

Solid State High Power Amplifier Systems

0.5-6GHz /50dB Gain/47 dBm Psat/220V AC

Model: TLPA0.5G6G-50-47-BC

TLPA0.5G6G-50-47-BC is a solid state high power amplifier systems provides high output power and high gain across the 0.5 to 6 GHz frequency range. The amplifier features a built-in 220V power supply, making it easy to use in most lab environments. This model features thermal self protection, preventing damage to the amplifier and providing added reliability.

Features:

- Wide Band: 0.5-6GHz
- Gain: 50dB Min
- Psat Output Power:47dBm Min
- Protection:Over TEM,over voltage, over current ,over VSWR protection
- 50 Ohm Matched Input / Output



电气特性 Electrical Characteristics:

参数 Parameter	代码 Symbol	Min	Typ	Max	单位 Units
频率范围 Frequency range	BW	0.5-6			GHz
功率增益 Power Gain	GP	50			dB
增益平坦度 Gain flatness	Δ GL		± 3.5		dB
增益调节范围 Gain adjust Range	Δ GR	20			dB
增益调节步进 Gain adjust Step	Δ GS		0.5		dB
线性输出功率 Output P1dB	P1dB	40	42		dB
饱和输出功率 Output Psat	Psat	47			dBm
杂散 Spurious@Pout=47dBm	Spur			-60	dBc
谐波 Harmonics@Pout=47dBm	HAM		-10		dBc
输入驻波 Input VSWR	VSWRin			2	:1
交流电压 AC Voltage	Vac		220		V AC
阻抗 Impedance	I/O-IMP	50			Ohms

机械特性 Mechanical Specifications:

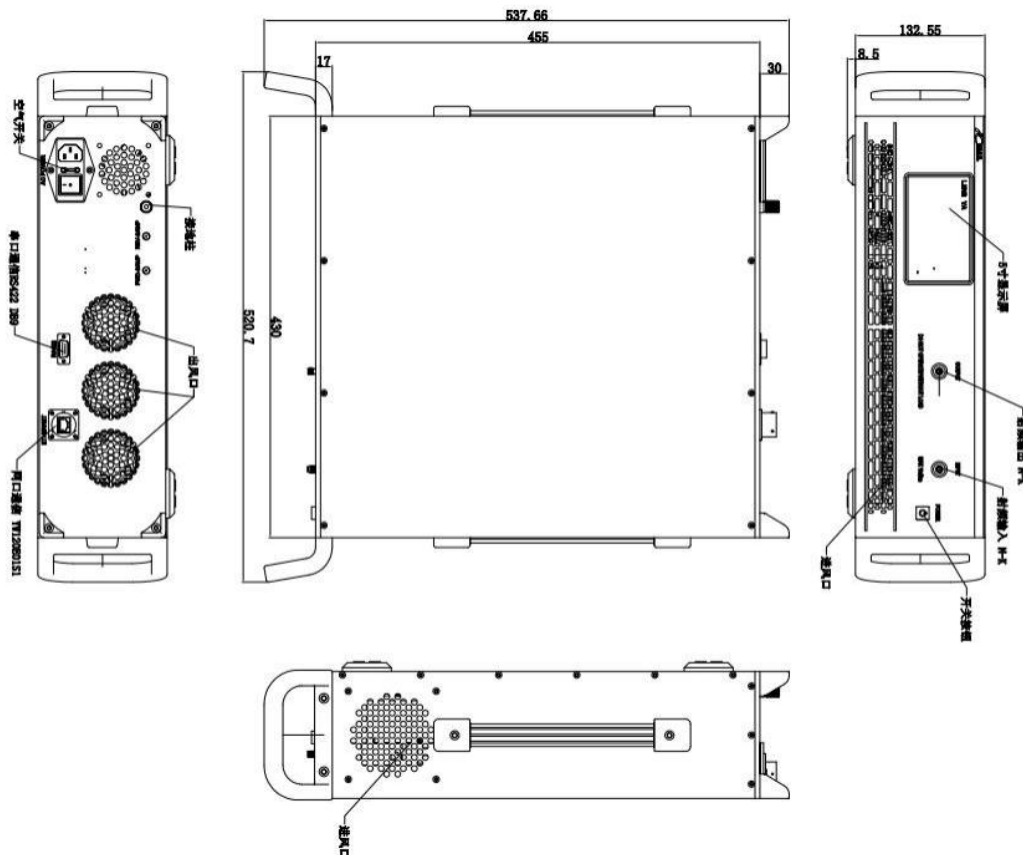
参数 Parameter	指标 Value	单位 Units
输入/输出接口 Input /Output Connector	N Female/N Female	
AC加电控制 AC Power Interface	Air switch	
尺寸 Size	19 Inch 3U	mm
重量 Weight	≤30	Kg

