

Power Amplifier

4-6GHz /40dB Gain/41 dBm Psat

Model: TLPA4G6G-40-41

TLPA4G6G-40-41 is a power amplifier with a minimum small signal gain of 40 dB and a minimum Psat of 41 dBm across the frequency range of 4 to 6 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: 4-6GHz
- Gain: 40dB Min
- Output Power : 41dBm Min
- 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	4-6			GHz
小信号增益 Small Signal Gain	40	42		dB
增益平坦度 Gain Flatness		±2	±3	dB
线性输出功率 Output P1dB	40	40.5		dBm
饱和输出功率 Output Psat	41	41.5		dBm
谐波 Harmonics			-15	dBc
输入驻波 Input VSWR		1.5	2.0	:1
直流电压 DC Voltage		28	30	V DC
静态电流 Static Current		0.5		A
饱和电流 Saturation current		1.8	2	A
阻抗 Impedance	50			Ohms

机械特性 Mechanical Specifications:

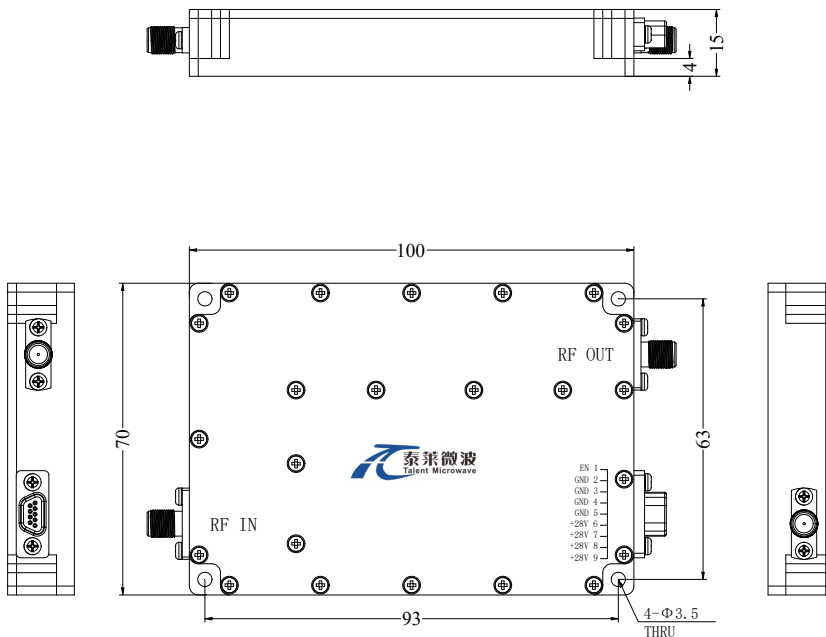
参数 Parameter	指标 Value	单位 Units
输入/输出接口 Input /Output Connector	SMA Female/SMA Female	
直流偏置 DC Bias	J30J-9Pin	
尺寸 Size	100*70*15	mm
重量 Weight	300	g

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	5dBm
ESD灵敏度 ESD sensitivity (HBm)	Class 0, passed 150V

外形图 Outline Drawing:

