

## Power Amplifier

18-40GHz/40dB Gain/37dBm Psat

Model: TLPA18G40G-40-37

TLPA18G40G-40-37 is a power amplifier with a minimum power gain of 40 dB and a nominal Psat of 37 dBm across the frequency range of 18 to 40 GHz. The DC power requirement for the amplifier is +20 VDC/90W. The input and output port configuration offers coax adapter structure with 2.92mm female.

### Features:

- Frequency range: 18-40GHz
- Gain: 40dB Min
- Output Power Psat: 37dBm 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	18		40	GHz
功率增益 Power Gain	40	45		dB
线性输出功率 Output P1dB	30	32		dBm
饱和输出功率 Output Psat		37		dBm
杂散 Spurious			-50	dBc
输入驻波 Input VSWR		2		:1
直流电压 DC Voltage		+20		V DC
功耗 Power Consumption			90	W
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	2.92mm Female/2.92mm Female	
直流偏置 DC Bias	Feedthru capacitors	
尺寸 Size	60*60*11(Without heatsink) 188*125*146(With heatsink)	mm
重量 Weight	≤200	g

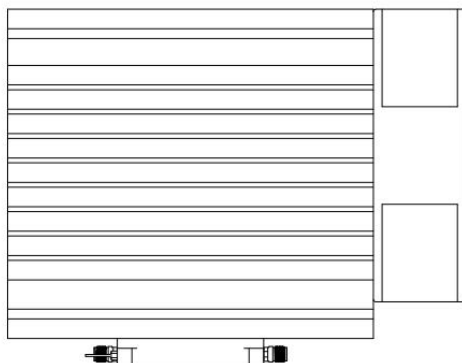
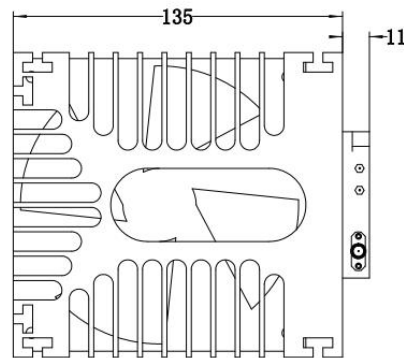
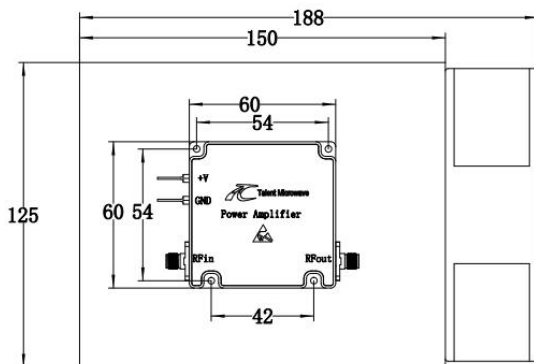
## 绝对最大值 Absolute Maximum Ratings:

参数 Parameter	指标 Value
供电偏置电压 Supply Bias Voltage	+22 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



