

Solid State High Power Amplifier Systems

0.03-1GHz/45dB Gain/45dBm Psat/220V AC

Model: TLP30M1G-45-45-BC

TLP30M1G-45-45-BC is a solid state high power amplifier systems provides high output power and high gain across the 30MHz to 1GHz 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:

- Frequency range: 30MHz-1GHz
- Gain: 45dB Min
- Psat Output Power: 45dBm 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	30MHz-1GHz			
功率增益 Power Gain	GP	45	47		dB
增益平坦度 Gain flatness	Δ GL		± 2	± 3	dB
增益调节范围 Gain adjust Range	Δ GR		30		dB
增益调节步进 Gain adjust Step	Δ GS		0.5		dB
线性输出功率 Output P1dB	P1dB		42		dBm
饱和输出功率 Output Psat	Psat	45	46		dBm
杂散 Spurious	Spur			-60	dBc
谐波 Harmonics	HAM			-10	dBc
输入驻波 Input VSWR	VSWRin		1.5	2	:1
交流电压 AC Voltage	Vac	110	220		V AC
交流电流 AC Supply Current	Iac		1.5		A
阻抗 Impedance	I/O-IMP	50			Ohms

机械特性 Mechanical Specifications:

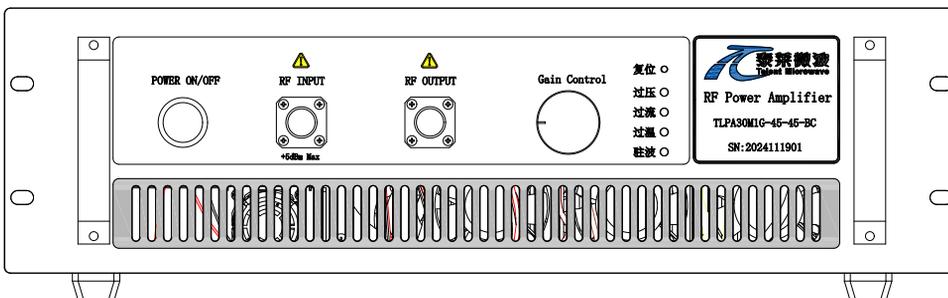
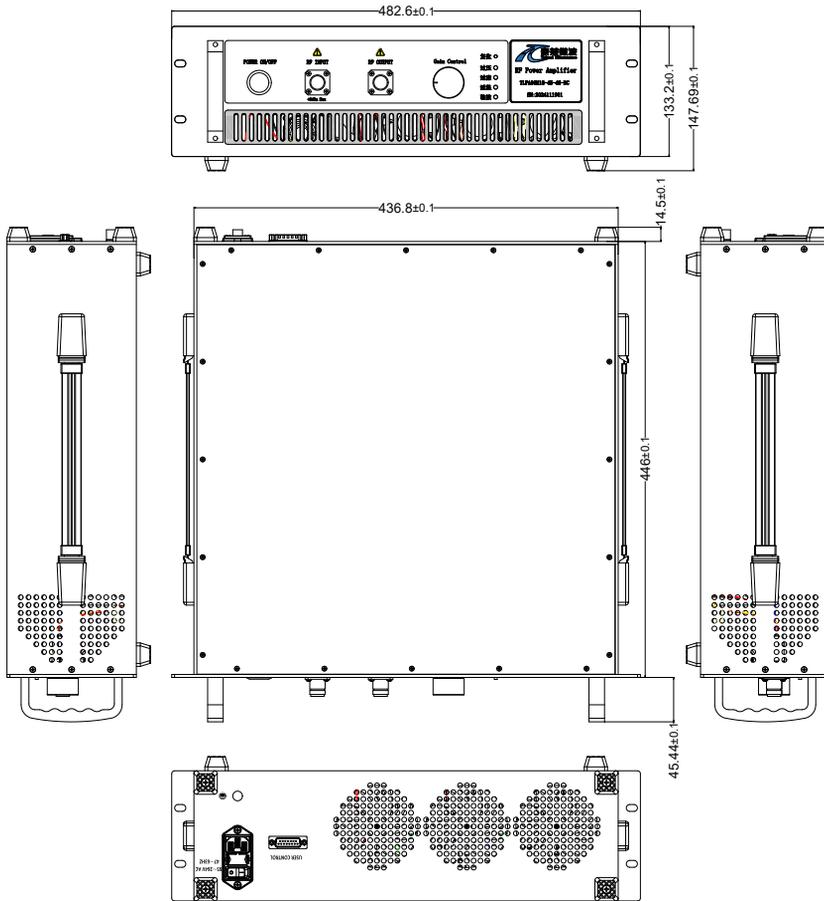
参数 Parameter	指标 Value	单位 Units
输入/输出接口 Input /Output Connector	N Female/N Female	
尺寸 Size	3U*500	
重量 Weight	≤ 35	

