

Power Amplifier

0.4-3GHz /44dB Gain/44 dBm Psat

Model: TLPA0.4G3G-44-44

TLPA0.4G3G-44-44 is a power amplifier with a typical small signal gain of 44 dB and a minimum Psat of 44 dBm across the frequency range of 0.4 to 3 GHz. The DC power requirement for the amplifier is +48 VDC/1 A. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Frequency range: 0.4-3GHz
- Gain: 44dB Typ
- Output Power Psat: 44dBm Min
- 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	0.4		3	GHz
小信号增益 Small Signal Gain	40	44		dB
增益平坦度 Gain Flatness		±3	±3.5	dB
线性输出功率 Output P1dB		42		dBm
饱和输出功率 Output Psat	44	45		dBm
谐波抑制 Harmonic@Pout=44dBm		-10		dBc
输入驻波 Input VSWR		1.5	2.0	:1
直流电压 DC Voltage		+48	+50	V DC
直流电流 DC Supply Current		1	3	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 Power Supply Connector	D-SUB-9	
尺寸 Size	160*95*20	mm
重量 Weight	550	g

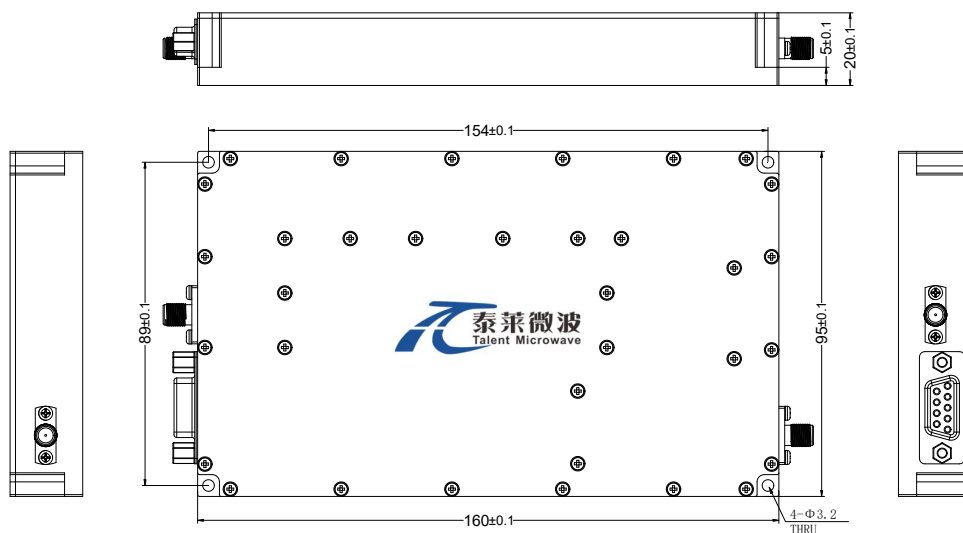
绝对最大值 Absolute Maximum Ratings:

参数 Parameter	指标 Value
供电偏置电压 Supply Bias Voltage	+50 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



*****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(DSUB-9 Female):

引脚 Pin	名称 Name	功能 Function
1	Over Voltage	When the power supply voltage of the power amplifier exceeds the threshold, the power amplifier is turned off and this pin outputs a high level.
2	GND	Power supply negative
3	GND	Power supply negative
4	VCC	Power supply positive
5	VCC	Power supply positive
6	EN	A high (or suspended) level 5V turns on the power amplifier, and a low level turns it off
7	Reset	When the power amplifier triggers overcurrent protection, the power amplifier will be turned off and enter a state of lockout, and shorting to ground for 10ms will restart the power amplifier. Only the overcurrent protection can be reset.
8	Over Temp	When the temperature of the power amplifier housing is greater than 70°C, the power amplifier is closed and this pin will output a high level. When the temperature of the power shell is reduced to 60°C, the power amplifier returns to normal operation, and this pin will output a low level.
9	Over Current	When the power amplifier current exceeds the threshold, the power amplifier is turned off and this pin outputs a high level.

