

## Power Amplifier

### 8-12GHz/47dB Gain/46dBm Psat

**Model: TLPA8G12G-47-46**

TLPA8G12G-47-46 is a power amplifier with power gain of 47 dB and Psat of 46 dBm across the frequency range of 8 to 12 GHz. The DC power requirement for the amplifier is +28 VDC/7 A. The input and output port configuration offers coax adapter structure with SMA female.

#### Features:

- Frequency range: 8-12 GHz
- Gain: 47dB min
- Output Power Psat: 46dBm Typ
- 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	8-12			GHz
功率增益 Power Gain	47			dB
增益平坦度 Gain Flatness		±2		dB
饱和输出功率 Output Psat	45.5	46		dBm
杂散 Spurious@Pout=46dBm			-60	dBc
谐波抑制 Harmonic@Pout=46dBm		-25		dBc
输入驻波 Input VSWR			2	:1
直流电压 DC Voltage		28		V DC
直流电流 DC Supply Current			7	A
阻抗 Impedance	50			Ohms

## 机械特性 Mechanical Specifications:

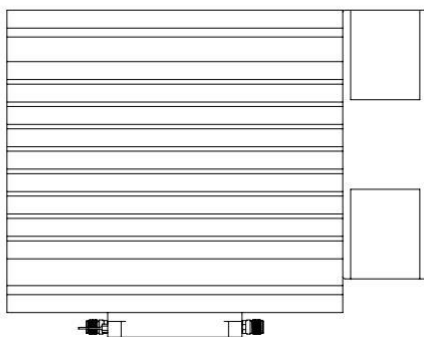
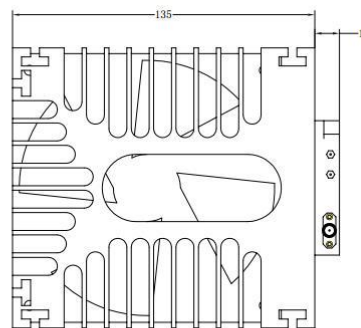
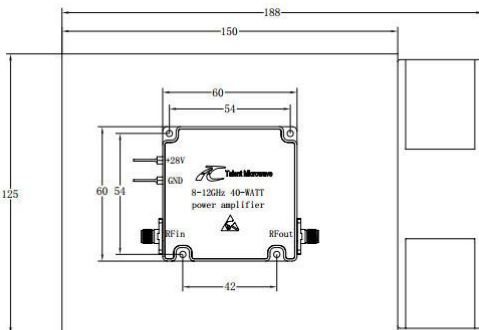
参数 Parameter	指标 Value	单位 Units
输入/输出接口 Input /Output Connector	SMA Female/SMA Female	
直流供电接口 DC Supply Connector	Feedthru capacitors	
尺寸 Size	60*60*11(Without heatsink) 188*125*146(With heatsink)	mm
重量 Weight	≤200	g

## 绝对最大值 Absolute Maximum Ratings:

参数 Parameter	指标 Value
供电偏置电压 Supply Bias Voltage	+29 V
输入功率 RF Input Power	+5dBm
ESD灵敏度 ESD sensitivity (HBm)	Class 0, passed 150V

## 外形图 Outline Drawing:

Unit:mm



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



OBSERVE PRECAUTIONS  
ELECTROSTATIC SENSITIVE  
DEVICES

## 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			

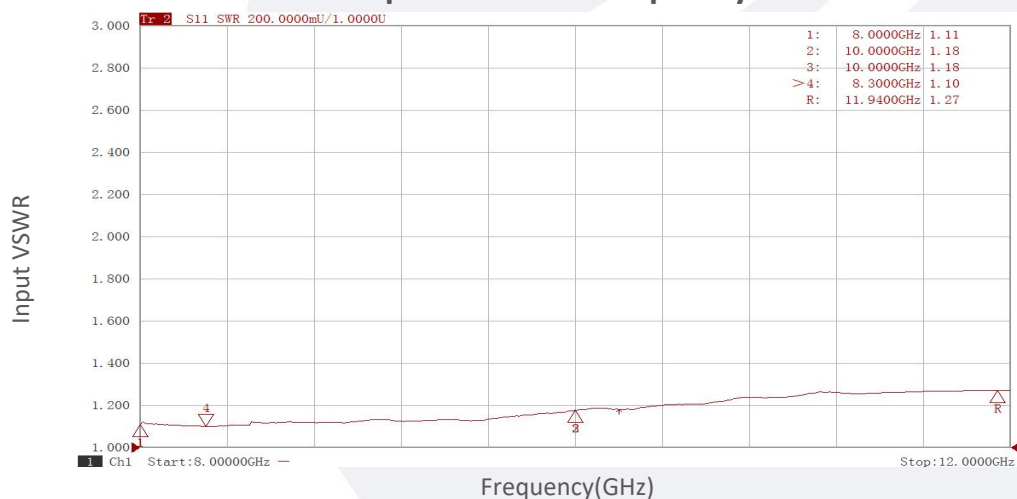
\*Note: For a wider temperature range, please consult the manufacturer.

