

## Power Amplifier

30MHz-1GHz/43dB Gain/43dBm Psat

Model: TLPA30M1G-43-43

TLPA30M1G-43-43 is a power amplifier with a minimum gain of 43 dB and a minimum Psat of 43 dBm across the frequency range of 30MHz to 1 GHz. The DC power requirement for the amplifier is +28 VDC/1 A. The input and output port configuration offers coax adapter structure with SMA female.

### Features:

- Frequency range: 30MHz-1GHz
- Gain: 43dB Min
- Output Power Psat: 43dBm 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   | 30MHz |     | 1GHz |          |
| 增益 Gain                | 43    | 45  |      | dB       |
| 增益平坦度 Gain Flatness    |       | ±2  | ±3   | dB       |
| 线性输出功率 Outout P1dB     | 41    |     |      | dBm      |
| 饱和输出功率 Output Psat     | 43    | 44  |      | dBm      |
| 谐波 Harmonics           |       | -10 |      | dBc      |
| 输入驻波 Input VSWR        |       | 1.5 | 2.0  | :1       |
| 直流电压 DC Voltage        |       | +28 | +30  | V DC     |
| 直流电流 DC Supply Current |       | 1   | 6    | A        |
| 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  | SMA Female/SMA Female |          |
| 直流供电接口 DC Power Supply Connector | DSUB-9                |          |
| 尺寸 Size                          | 170*80*20             | mm       |
| 重量 Weight                        | 500                   | g        |

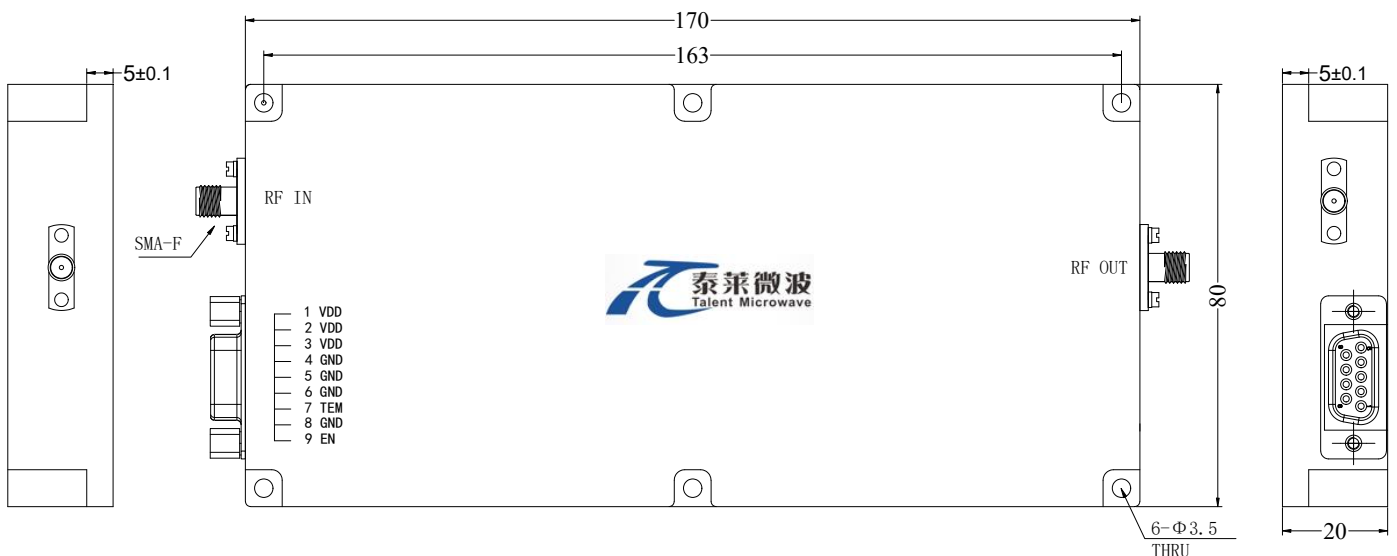
## 绝对最大值 Absolute Maximum Ratings:

| 参数 Parameter                 | 指标 Value             |
|------------------------------|----------------------|
| 供电偏置电压 Supply Bias Voltage   | +30 V                |
| 输入功率 RF Input Power          | +5 dBm               |
| ESD灵敏度 ESD sensitivity (HBm) | Class 0, passed 150V |