Unit:mm



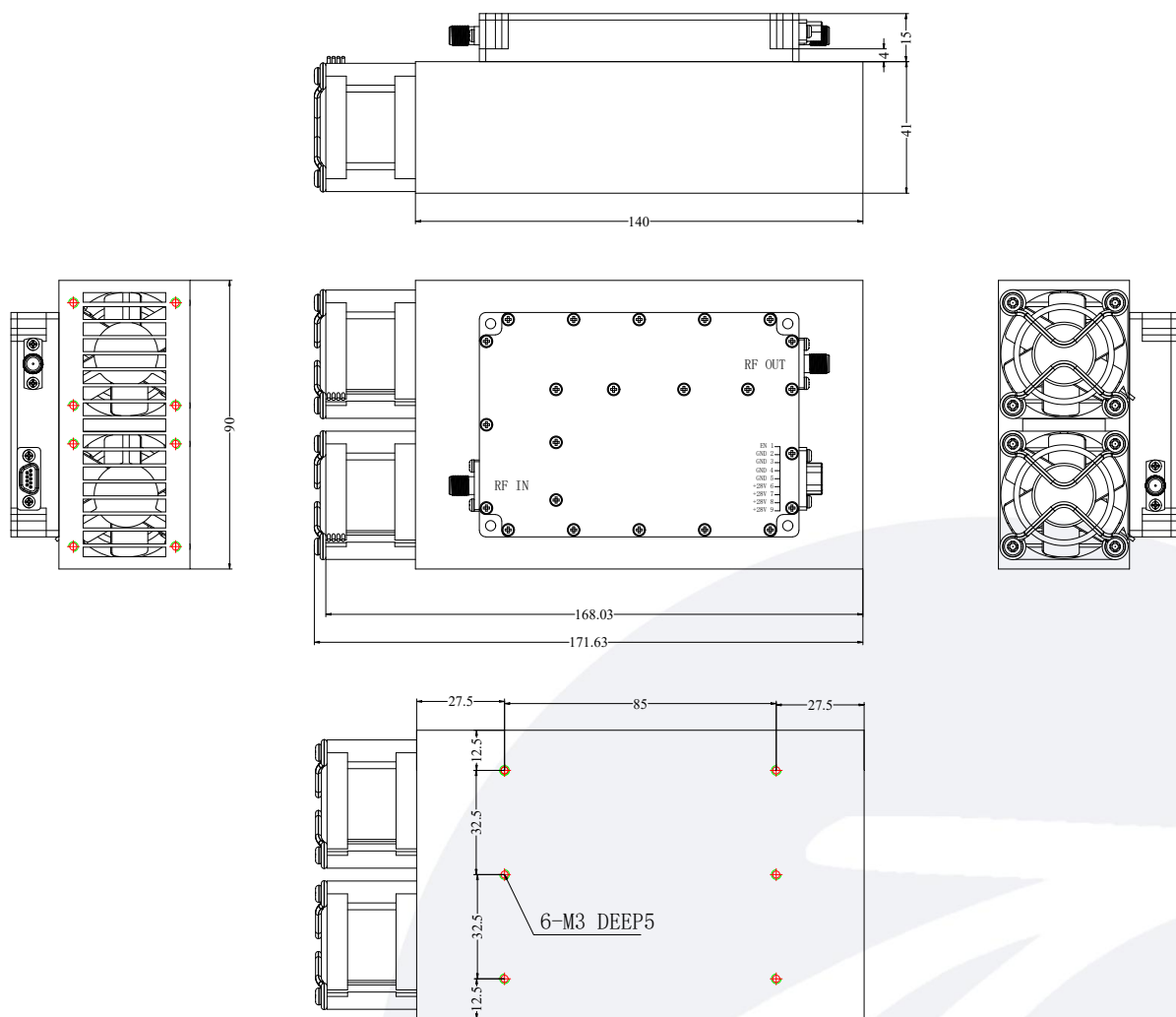
*****Heat Sink Required During Operation**



OBSERVE PRECAUTIONS
ELECTROSTATIC SENSITIVE
DEVICES

外形图 Outline Drawing:

Unit:mm



风扇供电 Power supply for Fans:

类型 Type	功能 Function
Red line	DC Voltage: +24.0-28.0VDC DC Current: 0.3A
Black line	Ground

直流供电接口 DC Supply Connector (J30J-9 Female):

引脚 Pin	名称 Name	功能 Function
1	EN	Amplifier Enable: TTL High (5V) (Internally Pulled-High) Amplifier Disable: Short to ground
2~5	GND	Ground
6~9	VCC	Power supply positive, +26.0-30.0VDC