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)	20g, 11ms, saw-tooth			
冲击 Shock(non operating)	20G for 11msc half sin wave, 3 axis both directions			

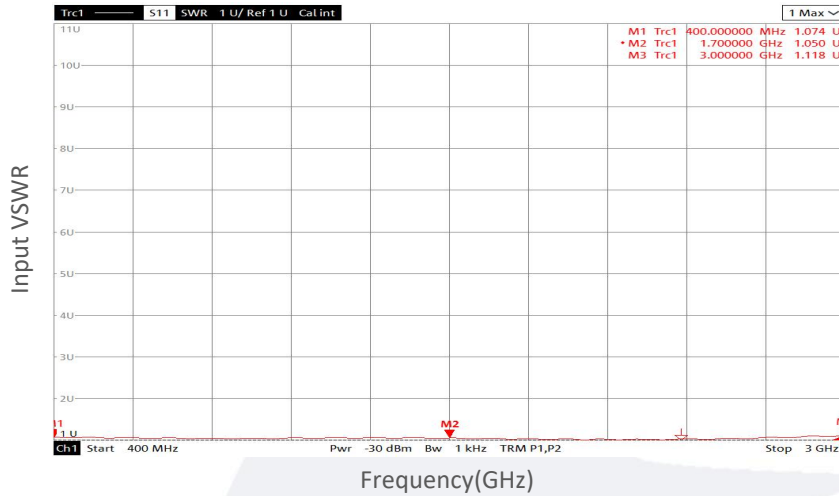
*Note: For a wider temperature range, please consult the manufacturer.

订货信息 Ordering Information:

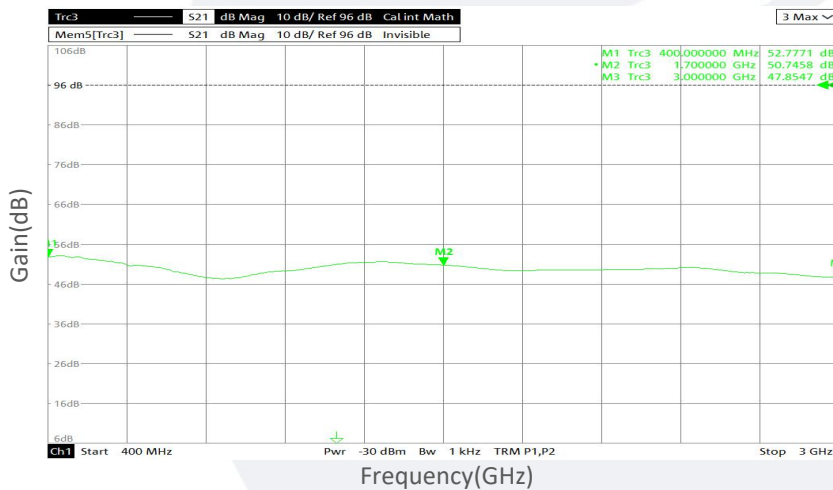
标准型号 Base Number	描述 Description	版本号 Revision
TLPA0.4G3G-44-44	Power amplifier 0.4-3GHz, Gain:44dB,Psat:44dBm,+48V DC,Without Heatsink	Rev.1.1
TLPA0.4G3G-44-44-HS	Power amplifier 0.4-3GHz, Gain:44dB,Psat:44dBm,+48V DC,With Heatsink	Rev.1.1

典型曲线 Typical Performance Data:

Input VSWR vs Frequency



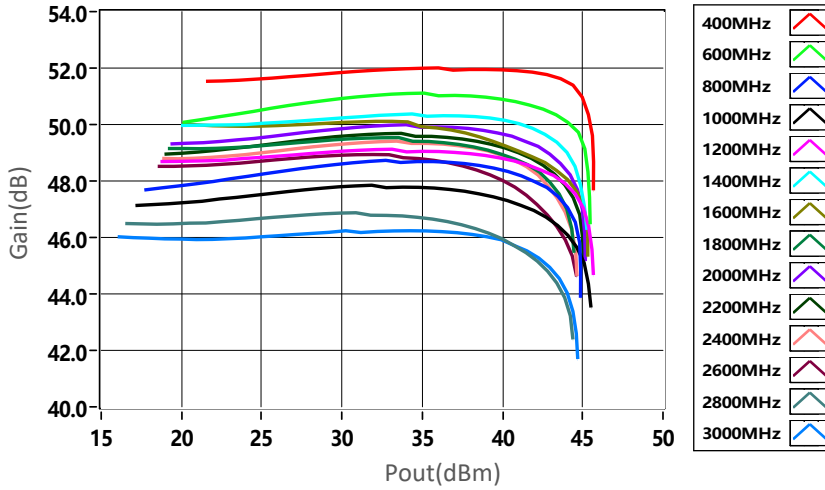
Small Signal Gain vs Frequency



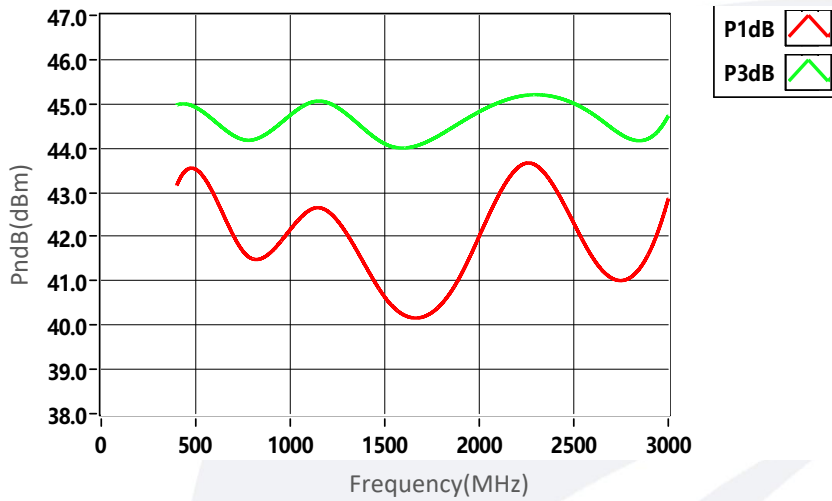
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

典型曲线 Typical Performance Data:

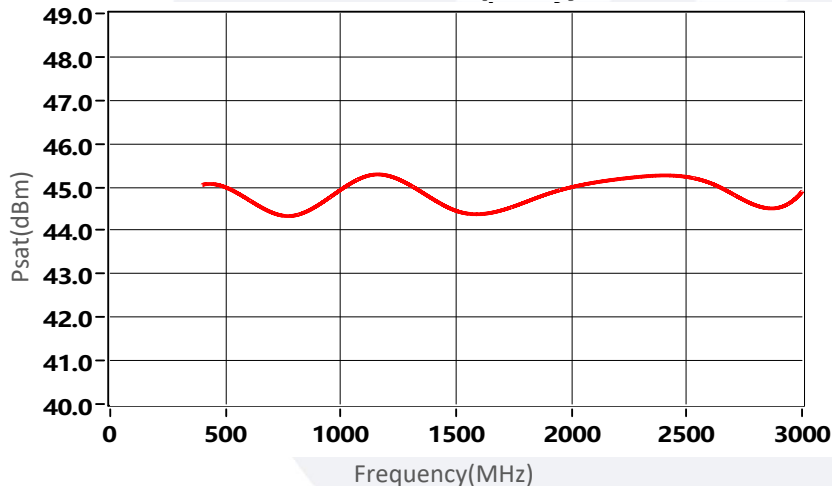
Gain vs Output Power



PndB vs Frequency



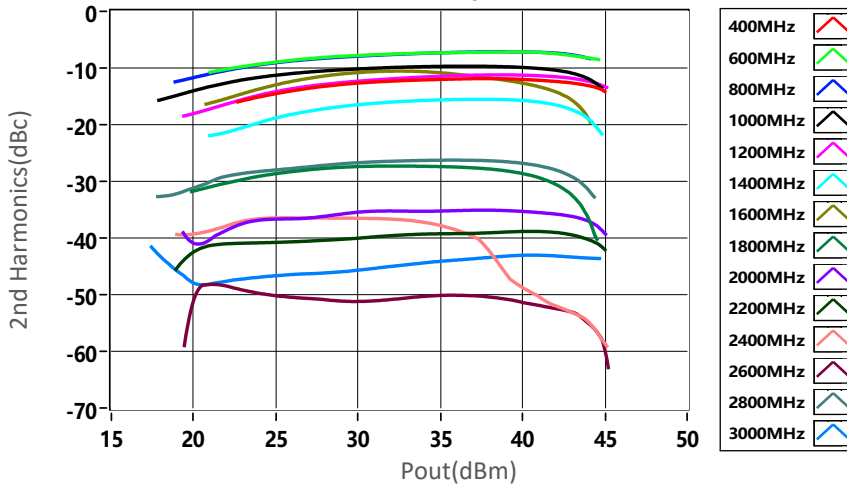
Psat vs Frequency



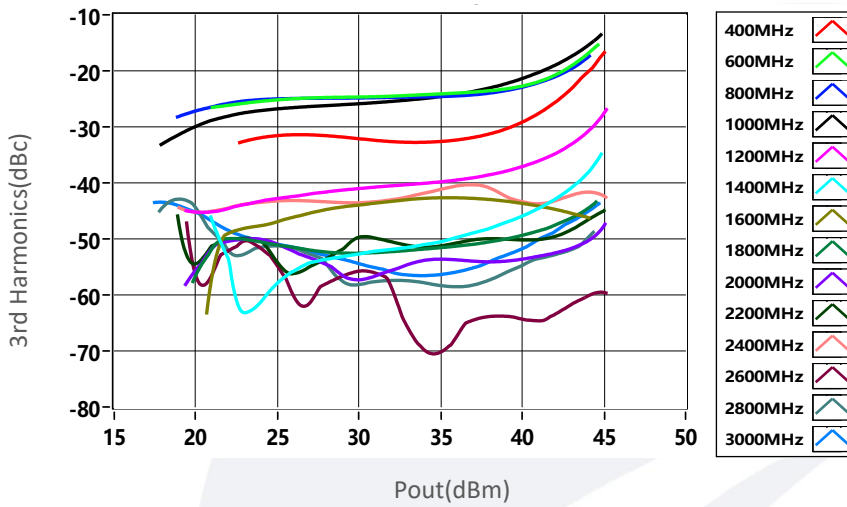
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

典型曲线 Typical Performance Data:

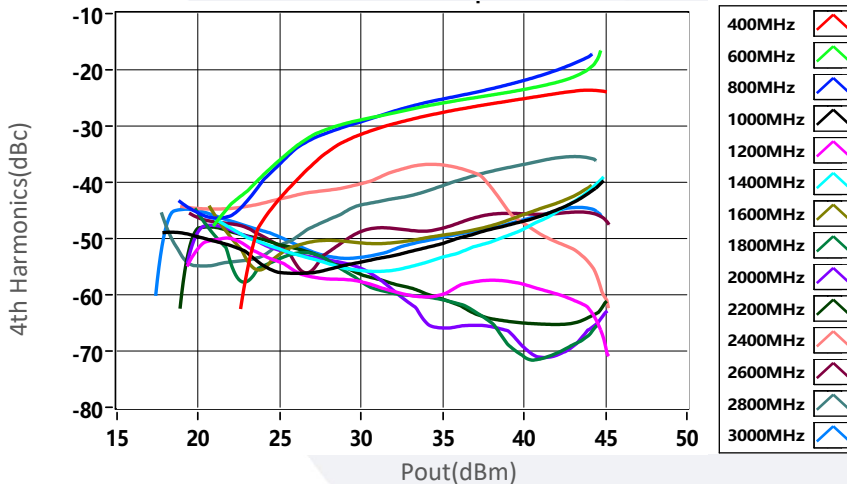
2nd Harmonics vs Output Power



3rd Harmonics vs Output Power



4th 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.