

## Power Amplifier

**0.5-6GHz /50dB Gain/50 dBm Psat****Model: TLPA0.5G6G-50-50-WATERPROOF**

TLPA0.5G6G-50-50-WATERPROOF is a power amplifier with a power gain of 50 dB and a nominal Psat of 50 dBm across the frequency range of 0.5 to 6 GHz. The DC power requirement for the amplifier is +36 VDC/800 W. The input port configuration offers coax adapter structure with SMA female and output port configuration offers coax adapter structure with N Female.

### Features:

- Ultra Wide Band: 0.5-6GHz
- Gain: 50dB Min
- Output Power Psat: 50dBm 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                  | 代码 Symbol | Min                 | Typ  | Max | 单位 Units |
|-------------------------------|-----------|---------------------|------|-----|----------|
| 频率范围 Frequency range          | BW        | 0.5-6               |      |     | GHz      |
| 工作模式 Operating Mode           | OPM       | CW/PULSE compatible |      |     |          |
| 功率增益 Power Gain               | GP        | 50                  |      |     | dB       |
| 增益平坦度 Gain flatness           | ΔGL       |                     | ±3.5 |     | dB       |
| 饱和输出功率 Output Psat            | Psat      | 50                  |      |     | dBm      |
| 杂散 Spurious@Pout=50dBm        | Spur      |                     |      | -60 | dBc      |
| 二次谐波 2rd Harmonics@Pout=50dBm | HAM       |                     | -10  |     | dBc      |
| 输入驻波 Input VSWR               | VSWRin    |                     |      | 2   | :1       |
| 直流电压 DC Voltage               | Vdc       |                     | 36   |     | V DC     |
| 功耗 Power Consumption          | Pdiss     |                     |      | 800 | W        |
| 防护等级 Ingress Protection Grade | IPG       | IP-65               |      |     |          |
| 阻抗 Impedance                  | I/O-IMP   | 50                  |      |     | Ohms     |

## 机械特性 Mechanical Specifications:

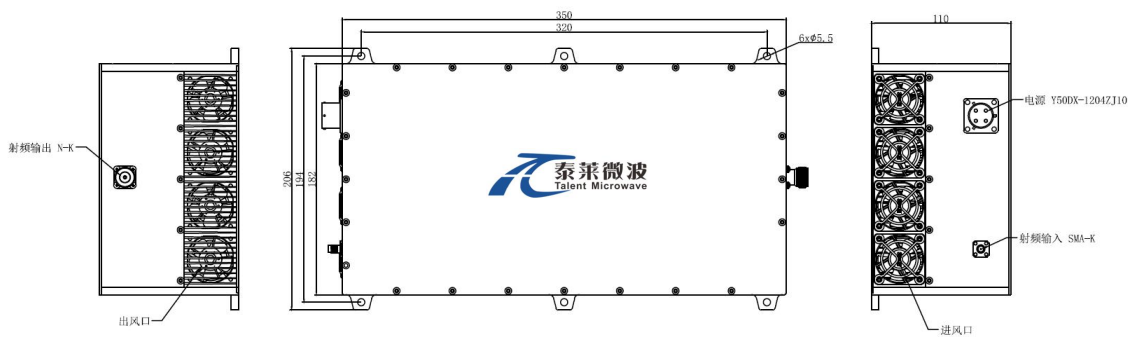
| 参数 Parameter                    | 指标 Value            | 单位 Units |
|---------------------------------|---------------------|----------|
| 输入/输出接口 Input /Output Connector | SMA Female/N Female |          |
| 尺寸 Size                         | 350*206*110         | mm       |
| 重量 Weight                       | ≤7.5                | Kg       |

## 绝对最大值 Absolute Maximum Ratings:

| 参数 Parameter                 | 指标 Value             |
|------------------------------|----------------------|
| 输入功率 RF Input Power          | +10 dBm              |
| ESD灵敏度 ESD sensitivity (HBm) | Class 0, passed 150V |