## 订货信息 Ordering Information:

标准型号 Base Number	描述 Description	版本号 Revision
TLPA8G12G-47-46	Power amplifier 8-12GHz, Gain:47dB,Psat:46dBm,+28V DC,Without Heatsink	Rev.1.1
TLPA8G12G-47-46-HS	Power amplifier 8-12GHz, Gain:47dB,Psat:46dBm,+28V DC,With Heatsink	Rev.1.1

## 典型曲线 Typical Performance Data(Vdc=+28V):

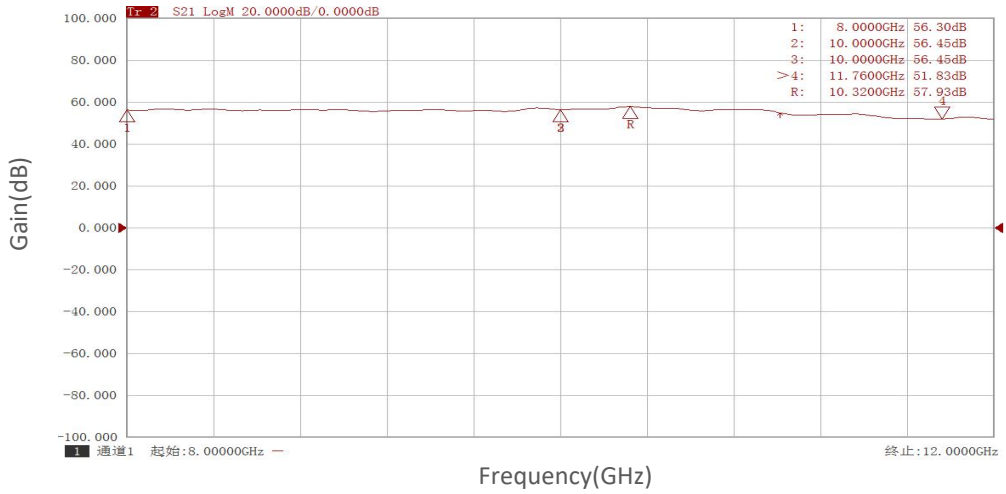
### Input VSWR vs Frequency



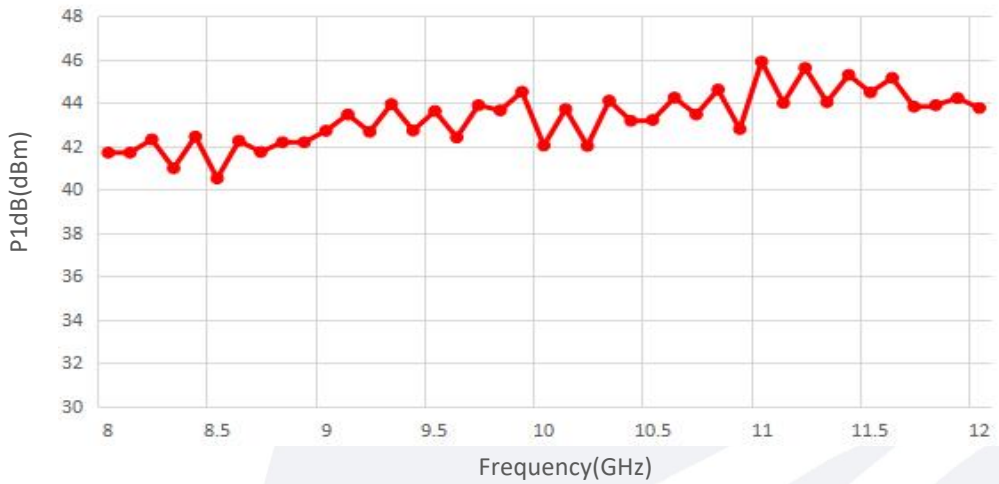
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

