

## Power Amplifier

4-8GHz/50dB Gain/44dBm Psat

Model: TLPA4G8G-50-44

TLPA4G8G-50-44 is a power amplifier with a minimum small signal gain of 50 dB and a nominal Psat of 44 dBm across the frequency range of 4 to 8 GHz. The DC power requirement for the amplifier is +28 VDC/2 A. The input and output port configuration offers coax adapter structure with SMA female.

### Features:

- Frequency range: 4-8GHz
- Gain: 50dB Min
- Output Power Psat: 44dBm Typ
- Good Power and Gain Flatness
- 44 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	4		8	GHz
小信号增益 Small Signal Gain	50	52		dB
增益平坦度 Gain Flatness		±3	±4	dB
线性输出功率 Output P1dB	43	43.5		dBm
饱和输出功率 Output Psat	43.5	44		dBm
输入驻波 Input VSWR		1.5	2.0	:1
直流电压 DC Voltage		28		V DC
直流电流 DC Supply Current		2	10	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	
直流偏置 DC Bias	Solder Pin	
尺寸 Size	140*80*15	mm
重量 Weight	200	g

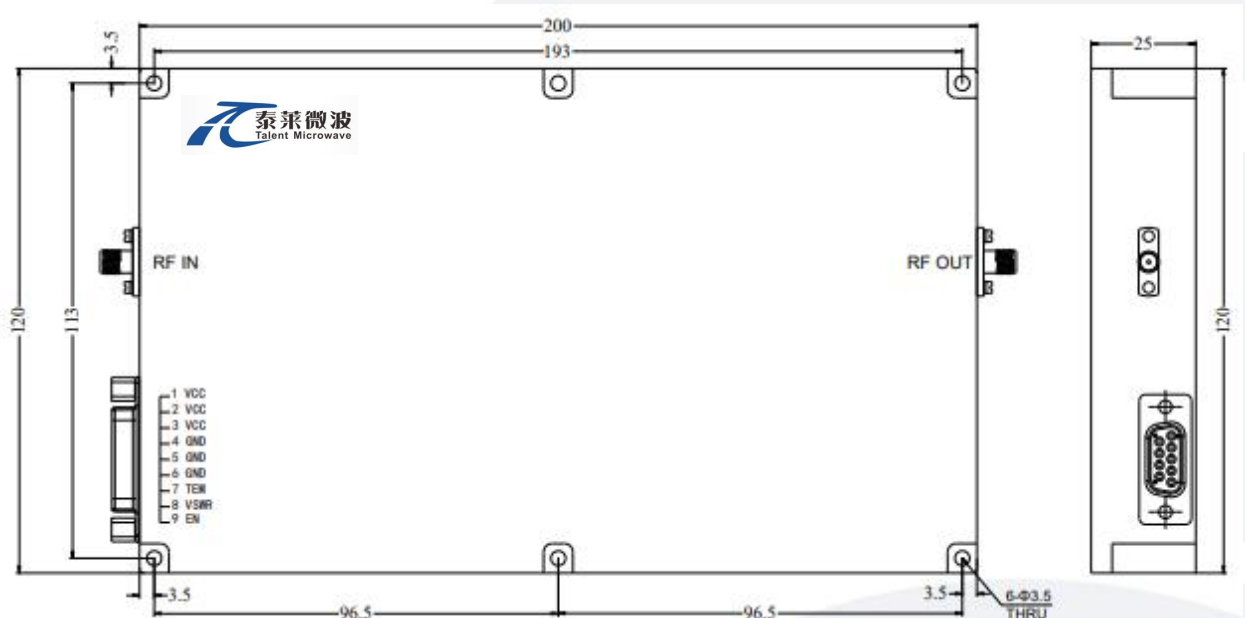
## 绝对最大值 Absolute Maximum Ratings:

参数 Parameter	指标 Value
供电偏置电压 Supply Bias Voltage	+30 V
输入功率 RF Input Power	+3 dBm
ESD灵敏度 ESD sensitivity (HBm)	Class 0, passed 150V



## 外形图 Outline Drawing:

Unit:mm



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



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

## 直流供电接口 DC Supply Connector ( J30J-9ZKW-J):

引脚 Pin	名称 Name	功能 Function
1	EN	The amplifier turns on at high level (or floating state) and turns off when shorted to ground.
2	GND	Power supply negative
3	GND	Power supply negative
4	GND	Power supply negative
5	GND	Power supply negative
6	+28V	Power supply positive,+26.0-30.0VDC
7	+28V	Power supply positive,+26.0-30.0VDC
8	+28V	Power supply positive,+26.0-30.0VDC
9	+28V	Power supply positive,+26.0-30.0VDC

\*Note: TTL is 5V.