衰减控制接口 Attenuation Control Connector(SUB-17W2(Optional)):

引脚 Pin	功能 Function
A1	+24V
A2	GND
1	TTL(high for open, low for close)
2	Current Monitor
3	Temperature Monitor
4	0.5dB Attenuation
5	1dB Attenuation
6	2dB Attenuation
7	4dB Attenuation
8	8dB Attenuation
9	16dB Attenuation
10~15	GND

操作流程 Operation Procedure:

Power on	
1	Connect ground and RF input connector
2	Connect the RF output port to the load (The VSWR of the load should be less than 3:1)
3	Connect the 24V power supply to the fan
4	Connect the 28V power supply to the amplifier
5	Turn on the RF signal and ensure that the input signal does not exceed 5dBm

Power off	
1	Turn off RF signal
2	Disconnect the 28V power supply to the amplifier
3	Disconnect the 24V power supply to the fan
4	Disconnect the RF connectors

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			

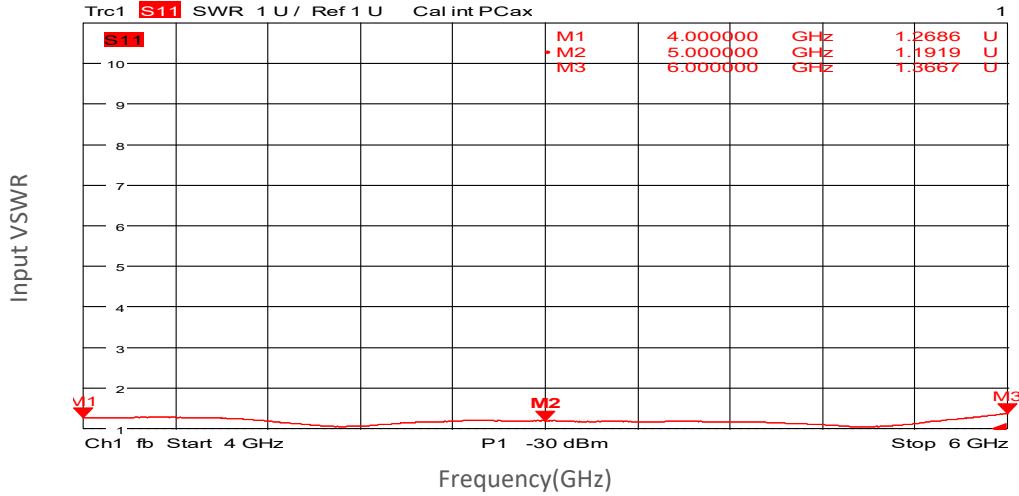
*Note: For a wider temperature range, please consult the manufacturer.

订货信息 Ordering Information:

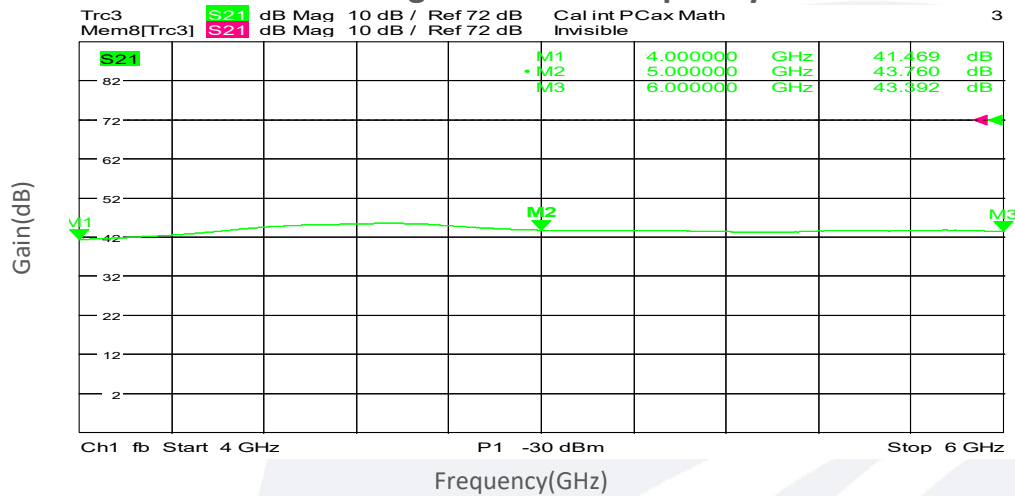
标准型号 Base Number	描述 Description	版本号 Revision
TLPA4G6G-40-41	Power amplifier 4-6GHz,Gain:40dB,Psat:41dBm, +28V DC,Without Heatsink	Rev.2.0
TLPA4G6G-40-41-HS	Power amplifier 4-6GHz,Gain:40dB,Psat:41dBm, +28V DC,With Heatsink	Rev.2.0

