

## Solid State High Power Amplifier Systems

0.5-6GHz/50dB Gain/47 dBm Psat/220V AC

Model: TLPA0.5G6G-50-47-BC

TLPA0.5G6G-50-47-BC is a solid state high power amplifier systems provides high output power and high gain across the 0.5 to 6 GHz frequency range. The amplifier features a built-in 220V power supply, making it easy to use in most lab environments. This model features thermal self protection, preventing damage to the amplifier and providing added reliability.

### Features:

- Frequency range: 0.5-6GHz
- Gain: 50dB Min
- Psat Output Power: 47dBm Min
- Protection: Over TEM, over voltage, over current, over VSWR protection
- 50 Ohm Matched Input / Output



### 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      |
| 功率增益 Power Gain          | GP          | 50    |           |     | dB       |
| 增益平坦度 Gain flatness      | $\Delta$ GL |       | $\pm 3.5$ |     | dB       |
| 增益调节范围 Gain adjust Range | $\Delta$ GR | 20    |           |     | dB       |
| 增益调节步进 Gain adjust Step  | $\Delta$ GS |       | 0.5       |     | dB       |
| 线性输出功率 Output P1dB       | P1dB        | 40    | 42        |     | dB       |
| 饱和输出功率 Output Psat       | Psat        | 47    |           |     | dBm      |
| 杂散 Spurious@Pout=47dBm   | Spur        |       |           | -60 | dBc      |
| 谐波 Harmonics@Pout=47dBm  | HAM         |       | -10       |     | dBc      |
| 输入驻波 Input VSWR          | VSWRin      |       |           | 2   | :1       |
| 交流电压 AC Voltage          | Vac         |       | 220       |     | V AC     |
| 阻抗 Impedance             | I/O-IMP     | 50    |           |     | Ohms     |

## 机械特性 Mechanical Specifications:

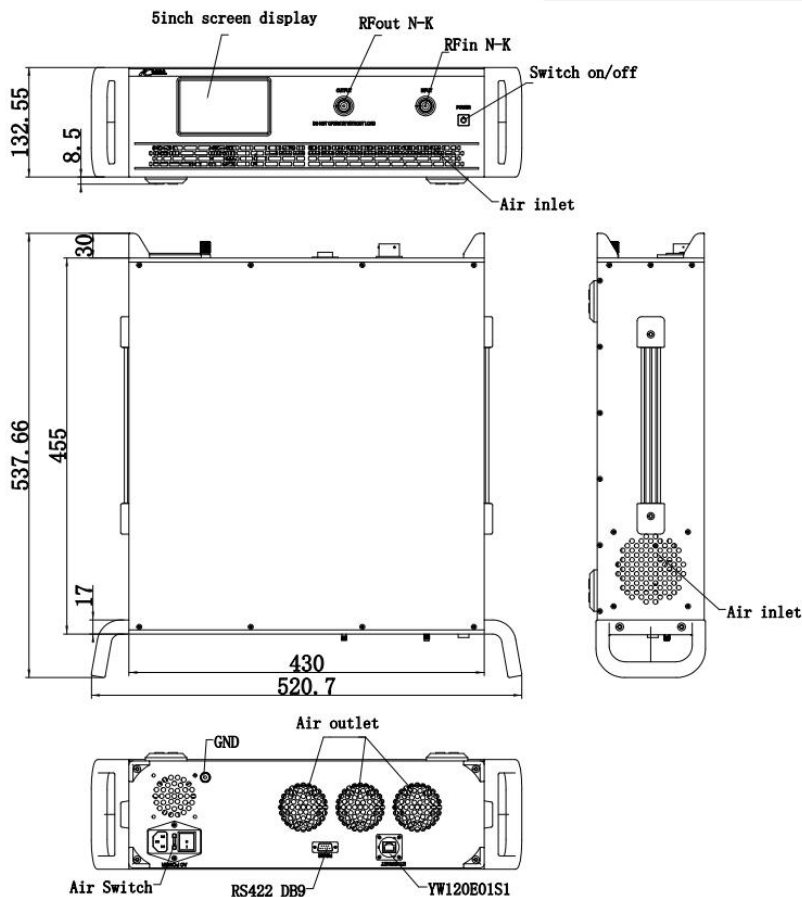
| 参数 Parameter                    | 指标 Value          | 单位 Units |
|---------------------------------|-------------------|----------|
| 输入/输出接口 Input /Output Connector | N Female/N Female |          |
| AC加电控制 AC Power Interface       | Air switch        |          |
| 尺寸 Size                         | 19 Inch 3U        | mm       |
| 重量 Weight                       | ≤30               | Kg       |