**典型曲线 Typical Performance Data(Vdc=+28V):**

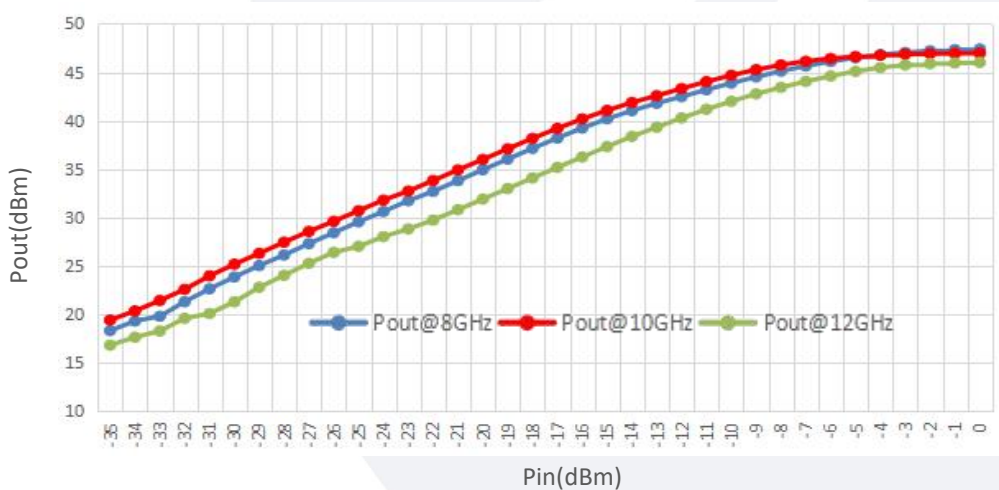
**Small Signal Gain vs Frequency**



**P1dB vs Frequency**



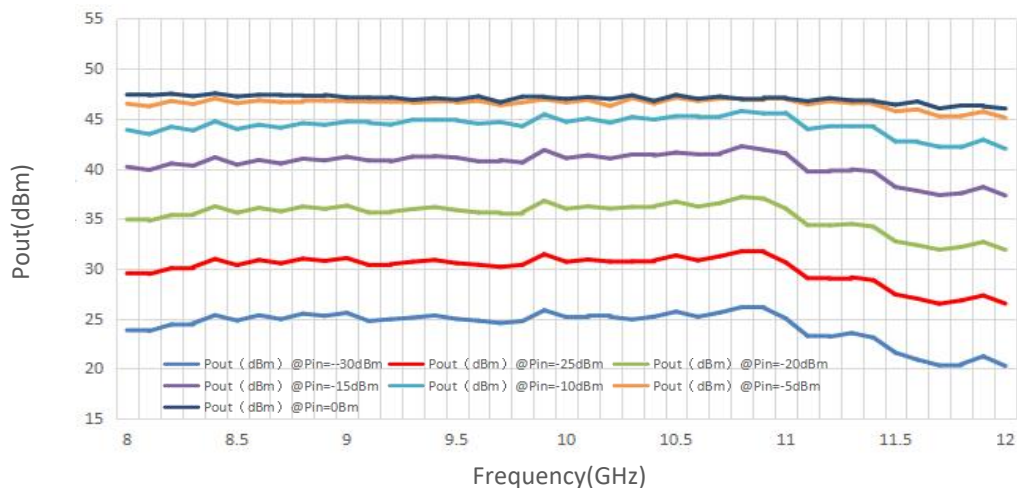