绝对最大值 Absolute Maximum Ratings:

参数 Parameter	指标 Value
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



控制接口D-SUB,15-Pin,Female:

参数 Parameter	功能 Function	描述 Description
1	RESET	Resets PA when logic LOW is applied and released (Internally Pulled-High)
2	Over Voltage	TTL Logic High (5V) = Fault (Internally Pulled-Low)
3	Over Current	TTL Logic High (5V) = Fault (Internally Pulled-Low)
4	Over Temperature	TTL Logic High (5V) = Fault (Internally Pulled-Low)
5	Over VSWR	TTL Logic High (5V) = Fault (Internally Pulled-Low)
6	EN	Amplifier Enable: TTL High (5V) (Internally Pulled-High)
7	GND	Ground
8-15	NC	No Connection

主要功能 Key Features:

参数 Parameter	特点 Advantages
控制功能 Control functions	1, Power setting On/Off
内置保护功能 Protection functions	1,Over TEM 2,Over voltage 3,Over current 4,Over VSWR
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			

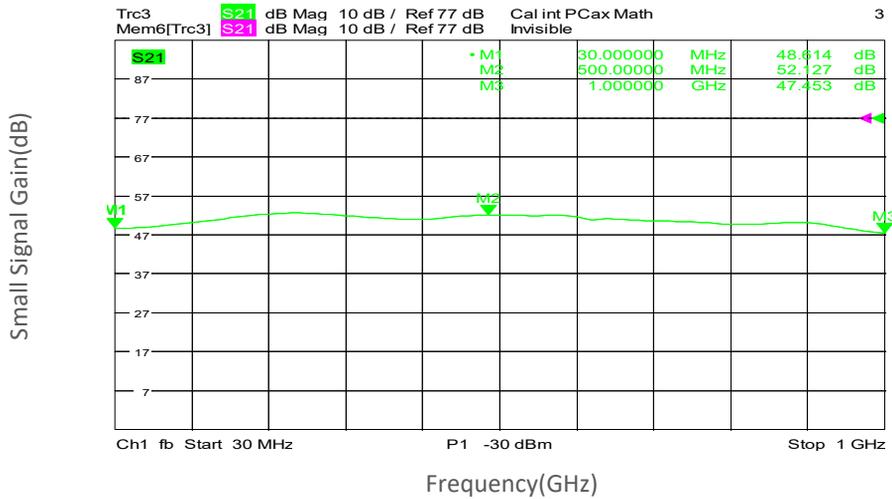
*Note: For a wider temperature range, please consult the manufacturer.

订货信息 Ordering Information:

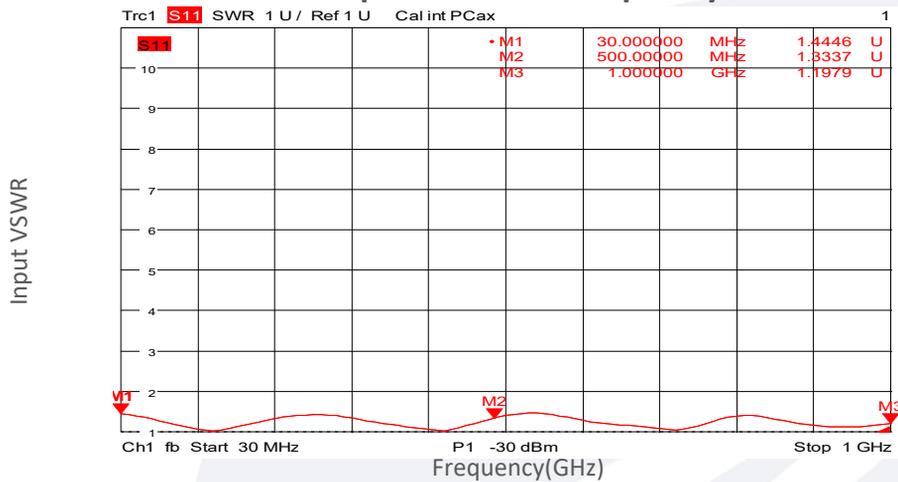
标准型号 Base Number	描述 Description	版本号 Revision
TLPA30M1G-45-45-BC	Solid State High Power Amplifier Systems 30MHz-1GHz,Gain:45dB,Psat:45dBm,220V AC,Built in Fan Cooling	Rev.1.1