## 外形图 Outline Drawing:

Unit:mm



OBSERVE PRECAUTIONS  
ELECTROSTATIC SENSITIVE  
DEVICES

## DC加电接口 DC Interface Connector(Y50DX-1204ZJ10):

| Pin # | Description | Specification |
|-------|-------------|---------------|
| 1     | VCC         | +36 V DC      |
| 2     | VCC         | +36 V DC      |
| 3     | GND         | Ground        |
| 4     | GND         | Ground        |

## 温度环境 Environmental Conditions:

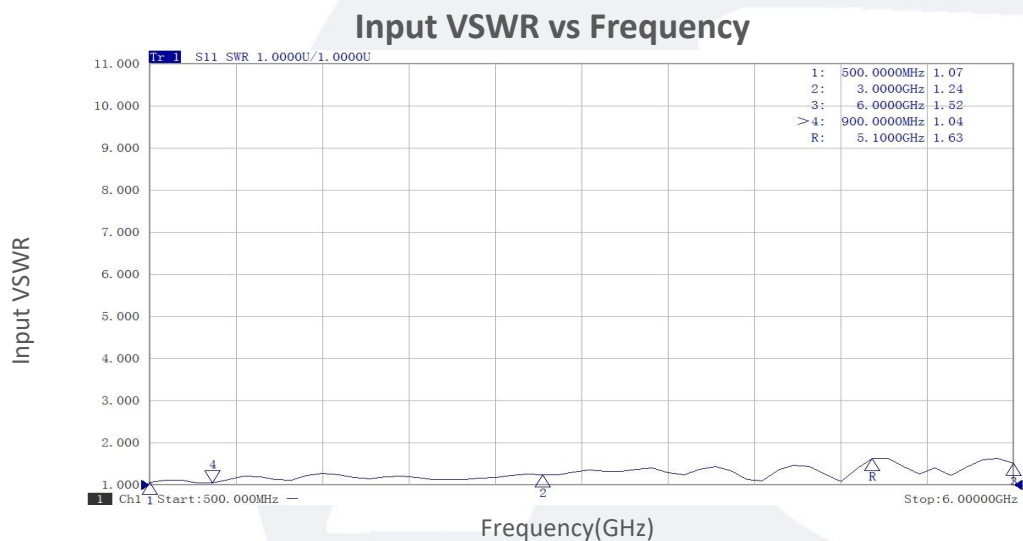
| 参数 Parameter                       | Min                                                 | Typ | Max | 单位 Units |
|------------------------------------|-----------------------------------------------------|-----|-----|----------|
| 操作温度 Operating Temperature*        | -20                                                 |     | +50 | °C       |
| 存储温度 Non-operating Temperature*    | -30                                                 |     | +60 | °C       |
| 相对湿度 Relative humidity             |                                                     | 95  |     | %        |
| 海拔 Altitude                        | 10,000                                              |     |     | feet     |
| 震动 Shock / Vibration(MIL-STD-810F) | 25g rms (15 degree 2KHz) endurance, 1 hour per axis |     |     |          |
| 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 |
|-----------------------------|-------------------------------------------------------------------------|--------------|
| TLPA0.5G6G-50-50-WATERPROOF | Power amplifier 0.5-6GHz,Gain:50dB,Psat:50dBm,<br>+36V DC,With Heatsink | Rev.1.1      |