绝对最大值 Absolute Maximum Ratings:

参数 Parameter	指标 Value
供电偏置电压 Supply Bias Voltage	260V AC
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



主要功能 Key Features:

参数 Parameter	特点 Advantages
控制功能 Control functions	1, Gain setting with 31.5dB range 2, ALC
监控功能 Monitoring functions	1, Forward Power 2, Temp Fault
内置保护功能 Protection functions	1, Over TEM 2, Over voltage 3, Over current 4, Over VSWR
监控和控制 Remote control	LAN/RS422
冷却系统 Cooling system	Built in Cooling system, forced air cooling

温度环境 Environmental Conditions:

参数 Parameter	Min	Typ	Max	单位 Units
操作温度 Operating Temperature*	-20		+50	°C
存储温度 Non-operating Temperature*	-30		+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			

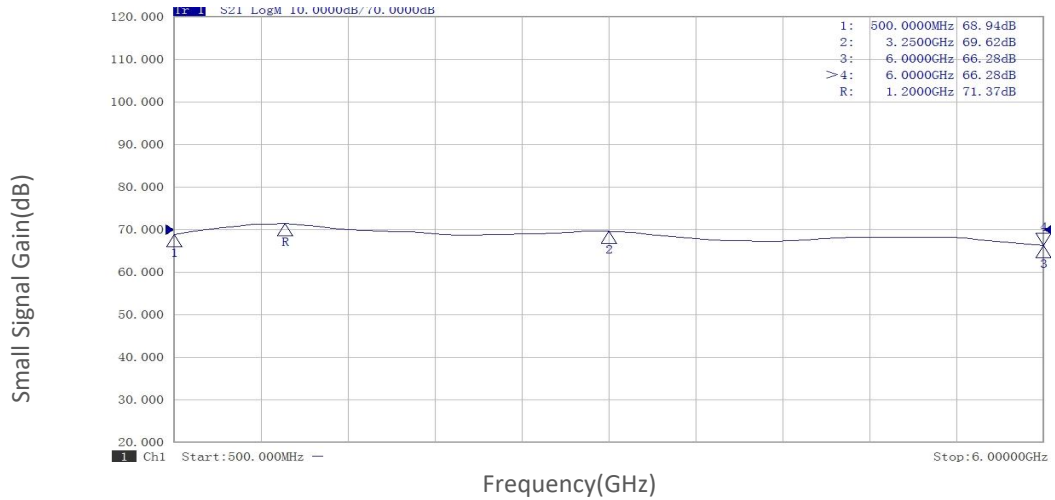
*Note: For a wider temperature range, please consult the manufacturer.

订货信息 Ordering Information:

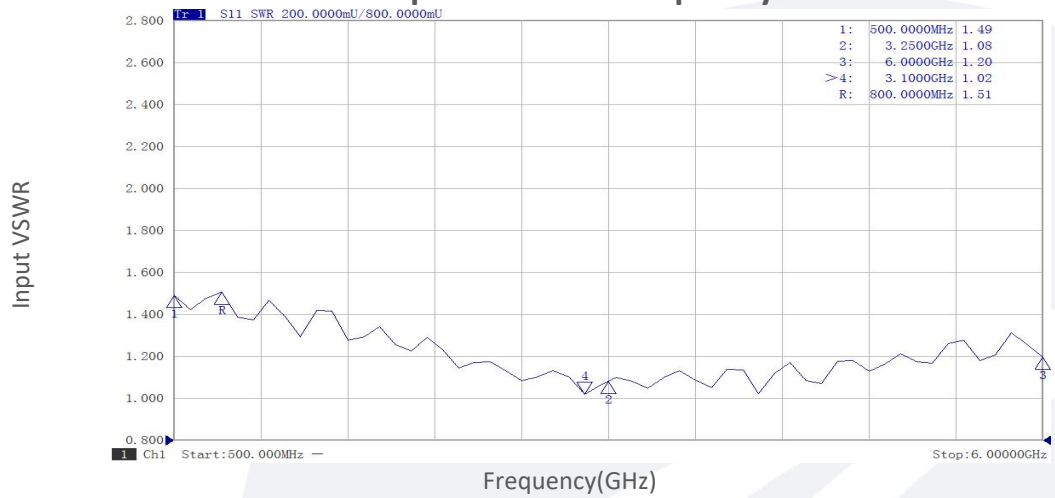
标准型号 Base Number	描述 Description	版本号 Revision
TLPA0.5G6G-50-47-BC	Solid State High Power Amplifier Systems 0.5-6GHz, Gain:50dB, Psat:47 dBm, 220V AC, Built in Fan Cooling	Rev.1.1