典型曲线 Typical Performance Data:

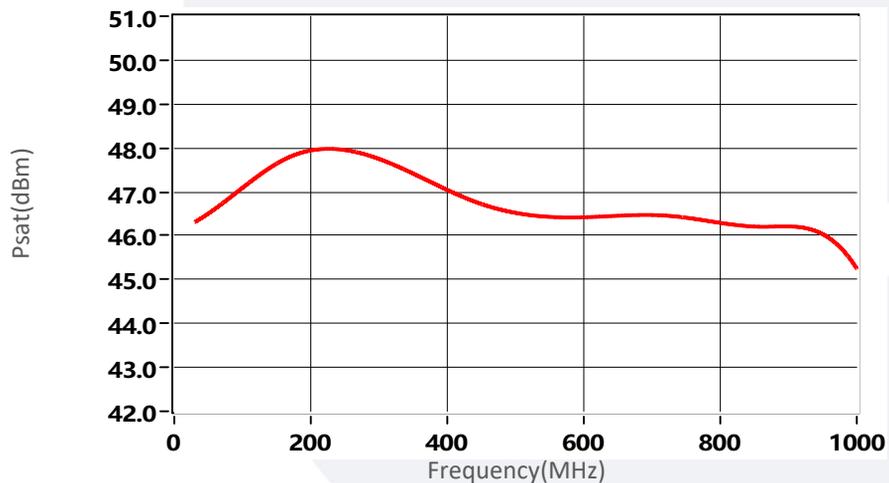
Small Signal Gain vs Frequency



Input VSWR vs Frequency



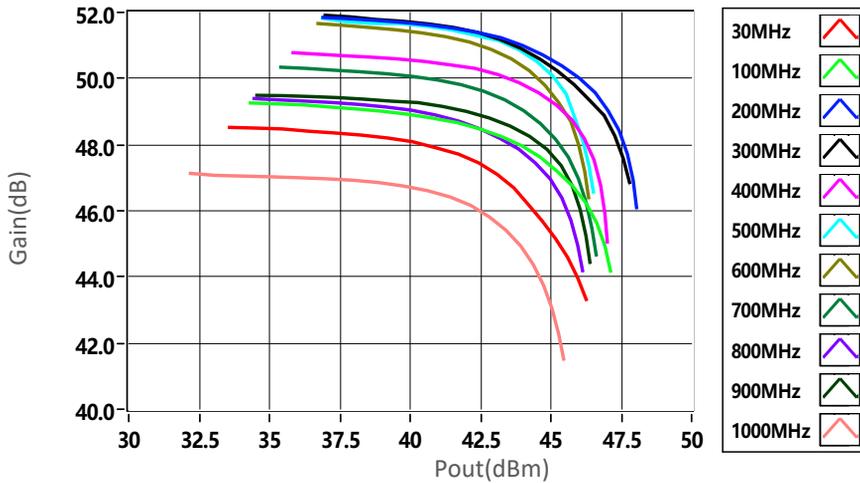
Psat vs Frequency



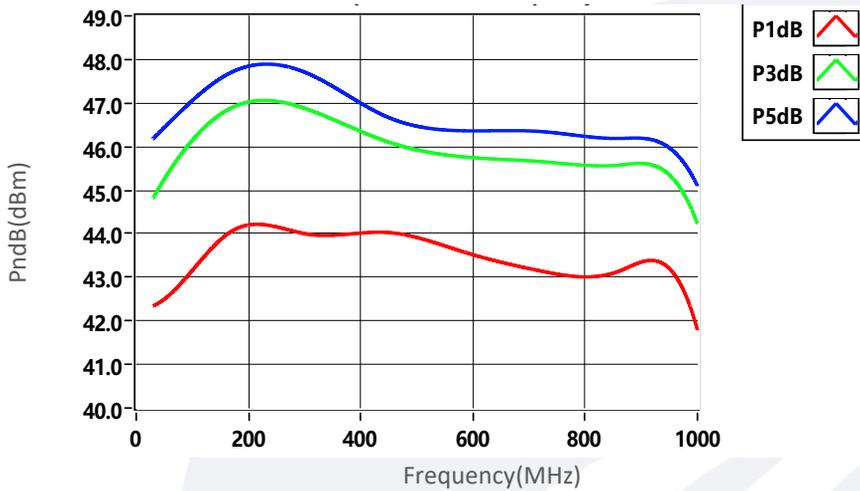
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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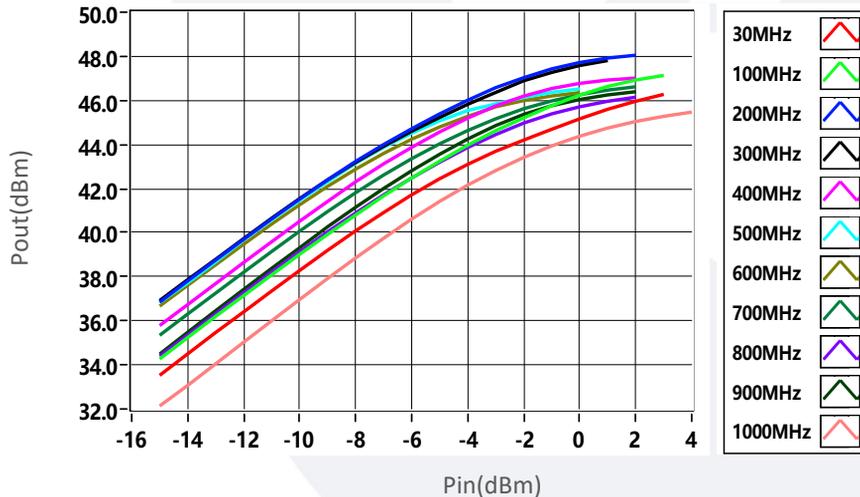