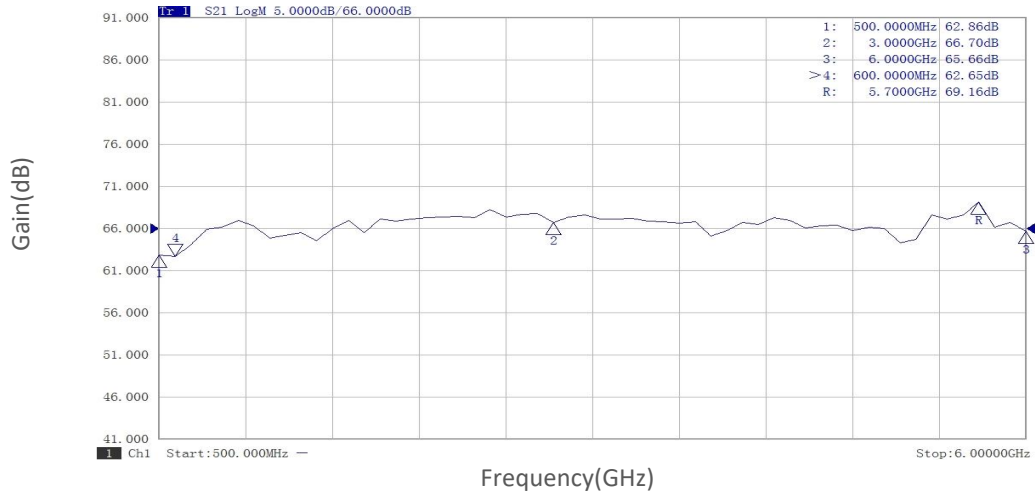
## 典型曲线 Typical Performance Data:



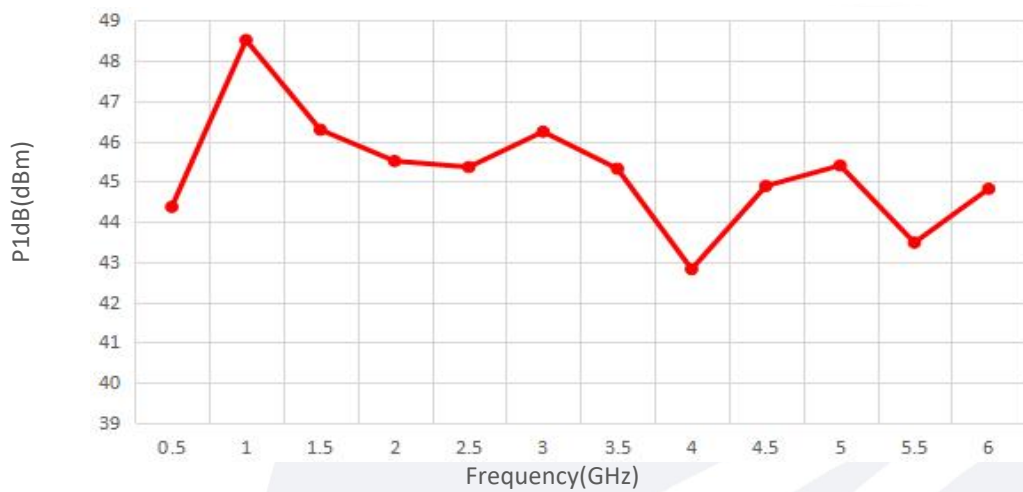
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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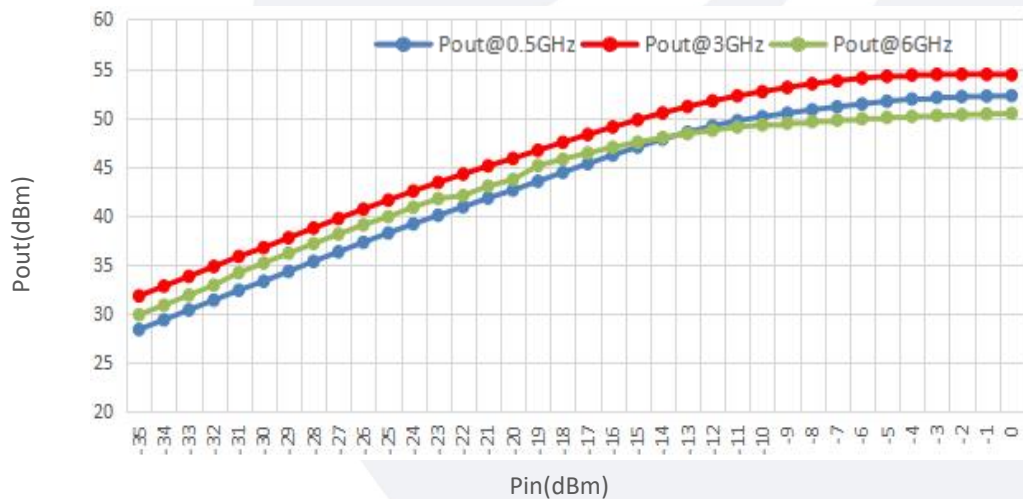
### Small Signal Gain vs Frequency