**Pout@Pin**



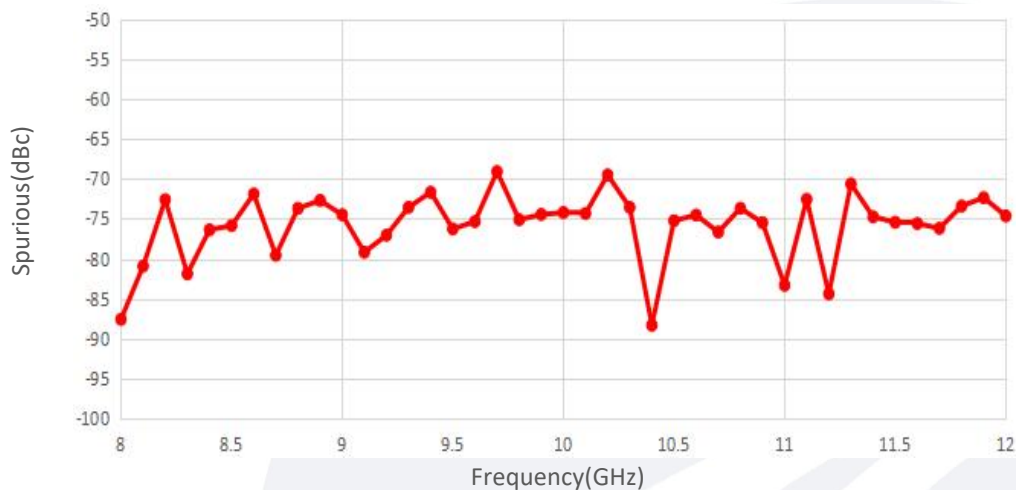
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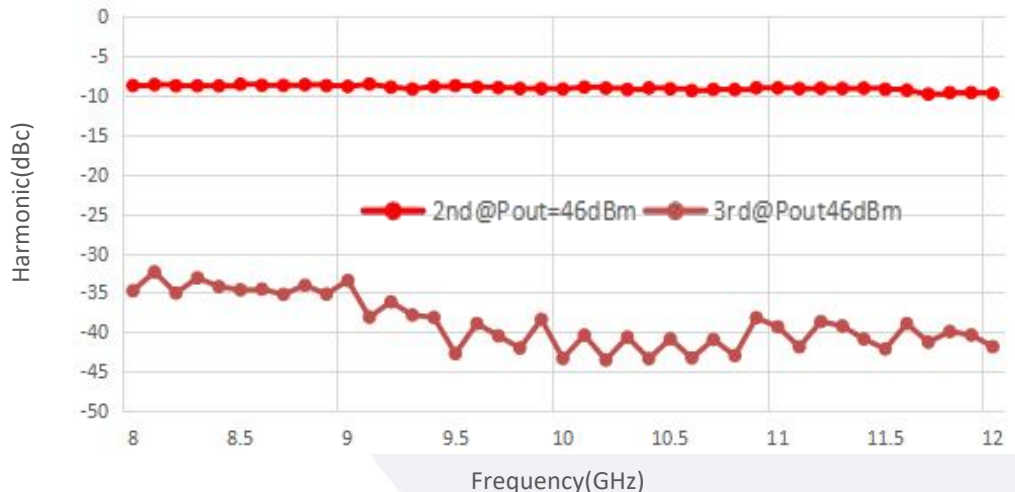
### Pout@Equal\_Pin