Gain vs Output Power



PndB vs Frequency



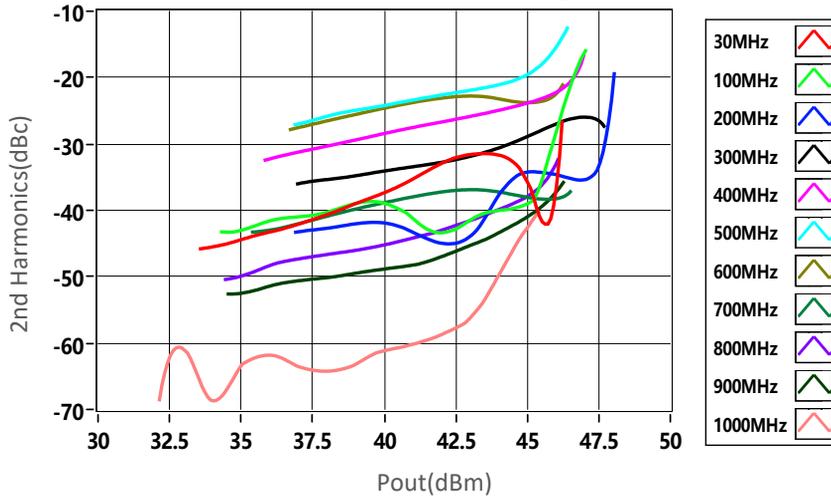
Pout vs Pin



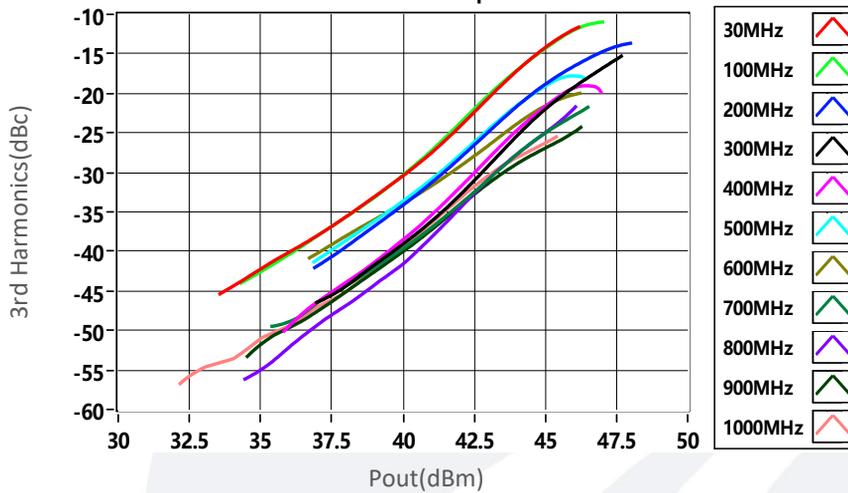
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典型曲线 Typical Performance Data:

2nd Harmonics vs Output Power



3rd Harmonics vs Output Power



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