### P1dB vs Frequency



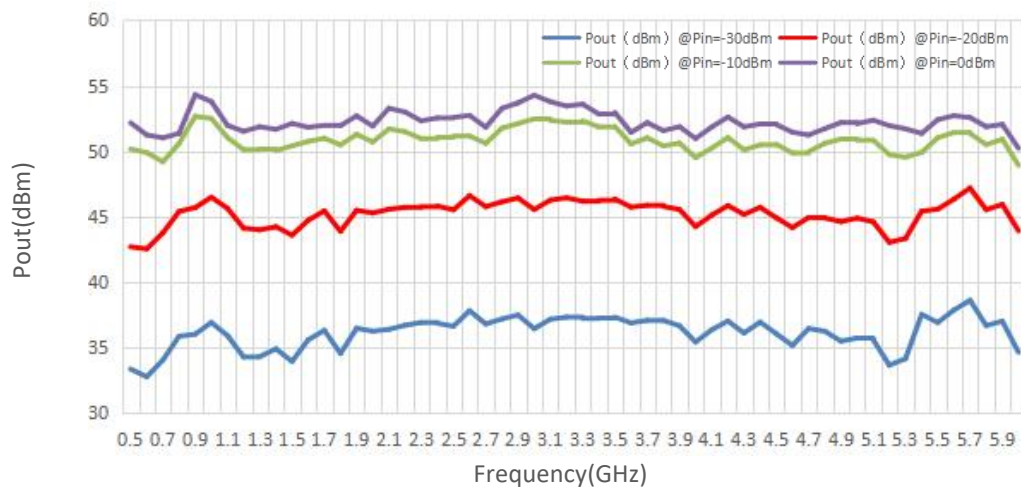
### Pout@Pin



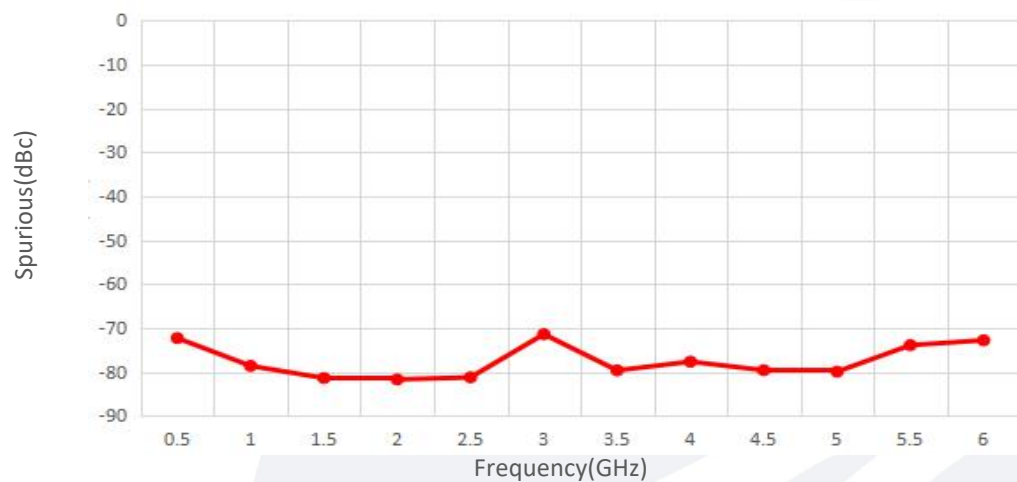
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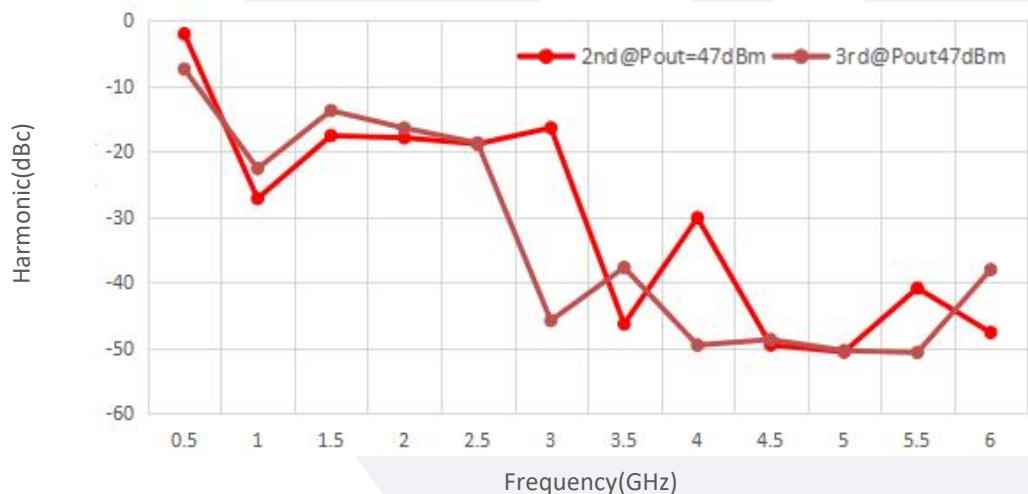