典型曲线 Typical Performance Data:

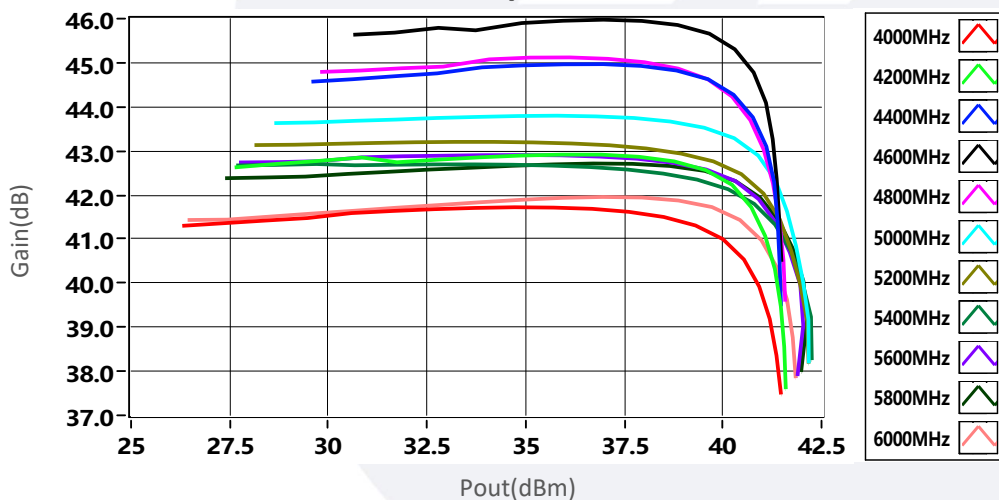
Input VSWR vs Frequency



Small Signal Gain vs Frequency



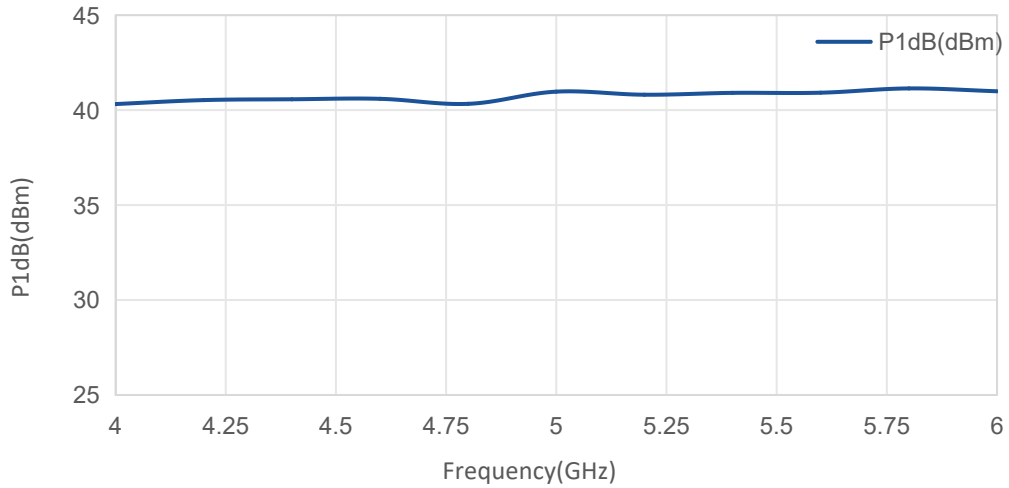
Gain vs Output Power



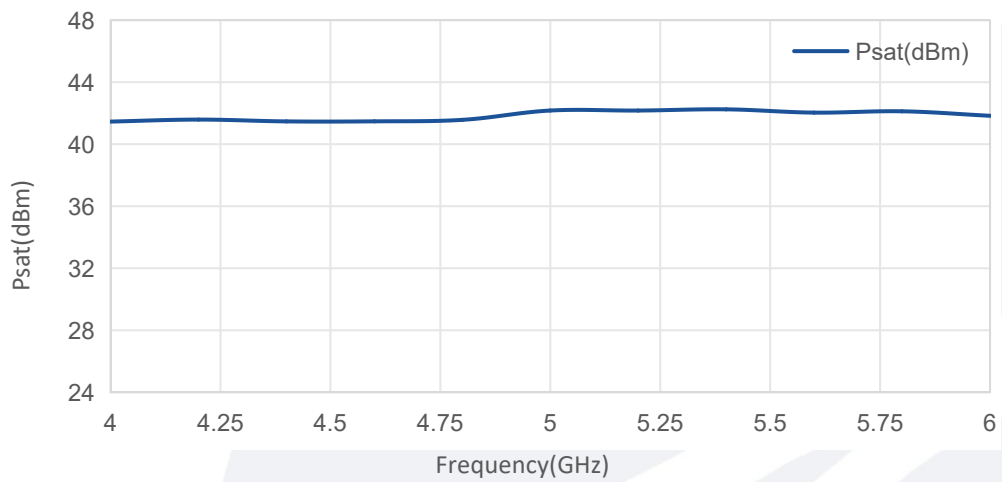