## 外形图 Outline Drawing:

Unit:mm; Tolerance:±0.1mm



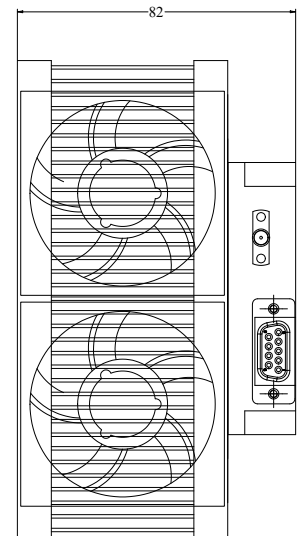
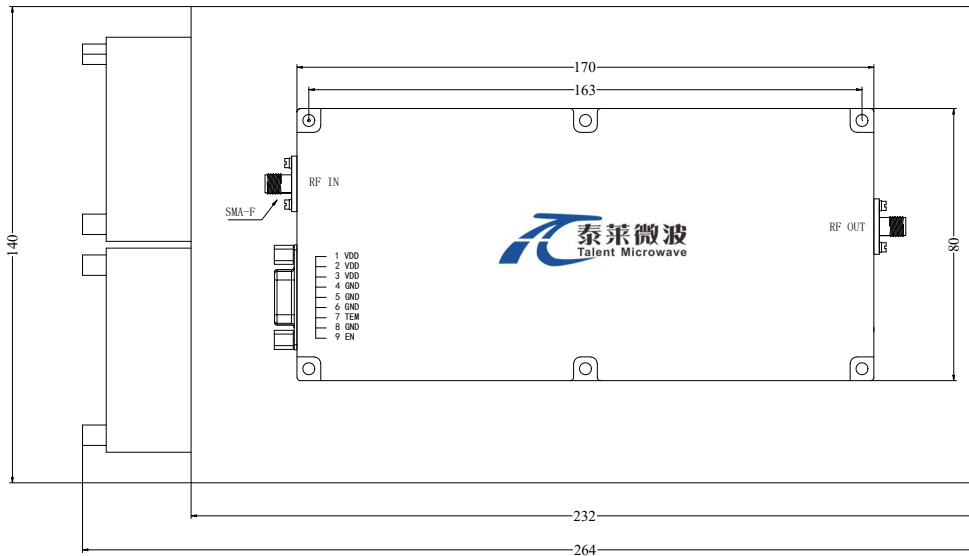
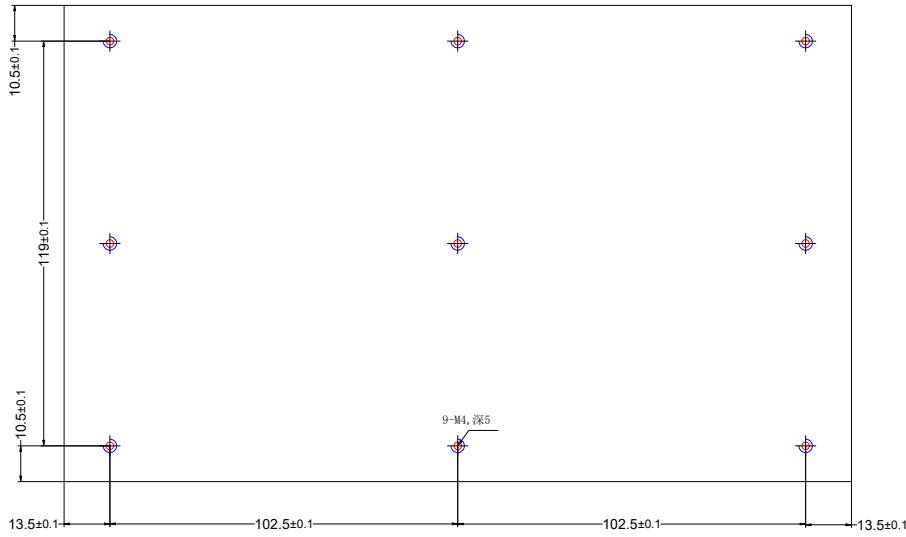
**\*\*\*Heat Sink Required During Operation**



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

## 外形图 Outline Drawing:

Unit:mm; Tolerance:±0.1mm



### 风扇供电 Fan power supply

|            |                                                          |
|------------|----------------------------------------------------------|
| Red line   | Power supply positive, +24.0-28.0VDC<br>DC current: 0.4A |
| Black line | Ground                                                   |

**直流供电接口 DC Supply Connector(DSUB-9 Female):**

| 引脚 Pin | 名称 Name  | 功能 Function                                                                                                                                                                                                                                          |
|--------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1      | +28V     | +26.0-30.0VDC                                                                                                                                                                                                                                        |
| 2      | +28V     | +26.0-30.0VDC                                                                                                                                                                                                                                        |
| 3      | +28V     | +26.0-30.0VDC                                                                                                                                                                                                                                        |
| 4      | GND      | Ground                                                                                                                                                                                                                                               |
| 5      | GND      | Ground                                                                                                                                                                                                                                               |
| 6      | NC       | Not connected                                                                                                                                                                                                                                        |
| 7      | Over TEM | When the temperature of the case exceeds 85 °C, the power amplifier will turn off and this pin will be pulled high. If the temperature of case drops to 70 °C, the power amplifier will return to normal operation, and this pin will be pulled low. |
| 8      | NC       | Not connected                                                                                                                                                                                                                                        |
| 9      | EN       | Amplifier Enable: TTL High (5V) (Internally Pulled-High)<br>Amplifier Disable: Short to ground                                                                                                                                                       |

**温度环境 Environmental Conditions:**

| 参数 Parameter                       | Min                                                | Typ | Max | 单位 Units |
|------------------------------------|----------------------------------------------------|-----|-----|----------|
| 操作温度 Operating Temperature*        | -40                                                |     | +50 | °C       |
| 存储温度 Non-operating Temperature*    | -50                                                |     | +60 | °C       |
| 相对湿度 Relative humidity             |                                                    | 95  |     | %        |
| 海拔 Altitude                        | 10,000                                             |     |     | feet     |
| 震动 Shock / Vibration(MIL-STD-810F) | 20g,11ms,saw-tooth                                 |     |     |          |
| 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 |
|--------------------|-----------------------------------------------------------------------------|--------------|
| TLPA30M1G-43-43    | Power amplifier 0.03-1GHz,<br>Gain:43dB,Psat:43dBm,+28V DC,Without Heatsink | Rev.1.1      |
| TLPA30M1G-43-43-HS | Power amplifier 0.03-1GHz,<br>Gain:43dB,Psat:43dBm,+28V DC,With Heatsink    | Rev.1.1      |