Pout@Equal\_Pin



Spurious vs Frequency

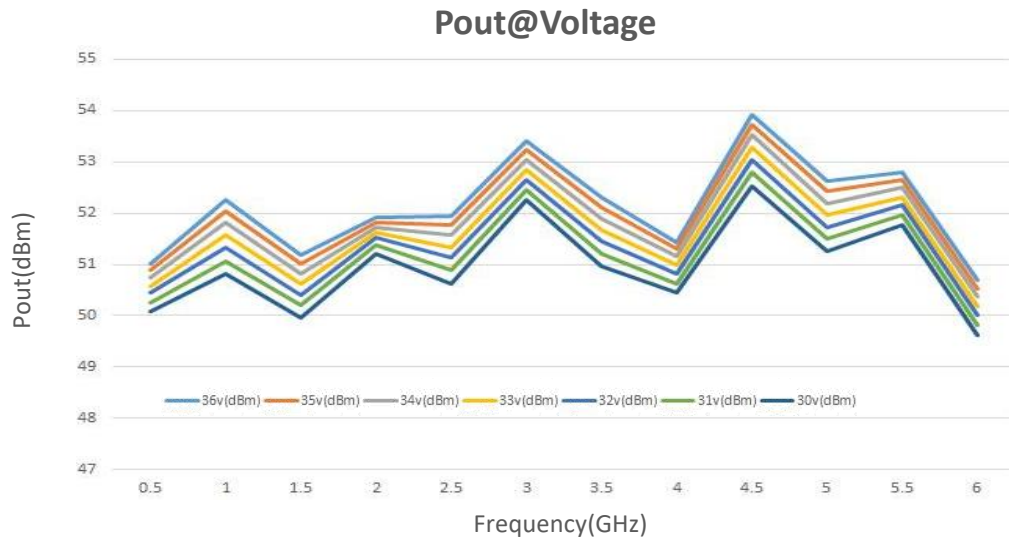


Harmonic vs Frequency



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