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

## 温度环境 Environmental Conditions:

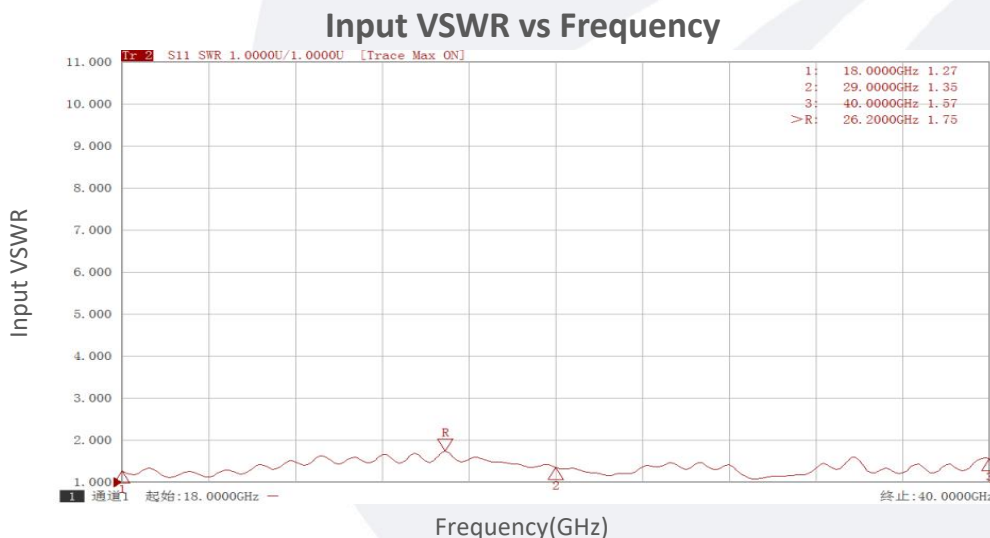
参数 Parameter	Min	Typ	Max	单位 Units
操作温度 Operating Temperature*	-40		+60	°C
存储温度 Non-operating Temperature*	-50		+70	°C
相对湿度 Relative humidity		95		%
海拔 Altitude	10,000			feet
震动 Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
冲击 Shock(non operating)	20G for 11msc 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
TLPA18G40G-40-37	Power amplifier 18-40GHz, Gain:40dB,Psat:37dBm,+20V DC,Without Heatsink	Rev.1.1
TLPA18G40G-40-37-HS	Power amplifier 18-40GHz, Gain:40dB,Psat:37dBm,+20V DC,With Heatsink	Rev.1.1

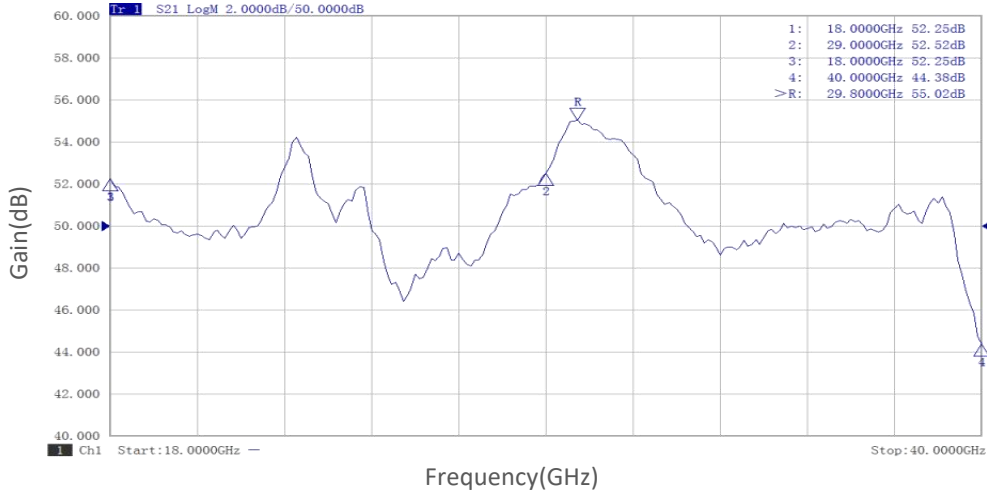
## 典型曲线 Typical Performance Data:



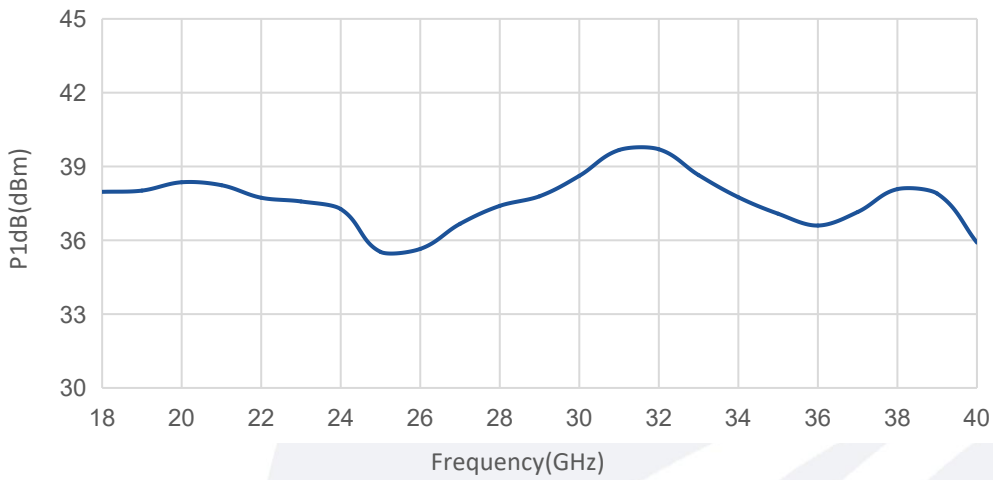
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