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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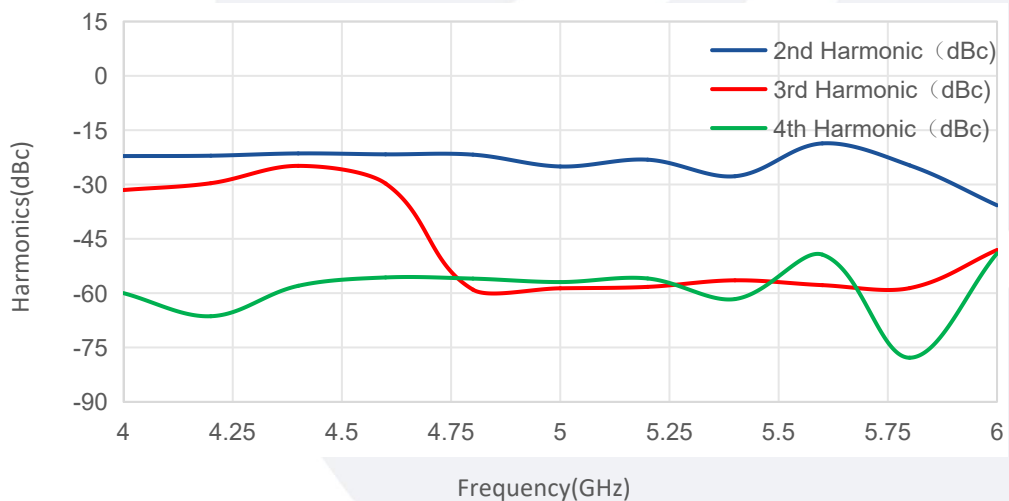
P1dB vs Frequency



Psat vs Frequency



Harmonics vs Frequency



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