## 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)	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			

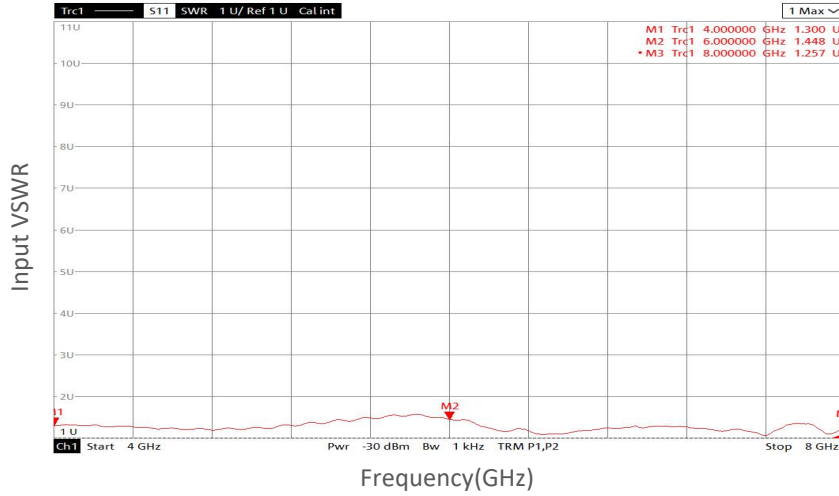
\*Note: For a wider temperature range, please consult the manufacturer.

## 订货信息 Ordering Information:

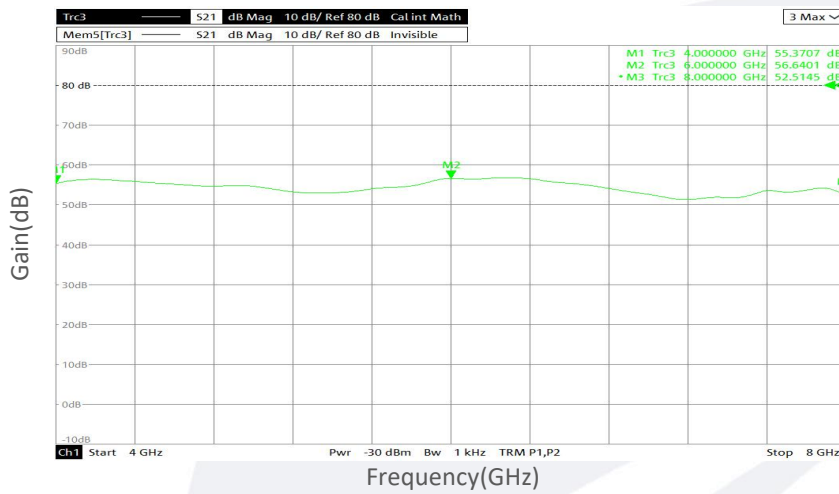
标准型号 Base Number	描述 Description	版本号 Revision
TLPA4G8G-50-44	Power amplifier 4-8GHz, Gain:50dB,Psat:44dBm,+28V DC,Without Heatsink	Rev.1.1
TLPA4G8G-50-44-HS	Power amplifier 4-8GHz, Gain:50dB,Psat:44dBm,+28V DC,With Heatsink	Rev.1.1

典型曲线 Typical Performance Data:

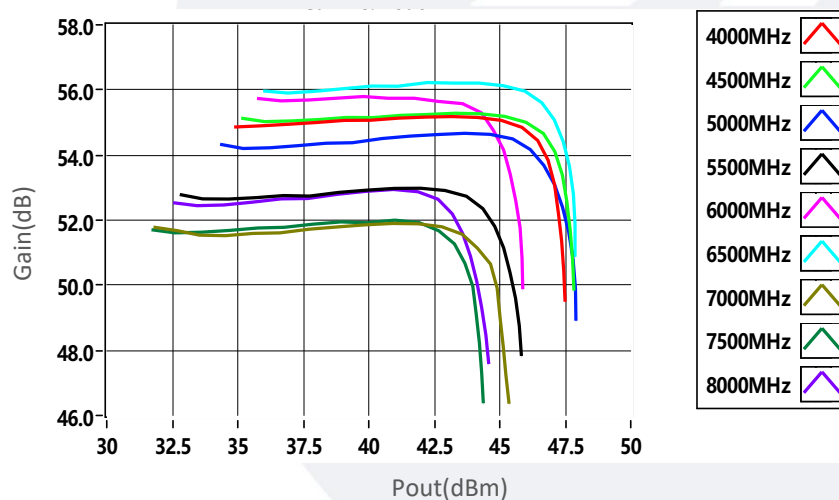
Input VSWR vs Frequency



Small Signal Gain vs Frequency



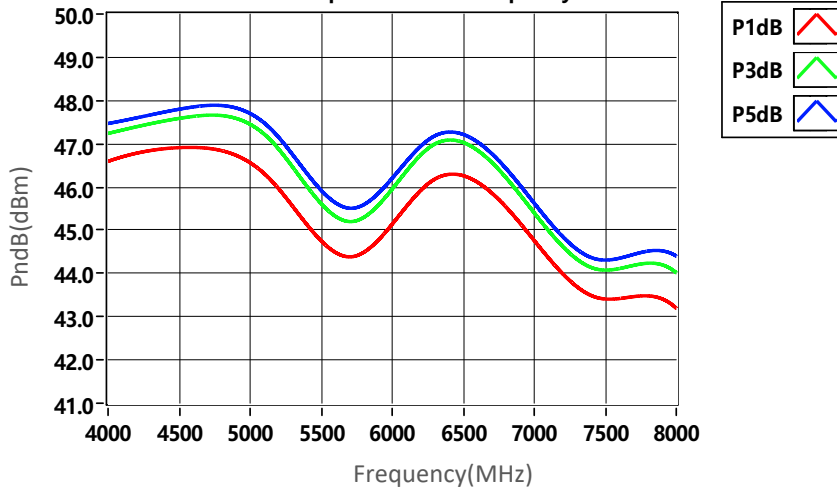
Gain vs Output Power



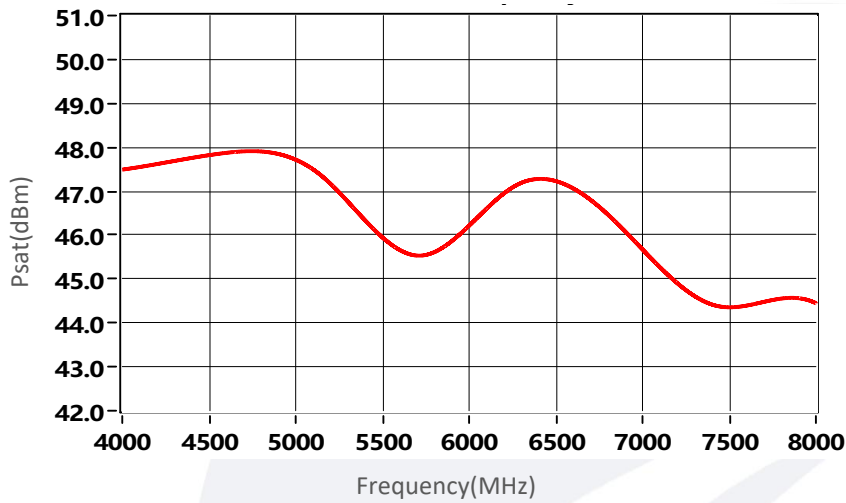
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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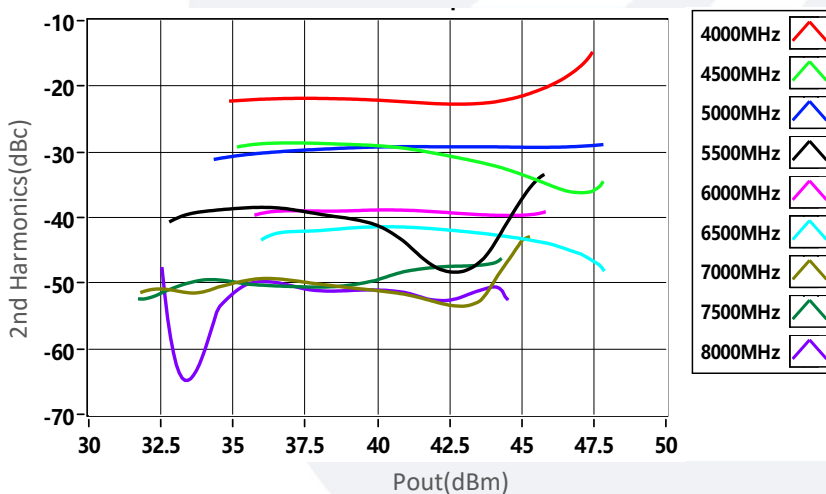
**PndB vs Frequency**