## 绝对最大值 Absolute Maximum Ratings:

| 参数 Parameter                 | 指标 Value             |
|------------------------------|----------------------|
| 供电偏置电压 Supply Bias Voltage   | 260V AC              |
| 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



## 主要功能 Key Features:

| 参数 Parameter                | 特点 Advantages                                                 |
|-----------------------------|---------------------------------------------------------------|
| 控制功能 Control functions      | 1,Gain setting with 31.5dB range<br>2,ALC                     |
| 监控功能 Monitoring functions   | 1,Forward Power<br>2,Temp Fault                               |
| 内置保护功能 Protection functions | 1,Over TEM<br>2,Over voltage<br>3,Over current<br>4,Over VSWR |
| 监控和控制 Remote control        | Ethernet RJ-45 TCP/IP                                         |
| 冷却系统 Cooling system         | Built in Cooling system,forced air cooling                    |

## 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  |     |     |          |

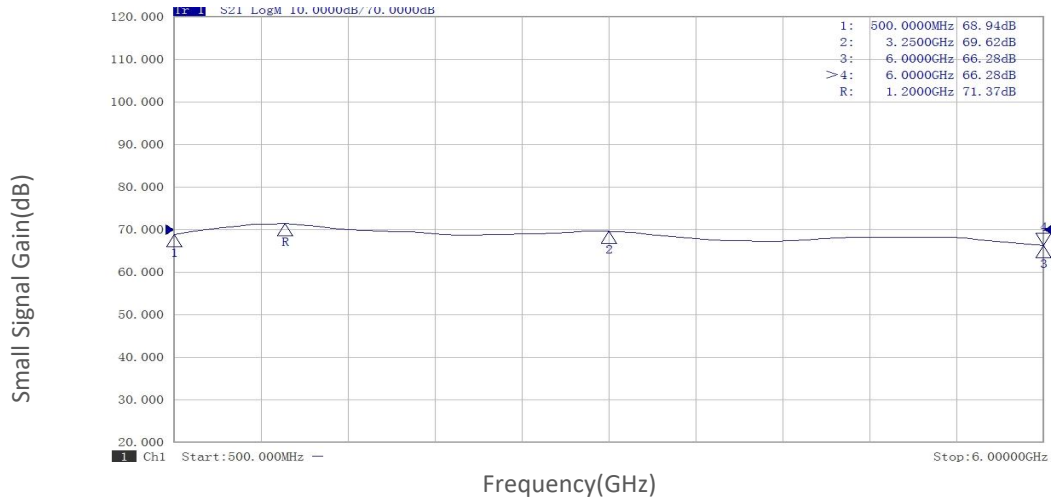
\*Note: For a wider temperature range, please consult the manufacturer.

## 订货信息 Ordering Information:

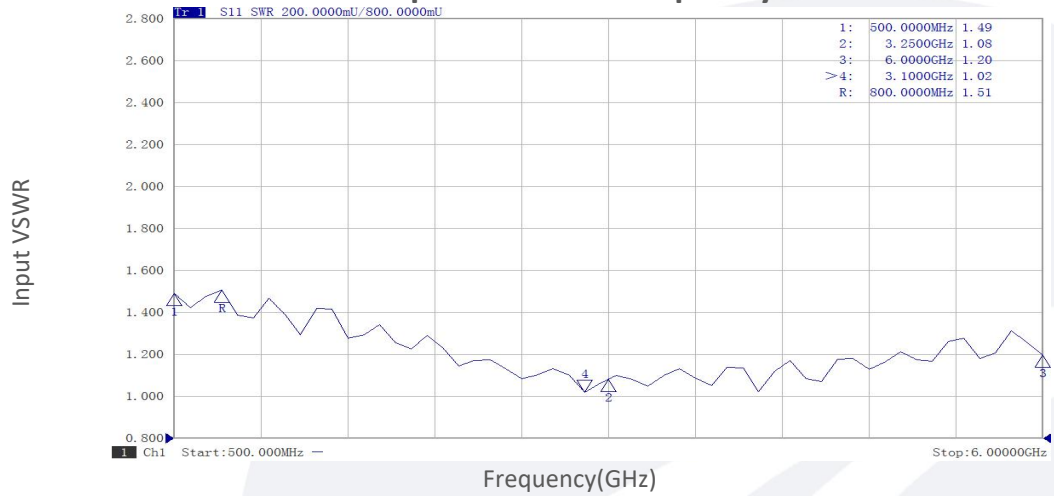
| 标准型号 Base Number    | 描述 Description                                                                                       | 版本号 Revision |
|---------------------|------------------------------------------------------------------------------------------------------|--------------|
| TLPA0.5G6G-50-47-BC | Solid State High Power Amplifier Systems 0.5-6GHz,Gain:50dB,Psat:47 dBm,220V AC,Built in Fan Cooling | Rev.1.1      |