典型曲线 Typical Performance Data:

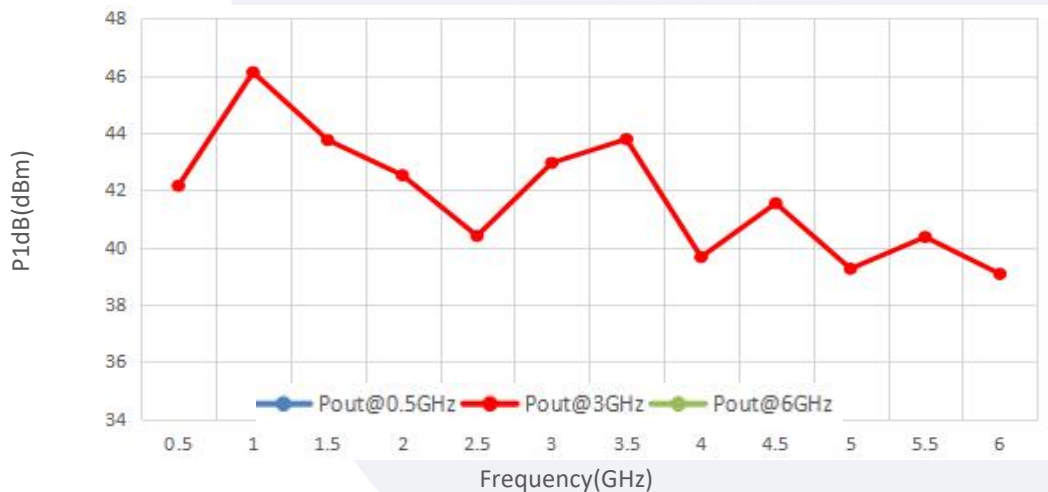
Small Signal Gain vs Frequency



Input VSWR vs Frequency



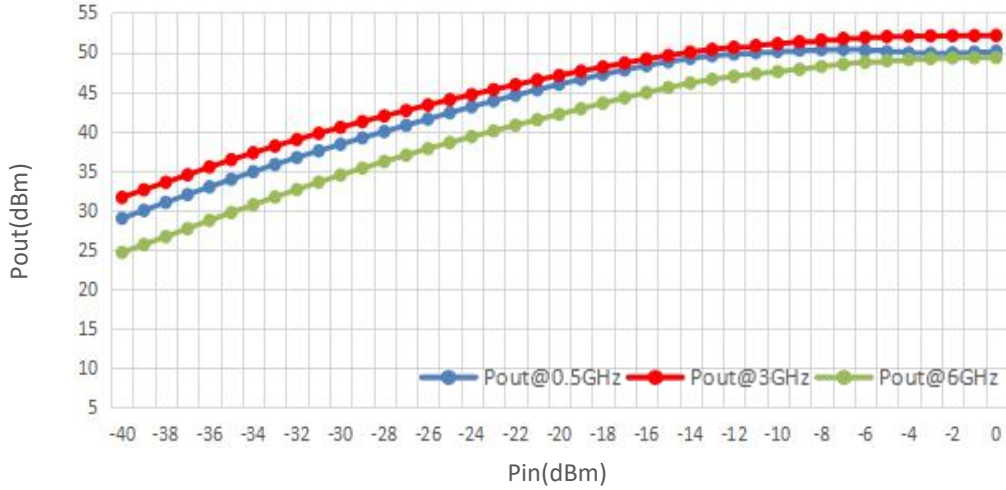
P1dB vs Frequency



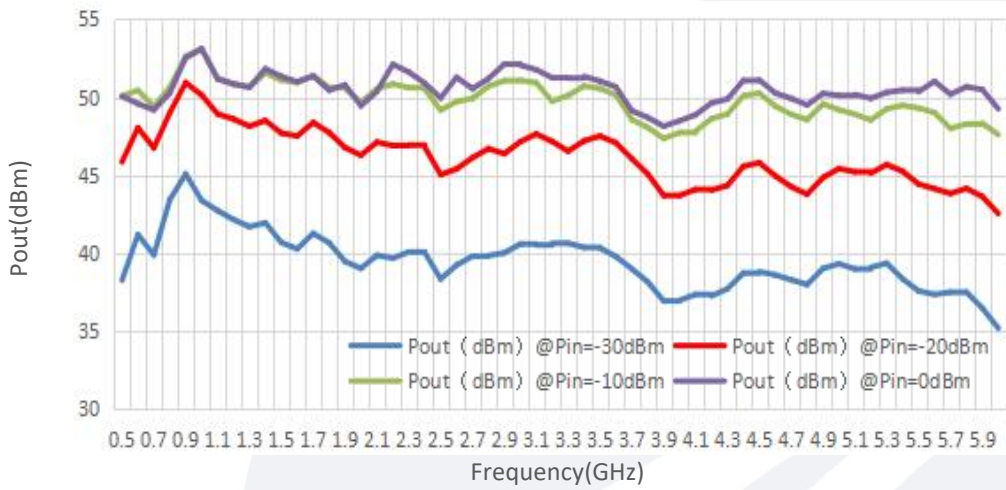
