Two tone, spacing 5MHz, total power 42dBm.

## Mechanical Specifications:

| Parameter                         | Value        | Units |
|-----------------------------------|--------------|-------|
| Input Connector                   | 2.4mm Female |       |
| Output Connector                  | WR22         |       |
| DC Power Supply&Control Connector | DSUB-7W2     |       |
| Size                              | 165*130*90   | mm    |
| Weight                            | ≤4.5         | g     |

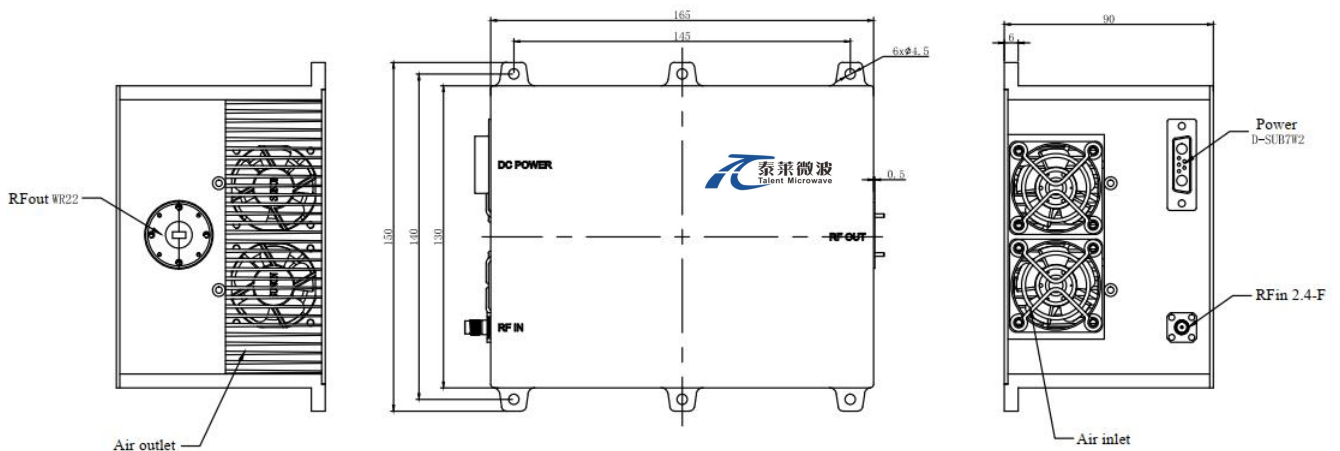
## Absolute Maximum Ratings:

| Parameter             | Value                |
|-----------------------|----------------------|
| Supply Bias Voltage   | +25 V                |
| RF Input Power        | +5 dBm               |
| ESD sensitivity (HBm) | Class 0, passed 150V |



## Outline Drawing:

Unit:mm



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

## DC Supply Connector(DSUB-7W2):

| Pin  | Name | Function   |
|------|------|--|
| A1   | +24V | Power supply positive,+24.0VDC   |
| A2   | GND  | Ground   |
| Pin1 | EN   | Amplifier Enable: TTL High (5V) (Internally Pulled-High)<br>Amplifier Disable: TTL Low (0V)Short to ground |
| Pin2 |      | Voltage sensor   |
| Pin3 |      | Current sensor   |
| Pin4 |      | TEMP sensor  |
| Pin5 |      | GND  |

## Environmental Conditions:

| Parameter                       | Min   | Typ | Max | Units |
|---------------------------------|---|-----|-----|-------|
| Operating Temperature*          | -20   |     | +50 | °C    |
| Non-operating Temperature*      | +30   |     | +60 | °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 |
|------------------|---|----------|
| TLPA42G46G-47-47 | Power amplifier 42-46GHz,<br>Gain:47dB,Psat:47dBm,+24V DC, Built in Fan Cooling | Rev.1.0  |