## 典型曲线 Typical Performance Data:

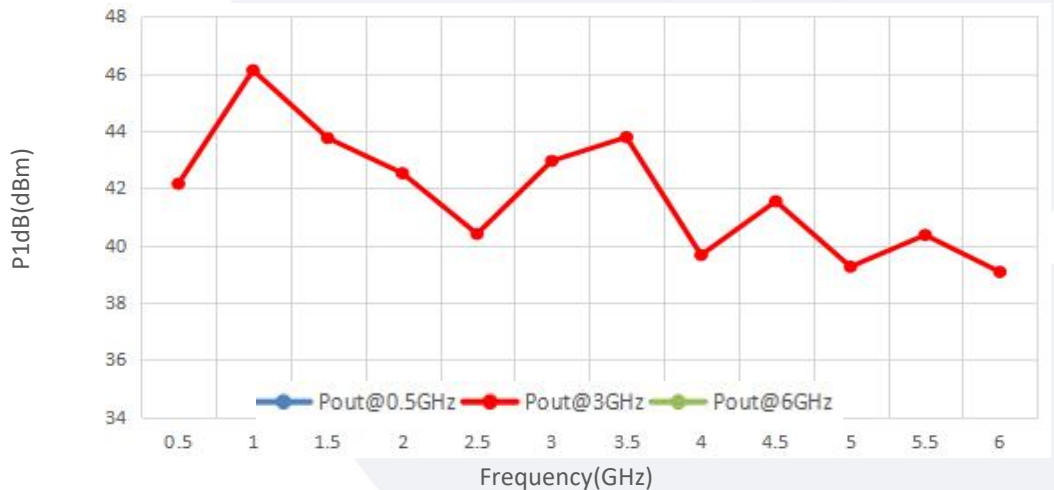
### Small Signal Gain vs Frequency



### Input VSWR vs Frequency

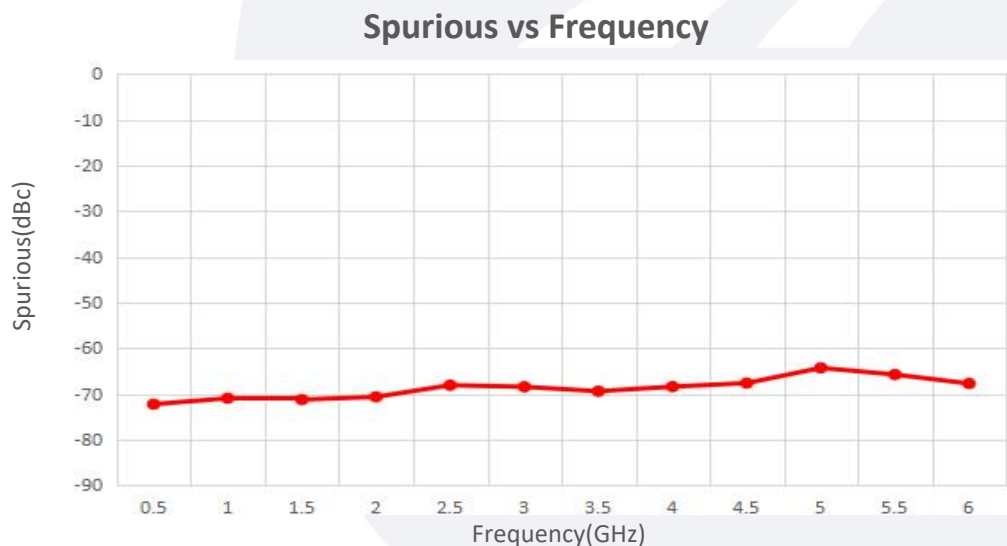
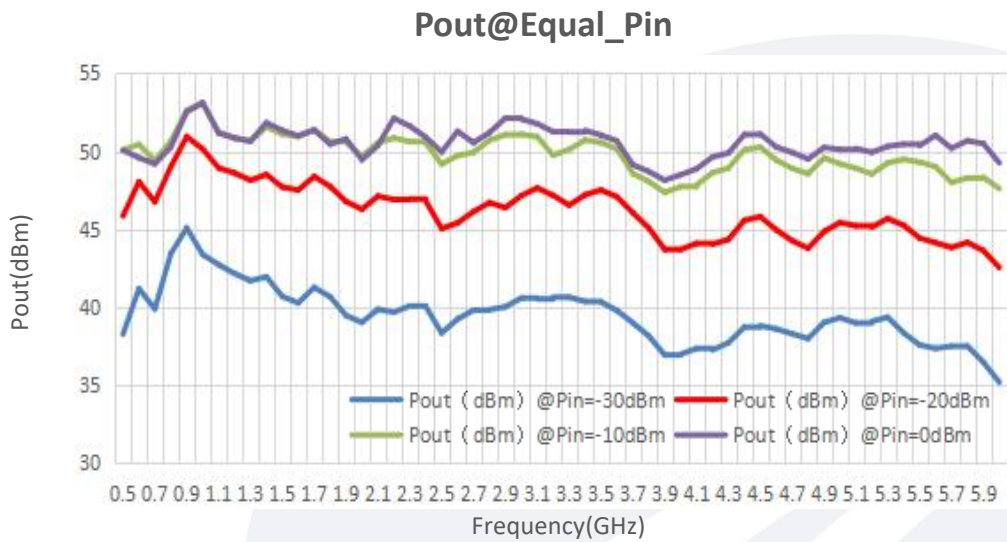