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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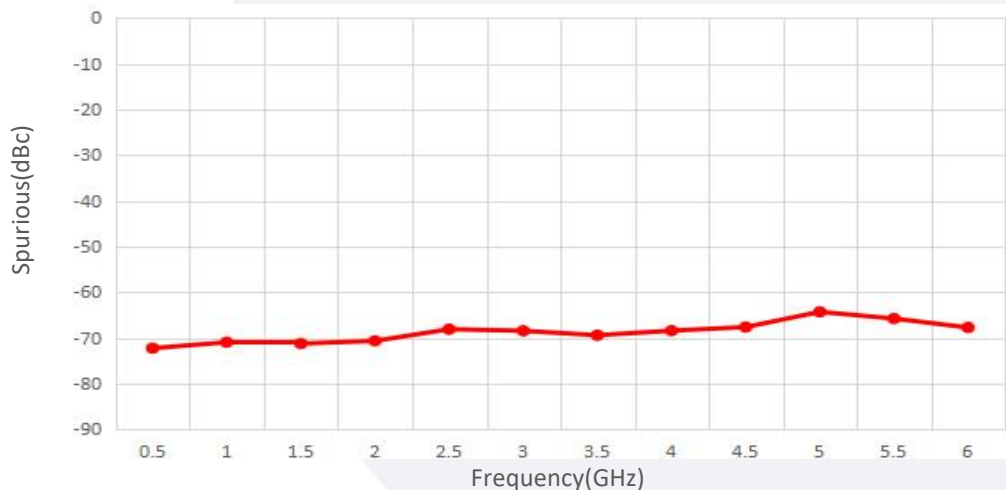
Pout@Pin



Pout@Equal_Pin

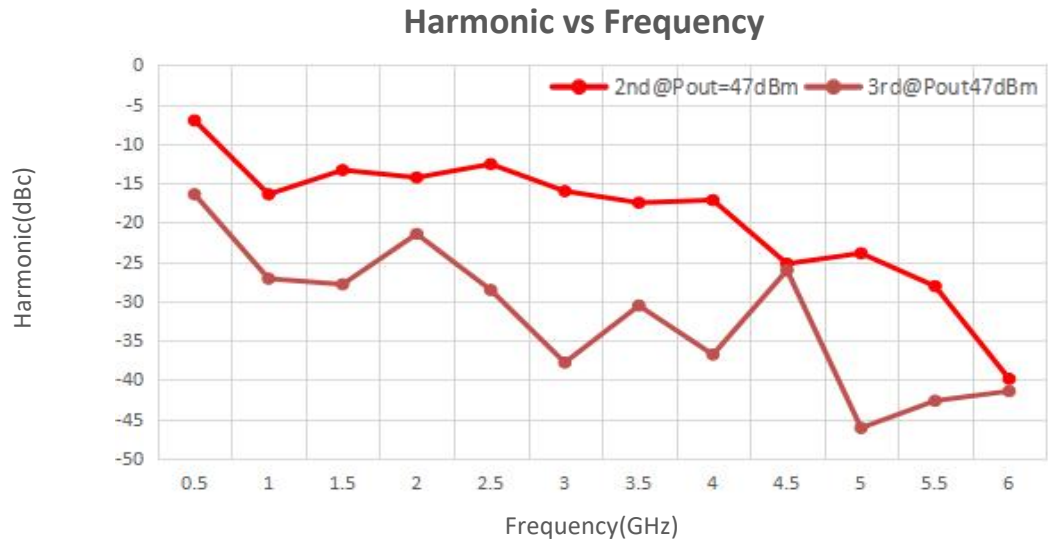


Spurious vs Frequency



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