## 典型曲线 Typical Performance Data:

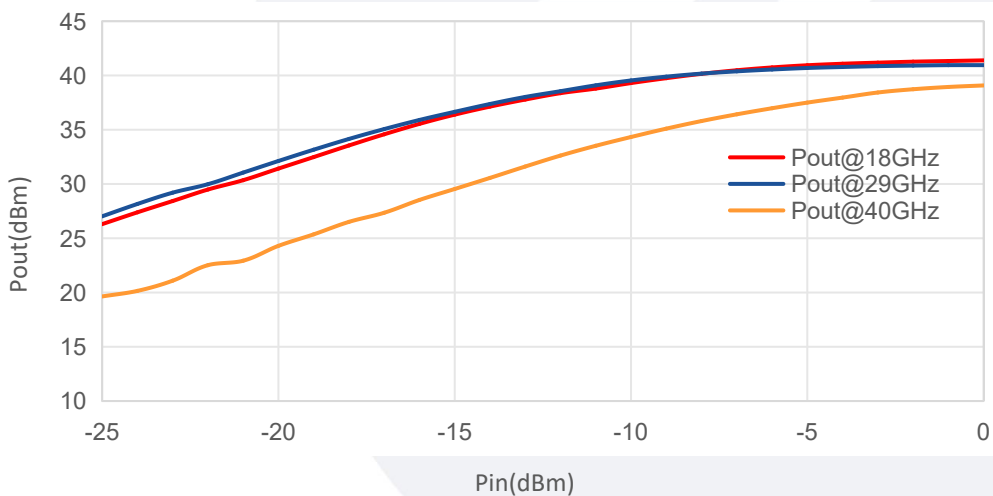
### Small Signal Gain vs Frequency



### P1dB vs Frequency



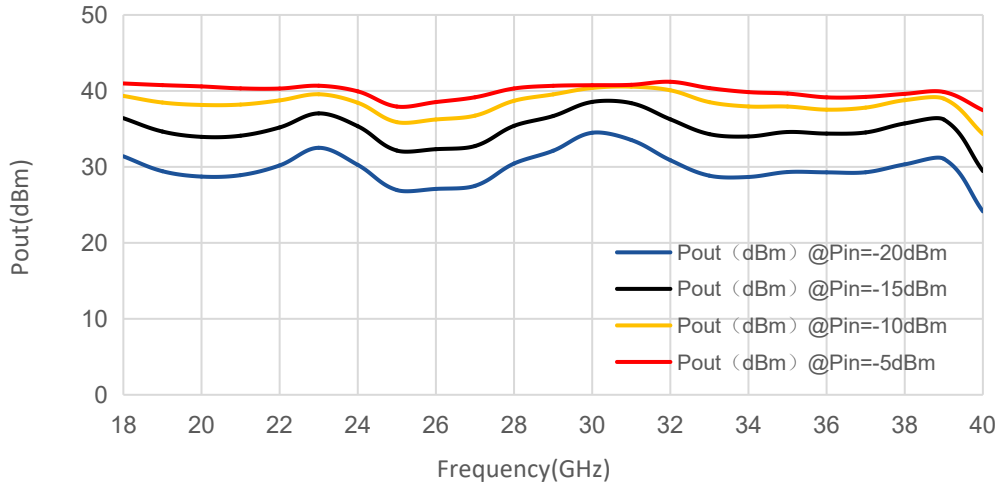
### Pout@Pin



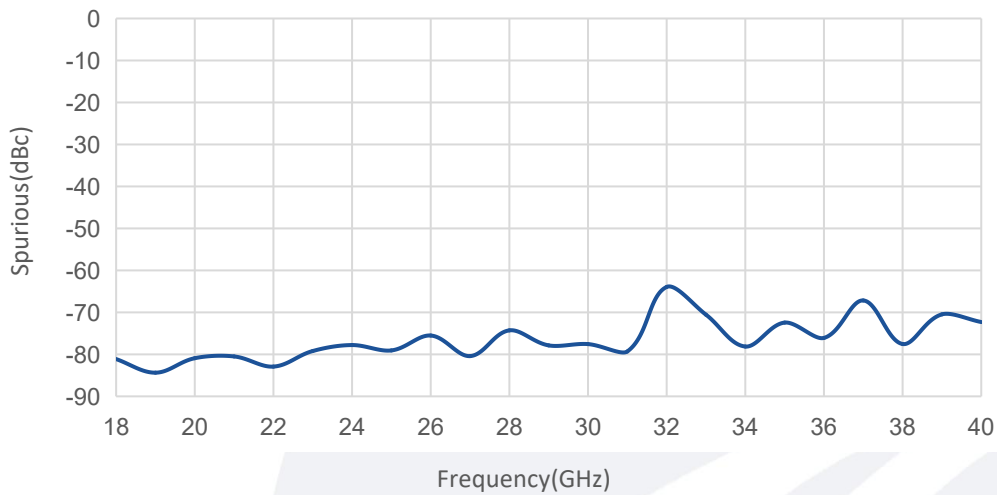
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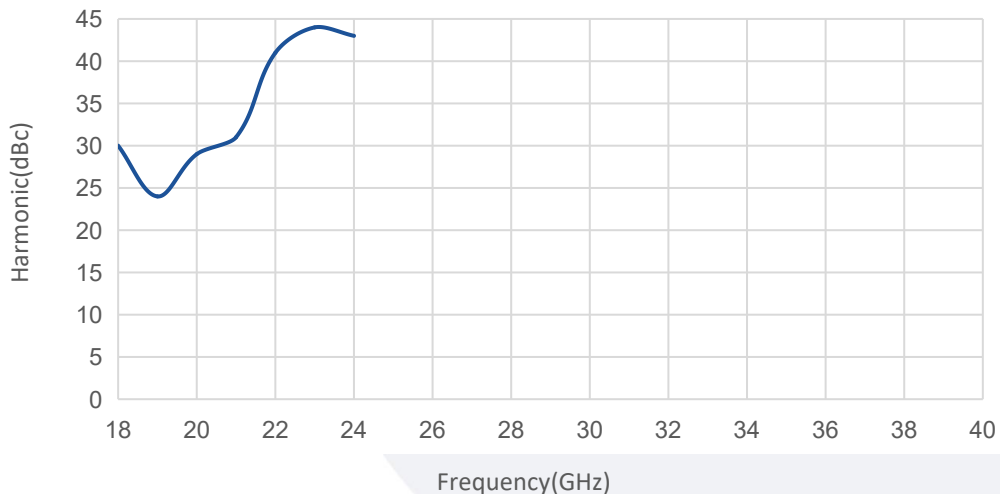
**Pout@Equal\_Pin**



**Spurious vs Frequency**



**Harmonic vs Frequency**



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