**Psat vs Frequency**



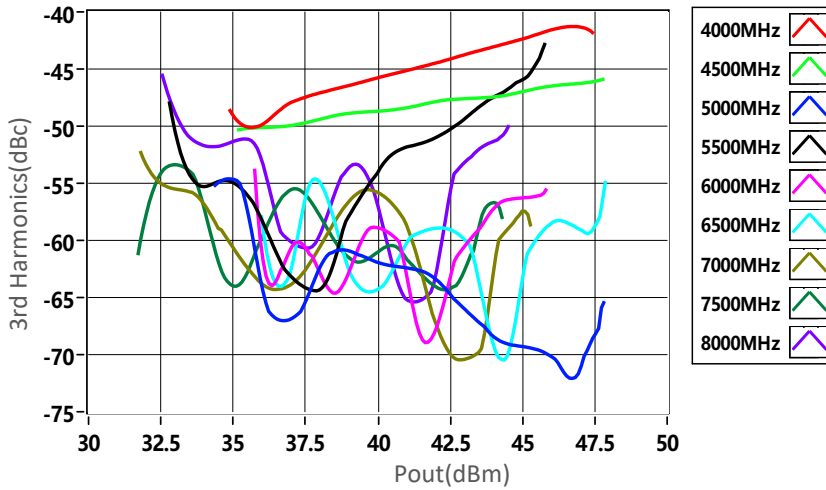
**2nd Harmonics vs Output Power**



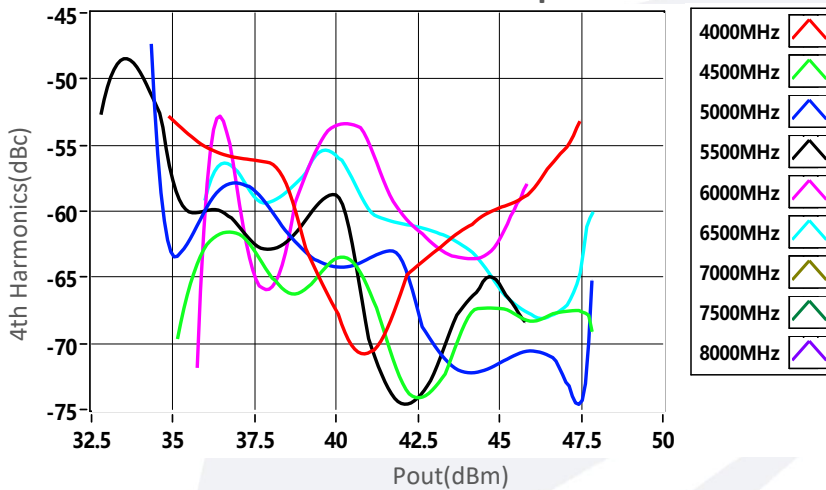
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

典型曲线 Typical Performance Data:

3rd Harmonics vs Output Power



4th Harmonics vs Output Power



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