### Spurious vs Frequency



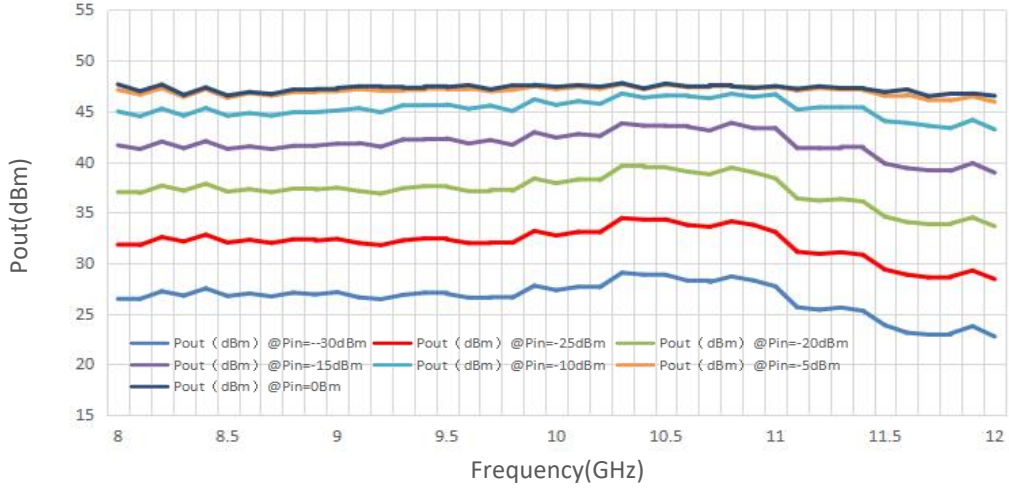
### Harmonic vs Frequency



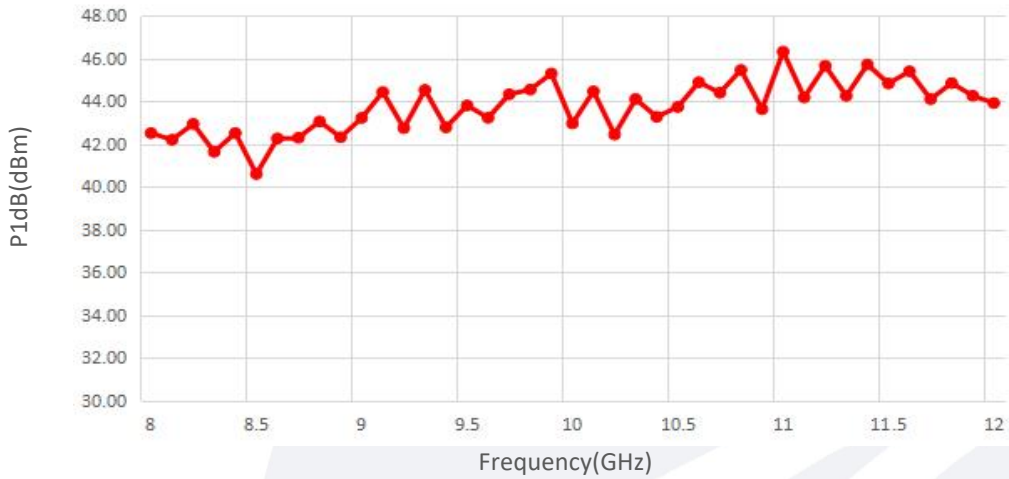
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

## 典型曲线 Typical Performance Data(Vdc=+30V):

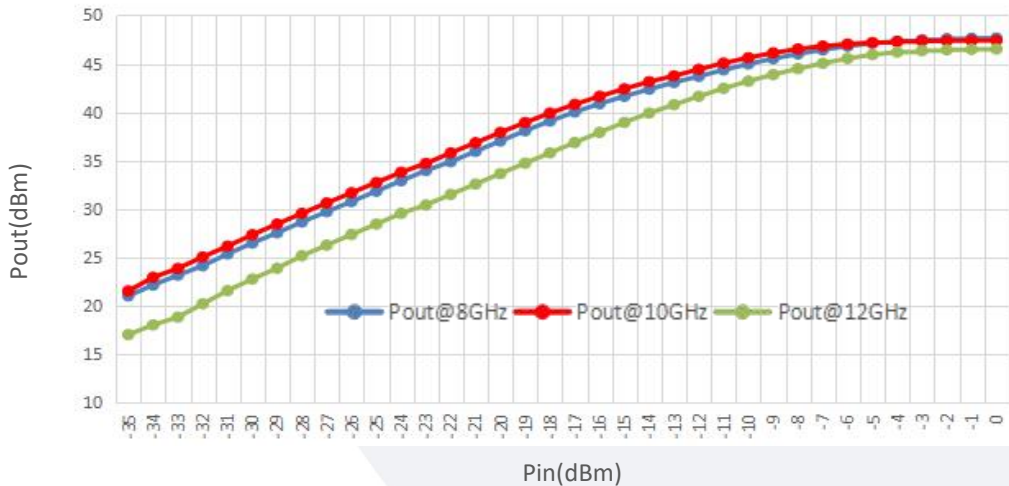
### Pout@Equal\_Pin



### P1dB vs Frequency



### Pout@Pin



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