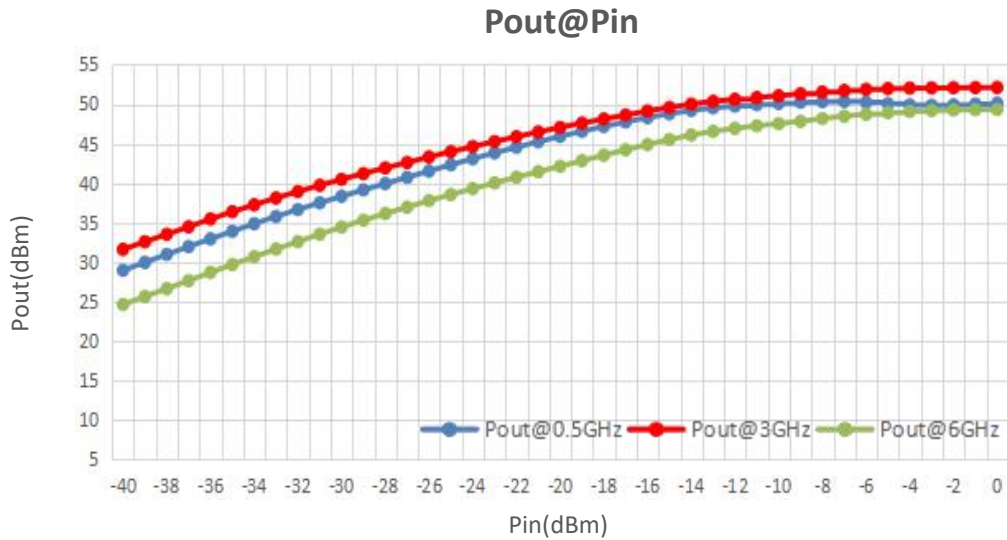


### P1dB vs Frequency



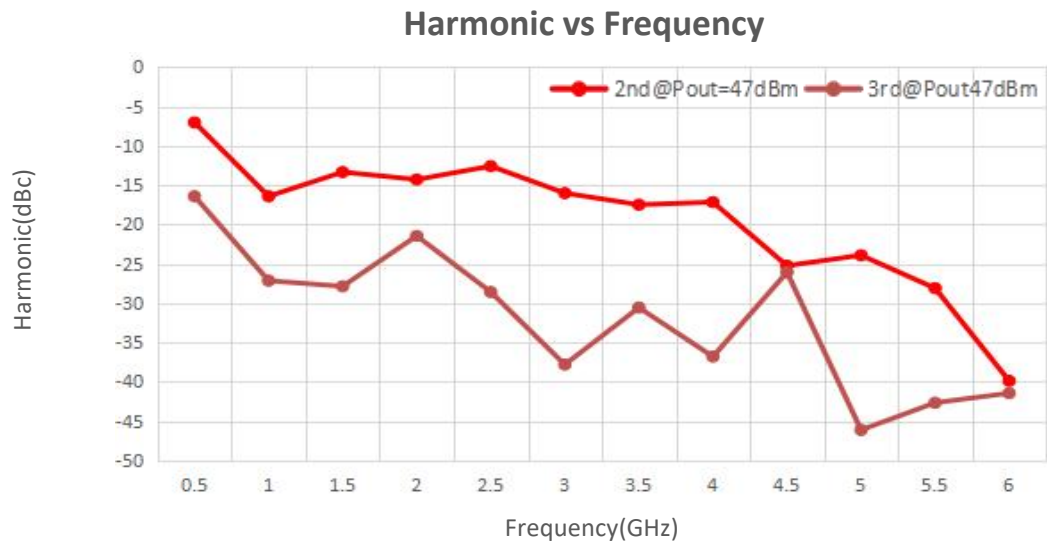
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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